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Commentary

From insularity to connectivity: trends in scientific and humanistic research

In recent decades the world has experienced a number of changes that have affected the way society undertakes activities, ranging from everyday household chores to cutting-edge scientific research. Much is due to advances in information and communication technologies (ICTs), and in particular to the current ease with which we communicate and interact with institutions, using tools such as online banks, or in our worldwide professional or social relationships using computer programs that allow text, voice and video communications by Internet, in real or deferred time.

In technological terms, connectivity refers to the capacity of a device to connect to the Internet or other devices autonomously. However, it also refers to connectivity in terms of inclusion or social interaction and in this sense, refers to the connection between social organizations, whether governmental or any other. Connectivity recently emerged as a study of the theory of development, forming part of the analysis of globalization and ways that national economies become integrated into this process.

The Internet, the first web browser, known as WorldWideWeb (WWW), and the first web server were devised in the context of higher education institutions and research; this fact illustrates the importance of connectivity for academic life. In other words, today it is inconceivable to envisage scientific research without considering the complex communication networks and interaction between scientists, and in particular concerning collaboration as a vital component in the advancement of knowledge.

As a generator of social welfare, this research intends to transform scientific and technological knowledge into benefits for society. Current multidisciplinary studies, which are essential for solving major problems linked to globalization, such as public health, environmental pollution and renewable energy sources among others, lead to cooperation between specialists in different fields and even between formal and natural scientists and their social and humanistic counterparts. Research in the social sciences and humanities is a key element for improving society and an essential cog in the engine that drives the society of knowledge. Therefore, when addressing particular questions in these disciplines one cannot ignore changes in the way science is now undertaken because of technological developments. Proof of this lies in increased collaboration in these areas of knowledge and the emergence of an area of research, teaching and creativity where humanities and computer science converge: digital humanities.

In the world of interconnectivity, the researcher is conceived as an integral element in a network of scientists/collaborators. Their connectivity is associated with the density and intensity of the links they have, particularly in terms of co-authorship of publications. The size of the network to which a scientist belongs is an important indicator of their social and professional ties, because larger networks typically result in greater diversity, provide access to a variety of resources and opportunities and facilitate access to specialized information. The networks are displayed through different computer programs that facilitate social network analysis and identification of latent substructures in the network. Social network analysis is a research tool characteristic of social and behavioral sciences, whose application has been extended to other disciplines. In the field of bibliometrics for example, it is used to conceive of relationships between the different components associated with research and scientific communication, for example authors, journals, institutions and countries.

As science becomes increasingly globalized, collaboration between scientists and institutions will increasingly depend on connectivity and particularly access to fast and reliable communication links and data. However, at the periphery of this

“Brave New World”, a fundamental question about scientific collaboration persists, reflecting on factors that motivate scientists to collaborate. Besides this, due to the emergence of interconnectivity, another no less important question emerges: to what extent does the increase in scientific collaboration relate to ICTs?

Clearly the answer to the second question requires considering factors related to the first, especially given that ICTs are facilitators, rather than promoters of scientific collaboration. No researcher decides to collaborate with another on the basis of the availability of a high speed Internet connection between two institutions. Possibly, lack of efficient communication channels may reduce the chances of achieving collaboration or delay an undergoing investigation and be a cause of frustration, but if the reasons and basis for collaboration are strong, it is more likely they will outweigh any digital hindrance to collaboration.

In contrast to the above, the decision to collaborate is related to considerations on profit and advantage in the world of scientific research, which is increasingly competitive and interdisciplinary. Scientists seek access to funding, to high-tech gadgets, to complementary skills, to increases in scientific production, to making an impact in terms of citations and exchange of students, among other benefits. Collaboration between scientists from developing countries with their counterparts in industrialized countries in particular helps fill any deficits they experience in their national institutions. For scientists in these countries, social relationships with colleagues from other nations represent significant social capital, which also influences prospects for collaboration and ultimately productivity.

Despite the ubiquitous nature of collaboration there is little research on its benefits; so this remains an element of conjecture. In short, there still is no consensus among the divided opinion on how to evaluate a co-authored work.

One view is that it is easier to publish in collaboration because that way more people participate in the same task. Another perspective is that integration of a research group involves a unique role and high level of expertise on the part of each of its members, who often achieve results in combination

that would be impossible to achieve without joint efforts and combined individual talents.

What is certain is that any new physical or social phenomena require analysis and interpretation in order to understand what is occurring and where this will lead us. If we want to exert certain control over the process and define the outcome, different approaches and specific viewpoints related to the various branches of scientific and humanistic knowledge must be included for their study. Research is both an epistemological and social process based on the standards of these two systems. Connectivity as an auxiliary tool in the research process is related to the particular techniques involved in the search for new knowledge. The study of connectivity and its relationship with scientific collaboration needs to use research methods that comply with the stated objectives, which means finding new ways to analyze and understand the impact of connectivity in different fields of scientific endeavor, as well as developing new quantitative and qualitative tools to highlight the different elements involved.

While conceptualizing and measuring scientific collaboration presents difficulties, bibliometrics takes co-authorship in peer-reviewed publications as an indicator of collaboration in scientific research. You can operate on either a small or a large scale, the latter involving millions of records retrieved from national and international data bases, with the help of powerful computer programs devoted to data and text mining.

However, co-authorship is only one product of scientific cooperation (undoubtedly the most tangible), and as such omits to mention other inputs such as training and development of human resources for research, or participation in networks through which scientists become professionally and socially integrated. Studies that emphasize understanding of connectivity and actors interaction rather than their attributes, while aiming to analyze academic and social connectivity of research groups, are required.

Particularly in the case of scientists from developing countries, it is necessary to construct and validate indicators to measure not only the products of scientific research, but also the way these are organized and their degree of connectivity. Only then, the relationship between collaboration and connectivity,

as much as the effect they have on productivity in our environment, can be clearly established. In the absence of adequate, reliable and useful indicators, the formulation of scientific policies to promote scientific research through initiatives for collaboration and connectivity is doomed to failure.

Jane M. Russell Barnard

A R T I C L E S

The importance of sources in the selection of online newspaper articles: a study of Google Noticias using eye-tracking

Cristòfol Rovira
Jofre Capdevila
Mari-Carmen Marcos *

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ABSTRACT

This paper presents the results of a study of the news search engine *Google Noticias* (Spanish news aggregator) to determine the degree of importance users lend to titles, sources and summaries as these appear in the lists of search results. By use of eye-tracking, researchers tallied the duration of the gaze of fifty users viewing search results displays to determine which of these elements captured their attention the longest. The results indicate that more attention is paid to sources than to the summaries; while there are no significant differences between time spent viewing sources versus the title, indicating that online media users also consider the sources when deciding which articles to pursue.

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Keywords: Search engines; News search engines; Search engines result lists; SERP, news services; User behavior; Eye-tracking, information sources.

RESUMEN

La importancia de las fuentes en la selección de artículos de prensa en línea: un estudio de Google Noticias mediante seguimiento ocular (eye tracking)

Cristófol Rovira, Jofre Capdevila and Mari Carmen Marcos

Se presentan los resultados de un estudio realizado en el buscador Google Noticias para determinar la importancia que le dan los usuarios a los elementos principales de una noticia que aparece en un listado de resultados: titular, fuente y resumen. Mediante la técnica de seguimiento ocular (*eye-tracking*) se analiza la duración de la mirada de 50 usuarios frente a las páginas de resultados y se determina qué elementos captan más tiempo su atención. Los resultados del estudio indican que se presta más atención a las fuentes que al resumen pero que no hay diferencias significativas entre el tiempo dedicado a la fuente con respecto al título, lo cual indica que en los medios en línea los usuarios también consideran a la fuente como elemento para decidir qué artículos leer.

Palabras clave: Buscadores; Buscadores de noticias; Listados de resultados; Servicios de noticias; Comportamiento de los usuarios; Seguimiento ocular (*eye-tracking*); Fuentes de información.

INTRODUCTION

Online newspapers have been the object of many studies often focused on comparative analysis (Díaz-Noci & Meso Ayerdi, 1998; Schultz, 1999) or the assessment of a concrete aspect, such as multimedia contents (Díaz-Noci, 2009; Guallar, Rovira and Ruiz, 2010), social networks (Rodríguez-Martínez, Codina and Pedraza-Jiménez, 2010), information retrieval (Martínez Rubio, 2008; Guallar & Abadal, 2009; Rubio Lacoba, 2010), or blog contents (Sánchez Vigil et al., 2010).

Studies about newspaper reading using specialized search engines like the one evaluated here, *Google Noticias* (Spanish news aggregator), are less common. This is a news search service that collects articles from numerous newspaper sources, so the user may find information of the same subject from different media.

Newspaper search services, like *Google Noticias*, have three blocks of information for each item listed as a result: news title, news source and a summary (*Illustration 1*). Based on these three blocks of information, the user has to decide if he/she will read the full news. The fact that we read diagonally adds to this relatively little information. Nicholas Carr (2011), a Pulitzer Prize finalist, indicates that the Internet promotes a quick and distracted pecking of small fragments of information from several sources at a great speed, leaving no room for reflection or critical thinking.

In such context, deciding what news to read ends up being a quick process guided by a personal interest in the subject and the information provided by the search engine. In this study we question if readers consider the news source as important data to decide if they continue reading. In the paper format, the accuracy or point of view of each source is clearer, however, in the Web, especially in a news search engine, what role does the source play in the decisions of the readers?

This study begins with the hypothesis that users who employ new technologies to be informed about current topics tend to be less rigorous in the evaluation of information. We believe that the overload of information conditions users to select the news by an attractive title. So, our first consideration is that when a user reviews a list of results of a news search engine, most of his/her gaze will concentrate in the titles, therefore, much more time will be devoted to looking at the titles than the sources.

For this study, users were tested in the laboratory using an eye-tracker. This technology has been used in previous studies to establish the visual behavior of people who review web pages of search engine results (Granka, Joachims and Gay, 2004; Rele & Duchowski, 2005; González-Caro & Marcos, 2011; Nielsen & Pernice, 2009). However, no research has been published yet about web pages of news results.

The article structure is as follows: the section “Previous Works” includes studies which have been useful as a starting point; the section “*Google Noticias*” details the experimental design carried out; next, results of the test analysis and finally, the conclusions of this study.

PREVIOUS WORKS

Eye-tracking is a technique that establishes the position of the eyes and their movements while a specific action is taking place. It uses an infrared wave technology capable of detecting the pupils. This technique has been mainly employed for research on the visual system, cognitive psychology and product design. The marketing field has used it to improve product placing in grocery store shelves, choose advertising spaces in web pages, increase conversion ratios of web sales, or for benchmarking (to compare users' actions in their website with those of the competition). In recent years, this technique has been quite common in the evaluation of websites especially in usability studies of digital interfaces, where most studies have been motivated by commercial interests. The book of Jakob Nielsen & Kara Pernice (2009) gives numerous examples of eye-tracking in usability studies. Chapters include studies that laid the foundations to evaluate navigation menus, links, images and advertising in web design.

Search interfaces and information retrieval interfaces are fields of study that have also received a lot of attention, mainly interfaces for Internet Search Engine Results, also known as Search Engine Results Pages (SERPs). In this area, eye-tracking technology allowed significant findings, such as evidence from heat maps of the golden triangle. The golden triangle (Enquiro, 2003) is the zone which attracts more gazes from most users and is situated in the top-left corner of a list of results.

Granka, Joachims and Gay (2004) followed these studies and their tests established that although the number of clicks is very high for the first result, users spend the same time analyzing the first and second results, and they look up to position 5 or 6 if they face more complicated questions or tasks. Later, Guan & Cutrell (2007) observed that users click much more frequently the two first results, even though the answer to their search is not among them. A study of Cornell University (Pan et al., 2007) changed the order of results and concluded that users have "blind faith" in search engine classification, regardless of the relevance of these results.

Other studies consider different zones of results pages (organic search results and advertising, or even in more detail: title, snippet and URL of each result). Rele and Duchowski (2005) reveal that the snippet (summary) receives a higher percentage of fixations than the titles, while the URL receives the least. These conclusions are reinforced by more recent studies, like those of Marcos & González-Caro (2010) and González-Caro & Marcos (2011), who demonstrate that the element most looked in the results is the summary (44% of the time), followed by the title (39%) and the URL (17%).

In the specific area of digital newspapers, the eye-tracking studies with the most citations are those of the Poynter Institute (*Eyetrack I* in 1990-91, *Eyetrack II* in 1999-2000, *Eyetrack III* in 2003-2004 and *Eyetrack IV* in 2006-2007). Along with the results, heat maps of newspaper web pages provide interesting suggestions about when and how to incorporate advertising, multi-media elements and short texts in the covers of digital newspapers.

The study proposed here does not analyze digital newspaper web pages or general search engines. It questions the influence of the information source at the time of choosing in the news aggregator *Google Noticias*. There have been no published works yet using eye-tracking technology to study this platform.

GOOGLE NOTICIAS

Google Noticias is the Spanish market edition of Google News, which is a news aggregator and search engine that constantly and automatically tracks information from the main online communication media, considering the user's geographical location. This service was launched by Google, Inc. in 2002, however, it remained as a test version until 2006. In June 2012, 72 regional editions for concrete geographical sectors were accessible, including Spain. The aggregator is available in 28 languages, works by an automated aggregation algorithm that tracks more than 25,000 digital media every 15 minutes to feed the database, and releases the news of the last 30 days in its server. This study will evaluate the results page interface, which we describe below.

Each item of the result list of *Google Noticias* has up to nine elements of information (data from January 2012). The four basic elements that always appear in every result providing the main information of the news (*Illustration 1*) are:

1. Title. The main headline of the news, an active link to get to the original article.
2. Main source. The name of the source or communication media that published the news.
3. Date. The publication date of the news.
4. Summary. It captures the first 200 characters of the original article.

Three other elements appear only when Google finds news very similar to the main one in another media.

5. Secondary titles. Clickable titles of a news selection similar to the main headline.
6. Secondary sources. Sources or information media where the news listed as secondary were published
7. More information. Access to the complete list of news similar to the main one.

Finally, an image related with the news often appears, although not in every case.

8. Image linked with the news.
9. The source from which the image was extracted.

So, elements of the three groups is the most commonly observed.

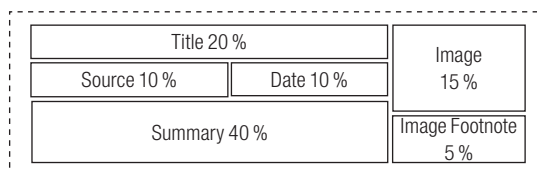


Illustration 1. Areas of an item of the result list of Google News.

METHODOLOGY

Participants

User selection for the test is a complex process when trying to fulfill the requirements to generalize the results of the sample to a particular population. Normally, usability studies using eye-tracking are qualitative and do not look for a generalization, but a detection of anomalies to improve in a web page design. Thus, user samples are usually small, between 10 and 15 participants. On the contrary, this investigation has a quantitative orientation, since we wish to obtain solid evidence on the degree of influence of the sources at the moment of choosing what item to click, on the result page of *Google Noticias*. Therefore, sample selection has been more demanding, despite the limitations inherent to every recruitment process, especially with tight budgets.

Given test characteristics, we were interested in users or potential users of *Google Noticias*, so the profile for the test was regular Internet users and legal adults.

Generally, the number of users for a quantitative study should be higher than 30 participants (Marcos, Nettleton and Sáez, 2012). According to the timing, means and resources to develop the project, 60 users would participate in the study. Afterwards, users in whom the eye-tracker recorded less than 80% of their fixations were eliminated, as well as two users with incoherent data or data completely away from the mean. The definite sample included 50 subjects distributed as follows:

Table 1. Distribution of users for the test.

Age	Men	%	Women	%	Total	%
18 - 20 years	5	10 %	14	28 %	19	38 %
21 - 25 years	0	0 %	7	7 %	7	14 %
26 - 30 years	4	8 %	2	4 %	6	12 %
31 - 35 years	3	6 %	3	6 %	6	12 %
36 - 40 years	3	6 %	2	4 %	5	10 %
41 - 50 years	3	6 %	2	4 %	5	10 %
+50 years	1	2 %	1	2 %	2	4 %
Total	19	38 %	31	62 %	50	100 %

Eye-tracking device

Tests were performed with an eye-tracker device model Tobii 1750. This is a monitor that includes an infrared light system, which captures eye movement. This technology detects with great precision the gaze position on the screen, as well as the length of time the gaze remained on a specific point of the screen. These objective data require a cognitive interpretation (Hassan & Herrero, 2007). Traditionally, this interpretation has assumed that when a person fixes his/her gaze on an element, he/she is thinking of such element. Despite the fact that this relationship is not always true, it is sufficiently consistent to obtain solid results, especially if the number of users who participate in the study is relatively high.

Experimental design

The aim of this study is to understand the user's visual behavior facing an information search. Therefore, the test will focus on the visualization of the result lists of this service.

To achieve a systematic and comparable analysis among users, the test was carried out under the same conditions, trying to standardize the initial search as much as possible to get similar results. This is the reason why users were

presented with previously elaborated result lists and asked to choose the most interesting news to solve a need of information stated earlier.

On the other hand, users may be conditioned by an individual interest (or lack of interest) on a particular theme. To avoid this type of bias as far as possible, two result lists with current subjects were elaborated, one for each task (*Illustration 2*):

Task 1: sports news

Task 2: politics or society news

Results pages shown were static screen captures taken from *Google Noticias*. These captures were slightly manipulated to establish a small space between the zones of each result: its title, summary, source and URL. This way the eye-tracker would have a better certainty of the exact position of the user's gaze.

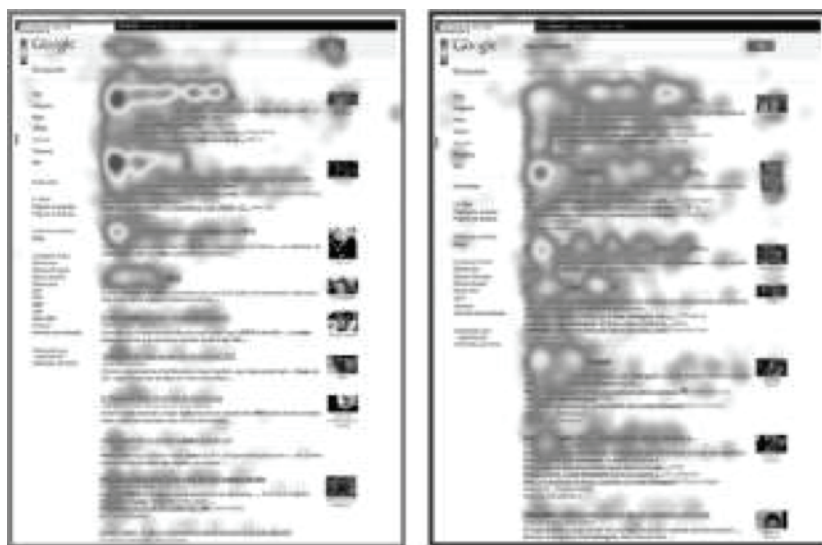


Illustration 2. Heat maps of the analyzed result lists: in the left, sports news and in the right, politics or society news.

Metrics

As mentioned before, each result of *Google Noticias* has a similar structure, title, source, date, summary and image. Each Area of Interest (AOI) was defined with the Tobii Studio software to obtain the metrics of all.

An important decision in any study using an eye-tracker is choosing which metrics will be employed to reach the aims of the study. In usability studies (Marcos, 2011), metrics related with the level of effectiveness and efficiency of the tasks at hand are usually used. For example:

- Percentage of users who fixed their gaze in an AOI.
- Time elapsed from the beginning of the task until the end.
- Number of user fixations in each AOI.
- Fixation duration in each AOI.

In this study, fixation duration was used as the main metric to determine the importance users give to each zone of the results.

RESULTS

Due to the objectives of the study, data analysis will be focused on the element “main source”, which will be compared with the principal areas of all items (title and summary). Data has been normalized since every AOI has a different size. Normalization was carried out dividing the fixation duration in each AOI by the surface of these AOIs, obtaining a normalized data of time by surface unit.

Table 2. Normalized time of fixation duration in the main areas.

	Title	Summary	Source	Differences Title and Source	Differences Summary and Source
Users	50	50	50	50	50
Mean	787,660	232,080	983,520	-195,860	-751,440
Shapiro-Wilk	0,884	0,731	0,809	0,909	0,774
Shapiro-Wilk Sig. P-value	0,000	0,000	0,000	0,001	0,000

Table 3. Wilcoxon Signed-Rank Test.

	Title and Source	Summary and Source
Z	-1,057	-5,913
Sig. P-value	0,290	0,000

In the statistical study we are working with numerical data with related samples, the same subject observes every AOI analyzed. We are especially in-

terested in identifying if significant differences exist between the variable “Title” in relation to the “Source” and the variable “Summary” also in relation to the “Source”. According to the Shapiro-Wilk test, none of the variables follows normal distribution, as it is shown in the two columns of differences (Table 2), where the p-value is lower than 0.05. Therefore, parametric tests, like the Student’s t test, cannot be applied to determine significant differences. Since these are dependent data, the non-parametric Wilcoxon Signed-Rank Test is used, proving that statistically significant differences only exist between the variables “Summary” and “Source” where a p-value lower than 0.05 is obtained. On the contrary, no significant differences exist between the variables “Title” and “Source” where a p-value of 0.290 is obtained (Table 3). Although the center of attention of this investigation lies in the behavior of users facing the zones where information sources appear, it must also be pointed out that significant differences exist between the title and the summary, favoring the title.

Differences in normalized time data between source and summary are important. A difference of 751 in favor of the source is observed, meaning there is an attention increase of 323% gazing from the summary to the sources. In other words, the source receives 4.24 times more attention than the summary (Table 2).

Therefore, according to obtained data and the statistical significance, we can state that the source area receives more attention than the summary.

CONCLUSIONS

This study analyzed the behavior of a group of users facing the result lists of *Google Noticias* at the moment of deciding which item to click. Our purpose was to understand the importance users give to the news sources that appear in the description of each item of the result list. An eye-tracking system was used to achieve this. Such system recorded the fixation duration of users in different zones of the result lists. To avoid the bias that could be generated in the areas of greater surface, relative data of fixation duration by surface unit was used.

According to obtained data, users pay more attention to the sources than to the summary. On the contrary, no significant differences exist between the time spent looking at the titles in relation with the time spent looking at the sources, as stated in the hypothesis. This indicates that users consider the source where information comes from as much as the title. A statement which does not corroborate the initial hypothesis stating that digital media make people less rigorous while choosing an article, at least this is the conclusion from this study of *Google Noticias*.

Even though these findings are solid, to generalize conclusions for the general population complementary studies are required. On the other hand, new investigations should also be carried out to confirm that the high value of the relative fixation duration in the source area in relation with the summary is due to the interest on this content, and not a consequence of this area being located in the upper section of each item, just below the title.

Speaking in terms of journalism, the study contributes with a new vision about how users face news services, realizing the importance media headlines have in the moment of choosing which item to click from the result list of a news search engine.

Note:

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Models for evaluating the condition of school-based libraries and the quality of their web sites

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ABSTRACT

This paper approaches two objectives: 1) to develop a comprehensive model of 44 indicators to assess the performance or status of school libraries, and 2) to design a specific model of 30 objective features to assess the quality of school-based library websites. In 2012, researchers documented the practical application of both models in school-based libraries in the City of Badajoz located in the region of Extremadura, Spain, in order to ascertain indicator validity and develop a library ranking in accordance with operational quality of the respective websites. Results show there is no correlation between the rank of school libraries based on current conditions and the quality rank of their associated websites.

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Keywords: School libraries; Evaluation Models; Performance; Websites; Badajoz.

RESUMEN

Modelos para evaluar la situación de las bibliotecas escolares y la calidad de sus sitios web

Irene González-Mateos and Cristina Faba-Pérez

El presente trabajo tiene dos objetivos: desarrollar un modelo exhaustivo de 44 indicadores para evaluar el funcionamiento o la situación de las bibliotecas escolares; y diseñar un modelo específico de 30 características para valorar objetivamente la calidad de los sitios web de las bibliotecas escolares. Además, se lleva a cabo la aplicación práctica de ambos modelos sobre las bibliotecas escolares de la ciudad de Badajoz (en la región de Extremadura, España) en 2012 con la finalidad de comprobar la validez de los modelos y obtener un *ranking* de las bibliotecas atendiendo a su situación y a la calidad de sus sitios web. Entre los resultados hallados se demuestra que no existe correlación entre el *ranking* obtenido por las bibliotecas escolares atendiendo a su situación actual y al *ranking* de calidad de sus sitios web.

Palabras clave: Bibliotecas escolares; Modelos de evaluación; Funcionamiento; Sitios web; Badajoz

INTRODUCTION

The interest in the study of school libraries in Spain is progressively reinforced by several national laws of education arising from 1990 (LOGSE 1990,¹ LOCE 2002,² LOE 2006³ y LOMCE 2012⁴). The main objective of

1 LOGSE, *Ley 1/1990, de 3 de octubre, de Ordenación General del Sistema Educativo* (Law 1/1990, October 3, of General Organization of the Education System) (BOE 3/10/1990).

2 LOCE, *Ley Orgánica 10/2002, de 23 de diciembre, de Calidad de la Educación* (Organic Law 10/2002, December 23, of Quality of Education) (BOE 24/12/2002).

3 LOE, *Ley Orgánica 2/2006, de 3 de mayo, de Educación* (Organic Law 2/2006, May 3, of Education) (BOE 4/5/2006).

4 LOMCE, *Ley Orgánica de Mejora de la Calidad Educativa* (Organic Law for Improvement of Education Quality), Version 2 03/12/2012. Available in http://www.ara.cat/societat/esborrant-lomce_ARAFIL20121203_0003.pdf

school libraries is to serve all the non-university community, by being a key element to: a) support the work of students and teachers; b) develop information skills and training in the use of information sources; c) support curriculum development and achievement of objectives; d) develop learning autonomy and the ability to learn throughout life. Nowadays, the education model that implies learning to use information is known as Information Literacy or Information Competence. According to the American Library Association (ALA, 1989), Information Literacy generates persons who have learned how to learn and know how to do it because they know how knowledge is organized, how to find information and how to use it so others can learn from them.

However, in order that a school library provides an adequate learning to its users, two conditions are required: a correct functioning and continuous update regarding information and communication technologies (ICTs), including Internet and the World Wide Web. To verify both premises it is required to develop models allowing to evaluate both, the functioning or condition of school libraries and the characteristics of their websites.

The assessment of school libraries condition at international level is performed by entities such as the International Association of School Librarianship (IASL), European Network for School Libraries and Information Literacy (ENSIL) or the International Federation of Library Associations and Institutions (IFLA). The latter has the School Library Guidelines (2002), which includes a list of evaluation indicators whose application allows to know the reality of school libraries in different geographical areas. In Spain, official documents and national evaluations have been developed and carried out promoted by important entities such as the *Federación Española de Asociaciones de Archiveros, Bibliotecarios, Arqueólogos, Museólogos y Documentalistas* (ANABAD) (Spanish Federation of Archivists, Librarians, Archeologists, Museologists and Documentarists), the *Federación Española de Sociedades de Archivística, Biblioteconomía, Documentación y Museística* (FESABID) (Spanish Federation of Archivistics, Librarianship, Documentation and Museology Associations) (1997), the Germán Sánchez Ruipérez Foundation (FGSR) (Marchesi and Miret, 2005) or the Ministry of Education (2011). At regional level, specifically in Extremadura, there are also some investigations on school libraries condition (Faba-Pérez, 2000; Junta de Extremadura, 2006; Pomet Correa, 2006; Tejero Aparicio, 2006; Cruz Solís, 2008).

Regarding the evaluation of school library websites through characteristic analysis, this is based on the fact that websites, no matter how different these are, have common characteristics or quality indicators to which a different score may be assigned for each particular web. These characteristics can

be subjective (collected by the analyst) and formal (collected automatically, which justifies their objectivity) (Faba-Pérez, Guerrero-Bote and Moya-Aneón, 2004). There are many works on website evaluation applying and/or developing characteristic indicators in general contexts (Codina, 2000; Zhan-gy Dran, 2000; González, Lores and Pascual, 2001; Jiménez Piano, 2001; Hassan Montero and Martín Fernández, 2003; Alonso, 2007/2008). Several evaluation studies of characteristics in files have been performed in the information units' context (Roba Stuart, 2003; Crespo, 2007; Kim and Lee, 2007; Más Bleda and Chaín Navarro, 2009; Sanz-Caballero and Faba-Pérez, 2012) and in libraries, especially in university libraries (Chao, 2002; Pinto et al, 2005; González-Lucio et al., 2009). However, in the case of school libraries, it is difficult to find this type of research, although the works of Clyde (2004), Large and Beheshti (2005), Rodríguez Palchevich (2010) or Jiménez-Fernández (2012) can be mentioned.

The objective of this work is double: in one hand, to develop an exhaustive model allowing to evaluate the functioning or condition of school libraries; and in the other, to design a specific characteristic model allowing to objectively evaluate the quality of school library websites. In addition, the practical application of both models was carried out in the school libraries of the city of Badajoz (in the region of Extremadura, Spain) to verify the validity of the models and obtain a ranking of the libraries considering their condition and the quality of their websites. The last issue presents the hypothesis that a correlation must exist between the ranking obtained by school libraries considering their current condition and the ranking of websites quality.

DATA AND METHODOLOGY

Data

The practical application of models designed in this work, which are detailed in the Methodology section, was carried out in school libraries of public, private and government-dependent private *Institutos de Enseñanza Secundaria* (IES) (Junior High Education Institutes) and *Colegios de Educación Infantil y Primaria* (CEIP) (Kindergarten and Elementary Education Schools) of the city of Badajoz during 2012 (49 centers). The official source used to collect the educational centers was EDUCAREX (<http://www.educarex.es/web/guest/listado-centros>), of the *Consejería de Educación y Cultura* (Council for Education and Culture) of Extremadura. From the initial 49 centers, 30 were included in the study (*Tables I and II*), those fitting the designed model.

Table I. Participation data.

Centers		Initial	Final	Percentage of participation
Institutes		11	8	72.73%
Schools	Public	25	19	76.00 %
	Private and government-dependent private	13	3	23.08 %
Total		49	30	61.22 %

Table II. List of participating centers

IES	CEIP (public and private and government-dependent private)	
Bárbara de Braganza	Arias Montano	Manuel Pacheco
Castelar	Cerro de Reyes	Ntra. Sra. de Bótoa
Reino Aftasí	Enrique Iglesias García	Ntra. Sra. de Fátima
Rodríguez Moñino	Enrique Segura Covarsí	Ntra. Sra. de la Soledad
San Fernando	General Navarro	Puente Real
San José	Juan Vázquez	San José de Calasanz
San Roque	Juventud	Santa Marina
Zurbarán	Leopoldo Pastor Sito	Santo Tomás de Aquino
	Lope de Vega	Diocesano (San Atón) (private)
	Luis de Morales	Jesús Obrero (private)
	Luis Vives	Sagrada Familia (private)
8	22	

Methodology

Method for the evaluation of school libraries condition

The information obtained for each one of the 44 questions from each participant is analyzed with the objective to carry out a joint or global study of the information provided by the 30 participating centers and to obtain a general approximation on the actual condition of school libraries in the city of Badajoz in 2012.

Finally, an individualized ranking is performed for school libraries considering the particular condition of each one in relation with the designed model. Thus, each of the questions in the model is put into context and clarified, reducing the 44 original questions to 32, verifying the presence (1) or absence (0) of each question in the model completed by each center.

Method for the evaluation of school library websites

First, a model with 30 characteristics is designed to evaluate school library websites, with two types of characteristics: 10 general and 20 specific. The

first type allows a global view of how a web intended for elementary and junior high students must be, resulting from the review of some works like Marquès Graells (1999), Jiménez Piano (2001) or Sanz-Caballero and Faba-Pérez (2012); while the essential specific characteristics in a school library web are encouraged by ICTs, feedback from students, and educational contributions, among others. Specific school library webs and works of authors in this discipline such as Marquès Graells (2001), Clyde (2004) and Large & Beheshti (2005) were consulted to collect these characteristics (*Table III*).

Table III. Characteristic model for the evaluation of school library webs.

Characteristics	Meaning
General	
1. Is the URL clear?	The URL is easily identifiable as belonging to the school's or institute's library.
2. Is it easy to navigate?	Easiness to access anyplace in the website.
3. Is it user-friendly, familiar and appealing?	Presents a manageable and accessible structure for the user.
4. Doesn't it have information overload?	This is avoided with a correct use of colors, typographic effects and groupings to differentiate information.
5. Does it have a clear and concise language?	It uses an adequate language for kindergarten, elementary or junior high students.
6. Is proper spelling and grammar used?	Information must be well written without spelling mistakes.
7. Is there certain regularity in web information updates?	Considering it is an educational web, it is important it offers updated information.
8. Does it have a consistent design?	The website must be visually pleasing (warm colors, legible font, etc.).
9. Is there is a person or group in charge of maintenance?	Website favors clear identification of people responsible for its maintenance.
10. Can people responsible for the website be contacted?	Easiness to contact the administrators (e-mail, phone number, etc.).
Specific	
11. Does the website follow up on school library activities in the center?	Indicates all the activities carried out in the library: workshops, theater, reading club, etc.
12. Does the website follow up on the activities of the educational center?	Indicates all the activities carried out in the center: trips, awards, novelties, etc.
13. Does it promote reading?	Recommends readings, carries out reading games, informs on new books, etc.
14. Does it have links to institutions related to the school library?	Specifies links to other webs with relevant information (other libraries, other centers, etc.).
15. Does it provide links to teaching resources?	Specifies support links for subjects and teachers.
16. Does it provide materials to work online?	For example: coloring pages, books online, games, etc.
17. Does it allow students to include their creations?	Website allows students to publish their stories, drawings, etc.

18. Does it present contents adapted to school community?	Although contents are focused on students, other groups like teachers are not left aside.
19. Does it provide an adequate and innovative material?	Material must be original and adequate for the age target group.
20. Does it present dynamic aspects?	It has an attractive design for students, with animations (photos, videos, color, etc.).
21. Are images appearing in the library website correctly named?	It is important that images and other resources are correctly named and indicate their source.
22. Does it allow an easy access to previously published material?	It is beneficial to access previous publications rapidly to carry out consults, works, etc.
23. Does it have an online catalog of the school library funds?	It is important that catalogs are automated and students can search anything inside and outside the center.
24. Does it allow to download audiovisual material?	It allows to download audiovisual resources required for learning (videos, images, songs, etc.).
25. Do students interact in the library website?	Students can make comments, publications, etc.
26. Does the school library have a distinctive pet or logo?	It is important the library web reflects this fact, because this way students can rapidly identify the school library.
27. Does it promote the use of information and communication technologies?	It must propose activities favoring the development of skills such as consult, search, selection, valuation, etc.
28. Does the website facilitate a rapid reading?	Contribution contents must be brief texts, since it facilitates its reading.
29. Does it have online support services?	There are forums, chat, work groups, etc.
30. Is it multilingual?	Due to the growing number of foreign students, it is important to offer multilingual contents.

Second, an individualized ranking of school libraries is generated considering the quality of their websites according to the designed model. To indicate if websites meet such characteristics, the degree of fulfillment of website characteristics is identified with the following scoring: 0 deficient, 0.5 sufficient and 1 notable.

RESULTS

Evaluation of school libraries condition

The model for the evaluation of school libraries condition and the percentage global results obtained on the functioning of institute and school libraries of Badajoz is shown below, considering the answers given to each one of the 44 questions included in the model (*Table IV*).

Table IV. Model and results on school libraries condition.

A. Library resources	
1. Does the Center have a library service? Options: Central, Classroom, Department, Central+Classroom, None, DK/NA	
A 100% of the analyzed educational centers have a school library. Most of the institutes currently have central library (62%), and more than 91% of schools have central and classroom libraries, opposite to 25% of the institutes.	
B. School library and center	
B.1. Integration of the library in the educational center	
2. Is there a library exclusively for teachers? Options: Yes, No, DK/NA	
Only 12% of the institutes and 14% of the schools have a library exclusively for teachers, which demonstrates the correct philosophy of a central school library with resources for all types of users.	
3. What groups does the school library serve? Options: Students, Teachers, Other (ex-alumni, parents, etc.)	
Most of the analyzed centers focus their services in students and teachers in a general fashion, not exclusive. In the institutes, 42% of the cases offer services for students and the same percentage for teachers. In schools, services are also mostly offered to students (41%) and teachers (37%) than to other groups.	
4. Is there an annual work plan for the school library? Options: Yes, No, DK/NA	
School library must be organized, so an annual work plan on its objectives throughout the course is essential. The analyzed educational centers satisfactorily meet this characteristic, since 62% of the institutes has an annual work plan, and for schools is even wider (86%).	
B.2. Relation of the library with other institutions	
5. Does the school library have a relationship with close public libraries? Options: Yes, No, DK/NA	
The relationship with public libraries is essential to promote in the students the habit of going to the library and to facilitate the encouragement of reading. In institutes, this relationship is practically nonexistent (12%) and in schools is a little bit higher, but insufficient (25%).	
6. Does it have a relationship with the Centro de Profesores y Recursos (CPR) (Center for Teachers and Resources)? Options: Yes, No, DK/NA	
It is important to maintain a relationship with the CPR since it usually organizes seminars on education, reading, etc. serving as a complement of the school library activities. Currently, only 37% of the institutes maintain some contact with the CPR opposite to 59% of the schools. A worrying fact is that 13% of the institutes does not know if such relationship exists or not.	
C. Documentary resources of school library	
C.1. Formation of documentary funds	
7. Which are the contents of the school library fund? Options: Knowledge/reference material, Literature/fiction material, Albums, Comics, Magazines, Student generated material, Maps, Audiovisual material, Games, Objects, Other	
The fund mostly available in institutes and schools is reference and knowledge material, although with relatively low percentages (23% and 16%, respectively). In institutes, this material is followed by comics, resources produced by students and audiovisual material (18%) and in schools it is complemented by audiovisual material (16%). It is significant that literature and fiction material only appears in 17% of institutes and 14% of schools, as well as the audiovisual material (increasingly important in the new information society) also with very low percentages (18% in institutes and 16% in schools).	
8. How many volumes does the school library fund have? Options: <1,000, 1,000-3,000, 3,000-5,000, 5,000-10,000, >10,000, DK/NA	

<p>► According to IFLA/Unesco school library guidelines (2002): “[...] It is recommended that these have at least 2,500 relevant and current titles to guarantee a book stock balanced for all ages, skills and personal histories”. The educational centers of Badajoz meet such guideline, since 63% of the surveyed institutes has more than 10,000 volumes and 56% of the schools has 3,000-5,000.</p>
<p>9. Are the school library funds reviewed on a yearly basis? Options: Yes, No, DK/NA</p> <p>The annual review of school library funds is important, since this is a way to maintain the material updated and to evaluate its condition. In the case of institutes in Badajoz, this review is ambiguous: in 50% of the cases it is performed, in the other 50% not. On the contrary, 91% of the schools does perform an annual review of the funds.</p>
<p>10. If the answer above is affirmative, which is the review criterion of the fund? Options: Condition of the material, Information updating, Frequency of use, Other, None, DK/NA</p> <p>The most used criteria in the institutes are condition of the material and frequency of use (with 33% in both cases). Whereas, the most used criterion in 45% of schools is the condition of the material, followed by information updating (25%) and frequency of use (22%). A very positive result is that a 100% of school libraries in Badajoz uses some review criterion.</p>
<p>11. Where does the useless material of the school library end up? Options: It is discarded, It is not discarded, DK/NA</p> <p>After the fund review, there must be a destination for those materials that are useless or inadequate to be kept by the school library. In 63% of the institutes, these materials are not discarded; however, in 95% of the schools, useless material is discarded.</p>
<p>12. What is the amount of materials annually incorporated in the school library? Options: 0, 1-100, 101-300, > 300, DK/NA</p> <p>In the educational centers of Badajoz, the number of materials annually incorporated in school libraries of institutes is 50% of those incorporating a mean number of 1-100 volumes and 50% of those incorporating 101-300 volumes. In schools, 48% of the surveyed centers incorporate a mean of 1-100 volumes.</p>
<p>C.2. Automation and organization of the funds</p>
<p>13. Is the fund automated? Options: Yes, No, DK/NA</p> <p>With the new technologies, most of the educational centers in Badajoz have an automated fund in their school libraries, which facilitates their control. All the institutes (100%) have automated funds; schools have a bit less, 86%.</p>
<p>14. If answer above is affirmative, is ABIES software used? Options: Yes, No, DK/NA</p> <p>The incorporation of Abies software in school libraries (distributed freely in all public and government-dependent private educational centers in Extremadura) has allowed that most school libraries become automated. This has resulted in the fact that 100% of the institutes and 89% of the schools with automated funds use ABIES software.</p>
<p>15. Does it have an accessions register? Options: Yes, No, DK/NA</p> <p>A 62% of the institutes and 59% of the schools in the survey have an accessions register. The alarming fact is the percentage of institutes and schools with no accessions register (38% and 41%, respectively), since it is the inventory of the library funds and where all documents comprising the collection are registered. Considering that ABIES generates a list of library funds and that 100% of the institutes and 89% of the schools use this software, it is likely that the person in charge of completing the model has not associated such list with an accessions register of the funds, therefore the high percentage of centers answering not having an accessions register.</p>
<p>16. If the answer above is affirmative, is it manual or automated? Options: Manual, Automated</p> <p>In those school libraries having an accessions register, in 50% of the institutes it is manual and in the other 50% it is automated (following the reasoning of question 15, if 100% of the institutes use ABIES, then all will have an automated accessions register. So, the 50% answering it is manual is because, in addition, these have a manual accessions register). In schools, 100% have it automated.</p> <p>►</p>

<p>17. Does it have catalogs? Options: Yes, No, DK/NA</p> <p>Regarding as if they have catalogs, 63% of the institutes indicates no, opposite to 59% of the schools that indicate yes. In this case, again, considering that ABIES generates a catalog of the funds and that 100% of the institutes and 89% of the schools use this software, it is probable that the person in charge of answering the survey has not associated both aspects, therefore the high percentage of centers answering not having a catalog.</p>
<p>18. If the answer above is affirmative, is it manual or automated? Options: Manual, Automated</p> <p>A 75% of the institutes and 79% of the schools having catalogs, indicated these are automated. Following the reasoning of question 17, if 100% of the institutes and 89% of the schools use ABIES, all will have an automated catalog. So, 25% of institutes and 21% of schools answering it is manual is because, in addition, these have a manual catalog.</p>
<p>19. What type of catalogs it has? Options: Authors, Subject, Systematic, Titles</p> <p>The predominant catalogs in educational centers are in general authors and titles catalogs. In this case, in institutes both catalogs are used in the same percentage (50% and 50%) and also in schools (31% and 31%).</p>
<p>20. For the technical process of the fund (cataloging, classification, subject assignment), does it use ABIES? Options: Yes, No, DK/NA</p> <p>In 100% of the institutes ABIES is used to carry out the technical process of the fund (since 100% of these is automated with this software), and in schools it is used in 86% of the cases.</p>
<p>21. If the answer above is negative, what other tools does it use? Options: Universal Decimal Classification UDC, Cataloging Rules CR, Subject Headings Lists SHL, Other</p> <p>As can be seen in the previous answer, only 14% of schools use a tool different to ABIES; among these, 50% uses UDC, 25% uses SHL and 25% uses other ad hoc tools.</p>
<p>22. Is a subject assigned to literature and fiction material? Options: Yes, No, DK/NA</p> <p>In many children's and juvenile libraries a specific subject is assigned to literature and fiction material (although this rule does not apply to remaining libraries). In the case of institutes, only 25% assigns a subject to the literature and fiction fund, opposite to 46% of schools in Badajoz.</p>
<p>23. Which is the criterion used to organize the Literature and Fiction fund? Options: UDC, Accession Number, Collections, Other</p> <p>In many cases, in children's and juveniles libraries, the literature and fiction fund has a special organization to be more attractive to children. In the educational centers in Badajoz, 75% of the institutes uses UDC for this special organization, and in schools, funds are mainly organized by cycles (38%).</p>
<p>24. Which is the criterion used to organize the Consult and Knowledge fund? Options: UDC, Accession Number, Colors, Tone Symbols, Other</p> <p>Sometimes, in children's and juveniles libraries, the consult and knowledge fund is organized differently than the rest to make the subject easier to identify. Both institutes and schools use as first option the UDC to organize the knowledge material (60% and 40%, respectively). This issue is favorable since this will be the type of organization students will find in the rest of the libraries.</p>
<p>25. Which is the distribution of the school library material? Options: Open shelves, Closed shelves, Storehouse</p> <p>One of the main contributions of the school library is that students can feel comfortable searching, consulting, asking, etc. For this, the recommendation is that the library fund is open and available so users can access it freely. Most school libraries in the analyzed institutes and schools have open shelves (67% and 76%, respectively).</p>
<p>D. Presence of school library in the Internet</p>
<p>26. The school library, does it have a website? Options: Yes, No, DK/NA</p> <p>Modern times are characterized by the so-called information society and, therefore, children are digital natives. They do not imagine a world without a computer connected to the Internet. Considering this, it is surprising that 75% of the institutes and 45% of the schools in the survey do not have a website of their school library. In this issue, it has to be mentioned that when the center indicates the library has a web it can be either a library blog or a website strictly speaking.</p>

27. <i>The school library, does it have a profile in social networks (updates information, novelties, etc.)? Options: Yes, No, DK/NA</i>
Only one institute and one school have a profile in social networks.
28. <i>If the answer above is affirmative, can you indicate in which social networks? Options: Twitter, Facebook, Other</i>
From the two libraries having a profile in social networks, the institute's library preferred Twitter and the school's library preferred Facebook.
E. Facility and provision of equipment of the school library
E.1. Facility
29. <i>Which is the average surface of the school library? Option: m2</i>
The average surface of school libraries in the institutes of Badajoz is big, 120.5 m2. This average exceeds by far the surface recommended by the Real Decreto (Royal Decree) (R. D.) 132/2010, ⁵ which sets out a minimum surface of 75 m2 for the libraries of centers teaching compulsory junior high education or high school. In the case of schools in the survey, the average decreases to 43.5 m2. This is very close to the surface recommended by the mentioned R. D. for the libraries of centers teaching elementary education (45 m2).
30. <i>How many places (chair + table) it has? Option: No. of places</i>
The average number of places (chair + table) that institutes have is 47.25 places, which means 2.55 m2 per place; schools have 23.67 places, i.e., 1.84 m2 per place.
31. <i>Which are the physical characteristics of the school library? Characteristics: Access, Natural light, Location, Noise pollution, Furniture, Capacity. Options: Good, Bad, Regular, DK/NA</i>
It can be said that the institutes and schools in the survey are satisfied with the characteristics of their school library since the option Good was the average in 68.67% and 63.67%, respectively.
F. Functioning and management of the school library
F.1. Services
32. <i>What equipment does the school library have? Options: PC, Laptops, Photocopier, Scanner, Movie screens, Television, e-books, Other</i>
The majority of the equipment in school libraries in institutes and schools is PCs (37% and 25% respectively). In contrast, e-book is the most uncommon equipment in educational centers, being nonexistent in institutes and with 6% in schools (this percentage, although minimum, is a pleasant surprise given its novelty for libraries).
33. <i>How do students use the school library? Options: Reading, Lending, Classwork with consult, Classwork without consult, Use of PCs in general, Use of PCs for a search, Use of PCs for games, Other, They do not use it</i>
Reading, lending, classwork with consult and use of PCs in general are the main uses in institutes although with a low percentage (11%). In schools, the main uses students get from school libraries are lending and consults with 15% and 14%, respectively. It is strange the low use of PCs available in the library and of social networks, considering students are embedded in the information and technology society. It is worrisome that in 8% of the institutes and 5% of the schools, students do not use the library.
34. <i>How do teachers use the school library? Options: Reading, Lending, Classwork with consult, Classwork without consult, Lesson preparation, Correction of exams, Use of ICTs, Consulting references, Other, They do not use it</i>
The priority use of the school library by teachers is lending of the fund, with 15% in institutes and 14% in schools. In contrast, the least used option is consulting references with 6% in institutes and 8% in schools. It is worrisome that in 6% of the institutes and schools, teachers do not use the school library.
35. <i>What services does the school library offer? Options: Lending to students, Lending to departments, Lending to classroom, Lending laptops, Lending e-books, WiFi, Extracurricular activities, Promotion of reading/writing, Promotion of ICTs, Dissemination of funds, Other, No service</i>

►	<p>The most offered services in school libraries of institutes are lending to students (20%), extracurricular activities (18%) and promotion of reading and writing (15%). For schools in the survey, these are lending to students (18%), lending to classrooms (18%) and promotion of reading and writing (16%). Many of the main activities coincide between the two types of educational centers. Also, those services more related to information and communication technologies are the least offered in both cases (lending laptops or e-books, WiFi use and promotion of ICTs).</p>
	<p>F.2. Economic issues in management</p>
	<p><i>36. Is there a specific budget for the school library? Options: Yes, No, DK/NA</i></p> <p>It is recommended that the educational center has an annual budget for the school library as stated in the IFLA/Unesco guidelines for school libraries (2002): "[...] The use of the budget must be carefully planned for the entire year [...]". One half (50%) of the institutes in the survey has a budget for the school library, but the other 50% does not. Regarding the schools, the number of centers with budget increases to 64%.</p>
	<p>F.3. Staff management and typologies</p>
	<p><i>37. If the answer above is affirmative, how much is the annual budget of the library? Option: Annual budget</i></p> <p>From the institutes and schools having an annual budget for the school library, institutes have an average of € 4,140.28 and schools € 850.</p>
	<p><i>38. When did the management of the school library begin? Options: <1980, 1980-1990, 1991-2000, 2001-2010, >2010, DK/NA</i></p> <p>In the institutes, most centers began to manage their school libraries either before 1980 or between 1990 and 2000 (25% in both options). As regards of schools, most (59%) began management more recently, 2001-2010.</p>
	<p><i>39. Is there a person responsible for the school library management? Options: Yes, No, DK/NA</i></p> <p>In order that school library functions, it is essential to have a person in charge of the management. In the institutes and schools of Badajoz a person responsible for the management is present in 100% of the cases.</p>
	<p><i>40. Who is in charge of the school library? Options: Language/literature teachers, Other Teachers, Librarians, Volunteers, Monitors, Members of the Center Parents' Association, Other</i></p> <p>Before indicating the person in charge of the school library in the surveyed centers, it should be considered that set out by the IFLA/Unesco guidelines for school libraries (2002): "[...] The richness and quality of the library depend on the staff resources available within and beyond the school library. For this reason, it is essential to have a well-trained and highly motivated staff, including a sufficient number of members according to school size and specific needs of library service. The staff includes graduate librarians and assistant librarians. It can also have a support staff, i.e., teachers, technicians, parents and other volunteers. School librarians must be graduated and have additional education in educational theory and pedagogy [...]". In the present study, both in institutes and schools, the main responsible person of the school library is a teacher of the center (56% and 62%, respectively). In the case of institutes, followed by a specific Language and Literature teacher (44%) and, in the case of schools, by volunteers (12%), Language and Literature teachers (11%) and staff with a Librarianship education (11%). It is worrying to verify that only 11% of the schools and none of the institutes have a person in charge with an education in Librarianship and Documentation.</p>
	<p><i>41. If the answer above includes Librarians as the person in charge, which is their specific education in Librarianship and Documentation? Options: Educational level</i></p> <p>In schools having a person in charge with education in Librarianship and Documentation, one of them has a Bachelor's degree and a Ph.D. in Documentation, another has a Bachelor's degree in Documentation and another DK/NA.</p>
	<p><i>42. Which functions does the person responsible for the school library have? Options: Selection and acquisition of material, Diffusion of information, Collaboration with teachers, Treatment and organization of material, Dynamism, Others, No function</i></p> <p>►</p>

- 5 R.D. 132/2010, of February 12, which sets out the minimum requirements for centers teaching the second cycle education of Kindergarten education, Elementary education and Junior High Education (BOE 12-3-2010).

► Collaboration with teachers is the most developed function in the institutes (25%), closely followed by treatment and organization of the school library fund (24%). In schools, treatment and organization of the school library fund is the most developed function (21%), followed by selection and acquisition of the material (20%).
F.4. Opening hours
43. Does it have fixed opening hours? Options: Yes, No, DK/NA
It is a promising fact that 100% of the institutes and 91% of the schools have a school library with fixed opening hours.
44. For how many hours is it open per week? Options: < 10 hours, 10-20 hours, 21-30 hours, 31-40 hours, > 40 hours
Considering all the educational centers with fixed opening hours, 63% of the institutes open 10-20 hours per week; in the case of schools, most functions in two schedules: 41% opens less than 10 hours per week and another 41% opens between 21-30 hours per week.

Once analyzed the global condition of school libraries in the city of Badajoz, a ranking is generated allowing to know the particular condition of each library. Thus, the 44 initial questions are put into context and clarified considering certain criteria, decreasing these to a total of 32 questions (Table V). The completed model annotates the presence (1) or absence (0) for each question. To avoid centers being awarded or harmed twice with the presence or absence of each question, those deriving or scoring in others are not considered for the ranking, and are not included in the table.

Table V. Template to determine the school libraries ranking according to their current condition.

No.	Question	Criterion
1	Center has a central library or central+classroom	IFLA/UNESCO (2002) RECOMMENDS CENTRAL
3	Library serves the students	Indispensable
4	There is an annual work plan	Indispensable
5	Library has a relationship with the public library	Indispensable
6	Library has a relationship with the CPR	Indispensable
7	Contents of the library has consult and fiction material	IFLA/UNESCO (2002): BOTH INDISPENSABLE
8	No. of volumes in the range 1,000-3,000 or higher	IFLA/UNESCO (2002): MINIMUM 2,500
9	Library performs an annual review of the material	Indispensable
12	No. of funds annually incorporated higher than 300	IFLA/UNESCO (2002): MINIMUM 300
13	Funds are automated	Indispensable
15	Library has an accessions register of the funds	Indispensable
17	Library has catalogs	Indispensable

20	Library uses ABIES for the technical process of the material	Indispensable
22	Library assigns a subject to the literature and fiction fund	Indispensable
23	Literature and fiction fund is not organized by accession number	Indispensable
24	Consult/knowledge fund is organized by UDC	Indispensable
25	Material is distributed in open shelves	Indispensable
26	Library has webpage	Indispensable
27	Library has a profile in social networks	Indispensable
29	Library surface is greater than 45 m2	R.D.132/2010: minimum 45 m2
30	Library knows the number of places it has	Indispensable
31	Physical characteristics of the school library are good	Indispensable
32	Essential hardware of the library is a PC	Indispensable
33	Students use some of the services offered by the library	Indispensable
34	Teachers use some of the services offered by the library	Indispensable
35	Library offers lending and/or consult (reading and writing) services	Indispensable
36	There is a specific budget for the library	Indispensable
38	Library's management began before 2010	LOE 2/2006: SUPPORTS THE BE
39	There is a person responsible for the management of the library	Indispensable
40	The responsible person is a librarian (education in Librarianship and Documentation)	Scores, given its importance
42	Basic function of the responsible person: treatment of the information and organization of the library	Indispensable
43	Library has fixed opening hours	Indispensable

Figure 1 shows the ranking of school libraries according to their current condition. From the 32 points that libraries can obtain in the 32 questions analyzed, the average in the institutes was 21.62 and 22.05 in schools.

As the distribution shows, the higher portion includes the CEIP Arias Montano with 30 points and in second place, with 27 points, the IES Bárbara de Braganza and the CEIP Manuel Pacheco, Luis de Morales and N. Sra. de Fátima. In the final part of the ranking, in the last place, the school library of CEIP Santa Marina with 14 points, followed by the library of the school Jesús Obrero with 16 points.

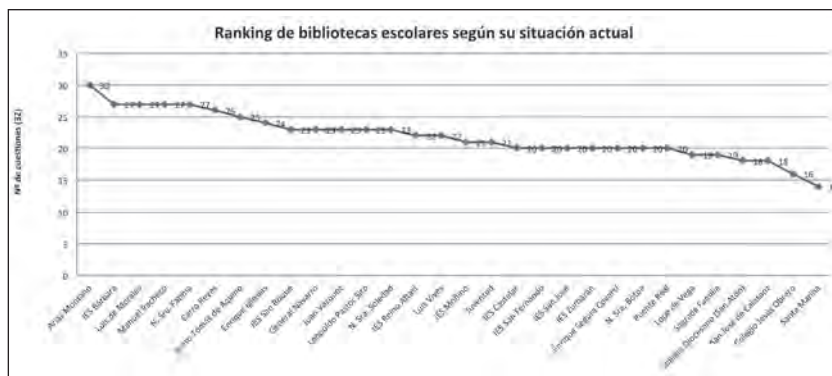


Figure 1. Ranking of libraries of institutes and schools of the city of Badajoz according to their current condition (2012).

Evaluation of school library websites

The analysis of school library websites of the educational centers was carried out using the template designed in Methodology and recording the degree of fulfillment of each characteristic in each website, as was mentioned in the relevant paragraph. From the 30 school libraries that collaborated in this study, only 12 have a website (9 CEIP, 1 private/government-dependent school and 2 IES). In some cases, website blogs were considered as a reference to analyze school library websites, since the educational center itself indicated it by mentioning a library website.

The study verifies that fulfillment of general characteristics in the webs of analyzed libraries is much higher than that of their specific characteristics (with a respective mean of 9.55 opposite to 5.15 over 12), since among the most used characteristics are the Proper use of spelling and grammar, Easy to navigate and No information overload. In contrast, characteristics less used include a Multilingual web, Interaction with students and Online support.

Figure 2 shows the ranking of school library websites of educational centers considering the 30 characteristics (10 general + 20 specific). From the 30 points that library webs can obtain in the analyzed characteristics, the general mean in institutes and schools was 16.54. The figure shows, in the upper part of the distribution where higher scores are, the school libraries of the CEIP Arias Montano (22 points) and Luis Vives (21.5 points), and the IES

6 R.D. 132/2010, of February 12, which sets out the minimum requirements for centers teaching the second cycle education of Kindergarten education, Elementary education and Junior High Education (BOE 12-3-2010).

7 LOE Ley Orgánica 2/2006, de 3 de mayo, de Educación (BOE 4/5/2006).

Bárbara de Braganza (21 points). Regarding school libraries in the lowest part of the distribution obtaining the lowest scores, the CEIP Nuestra Sra. de Fátima (9 points) and Nuestra Sra. de la Soledad (11.5 points), and the IES San Roque (12 points).

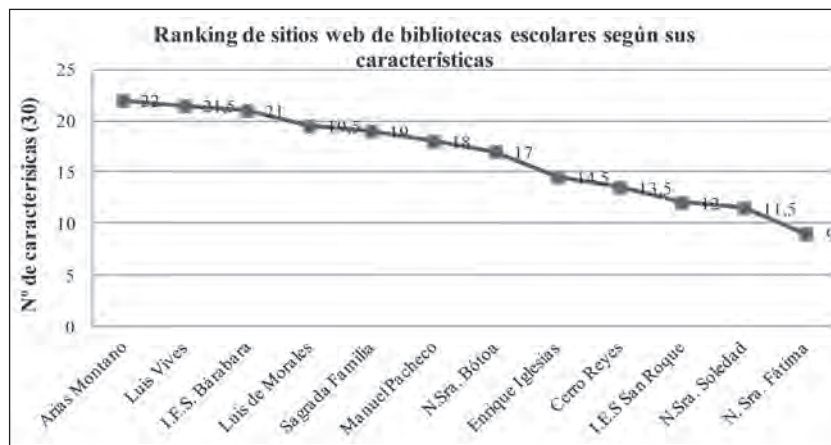


Figure 2. Ranking of library websites of institutes and schools of the city of Badajoz, according to their characteristics (2012).

Finally, Pearson's correlation was calculated among the rankings of school libraries according to scores obtained in their current condition and web evaluation. Evidently, the relation was verified only in the case of the 12 school libraries represented in the web, which obviously are included in both rankings. Pearson's correlation between both variables is very low ($r = 0.1$).

CONCLUSIONS

An exhaustive model of evaluation indicators was designed to verify school libraries condition with a total of 44 questions, and a model to evaluate their web-sites with 30 characteristics (10 general and 20 specific). By applying these models in the libraries of educational centers in the city of Badajoz (participation rate of 61.22%), the following conclusions were drawn.

Current condition

In general, the school library has an important role in the educational center, however, its potential has not been fully exploited. The mean score of libra-

ries regarding their current condition is almost outstanding, both in institutes (21.62 points: 67.6%) and in schools (22.05 points: 69%).

Favorable aspects of the current condition of libraries are the following:

- Several services are offered, both to students and teachers, and even to other groups (ex-alumni, PAS, etc.). Libraries focus on material lending, carry out extracurricular activities and promote reading and writing.
- Carry out an annual work plan and have a specific budget assigned, allowing to schedule expenses in advance by planning the activities.
- Have an extensive documentary fund that is reviewed on an annual basis, allowing a solid control. Libraries use ABIES software, which facilitates material collection and control.
- Allow the free consult of the fund by any user, and although there still is a high percentage of libraries with controlled access, this situation is decreasing.

Regarding the unfavorable aspects:

- In most of the cases, the person in charge of the library is a teacher. The presence of a librarian with education in Librarianship and Documentation with a full-time commitment is required, since few hours per week are not enough to meet the school library needs.
- An approach between school and public libraries would be favorable, since it would be very beneficial for students and currently it is an issue not well promoted.
- Tools most used by youngsters are the new information and communication technologies, and in this sector, the school library is not using all its possibilities. Although one of the easiest ways to approach students is through the internet, the majority of educational centers does not have a library webpage or a profile in social networks. If these tools get promoted, the library will be more attractive with a greater involvement of users.

The library with the highest score regarding its current condition was the CEIP Arias Montano and the most unfavorable was the CEIP Santa Marina.

Websites

The mean score obtained by the webs of school libraries considering fulfilled characteristics barely overcomes the approved score (16.54 points: 55.14%).

The fulfillment of general characteristics in analyzed library webs is greater than that of their specific characteristics, which is an encouragement to keep working in the design of models for the specific evaluation of school library webs and to transmit investigation results to those in charge of educational centers so they take necessary measures on this issue.

The observed general trend is that specific characteristics about promotion of reading are the most represented in the analyzed websites. This means that the school library has made an effort to be a point of reference for students on reading, an issue reflected on their own reading recommendations to specific age ranges, or with links to blogs and websites on stories and novels, among others.

Contents offered by school library websites is easy to read since there is no overload with large contributions; however, a lack of contents in other languages was observed, which makes a consult difficult for foreign students.

Activities for children's self-learning and promotion of new technologies were lacking. These gaps directly affect students' interaction with the school library website, that basically is nonexistent. This may be the result of a huge absence of online support by website administrators, making such interaction difficult.

The library web with the highest score was from the CEIP Arias Montano and the library web with the lowest score was from the CEIP Nuestra Sra. de Fátima.

Final conclusion

Finally, it has been demonstrated that the correlation between school libraries regarding their current condition and webpages status is very low ($r = 0.1$), so the working hypothesis, considering that school libraries with the best current functioning in the city of Badajoz are also those with better webs, can not be confirmed (although the CEIP Arias Montano obtained the maximum scores in both rankings).

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The Gallach publishing house and its contribution to Spanish cultural life. Reassembly and analysis of its catalogue

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ABSTRACT

A study of the history of Spanish publishing, focusing on publishing houses has yet to be carried out. This paper examines the contributions to Spanish culture made by the Gallach Publishing House, one of the pioneer publishing enterprises in Barcelona, which began operations towards the end of the nineteenth century. A considerable portion of its catalogue has been reassembled by locating published books in the National Library of Spain, the National Library of Catalonia, the Ateneo of Madrid and the Ateneo of Barcelona. Researchers also assessed the influences of this publishing house and that of its founder José Gallach Torras, specifically with regard to the founding and

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growth of the prestigious Calpe publishers, which in turn gave rise to Espasa-Calpe, Spain's oldest publishing company, whose ongoing operations date to 1860.

Keywords: Publishing documentation; Publication; Editorial Calpe; Editorial Gallach; History of Publishing; Instituto Gallach; José Gallach Torras.

RESUMEN

La editorial Gallach y su contribución a la industria cultural española. Recuperación y análisis de su catálogo

Juan-Miguel Sánchez-Vigil y María Olivera-Zaldua

El estudio de la historia de la edición en España desde las empresas que conforman y han conformado el sector está por realizarse. En el caso que nos ocupa se investiga sobre la contribución que hizo la editorial Gallach, una de las pioneras en Barcelona a finales del siglo XIX, a la industria cultural española. Se recupera parte de su catálogo a partir del estudio de sus publicaciones y de los fondos de cuatro bibliotecas (Nacional de España, Nacional de Cataluña, Ateneo de Madrid y Ateneo de Barcelona). Se analiza asimismo la influencia de esta editorial y de su fundador, José Gallach Torras, en la creación y desarrollo de la prestigiosa editorial Calpe, a su vez origen de la magna Espasa-Calpe, la más antigua de las editoriales en activo ya que se remonta al año 1860.

Palabras clave: Documentación Editorial; Edición; Editorial Calpe; Editorial Gallach; Historia de la Edición; Instituto Gallach; José Gallach Torras.

INTRODUCTION

It is extremely difficult to examine the history of Spanish publishing, as this requires studying documentation generated by companies completely immersed in cultural contexts. Until now projects of a general nature have

been implemented,¹ with others equally interesting dedicated specifically to publishers, such as La España Moderna,² Aguilar,³ Calleja,⁴ Calpe⁵ o Seix Barral.⁶ Research is thus extensive and of great interest in terms of information about publishing, and likewise concerning the history of books.

The Gallach publishing house, with nearly a century of history is one of the least known despite its intense activity and its contribution to the creation of Calpe, the most popular in the first third of the last century, which subsequently gave rise to Espasa-Calpe, with branches in Mexico and Argentina. Gallach was founded in Barcelona in the last decade of the nineteenth century and lasted for a long time, until in 1979 it was acquired by the Oceano group. It developed during two stages, the first between 1890 and 1918, the year when the collections were taken over by Calpe, created by Nicolás María Urgoiti, and the second stage beginning in 1924 when it became known as The Gallach Institute.

The company evolved in a favorable ambiance due to the great increase in institutions related to books and the creation of organizations defending the interests of publishers and printers, including the Catalan Institute of Book Arts and the Intellectual Property Center. During only a five year period, major national and international events were staged and Gallach took part in all of these: VI International Publishers Congress held in Madrid in 1908 by Association with the Library of Spain, First and Second National Assembly of Booksellers and Publishers held in June 1909 and May 1910, the First Congress of Book Arts in 1911, and the creation of the Spanish Federation of Book Arts in 1912. Over these two decades, José Gallach gained great prestige among his colleagues and was assembling a reference catalogue that would form the basis for establishing Calpe, as discussed below.

This article aims to study the origins of the Gallach publishing house, define its place in the history of Spanish publishing, reconstruct the biography of its founder and reassemble part of its catalogue. For this, we have reviewed the literature on the Spanish publishing house, consulted Nicolás María Ur-

1 Refer to Hipólito Escolar, "El libro y la lectura en el siglo XX", in La edición moderna. Siglos XIX y XX, Madrid: Pirámide, 1996; Jesús A. Martínez Martín (dir.), *Historia de la edición en España (1836-1936)*, Madrid: Marcial Pons, 2001; Xavier Moret, *Tiempo de editores. Historia de la edición en España, 1939-1975*, Barcelona: Destino, 2002; Sergio Vila-Sanjuán, *Pasando página*, Barcelona: Destino, 2003; Juan Miguel Sánchez Vigil, *La edición en España*, Gijón: Trea, 2009.

2 Refer to Juan Antonio Yeves, *La España Moderna*, Madrid: Libris, 2002.

3 Refer to María José Blas Ruiz, Aguilar. *Historia de una editorial y de sus colecciones literarias en papel biblia (1923-1986)*, collab. of José Luis Sánchez de Vivar Villalba, prologue by Luis Alberto de Cuenca, Madrid: Librería del Prado, 2012.

4 Julio Berrio, Anastasio Martínez Navarro, Carmen Colmenar y Miryam Carreño, *La editorial Calleja, un agente de modernización educativa en la restauración*, Madrid: Uned, 2002.

5 Refer to J. M. Sánchez Vigil, *Calpe, paradigma editorial*, Gijón: Trea.

6 Manuel Llanas and Antonio Lozano, *Seix Barral. Nuestra historia*, Barcelona: Seix Barral, 2011.

goiti, founder of Calpe's personal archive; revised the catalogues of four prestigious libraries [Biblioteca Nacional de España (National Library of Spain), Biblioteca Nacional de Cataluña (National Library of Catalonia), the Ateneo of Madrid and the Ateneo of Barcelona]. We have also analyzed numerous publications from the publishers kept in public and private collections, including the newspaper *Mi Revista* (My Journal). Once we had collected and processed the information, we wrote the text, arriving at the conclusions that indicate Gallach's contribution to the history of Spanish publishing.

ORIGINS OF THE GALLACH PUBLISHING HOUSE

The Gallach Publishing House was established because of José Gallach Torras's desire to initiate a business producing and distributing books, during a period of change in the industry brought about by new technologies. Gallach was born in Barcelona on March 30, 1872, son of the printer with the same name, from whom he learned printing (*Figure 1*).



Figure 1. Logotype design for Gallach Publishing House, 1900

The first book with the Gallach seal registered in the National Library of Spain and in the Library of Catalonia, was *Literatura militar española* (Span-

ish Military Literature) by Captain Francisco Barado, dated 1890. In the last decade of the nineteenth century, Gallach purchased the collections of the Soler publisher, at number 152, Pasaje San Juan de Barcelona, and later Consejo de Ciento 416-418, with a printer at premises in Baseda de Domingo Clarasó and its headquarters at Villarroel 17. This company in Barcelona (then known as successors to Manuel Soler) had become very popular and was advertised by the motto: "Instruction and education is the greatest wealth that people can attain".

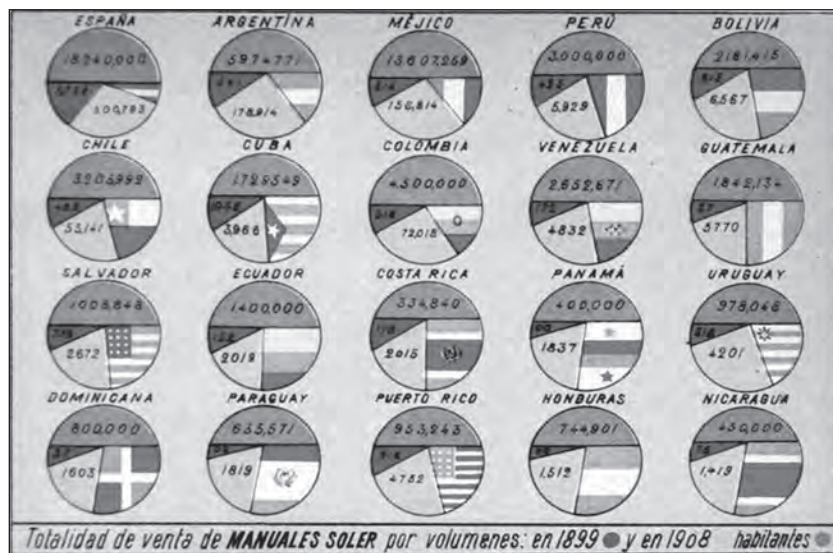


Figure 2. Sale of Soler Manuals 1899-1908.

Source: Soler Manuals. Keeper of the books.

The iconic collection from the Soler Publishing House consisted of their Soler Manuals (Figure 2), known for their small size (11 x 16 cm) and hard-cover orange print on black bookbinding, which after they were purchased by Gallach changed to green. Soler published a hundred volumes in two different series, with Arabic and Roman numerals, and designed a special shelf on which to exhibit them, given free to subscribers. In order to advertise the company, it published the newspaper *Lecturas Populares. Revista mensual de conocimientos útiles y bibliografía* (Popular Reading, Monthly journal of useful facts and references), distributed for free at societies, cultural associations and learning centers. The manuals were advertised as a "Useful and economic library of encyclopedic knowledge", stating the following aims:

To contribute to this redemptive movement, imbued with the urgent need to popularize the principles of modern science with its great achievements and artistic manifestations, making everything accessible to the less educated, while offering men of greater intellectual stature a simple formula to help them remember all scientific matter; thus no one will be obliged to resort to foreign books to discover the fundamentals of science.⁷

In the first months, Gallach advertised its Publishing House as “José Gallach-Editor. Successor to Manuel Soler”, with offices at Consejo de Ciento 416-418 and Pasaje de Tasso 9 and more store houses on the road to Horta. The first catalogue consisted of reference works by Soler, principally of interest to professionals and scholars. For example, the Manuals, the Science of Art collection or the People’s Law Library, with specialized titles such as *Monumentos del arte español* (Monuments of Spanish Art) by Pedro Hugueta, with enlarged format and a hundred photos, or the *Tesoro del agricultor. Novísimo tratado teórico-práctico de Agricultura y Zootecnia* (Treasury of Agriculture. Newest theoretical and practical treatise on Agriculture and Animal Husbandry).

José Gallach participated in the events and institutions designed by publishers to defend their interests and joined the Catalan Institute of Book Arts from its founding in 1898. He was involved in circles that included intellectuals and artists of modernism, and was even enrolled in the photography contest organized on the occasion of the Festa dels Coloms celebrated on March 17, 1907 at the Tibidabo, together with Pau Audouard, José Baltá de Cela, Miquel Utrillo and Josep María Co de Triola.⁸ He was also Secretary of the Intellectual Property Center created in 1900,⁹ and in 1909 participated in the First National Assembly of Publishers and Booksellers held in Barcelona from June 7th to 9th, where he gave the lecture “Practical ways to encourage and facilitate the book trade in Spain, and among the mainland and American nations of Spanish origin”.¹⁰ His contribution was to analyze the book

7 Taken from the introductory text for the collection in the book by Carlos Banús y Comas, *Unidades, Manuales Soler no. XXI*, Barcelona, no date, p. 4.

8 Nuria Fernández Rius, *Pau Audouard, fotògraf retratista de Barcelona. De la reputació a l'oblit* (1856-1918), p. 413.

9 The statute for the Intellectual Property Center of Barcelona was approved on June 6, 1900 with 17 tenets. The objectives were to “defend the general interests of the industries represented in the Association and ensure their improvement and development; present authorized legal representation to defend and protect the interests of members before the government in all matters relating to that stated and regulated in the Copyright Act of 1879 and 1880”. The original document is preserved in the Arxiu Nacional de Catalunya (National Archive of Catalonia) and is signed by Francisco Simón y Font, founder of the Montaner y Simón publishing house. Arxiu Nacional de Catalunya, ANC1-261-T-123.

10 Refer to Philippe Castellano, “América: ¿arcadia para editores españoles?”, in *Naveg@merica. Revista electrónica de la Asociación Española de Americanistas*, no. 5, 2010. Available at <http://revistas.um.es/navegamerica>

market in the Americas, evaluating the progress of European publishers for distributing their collections, while proposing measures for improving this activity. Concrete proposals were threefold: to determine the needs, tastes and demands of readers, improve sales systems and assess the creditworthiness of booksellers:

We must confess that the current state of the book trade between Spain and American nations of Spanish origin lack the caliber, stability and abundance which should distinguish them... Our competitors are more intense, practical and decidedly stronger in their activity than we are, in terms of sustaining those markets and the way they distribute their publications.

The idiosyncratic and varied application of prices established by those dedicated to the sale of publications in foreign Spanish-speaking countries, is one of the biggest hindrances to export growth; as evidently their high costs limit the number of buyers, thus damaging production progress and consequently sales. Booksellers frequently refer to exchange rates as an excuse.¹¹

In 1911 Gallach attended the Second Meeting of Publishers and Booksellers in Valencia, where he restated the problems facing the expansion of Spanish publishers in America, in a renewed attempt to draw the attention of professionals to a still unexplored market.

During the same year for the purpose of advertising his collections, he created *Mi Revista* (Figure 3), subtitled *Periódico-Ilustración para el Hogar* (Illustrated Newspaper for the Home), sold by subscription. This was drafted and produced at the same publishing venue (Consejo de Ciento, 418), every fortnight and the subtitle changed twice: *Enciclopedia ideal para el hogar y la escuela* (Ideal Encyclopedia for home and school), and *Enciclopedia Popular Ilustrada* (People's Illustrated Encyclopedia). This was edited during two periods, the first between 1911 and 1919, and the second from November of that year, depending on the Calpe Publisher when it acquired the Gallach company. On the front cover was an unsigned drawing of a woman reading, similar to drawings by the illustrator Ramón Casas. It consisted of 24 pages and was commercially viable, at the price of 0.50 pesetas. Advertising on the back cover was devoted to hygiene products, medicines, bazaars, bathing resorts, typewriters and accounting machines, as well as books published by Gallach.

11 *Crónica de la Primera Asamblea de Libreros y Editores*, Barcelona, 1909, p. 99.



Figure 3. Front cover of Mi Revista, 1919.

In terms of content, all sections had an illustrated cover and sometimes there were many illustrations, especially for fashion pages, which averaged 20 images. The principal sections consisted of Literature, Science, Children's pages, History, Hobbies, Amazing facts, Work and Fashion, Recipes and Doctor's Tips. Editors included Augusto Barrado (Secretary), Joaquín María Barnola (Natural Sciences), José Comas Solá (Astronomy), Federico Climent Terror (Housekeeping), A.O. Viñas (Personal Hygiene), Salome Núñez Topete (Fashion), Aurora Tomás Gutiérrez Larraya (Housework and Home decoration) and Arturo Jarque (illustrator).

There were more than fifty collaborators including writers and illustrators, with prestigious authors such as Luis Bello, Andrés González Blanco, Enrique González Fiol, Ramón Goy de Silva, Alfredo Opisso, Francisco Rodríguez Marín, Carlos Sarthou, Antonio Velasco Zazo, Antonio Zozaya, Enrique Bráñez, Manuel Bujados, Echea, K-Hito, Vicente Ibáñez, Ramón Manchón, Ricardo Marín, José Moya del Pino, José Robledano, José Segrelles and

Enrique Varela de Seijas. In 1920, the “Children’s Theater” collection was included under the direction of Calpe, with a miniature presentation (6 x 9 cm), with short plays such as *Jugar al mañana* (Play like it is Tomorrow) by Juan Gómez Renovales or *Comedia de polichinelas* (Puppet’s Comedy) by Jacinto Benavente, illustrated by Echea. During this period, free gifts and photographic enlargements up to natural size were offered to subscribers.

José Gallach also published postcards to announce the series entitled *Biblioteca de Episodios Americanos* (American Library Episodes). The second decade of the twentieth century saw an expansion, with popular titles in large print runs with quality book bindings, including the *Enciclopedia Moderna Catalana* (Catalan Modern Encyclopedia) (4 volumes) or *Historia Natural* (Natural History) by Odón de Buen (2 volumes), with many illustrations. In 1916 he wrote two strange advertising mottos that were printed in *Mi Revista*, one of these related to the dissemination of Spanish books in European countries involved in World War I, and the other directed to booksellers indicating the excellence of his Publishing House. The motto for the Spanish book during the war was summed up in the seventh clause: “Do not forget that the Spanish book is destined to your country and family, as the seed is to the ground: the way to achieve and proceed with the Spanish thought”. The motto for booksellers was commercial in nature, full of clichés like this: “Whenever you are involved in the highly cultured and honorable profession of bookseller, do not forget the benefits of advertising and selling Gallach Publications”.

CREATION OF THE *COMPAÑÍA ANÓNIMA DE LIBRERÍA, PUBLICACIONES Y EDICIONES (CALPE)* (BOOKSTORE, PUBLICATIONS AND EDITIONS LIMITED COMPANY)

The prestigious publishing house Calpe was established by Nicolás María Urgoiti in 1918 with collaboration from José Gallach, from whom the Basque industrialist bought the entire collections, assigning him management of the new company. On June 5 of that year the Board of Directors appointed him manager with a salary of 30,000 pesetas per year, plus a share in the profit, and granted him powers to represent the company and to make all arrangements, particularly management contracts and printing of magazines, illustrations and cultural brochures, and also those related to the preparation and production of the printed book.

Thus Calpe took over Gallach’s properties: land, premises, machinery, as well as literary and artistic collections of the business. In exchange it con-

trolled production, negotiated on its behalf, sold published items, managed rights and advertising, and controlled the administration. Payment exceeded one million pesetas (1,047,200.77) paid in four installments, the first in shares (250,000 pesetas) and the rest in three installments between July, 1918 and January, 1919. Moreover, in order to transfer the Gallach Publishing house business, located in a warehouse in Guinardó street, a construction project for a warehouse in Barcelona was commissioned to the architect Francisco Guardia, an idea that was later dismissed (*Table 1*).

Table 1. . Items passed from the Gallach Publishing House to Calpe.¹²

Items	Value
Balance of correspondents, provisional balance and policies	152.216,96
Existing works, materials and lithographic engravings	545.823,03
Machinery and tools	10.707,00
Furniture	9.511,50
A car, a horse and related items	2.500,00
Land in Barcelona and at Mallorca and Padilla streets	300.725,00
Forthcoming literary and artistic publications	12.600,00
Private library	8.000,00
Amount of credit	5.216,28
Pesetas total	1.047.200,77

Calpe had to launch itself at a difficult moment, as the serious crisis in the paper industry had caused a general backlash against *La Papelera Española* (Spanish Paper Industry), owner of the publishing house. Directed by a sector of the press and supported by the Spanish Federation of Producers, Traders and Friends of the Book, the journal *Bibliografía Española* (Spanish Literature) published the following in April 1918:

The Spanish press as well as publishers and printers have promoted La Papelera Española, which repays this favor with the worst ingratitude; thus besides creating more newspapers as media rivals, it has founded a great publishing house which will ruin all those who produce books; i.e. it aims to destroy all who helped support and

12 Power transferred from Nicolás María Urgoiti to José Gallach, Archivo Histórico de Protocolos (Historic Archive of Protocols), November 11, 1918. The Administrative Council awarded him an annual salary of 30.000 pesetas as well as profits from shares in the company.

raise it to the pinnacle of its current prosperity.¹³

When editors discovered that the person in charge of Calpe was José Gallach, they radically changed their opinion and greeted the new company with admiration in a quote published in the same journal two months later: “We have no doubt that they will contribute to the elevation and aggrandizement of our trade, as well as to the development and dissemination of the culture of our homeland”.

Nicolás Urgoiti designed an organization with two main departments: a publisher based in Madrid, controlled by the Directive Committee in consultation with the managing director, and technical, commercial and administrative offices in Barcelona, under the direction of José Gallach, in coordination with the heads of each of these areas: José Nicolás Urgoiti (son of Nicolás), Rosendo Gallach and Ricardo Díez Campaña (son and son-in-law of José Gallach, respectively). A fundamental aspect was the assignment of José Ortega y Gasset to the post of literary director, following the example of the editor Victoriano Prieto, who had hired Gregorio Martínez Sierra for *Renacimiento* (Renaissance) in 1911. The Editorial Committee also had a Secretary, Lorenzo Luzuriaga, who was also responsible for drawing up statistics on publishing and new productions.

The Management Board asked José Gallach to prepare a plan for the ten editions following on from June 1918, and to send a copy of each of his collections in order to establish the publishing library; i.e. Gallach's collections constituted the basis for Calpe's great library. Almost from the time of its foundation, the idea was to establish departments in America, either independently or in partnership with other publishers. In July 1918, when Ortega y Gasset was invited to give lectures at the Universities of La Plata and of Buenos Aires, he proposed that an editor capable of advertising publishing projects and obtaining information about texts written by teachers in Argentina, Chile and Uruguay should accompany him. The Governing Council decided that this task should be undertaken by the teacher Francisco José Barnés Salinas, whose mission would be to develop a comprehensive report, from which to draw definitive conclusions.

During the visiting period, the great works from the Gallach Publishing House went on sale accompanied by an intense advertising program between August and December in journals from *Prensa Gráfica* (Media Graphics) group, *Nuevo Mundo* (New World), *Mundo Gráfico* (Graphic World) and *La Esfera* (The Sphere). In the latter, whole page advertisings of the main titles

13 *Bibliografía Española*, no. 8, April 16, 1918, p. 17.

and series were reproduced: *El Abogado Popular* (The People's Lawyer) by Pedro Huguet (6 cloth-bound volumes consisting of 3,755 pages), *Agricultura y Zootecnia* by Joaquín Ribera (five illustrated volumes), Gallach Manuals (106 volumes in August) and Library for the Practical Electrician, subtitled Encyclopedia of Electricity, under the direction of Ricardo Caro and Anchía (30 volumes in octavo format). In order to disseminate the Gallach collections, they opened an advertising department directed by José Cruz, who charged 10% of the returns derived from each advertisement, and suggested producing a free bi-weekly newspaper to form part of the overall advertising program.

The original idea was to establish offices and workshops in Barcelona, but in July 1919, Gallach was ordered to move to Madrid and sent a letter to Urgoiti on the 18th of this month, presenting the publisher as "A company that was established with the aim of discreetly gathering together everything produced by the human mind, in good degree of goodness, without setting aside the need for teaching".

This extraordinary document, clarifying the editor's relationship with the author at the beginning of the century, is testimony to a businessman who invested his assets and expertise in a medium and long term project. For Gallach, the task of the editor should respond to the following criteria: "Operating without moral pressure that might inhibit or prejudice concepts, providing advice without obstacles or interference of any kind, while freely applying factors or elements of literary or artistic value as deemed appropriate, as much from one as from other doctrinal groups".¹⁴

Gallach as director of Calpe

Gallach's attitude as manager was critical from the beginning of the project, indicating the "problems and errors" that resulted from the duplication of functions undertaken by him as manager and José Ortega y Gasset as editorial director. The Governing Council had granted full powers to Ortega to select works and authors, thus tying Gallach's hands, to the extent that he asked Urgoiti to reconsider the initial idea, warning him of problems if an editor continued having control and not a commercial or industrial figure. This dichotomy between the intellectual and professional book producer induced him to write the following in this letter:

14 Archivo Regional de la Comunidad de Madrid (ARCM) (Regional Archive of the Madrid Community), Archivo Urgoiti C.53.3/13.

I understand the rejection that the writer gives to the editor, and certainly from this, the plan that followed for the intellectual management of Calpe to reside in Madrid, assuming that the commercial industrial element should be dependent on and regulated by the direction from the literary sector. Big mistake! This has not occurred in any publisher nor happens in Spain, Calleja, Sopena or any others, worldwide. The industrial and commercial aspect of every business must be the primary purpose and should prevail over the literary, without suggesting that this aspect should be excluded.

One of the first proposals made by Gallach in his role as manager was to issue a free commercial newspaper, to continue the project initiated with *Mi Revista*, an informative magazine for the Gallach Publishing House, until its acquisition by Calpe. This publication, which was entitled *Revista de Libros* (Book Journal), initiated a second stage under the Calpe seal from November 1919, with the aim of attracting new customers.

During the first three years of operation, Calpe composed a quality catalogue which included several relevant collections: Universal, Classical Journeys, and Contemporary and Great Works. The need to increase sales for profit led the management team to negotiate with the Espasa family for exclusive sales of the *Enciclopedia Universal Ilustrada* (Universal Illustrated Encyclopedia), and the opening of an office in Buenos Aires (Suipacha, 585) with Julian Urgoiti as Director. This decision acted as a boost for the Spanish paper and publishing industry, which from then on could rely on a large company for the distribution of collections in a market dominated by French publishers (Franco-Americana, Garnier, Armand Collin, Hachette, Michaud, etc.).

In 1922, after three years as manager, Gallach's contribution was questioned. Serapio Huici, director of *La Papelera Española*, majority shareholder of Calpe, tried to lower his salary, causing due offense. On July 17 the Count of Aresti, president of *La Papelera Española* asked Urgoiti to resolve the situation and proposed a graceful exit that recognized the services he had provided.¹⁵ Gallach vacated his post in favor of Urgoiti and requested his transfer to the newly created office in Barcelona to manage business issues. Urgoiti asked him to prepare a report indicating his personal view of the situation, together with an analysis of Calpe's progress.¹⁶ The manager knew from the first moment that he was writing a "professional will" which would terminate his activity at the forefront of the publisher. He was blunt in his judgment and analyzed the intellectual, industrial and commercial aspects, insisting once again as he had done in 1919, on the need for a change in editorial policy based on

15 Archivo Regional de la Comunidad de Madrid (ARCM), Archivo Urgoiti C 35.2/97.

16 Report written by Gallach on request from Urgoiti. ARCM, Archivo Urgoiti C 53.3/11.

the following aspects: modification of literary aspects with economic incentives in terms of production, removal of editors from the Directive Committee, independence from workshops, publication of major works and of general content, creation of an advertising section and adjustment of the editor's role.

Editors become *tyrants*, because they search for a book that will capture the market; check the action of the competitor; strive to produce in favorable economic conditions, because if they do not do so they will observe payroll figures with horror; they will observe how the shelves and shelf units become filled with books, they realize the negative value that accumulates faced with positive claims by the shareholder and fear that any major disaster will be attributed to them, rather than the Board and the Administration Committee.

According to Gallach, the aim of directors of the collection was to propose and revise titles, originals and translations taking total responsibility, standards which nobody met due to lack of effort and critical attitude. Moreover, he considered it essential to combine the editing of practical works with books of enlarged format, based on the idea that investing in human resources and infrastructure should be equal in both cases. As for advertising, the model was designed based on five sections: Technical (planning, writing of documents and press advertising), Direct advertising (customers), Propaganda for intermediaries (booksellers, correspondents, travellers, etc.), Registration of results (statistics and reports) and Cooperation from Friends of the Book (subscriptions). His operation complied with the following guidelines: general information about the book (price, importance of the issue, series, etc.), ideal advertising plan and most appropriate means for maximizing profitability, writing of documents, study of the most appropriate media, press dossier, correspondence control, registration and statistics of results. In order to increase production, he proposed the creation of a new group responsible for performing activities outside the company. Finally, he criticized sales policy and proposed the idea of creating a publicity department to advertise works, as well as the post of a general inspector to oversee the running of the company in all departments. These observations were not just a simple analysis of the situation, but a code to correct editorial policy and a retreat from the "front lines". While proposing his replacement, citing health reasons, he explained the tasks of a managing editor, emphasizing the negative impact of intellectuals as editors.

This devastating report by Gallach evoked a prompt response. Nicolás Urgoiti did not accept his criticism of intellectuals, mainly aimed at Ortega y Gasset, with whom the manager had disagreed from the time the publishing house

had been founded, since Gallach felt Ortega y Gasset took over some of his functions. Consequently, Calpe's director condemned his meddling in editorial aspects and asked him to continue working, but only on technical aspects.¹⁷

Gallach, director of the Barcelona Department

On April 27, 1922 the expansion of Calpe towards America and the creation of an editorial department in Barcelona with Gallach as director was announced. His work, totally independent at the beginning, involved the sale of books in Catalonia, Valencia, Aragón and the Balearic Islands. His son Rosendo and his son-in-law Ricardo Díez Campañá worked with him. However the company did not achieve results as anticipated and in 1923 registered losses, mainly because of rental payments for the premises occupied. Calpe's Board of Directors proposed closing the branch, but ultimately remained open. Urgoiti traveled to Barcelona in January 1924 to ask Gallach to further economize on expenses. In a letter sent on February 19 to the Directive Committee, Gallach proposed changes to the operating contract to increase profits: authorization to dedicate his efforts to publishing and to open a book shop, maintaining the same sales personnel in Barcelona, free transfer of some space to attend to personal matters and waiving of the annual fixed salary of 20,000 pesetas as compensation for these requests (Figure 4).



Figure 4. Sculpture of José Gallach in the Gallach Institute in Barcelona, 1924. Amatller Institute (Mas Archive).

17 Observations on reading the report provided at my request by Mr. Gallach, Managing Director of Calpe, (undated). ARCM, Archivo Urgoiti C 53.3/12.

These proposals increased discrepancies and advisors put pressure on Urgoiti into taking drastic measures. His suspicion went so far that he took control of the assets of the company. From February 1924, the exchange of letters was steady, and threatening orders were sent from Madrid: Gallach had to work for commission and give up two of the three local publishers. Despite this, he ignored these decisions and Urgoiti had to travel back there in March, finally agreeing that the expenses of the department should be deducted from sales revenue. The problem was not entirely solved because sales decreased further. Urgoiti was forced to organize two further trips in May and October 1924 to personally oversee changes. The department became an additional problem to the overall situation at Calpe and closing down appeared to be the only solution.

CREATION AND DEVELOPMENT OF THE GALLACH INSTITUTE

Towards the end of 1924, José Gallach finally left Calpe and decided to continue in publishing. He then created the Gallach Institute Bookstore & Publishing dedicated to the publication of major illustrated works on history, art, geography and natural history. His immediate collaborators were his son Rosendo Gallach and his son-in-law Ricardo Díez Campañá. All actively participated in the Book Chamber, where Rosendo served as a member on the board. Four years later, in 1928, they had already published several titles with great diffusion, including *Historia Natural* (4 volumes), *Razas Humanas* (Human Races) (2 volumes) and *Geografía Universal* (Universal Geography) (4 volumes), collections for which the publisher was awarded a gold Medal at the Universal Exhibition in Barcelona in 1929.

José Gallach Torras died on November 14, 1928, but business continued to be managed by his son and his son-in-law. The news of his death appeared in a brief note in *La Vanguardia* on the 30th of the same month, with a footnote that remarked on his family relationships rather than his prestige as a publisher: “related to the distinguished Campañá family from this region”.

The Gallach Institute continued to function after the Civil War with the publication of richly illustrated works with enlarged format, published in the forties. Most of these became very popular: *Historia de España* (History of Spain), *Gran Historia General de los Pueblos Hispanos* (General History of the Hispanic Peoples) *Mil figuras de la Historia* (One thousand Characters from History) and *Lecciones de la Historia* (Lessons from History). These

works were published in several volumes and marketed through payments and subscriptions.

Gallach was purchased in 1979 by Oceano Publishing, a company that continued to use the seal for marketing the collection. In the catalogue printed in 2004, the following works were still included: *Historia Universal*, *Historia del Arte* (Art History), *Historia Natural* and *Razas Humanas*, and the 2012 catalogue offered appendices from the *Enciclopedia Universal Gallach* (Gallach Universal Encyclopedia) 2005 and 2008, with the following note:

Essential insert to maintain the overall universal library up to date. The two volumes, consisting of 400 pages and a CD-ROM include the updated biographies of the most important characters in today's political, scientific, literary and artistic contexts, as well as obituaries for people who died between 2005 and 2007. It also has a Best Pictures section, presenting the most spectacular images from the past few years.

THE INSTITUTE CATALOGUE

Works from the Gallach Publishing House were renowned for their specialized content, profusion of illustrations and clear informative content. The first book referred to, with two copies kept at the National Library of Spain and Catalonia, is *Literatura militar española* by Captain Francisco Barado (postscript by Luis Vidart), published in Barcelona with the footnote "Gallach Publishing House" in the year 1890 (740 pp., 16 pl.). There is no record in the collections investigated of more books dated between that year and 1900, thus we assume that Manuel Soler's collections were acquired during that decade and they began to edit works with enlarged format, including *El Abogado Popular* (The People's Lawyer) by Pedro Huguet (6 volumes), *Agricultura y Zootecnia* by Joaquín Ribera (5 volumes), *La vida de los animales* (The Life of Animals) by A.E. Brehm (6 volumes), and *Museo Militar* (Military Museum), also by Francisco Barado. *La vida de los animales*, translated by Carlos Fernández Castroverde, was divided into six sections: *Mamíferos* (Mammals) (I and II), *Aves* (Birds) (III and IV), *Reptiles, Anfibios y Peces* (Reptiles, Amphibians and Fish) (V) and *Invertebrados* (Invertebrates) (VI), with many illustrations (1650 in black and white and more lithographs in color) and was sold in leather bound booklets. *Museo Militar* was considered the most important book on the military and at the Universal Exhibition in Barcelona in 1888, it was awarded a Gold Medal. Calpe would later restructure the content of this work into three volumes, in 1923.

In the 1916 catalogue, among other titles the following were offered: *Diccionario de las Familias* (The Family Dictionary) (Home Encyclopedia in installments), *Contabilidad general y Contabilidad Comercial* (General Accounting and Business Accounting) by J. Prats Aymerich, *La Ciencia del Arte* (The Science of Art) by Victor Masrera (5 volumes), *La letra de cambio* (Credit Receipts) by Pedro Huguet, *Cuerpo de Derecho Civil Romano* (Body of Roman Civil Law) by Kriegel, Hermann and Osenbruggen, *La Cristiada* (The Cristero Rebellion) by Fray Diego de Ojeda and *La Divina Comedia de Dante* (Dante's Divine Comedy). Relevant essays from Soler's collection were also republished, such as *El problema de la ignorancia del derecho y sus relaciones con el status individual, el referéndum y la costumbre* (The Problem of Ignorance of the Law and how this Relates to Individual Status, Referendum and Customs) by Joaquín Costa (1913). A copy of this work is preserved in the Library of the Ateneo of Barcelona. Relevant collections include The Library of American Series and the popular Library for the Practical Electrician, also known as Encyclopedia of Electricity, produced by Ricardo Caro y Anchía, which appears in Calpe's 1923 catalogue:

The most up-to-date, concise, clear, complete, economical, easy to handle and exquisitely illustrated of works published to date. This is a very practical and original work, written by specialized authors under the direction of Ricardo Caro y Anchía, who has a degree in Physics and Mathematics, is a Telegraph officer and Professor of Electrical Engineering and Telegraphy at the Industrial School in Tarrasa.

Series and works in smaller format included *Literatura Militar Española* by Francisco Barado, *Lecciones de árabe marroquí* (Lessons on Moroccan Arabic) by Pelayo Vizuite, *Prontuario de esperanto* (Handbook of Esperanto) and *Índice legislativo español* (Spanish Legislative Index), both by José Garzón Ruiz, *Diccionario de voces cubanas* (Dictionary of Cuban Voices) by Constantino Suárez, *Derecho consuetudinario y economía popular en España* (Customary Law and Popular Economy in Spain) by various authors, *Historia de España y de las Repúblicas Hispanoamericanas* (History of Spain and the Spanish American Republics) by Opisso and Alfredo Viñas (25 volumes illustrated with maps and plates), *Guía ilustrada de las carreras y de la enseñanza en España* (Illustrated Guide to Careers and Education in Spain) by various authors, Gallach Library of Novels, Library of American Series, and the iconic collection of Gallach Manuals which would be produced by Espasa-Calpe until the fifties, totaling 100 titles in 1916. One of the most successful works was the *Enciclopedia Moderna Catalana* by Josep Fiter, published in 1913 and consisting of five volumes with more than ten thousand biographi-

cal, geographical and historical inputs for which Gallach wrote the foreword entitled *Quatre paraules del editor* (Four words from the Editor).

Gallach Manuals

The collection originated with the Soler Manuals produced by the publisher Manuel Soler, from whom, as noted, Gallach purchased it (Figure 5). These books were very popular in the first third of the century because of their varied content (science, history, technology, art, arts and professions, etc.), their octavo format and green cloth binding, stamped in black. The first two numbers, probably printed in 1903, were *Química General* (General Chemistry) by Doctor Luanco and *Historia Natural* by Odón de Buen. In May 1914 Jacinto Octavio Picón dedicated these words to the collection in *Mi Revista*: “I think Soler Manuals are enormously useful because of their intelligent creation, making them a powerful cultural force, in a word, making them a publication that should be extremely appreciated by all those who love Spain”.

In 1916, the 100th issue in the series was published, *Manual del pintor decorador* (Manual for the Painter Decorator) by José Cuchy, to be purchased with payments and for which a modernist display-stand was designed. In August 1918, when Calpe began to operate, number 106 was issued, followed by an annual average of 5 titles. Demand was constant and for months, until the new collections were created, this was one of the economic bastions of the publisher. Average print runs ranged between 3,000 and 4,000 copies, with constant reprints. After the merger between Calpe and Espasa in 1925, it was decided to limit the collection to 130 titles, replacing those with low sales with new ones that were given the same number, causing confusion among customers.



Figure 5. Poster for the Gallach Manuals. Original by Antonio Utrillo.

General and specialized catalogues: graphic documentary

Gallach production by the Institute created in 1924 was extraordinary for its quantity and quality, manifested in the general and specialized catalogues that were published up until 1930 (*Figure 6*). They were exquisite in their presentation, with a format of 11.5 x 14 cm, with 16 richly illustrated pages and printed using the intaglio technique with colored lithographic covers designed by Tusell. The Institute was awarded a Gold Medal at the International Exhibition held in Barcelona in 1929 for the first five years of its work. By then it had published three major works: *Razas Humanas* (2 volumes, 1924), *Historia Natural* (4 volumes, 1925) and *Geografía Universal* (5 volumes, 1928), *Historia Universal* (6 volumes, 1931) was an on-going project. These four volumes composed the general catalogue entitled *Select Productions*, created to present the series.



Figure 6. Catalogue of Select Productions from the Gallach Institute, 1930.

The key features of these works were bigger than folio format, their elegant bindings with gold embossed book spines and the great number of illustrations. Among the four mentioned they totaled 17 volumes, with 9,060 pages, 18,500 direct engravings in black and white, and 1,480 intaglio printed plates in sepia tones.

In some catalogues designed to advertise each title, presentation texts were included, termed “document production” referring to the huge amount of illustration (catalogue *Historia de España*, 1942) and more specifically “graphic documentary” or collection of images, indicating the archive source used to illustrate each work. This editorial image bank was the source for two volumes entitled *Mil figuras de la historia*, with a text written by Professor Jaime Vicens Vives. The formation of the corpus and use of originals is referred to in the 1944 catalogue:

The archive was built up from constant searches, often carried to an extreme for a true desire to capture. Soon, among other themes, the importance of human iconography emerged. Portraits were collected by the thousands... so before the multifaceted value of this gathering, the idea of launching new projects materialized.

The production of illustrated works generated plenty of graphic material and consequently an important file of originals, obtained from various institutions and public and private photo libraries. There is no information about this collection and we must assume it passed to Oceano Publishers, when the company bought Gallach during the seventies of the last century.

GALLACH PUBLICATIONS IN THE NATIONAL LIBRARY OF SPAIN, NATIONAL LIBRARY OF CATALONIA AND ATENEOS OF MADRID AND BARCELONA

In order to recover the catalogue of the Gallach Publishing House, a search was carried out in four libraries, including two particularly important ones: the National Library of Spain and the National Library of Catalonia, where the greatest number of works are kept, because of the characteristics and functions of these institutions and because Barcelona was the location of the Gallach Publishing House. The libraries of the Ateneo of Madrid and Barcelona were also searched, both being centers that represented culture during the publisher's busiest period. Two hundred and thirty-six titles have been found, of which 44.45% are from the Gallach Manuals Collection (*Table 2*). The copies were divided almost equally between the National Library of Spain (105) and the National Library of Catalonia (114), while Ateneos only housed 24 titles (16 in Madrid and 8 in Barcelona).

Table 2. Gallach collection in the libraries consulted.

Publisher's seal	Gallach	José Gallach	Gallach	Manuales Gallach	Total
National of Spain	21	7	30	47	105
National of Catalonia	14	15	31	54	114
Ateneo in Madrid	-	-	11	5	16
Ateneo in Barcelona	-	1	5	2	8
Total	35	23	77	108	243

Sixty-four of these copies were repeated, making 179 titles. In the National Libraries, 43 were repeated; in the Ateneo of Madrid, compared to the National Libraries 13 of 16 were repeated, and in the Ateneo of Barcelona, 7 out of 8. In certain cases, although the title is the same, the issue is different: *Las razas humanas*, with 1928 edition (BNC) and 1958 (BNE) or *Mil figuras de la historia*, 1944 edition (BNC) and 1958 (BNE). It is also apparent that titles changed for some numbers from the Gallach Manuals Collection. An example is *Artificios de fuegos de guerra* (Firearms as Artefacts) (BNE) and *El gramófono moderno* (The Modern Gramophone) (BNC) with number 32, *Los centros de contratación* (Recruitment Centers) (AB) and *Operaciones de bolsa* (Stock Operations) (BNE) with number 48, *Iniciación del empleado de Banca* (Initiation of a Bank Employee) (BNE), *Los remedios vegetales* (Herbal Remedies) with number 69, *Estudios de estética* (Aesthetics Studies) (BNC), and *Manual del cajista de imprenta* (Manual for the typesetter) (BNE) with number 104. The titles, authors and issue dates of publications in the libraries of the four centers are listed below.

Gallach books in the National Library of Spain

The catalogue of the National Library of Spain has 105 titles from the Gallach Publishing House, which are referenced in four different ways (*Tables 3-6*): a) Gallach (21 titles), b) José Gallach (7 titles), c) Gallach Institute (30 titles) and d) Gallach Manuals (47).

a) Gallach

Table 3. Books with the Gallach seal in the National Library of Spain.

Title	Author	Date
<i>Acumuladores</i> (Batteries)	Francisco Villaverde	1910-1920
<i>Alternadores</i> (Electrical generators)	Francisco Villaverde	1910-1920

► <i>Averías en las máquinas eléctricas</i> (Faults in electrical machines)	Francisco Alsina y Alsina	1910-1920
<i>Corrientes alternas</i> (Alternating currents)	Ricardo Caro y Anchía	1910-1920
<i>Devanados de generadores y motores eléctricos</i> (Windings of generators and electrical motors)	Ricardo Caro y Anchía	1910-1920
<i>Diccionario de las familias</i> (Family Dictionary)	-	1925
<i>Electricidad y magnetismo</i> (Electricity and magnetism)	Ricardo Caro y Anchía	1910-1920
<i>Historia de España y de las Repúblicas Latino-Americanas</i> (History of Spain and the Latin American Republics)	Alfredo Opisso	1925
<i>Líneas eléctricas</i> (Electric cables)	Ricardo Caro y Anchía	1910-1920
<i>Literatura militar española</i> (Spanish military literature)	Francisco Barado	1890
<i>Manual de flores artificiales</i> (Manual of artificial flowers)	Dolores Andreu	1911-1916
<i>Máquinas dinamoeléctricas</i> (Dynamoelectric machines)	Francisco Villaverde	1910-1920
<i>Motores de corriente alternativa</i> (Alternating current motors)	Francisco Villaverde	1910-1920
<i>Motores de corriente continua</i> (Direct current motors)	Francisco Villaverde	1910-1920
<i>Nuevo formulario de perfume y cosmética</i> (New form for perfume and cosmetics)	Manuel Dronda y Surio	-
<i>Pararrayos y limitadores</i> (Surge arresters and limiters)	Ricardo Caro y Anchía	1910-1920
<i>Pilas eléctricas</i> (Electrical Batteries)	Francisco Villaverde	1910-1920
<i>Reostatos industriales</i> (Industrial resistors)	Ricardo Caro y Anchía	1910-1920
<i>Tradición del ganadero, La</i> (Livestock farmer tradition) (1815-1818)	Guillermo Núñez de Prado	192?
<i>Transformadores y convertidores</i> (Transformers and converters)	Francisco Villaverde	1910-1920
<i>Un idilio en el Cauda</i> (An idyll in the Cauda) (1810-1814)	Guillermo Núñez de Prado	192?

b) José Gallach

Table 4. Books with the José Gallach seal in the National Library of Spain.

Title	Author	Date
<i>Artificios de fuego de guerra</i> (Firearms as artefacts)	José de Lossada y Canterac	1911-1925
<i>Dibujo para todos, El</i> (Drawing for everyone)	Víctor Masriera Vila	no date
<i>Guinea española</i> (Spanish Guinea)	Ricardo Beltrán y Rózpide	1918-1925
<i>Historia de la II Guerra Mundial y del III Reich</i> (History of World War II and the third Reich)	William Shirer	1987
<i>Historiadores de Indias</i> (Historians of the Indies)	Germán Arciniegas	1986
<i>Nociones de Higiene Industrial</i> (Concepts of industrial hygiene)	José de Eleizegui	no date
<i>Valor social de leyes y autoridades</i> (Social value of laws and authorities)	Pedro Dorado Montero	1911-1923

► c) Gallach Institute

Table 5. Books with the Gallach Institute seal in the National Library of Spain.

Title	Author	Date
<i>Antiguo Egipto, El</i> (Ancient Egypt)	Jacques Pirenne	2007
<i>Apéndice Gallach</i> (Gallach Appendix)	Carlos Gisbert	1993
<i>Apéndice Gallach</i> (Gallach Appendix): 1993-1995	-	1996
<i>Apéndice Gallach</i> (Gallach Appendix): 1996-1998	-	1999
<i>Apéndice Gallach</i> (Gallach Appendix): 1999-2001	-	2002
<i>Apéndice Gallach</i> (Gallach Appendix): 2002-2004	-	2005
<i>Apéndice Gallach</i> (Gallach Appendix): 2005-2007	-	2008
<i>Cartas de Relación</i> (Relation letters)	Hernán Cortés	1986
<i>Geografía de España: naturaleza, población, vida económica</i> (Geography of Spain: nature, population, economy)	-	1930
<i>Geografía de España</i> (Geography of Spain)	Josep Prat Prats	1994
<i>Geografía de España: presencia y potencia del suelo y del pueblo español</i> (Geography of Spain: presence and power of the Spanish land and people)	Ramón Otero Pedrayo	1955-1956
<i>Geografía Universal</i> (Universal Geography)	Carles Carreras i Verdaguer	1997
<i>Geografía Universal: descripción moderna del mundo</i> (Universal Geography: modern description of the world)	Ferran Valls i Taberner	1930
<i>Historia de España: gran historia general de los pueblos hispanos</i> (History of Spain: great general history of the Spanish people)	Luis Pericot	1978
<i>Historia de España</i> (History of Spain)	Carlos Gisbert	1983-1987
<i>Historia de España</i> (History of Spain)	Josep Prat Prats	1993
<i>Historia Natural: vida de los animales, de las plantas y de la tierra</i> (Natural History: life of animals, plants and earth)	Ángel Cabrera	1926-1927
<i>Historia Natural</i> (Natural History)	Ángel Cabrera	1989
<i>Historia Universal: Las grandes corrientes de la historia</i> (Universal History: Great trends in history)	Jacques Pirenne	1978
<i>Historia Universal</i> (Universal History) (1931-1932)	Carlos Gisbert	1998
<i>Historia Universal: novísimo estudio de la humanidad</i> (Universal History: up-to-date study of humanity)	Pedro Bosch Gimpera	1932-1937
<i>Mil aspectos de la tierra y del espacio</i> (One thousand facts about earth and space)	Amando Melón y Ruiz de Gordejuela	1949
<i>Mil figuras de la historia: nombres ilustres, vidas famosas... semblanzas biográficas</i> (One thousand characters in history: famous names, famous lives... biographies)	Jaime Vicens Vives	1944 and 1958
<i>Mil joyas del arte español</i> (One thousand jewels from the Spanish Art)	María Elena Gómez-Moreno	1947
<i>Mil lecciones de la historia</i> (One thousand lessons from history)	Jaime Vicens Vives	1951
<i>Mil obras maestras del Arte Universal</i> (One thousand works of universal art)	Alexandre Cirici	1946

► <i>Mundo de los animales, El: la vida en los grandes ecosistemas (Animal world, life in the great ecosystems)</i>		1985
<i>Razas humanas (Human races)</i>	Pedro Bosch Gimpera	1932-1937
<i>Nuevo tesoro de la juventud (New treasure of youth)</i>		1977
<i>Vida maravillosa de los animales, La. Vertebrados (The wonderful life of animals. Vertebrates)</i>	Antoni Jonch Cuspinera	1961

d) Gallach Manuals (Figure 7)

Table 6. Gallach Manuals in the National Library of Spain.

Title	Author	Date
<i>Electrificación del hogar doméstico, La (Household electrification)</i>	Francisco F. Sintés Olives	1934
<i>Fabricación de jabones y lejías (Manufacture of soaps and bleaches)</i>	Juan Vidal y Martí	1935
<i>Manual de cerámica (Pottery Manual)</i>	Juan Vidal y Martí	1934
<i>Motores industriales de combustión interna (Industrial internal combustion engines)</i>	José S. Company	1930
<i>Nociones de piscicultura de agua dulce (Concepts of freshwater fish farming)</i>	Severino Corrales Puyol	1936
<i>1. Compendio de química general (Compendium of General Chemistry)</i>	José Ramón de Luanco	1926
<i>11. Hongos comestibles y venenosos (Edible and poisonous mushrooms)</i>	Blas Lázaro e Ibiza	1911, 1925
<i>17. La Guinea española (Spanish Guinea)</i>	Ricardo Beltrán y Rózpide	1904
<i>25. Gusanos parásitos en el hombre (Parasitic worms in humans)</i>	Marcelo Ribas Mateos	1918,1925
<i>29. Historia de la civilización española (History of the Spanish Civilization)</i>	Rafael Altamira	1932
<i>32. Artificios de fuego de guerra (Firearms as artefacts)</i>	-	1911, 1925
<i>33. Agronomía (Agronomy)</i>	Aurelio López Vidaur	no date
<i>36. Las provincias de España (The Spanish Provinces)</i>	M. Hernández Villasecusa	1923
<i>37. Formulario industrial y doméstico (Industrial and domestic form)</i>	Porfirio Trias y Planes	1929
<i>38. Valor social de leyes y autoridades (Social value of laws and authorities)</i>	Pedro Dorado Montero	1911
<i>40. Arte de estudiar (Art of Studying)</i>	Mariano Rubio y Bellvé	1911,1925
<i>45. Contabilidad comercial (Business accounting)</i>	José Prats y Aymerich	1941
<i>46. Sociología contemporánea (Contemporary sociology)</i>	Adolfo Posada	1911,1925
<i>48. Operaciones de bolsa (Stock trades)</i>	Marcos Jesús Beltrán	1931
<i>54. Nociones de carpintería práctica (Concepts of practical carpentry)</i>	C. Ferrer y Fábregas	1934
<i>57. Manual de entomología (Manual of Entomology)</i>	Antonio Benítez Morera	1936
<i>59. Gallinero práctico (Practical poultry keeping)</i>	Carlos de Torres	1915

69. <i>Iniciación del empleado de banca</i> (Initiation as a bank employee)	Octavio del Riego Estévez	1934
70-71. <i>Las repúblicas Hispano-Americanas</i> (The Hispano-American republics)	Emilio Hdez. del Villar	1921
73. <i>Plantas industriales</i> (Industrial plants)	Alfredo Opíos	1918, 1925
75. <i>Manual del curtidor y peletería</i> (Manual of fur and leather tanning)	C.B. Escuder	1935
79. <i>Geografía General</i> (General Geography)	Emilio Hdez. del Villar	1928
81-82. <i>Elementos de cálculo mercantil</i> (Elements of commercial calculation)	Luis Fuente y Lozanees	1930
85. <i>Documentos mercantiles de uso corriente</i> (Commonly used business documents)	-	1918,1925
88. <i>La pirotecnia moderna</i> (Modern pyrotechnics)	Juan Bautista Ferré Vallvé	1918,1925
93. <i>Historia de la arquitectura cristiana</i> (History of Christian architecture)	V. Lampérez Romea	1930
94. <i>Derecho internacional</i> (International Law)	Aniceto Sela	1932
98. <i>La abeja y sus productos</i> (The bee and its products)	Vicente Va y Ripa	1930
100. <i>Manual del pintor decorador</i> (Painter decorator manual)	José Cuchy	1934
101. <i>El dibujo para todos (CI)</i> (Drawing for everyone (CI))	Víctor Masriera Vila	1921
102. <i>América sajona</i> (Saxon America)	Emilio H. del Villar	1911, 1925
103. <i>Agrimensura</i> (Surveying)	José Ferré Vergés	no date
104. <i>Manual del cajista de imprenta</i> (The typesetter manual)	F. Fábregues	1933
106. <i>Manual de flores artificiales</i> (Manual of artificial flowers)	Dolores Andreu	1911, 1916
107. <i>Formulario práctico de artes y oficios</i> (Practical form for arts and crafts)	Federico Climent Terrer	1927
115. <i>Abc de la música</i> (Abc of music)	Eliseo Carbó	1950
117. <i>Historia del arte</i> (History of art)	Francisco Arola Sala	1920
118. <i>Manual de labores: la labor de gancho</i> (Craft Manual: crochet)	Teresa Köhler de Vizúete	193?
122. <i>Manual de labores: la calceta</i> (Craft Manual: socks)	Teresa Köhler de Vizúete	193?
124. <i>El arte del croquis</i> (The art of sketching)	Víctor Masriera Vila	1934
125. <i>Terremotos y aparatos para registrarlos</i> (Earthquakes and registering devices)	Salvador García Franco	1924
126. <i>Las razas humanas y su distribución</i> (Human races and their distribution)	Alfred C. Haddon	1924

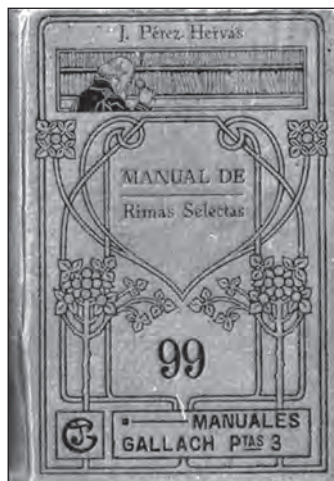


Figure 7. Cover of the 99th issue of Gallach Manuals. Selected poems of Pérez Hervás, collaborator at the publishing house and artistic director of the Espasa Encyclopedía

Gallach books in the National Library of Catalonia

In the Library of Catalonia, the imprint records coincide with those from the National Library of Spain, and consist of 114 titles also referenced in four sections (*Tables 7-10*): a) Gallach (14 titles); b) José Gallach (15 titles); Gallach Institute (31); d) Gallach Manuals (54).

a) Gallach

Table 7. Books with the Gallach seal in the National Library of Catalonia.

Title	Author	Date
<i>Acumuladores</i> (Batteries)	Francisco Villaverde	19??
<i>Averías en las máquinas eléctricas</i> (Faults in electrical machines)	Francisco Alsina	19??
<i>Ciencia del arte, La</i> (The science of art)	Víctor Masriera	1903
<i>España</i> (Spain)	-	1911, 1913
<i>Gloses sobre cançons populars catalanes per a piano</i> (Verses from popular Catalan piano songs)	Onia Farga	1914
<i>Historia de España y de las Repúblicas Latino-Americanas</i> (History of Spain and Latin American Republics)	Alfredo Opisso	1915
<i>Líneas eléctricas</i> (Electric cables)	-	19??
<i>Literatura militar española</i> (Spanish Military Literature)	Francisco Barado	1890
<i>Manual de flores artificiales</i> (Manual of artificial flowers)	Dolores Andreu	190?
<i>Manual de floricultura</i> (Manual of floriculture)	José Garzón y Ruiz	19??
<i>Mediciones eléctricas de laboratorio</i> (Electrical laboratory measurements)	Ricardo Caro y Anchía	19??

► <i>Motores de gas, petróleo y aire</i> (Gas, petrol and air engines)	Ricardo Yesares Blanco	19??
<i>Pararrayos y limitadores</i> (Surge arresters and limiters)	Ricardo Caro y Anchía	19??
<i>Reóstatos industriales</i> (Industrial rheostats)	Ricardo Caro y Anchía	19??

b) José Gallach

Table 8. Books with the José Gallach seal in the National Library of Catalonia.

Title	Author	Date
<i>América Sajona</i> (Saxon America)	Emili Huguet de Villar	19??
<i>Amor entre flores</i> (Love among Flowers)	Vicente Terol	190?
<i>Bases para un nuevo derecho penal</i> (Basis for a new Criminal Law)	Pedro Dorado Montero	1902
<i>Educación para niños</i> (Education for children)	Federico Climent Terror	19??
<i>Enciclopedia moderna catalana</i> (Modern Catalan Encyclopedia)	Josep Fiter i Inglés	1913
<i>Epidemias: defensa moderna, social e individual</i> (Epidemics: modern defense, social and individual)	Federico Montalvo	1902
<i>Ex-libris José Gallach</i> (Jose Gallach Bookplates)	José Triado i Mayol	1918
<i>Formulario práctico de artes y oficios</i> (Practical arts and crafts form)	Federico Climent Terror	192?
<i>Guinea española, La</i> (Spanish Guinea)	Ricardo Beltrán y Rózpide	190?
<i>Horas plácidas para canto y piano</i> (Quiet hours for singing and piano)	Fernando Villaverde	19??
<i>Manual de mecánica elemental</i> (Manual of elementary mechanics)	F. Forner Carratalá	1910
<i>Medicina doméstica: guía para los primeros auxilios</i> (Domestic medicine: first aid guide)	Alfredo Opisso	19??
<i>Mineralogía</i> (Mineralogy)	Salvador Calderón y Arana	19??
<i>Remedios vegetales, Los</i> (Herbal remedies)	Alfredo Opisso	19??
<i>Valor social de leyes y autoridades</i> (Social value of laws and authorities)	Pedro Dorado Montero	19??

c) Gallach Institute

Table 9. Books from the Gallach Institute in the National Library of Catalonia.

Title	Author	Date
<i>Apéndice Gallach: todos los acontecimientos...</i> (Gallach appendix: all events ...)	-	1993
<i>Cartas de relación</i> (Relation letters)	Hernán Cortés	1986, 1987
<i>Diario de a bordo</i> (Logbook)	Cristoforo Colom	1992
<i>Fascinante mundo de la historia natural, El</i> (Fascinating world of natural history)	-	1996
<i>Geografía de España</i> (Geography of Spain)	José Prat Prats	1994

► <i>Geografía de España: presencia y potencia del suelo y del pueblo español</i> (Geography of Spain: presence and power of the Spanish Land and People)	Ramón Otero Pedrayo	1955, 1956
<i>Geografía Universal</i> (Universal Geography)	-	1963, 2000 (7 iss.)
<i>Geografía Universal: descripción moderna del mundo</i> (Universal Geography: modern description of the world)	V. Vázquez de Prada	1931, 1963, 1975
<i>Grandes museos de Europa</i> (Great Museums of Europe)	-	1999
<i>Historia del almirante</i> (History of the Admiral)	Hernando Colón	1988
<i>Historia del Arte</i> (History of Art)	-	1998, 2000
<i>Historia de España</i> (History of Spain)	-	1985, 1987, 2000
<i>Historia de España: gran historia general de los pueblos hispanos</i> (History of Spain: great general history of the Spanish people)	Luis Pericot	1958, 1980
<i>Historia de la humanidad</i> (History of Humanity)	Jacques Pirenne	1998
<i>Historia Natural</i> (Natural History)	-	1985, 1986, 1989, 1994, 1995, 1998
<i>Historia Natural: vida de los animales, de las plantas y de la tierra</i> (Natural History: life of animals, plants and earth)	Ángel Cabrera	1925, 1927
<i>Historia de la II Guerra Mundial y del III Reich</i> (History of World War II and the Third Reich)	William L. Shirer	1985
<i>Historia Universal</i> (Universal History)	-	1991
<i>Historia Universal: novísimo estudio de la humanidad</i> (Universal History: newest study of humanity)	-	1932, 1937
<i>Historiadores de Indias</i> (Historians of the Indies)	-	1985, 1995
<i>Maravillas de Europa</i> (Wonders of Europe)	-	1998
<i>Mil aspectos de la Tierra y del espacio</i> (One thousand facts about earth and space)	-	1949, 1958
<i>Mil figuras de la historia</i> (One thousand characters in history)	Jaume Vicens Vicens	1944
<i>Mil joyas del arte español</i> (One thousand jewels of Spanish art)	-	1947
<i>Mil obras maestras del arte universal</i> (One thousand universal works of art)	Alexandre Cirici	1946
<i>Mil lecciones de la historia</i> (One thousand lessons from history)	Jaume Vicens Vives	1951
<i>Mundo de los animales, El</i> (Animal world)	-	1998
<i>Obras selectas del Instituto Gallach</i> (Select Works from the Gallach Institute)	-	19??
<i>Razas humanas, Las</i> (Human Races)	Pedro Bosch Gimpera	19??, 1928, 1945, 1966, 1971, 1985, 1990, 1995
<i>Vida maravillosa de los animales, La. Vertebrados</i> (The wonderful life of animals. Vertebrate)	Antoni Joch i Cuspinera	1961, 1969
<i>Vida maravillosa de los animales, La. Invertebrados</i> (The wonderful life of animals. Invertebrate)	Carles Bas i Peired	1961

d) Gallach Manuals

Table 10. Gallach Manuals in the National Library of Catalonia.

Title	Author	Date
<i>Contabilidad comercial</i> (Business accounting)	José Prats Aymerich	no date
<i>Diccionario de argot español: o lenguaje jergal gitano, delinciente profesional y popular</i> (Spanish slang dictionary: or gypsy, professional and popular criminal, jargon)	Luis Besses	1905
<i>1. Compendio de química general</i> (Compendium of General Chemistry) (1)	José Ramón de Luanco	1903
<i>3. Física</i> (Physics)	E. Lozano Ponce León	190?
<i>7. Mineralogía</i> (Mineralogy)	Salvador Calderón y Arana	19??
<i>10. Armas de guerra</i> (Weapons of war)	J. Génova e Y	19??
<i>13. El sufragio</i> (Suffrage)	Adolfo Posada	19??
<i>16. Armas de caza</i> (Hunting weapons)	J. Génova e y	1903
<i>17. La Guinea española</i> (Spanish Guinea)	Ricardo Beltrán y Rozpide	190?
<i>18. Meteorología</i> (Meteorology)	Augusto T. Arcimis	190?
<i>21. Unidades absolutas y unidades prácticas</i> (Absolute and practical units)	Carlos Banús y Comas	1918
<i>23. Bases para un nuevo derecho penal</i> (Basis for a new criminal law)	Pedro Dorado Montero	1902
<i>24. Fuerzas y motores</i> (Forces and motors)	Mariano Rubió y Bellvé	19??
<i>25. Gusanos parásitos en el hombre</i> (Parasitic worms in humans)	Marcelo Ribas Mateos	1918 and 1925
<i>26. Industrias artológicas: tricultura, molinería, panadería</i> (Artisanal industries: wheat production, milling, baking)	Narciso Amorós	1902
<i>29. Historia de la civilización</i> (History of civilization)	Rafael Altamira	1925
<i>30. Las epidemias: defensa moderna, social e individual, contra las principales</i> (Epidemics: modern defense, social and individual against the major types)	Federico Montaldo	1902
<i>31. Cristalografía</i> (Crystallography)	Lucas Fernández Navarro	1932
<i>32. El gramófono moderno</i> (The modern gramophone) (2)	José Arias Gómez	1931
<i>38. Valor social de leyes y autoridades</i> (Social value of laws and authorities)	Pedro Dorado Montero	19??
<i>39. Canales de riego</i> (Irrigation channels)	Josep Zulueta i Gomis	1900
<i>40. Arte de estudiar</i> (Art of studying) (3)	Mariano Rubió y Bellvé	1903
<i>41. Plantas medicinales</i> (Medicinal plants)	Blas Lázaro Ibiza	19??
<i>42-43. Abc del instalador y montador electricista</i> (Abc of the electrical installer and fitter)	Ricardo Yesares Blanco	1927
<i>44. Medicina doméstica: guía para los primeros auxilios en caso de enfermedades</i> (Domestic medicine: a first aid guide in case of disease)	Alfredo Opisso	19??
<i>45. Contabilidad comercial</i> (Business accounting)	José Prats Aymerich	1910

50. <i>Formulario de correspondencia comercial francés-español</i> (Form for French-Spanish business correspondence)	J. Meca Tudela	192?
51. <i>Motores de gas, petróleo y aire</i> (Gas, petrol and air engines)	Ricardo Yesares Blanco	19??
58. <i>Pedagogía universitaria</i> (University Pedagogy)	Francisco Giner de los Ríos	1910
59. <i>Gallinero práctico</i> (Practical poultry keeping)	Carlos de Torres	1915 (2 iss.)
63. <i>Educación de los niños</i> (Children's education)	Federico Climent Terrer	19??
66. <i>Piedras preciosas: suma de datos y noticias</i> (Gemstones: sum of data and news)	Marc Jesús Beltrán	1904
68. <i>Manual de mecánica</i> (Mechanics manual)	F. Forner Carratalá	1910
69. <i>Los remedios vegetales: tratado popular de las plantas empleadas en medicina</i> (Herbal remedies: popular treatise of plants used in medicine) (4)	Alfredo Opisso	19??
74. <i>Cerrajería práctica</i> (Practical locksmith)	Eusebio Heras Hernández	192?
84. <i>Manual del naturalista preparador: nuevo tratado teórico práctico para la preparación, disecación</i> (Manual for the naturalist trainer: new theoretical and practical treatise for preparation and desiccation)	Pablo de Areny	1910
88. <i>La pirotecnia moderna</i> (Modern pyrotechnics)	Juan Bautista Ferré Vallvé	19??
94. <i>Derecho internacional</i> (International law)	Aniceto Sela y Sampil	1932
98. <i>La abeja y sus productos</i> (The bee and its products)	Vicente Va y Ripa	1930
101. <i>El dibujo para todos</i> (Drawing for everyone)	Víctor Masriera	193?
102. <i>América sajona</i> (Saxon America)	Emilio H. del Villar	19??
103. <i>Agrimensura</i> (Surveying)	José Ferré Vergés	19??
104. <i>Estudios de estética</i> (Studies of Aesthetics) (5)	Alfredo Opisso	1900
104. <i>Manual del cajista de imprenta</i> (The typesetter manual)	F. Fábregues	1933
105. <i>Manual de floricultura</i> (Manual of floriculture)	José Garzón y Ruiz	19??
106. <i>Manual de flores artificiales</i> (Manual of artificial flowers)	Dolores Andreu	190?
107. <i>Formulario práctico de artes y oficios</i> (Practical form for arts and crafts)	Federico Climent Terret	192?
108-109. <i>Astronomía</i> (Astronomy)	Josep Comas i Solá	1919
110. <i>El arte de pensar</i> (The art of thought)	Alfredo Opisso	19??
111. <i>Máximas de Epicteto</i> (Maxims of Epictetus)		19??
114. <i>Educación cívica</i> (Civic Education)	Federico Climent Terrer	1918
115. <i>Manual de floricultura</i> (Manual of floriculture) (6)	José Garzón Ruiz	19??
118-119. <i>Manual de labores. La labor de gancho</i> (Manual of crafts. The craft of crochet)	Teresa Köbler de Vizuete	19??
122. <i>Manual de labores: la calceta</i> . (Manual of crafts: socks)	Teresa Köbler de Vizuete	19??

(1) Edition of 1926 in the BNE; (2) Title change for *Artificios de fuego de guerra*, 1911-1925, no year; (3) Edition of 1911 in the BNE; (4) Title change for *Iniciación del empleado de banca*, 1934; (5) Two issues, one of these with no indication in the file of Gallach Manuals; (6) The BNE has a different title for number 115: *Abc de la música*.

Gallach books in the library of the Ateneo of Madrid

Sixteen titles are kept in the library of the Ateneo of Madrid, 11 with the Gallach Institute seal and 5 from the Gallach Manuals collection (*Tables 11 and 12*).

a) Gallach Institute

Table 11. Books from the Gallach Institute in the Ateneo of Madrid.

Title	Author	Date
<i>Geografía de España</i> (Geography of Spain) (1)	José María Prats	1993
<i>Geografía Universal: descripción moderna del mundo</i> (Universal Geography: modern description of the world) (2)	Fernando VallsTaberner	1928
<i>Historia de España: gran historia general de los pueblos hispánicos</i> (History of Spain: great general history of the Spanish people) (3)	Luis Pericot	1942 and 1958
<i>Historia Universal: novísimo estudio de la humanidad</i> (Universal History: newest study of humanity) (4)	Pedro Bosch Gimpera	1932
<i>Historiadores de Indias</i> (Historians of the Indies) (5)	Germán Arciniegas	1987
<i>Mil figuras de la historia: nombres ilustres: vidas famosos: documentos iconográficos</i> (One thousand characters from history: famous names: famous lives: iconographic documents) (6)	Jaime Vicens Vives	1942
<i>Mil joyas del arte español: piezas selectas, monumentos magistrales</i> (One thousand gems of the Spanish art: selected pieces, majestic monuments) (7)	María Elena Gómez-Moreno	1947
<i>Mil obras maestras del arte universal</i> (One thousand master pieces of universal art) (8)	Alexandre Cirici	1946
<i>Mundo en que vivimos, El</i> (The world we live in)	Valentín Vázquez de Prada	1973
<i>Razas humanas: su vida, sus costumbres, su historia, su arte</i> (Human races: lives, customs, history and art) (9)	Pedro Bosch	1928
<i>Vida maravillosa de los animales, La</i> (Wonderful lives of animals) (10)	Antoni Joch Cuspinera	1961

(1-5) One issue of each is in the Library of Catalonia; (6) Two issues: one in the BNE and another in the Library of Catalonia; (7-8) Two issues in the BNE; (9-10) One issue of each in the Library of Catalonia.

b) Gallach Manuals

Table 12. Gallach Manuals in the Ateneo of Madrid.

Title	Author	Date
<i>Documentos mercantiles de uso de fácil transmisión</i> (Easy access to commercial documents)	Francisco Grau Granell	1903
<i>Manual de hidrología médica</i> (Manual of medical hydrology)	Hipólito Rodríguez Pinilla	19??

45. <i>Contabilidad comercial</i> (Business accounting) (1)	José Prats y Aymerich	1913
79. <i>Geografía general</i> (General Geography) (2)	Emilio Hernández del Villa	1906
104. <i>Estudio de estética</i> (Study of Aesthetics) (3)	Alfredo Opíos	19??

(1) Two issues, one in the BNE and another in the BNC; (2) One issue in the BNE; (3) One issue in the BNC.

Gallach books in the library of the Ateneo of Barcelona

The Library of the Ateneo has 8 titles, of which only one was printed with the José Gallach seal, 5 were printed during the era of the Institute and two issues from the Manual collection remain (*Tables 13-15*). Five out of the total are repeated: three in the National Library of Catalonia and two in the National Library of Spain.

a) José Gallach

Table 13. Book with the José Gallach seal in the Ateneo of Barcelona.

Title	Author	Date
<i>Enciclopedia moderna catalana</i> (Modern Catalan Encyclopedia) (1)	Josep Fiter i Inglés	1913

(1) Copy in the BNC.

b) Gallach Institute

Table 14. . Books from the Gallach Institute in the Ateneo of Barcelona.

Title (1)	Author	Date
<i>Geografía de España: presencia y potencia del suelo y del pueblo español</i> (Geography of Spain: presence and power of the Spanish land and people)	Ramón Otero Pedrayo	1955
<i>Geografía Universal: descripción moderna del mundo</i> (Universal Geography: modern description of the world)	Ferran Vals Taberner	1952
<i>Historia de España: gran historia general de los pueblos hispanos</i> (Spanish History: great general history of the Spanish people)	Luis Pericot	1934
<i>Historia Universal: novísimo estudio de la humanidad</i> (Universal History: newest study of humanity)	Pedro Bosch Gimpera	1931
<i>Mil obras maestras del arte universal: maravillas eternas, creaciones geniales</i> (One thousand master pieces of universal art: eternal marvels, brilliant creations)	Alexandre Cirici i Pellicer	1946

(1) Copies of every title are in the BNE and the BNC.

c) Gallach Manuals

Table 15. Gallach Manuals in the Ateneo of Barcelona.

Title	Author	Date
48. <i>Los centros de contratación</i> (Recruitment centers)	Marcos Jesús Beltrán	190?
48. Operaciones de bolsa (Stock trades) (1)	Marcos Jesús Beltrán	1931

(1) One issue of *Operaciones de bolsa* is in the BNE. *Los centros de contratación* was published with the same number.

CONCLUSIONS

After the investigation, a first conclusion indicates the need to retrieve and maintain editorial documentation, defined as all documents related to businesses, including those of internal character as well as those generated to advertise published items, especially catalogues.

This article thus concludes that the Gallach Publishing House is heir to Soler, a business with a family type structure, typical of the Catalan bourgeoisie, which later became the basis of the first commercial corporations and whose activity forms part of a splendid moment in the era of publishing. This publisher formed the basis for the creation of the prestigious Compañía Anónima de Librería, Publicaciones y Ediciones (Calpe), founded by Nicolás Urgoiti, with José Gallach as manager and director of the Barcelona Department for six years, between 1918 and 1924, before establishing an Institute in his own name.

José Gallach Torras was the “Full Editor” prototype, responsible for the book from the moment it was contracted up until its marketing, including the process of graphic arts: composition, printing and binding. It is also confirmed that he was part of the official entities created to coordinate projects and defend the interests of publishers, particularly of the Catalan Institute of the Arts of the Book and the Intellectual Property Center.

The Gallach Institute was designed to produce illustrated works since its foundation in 1924 until the Civil War, and then during a second stage until its acquisition by Océano Publishing in 1979. This model for edited books helped in the diffusion of culture with its image and special features: large format with numerous photographs.

Research conducted in the four libraries selected to reconstruct the Gallach catalogue found 179 titles, even though the collection of Manuals is not complete, either in the National Library of Spain or in that of Catalonia. The

oldest book located is from 1890, entitled *Literatura militar española* by Captain Francisco Barado, which has allowed us to define that year as a reference for the creation of the seal.

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Synchronic study of literature obsolescence: the case of Lotka's Law

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ABSTRACT

This paper examines the obsolescence of literature produced on Lotka's law up to 2010, over which time no definitive pattern of obsolescence is discernible. Cumulative data since then, however, shows a pattern of obsolescence at an annual rate of decrease of 9%, with a duplication rate of 17.4 years. These statistics indicate a good fit with the exponential model, with an R^2 of 0.985 at significance level of 0.01.

Keywords: Obsolescence of literature; Lotka's law; Authors' productivity; Scientometrics; Bibliometrics; Informetrics; Scientometrics.

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RESUMEN

Estudio sincrónico de la obsolescencia de la literatura: el caso de la ley de Lotka*Rubén Urbizagástegui Alvarado*

Se analiza la obsolescencia de la literatura producida sobre la Ley de Lotka hasta 2010. En ese periodo no parece haber un patrón de obsolescencia definido. Sin embargo, los datos acumulados muestran un comportamiento obsoleto con una tasa de decrecimiento anual del 3.9 % y una tasa de duplicación cada 17.4 años. La estadística indica un buen ajuste al modelo exponencial, con un R^2 de 0.985 para la literatura a un nivel de significancia de 0.01.

Palabras clave: Obsolescencia de la literatura; Ley de Lotka; Productividad de autores; Cienciometría; Bibliometría; Informetría.

INTRODUCTION

The use of scientific documents decreases with time and age of literature, i.e., literature obsolesces; but what does it mean that a document becomes obsolete? It is presumed that by never using or citing a particular document, the authors, as readers, determine that the document becomes obsolete, but if authors continuously cite documents in their works, these keep alive and lasting. The citation of a document is influenced by the author's prestige, the recognition he/she has in his/her field and the new discoveries described, but the document becomes more and more obsolete if, as time passes by, less and less documents cite it. In library and information science, this phenomenon is known as "literature obsolescence." This refers to a decrease in its frequency of use or citation, but not to its definite elimination. It happens because scientific and technical documents are not always original, but based on evidence of previous researches. Such previous evidence can be represented in the reference lists published in each new contribution. Thus, the evolution of citation frequency according to time allows us to recognize the value of the published document. Certainly, past literature is reviewed and updated, facts already known about a phenomenon are incorporated and merged with new knowledge regarding this phenomenon. Therefore, these facts are rewritten and reinterpreted in terms of the new theories, as

corrections and refinements of the papers published by scientific journals, but it is uncertain when that literature will become "obsolete." Studies on publication obsolescence have become common, encouraged by the work of Price (1965: 512), who suggested that "every year about 10% of all articles 'dies' by not being cited again." Data collected to measure document aging gave rise to the general conclusion that the use of literature declines with time, according to a negative exponential distribution, although other authors postulate a log-normal distribution as the most suitable to measure literature obsolescence (Egghe & Ravichandra Rao, 1992b; Gupta, 1998).

There are two methods to study obsolescence: the synchronic method and the diachronic method. Synchronic obsolescence analyzes the use in the past of a document sample in which half-life would be the statistical median (the point in which 50% of the frequencies of citations is grouped) considering the years in reverse chronological order. Diachronic obsolescence requires the selection of a point in the past to look into the future. However, some authors argue that synchronic and diachronic studies produce the same results (Stinson, 1981; Stinson & Lancaster, 1987), suggesting a preference for the synchronic method. Both studies can also be performed retrospectively (Egghe & Rousseau, 2000).

Although it is possible to know literature's half-life, it is not yet possible to know when it really begins to age and is not cited anymore, or the reasons for this. Is access to the document what is influencing literature obsolescence? Does document language affect obsolescence? Or is the discovery of new models or methods for the discipline measurement or evaluation what is affecting?

It is not always possible to carry out the obsolescence analysis using the printed citation indexes or those available online such as Science Citation Index, Social Science Citation Index, etc. First, because these citation indexes favor Anglo-Saxon production in the document compilation process, to the detriment of the production of other regions; secondly, because these indexes emphasize the collection of documents in English, once again at the expense of other languages. For these reasons, the only option to carry out this research was to develop a database of my own to examine, analyze, evaluate and communicate the results.

Based on the above, the objective of this work is to analyze the existence or non-existence of "literature obsolescence" in a sample of documents published from 2007 to 2009 (86 citing documents) dedicated to study Lotka's law, opposite to a total of 663 citable and available documents published from 1926 until 2006. The theoretical model is explained in a separate chapter. Incidentally, the study will analyze the languages of documents included in the sample and

the most frequent languages cited by documents published in English, Portuguese and Spanish from the sample of 86 documents. Bradford's law will be used to identify cited authors in the nucleus and succeeding zone; i.e., those more frequently cited and whose articles will have increased possibilities to escape from "obsolescence."

In general, this type of studies has been performed counting all the citations included in a sample of documents published during a specific period without any type of separation and/or discrimination. In this case, the interest is on the obsolescence of documents dedicated to analyze Lotka's law, which will also cite other previous documents studying and/or applying Lotka's law.

THEORETICAL FRAMEWORK

The term "obsolescence" first appeared in Gosnell's work (1943). Later, during the International Conference on Scientific Information held at Washington, it was stated that:

[...] Many studies show that the effective life of a piece of scientific information in the different fields of science is vastly different. The true half-life of a particular piece of information can be defined as the time after publication up to which half the uses (references) or enquiries about the piece of information was made. This is extremely difficult to evaluate, though it would be well worth doing. Instead we are obliged to use what might be called the back half-life of a group of similar pieces of information —paper in a given journal for instance. This can be defined as the time counted back from a given date within which half the requests for, or references to, information have occurred. This period is about two years for Physics and fifteen for Biology (Bernal, 1958: 86).

(Modified from: [https://books.google.com.mx/books?id=BksrAAAYAAJ&pg=PA77&lpg=PA77&dq=Bernal,+J.+D.+\(1958\),+%E2%80%9CThe+transmission+of+scientific+information%E2%80%9D,&source=bl&ots=y-Y77FavZ_&sig=kOmJ_DL7aEGYI4Jymm8034aoNu4&hl=es&sa=X-&ved=0CCYQ6AEwAWoVChMI3Pvb35CNxgIVgRiSch1UcAge#v=one-page&q&f=false](https://books.google.com.mx/books?id=BksrAAAYAAJ&pg=PA77&lpg=PA77&dq=Bernal,+J.+D.+(1958),+%E2%80%9CThe+transmission+of+scientific+information%E2%80%9D,&source=bl&ots=y-Y77FavZ_&sig=kOmJ_DL7aEGYI4Jymm8034aoNu4&hl=es&sa=X-&ved=0CCYQ6AEwAWoVChMI3Pvb35CNxgIVgRiSch1UcAge#v=one-page&q&f=false) (Consulted: June 13, 2015))

Following this same idea of half-life, Burton & Kebler (1960) postulated that literature becomes obsolete instead of disintegrating and half-life means "half of the active life" or the time during which half of the literature was published. Researches seem to indicate different results, so much so that Bourne (1965) stated that most of the reported "half-lives" was valid only for the studied samples, and could not be generalized for all scientific and technical activ-

ities. Shortly after, Ewing (1966) carried out a diachronic study of papers published in a Physics journal and found that the number of citations decreased as the year of publication was closer to the current year. This aging rate was more dramatic when adjusted, based on the growing of literature published in that journal. The "intensity of citations" was seven times higher in 1955 than in 1964, and showed a half-life of 3.5 years and an obsolescence rate of 8.0 years.

The interest to understand literature obsolescence continued growing and Line (1970a) tried to specify the meaning of the term "half-life", since in his opinion, the commonly used sense was inadequate and with a limited value. If the collection growth rate is faster or lower than the growth rate of literature produced in the study area, half-life can be in some cases too big or too small. Therefore, literature half-life would be composed by the obsolescence rate and literature growth rate. However, these statements are not free from criticisms, so much so that Brookes (1970a) discusses Line's text and states that "[...] a recent theoretical analysis of the relationship between growth rate and obsolescence rate of periodic scientific literature carried out by Line is based on certain implicit assumptions that have to become explicit, to be questioned later. The theoretical problem of measuring obsolescence rates when literature is growing is more complex than the analysis suggested by Line and, thus, to clarify this issue, the concept of 'utility' in periodic literature will be introduced and applied. The practical problem of measuring an obsolescence rate, which actually depends on the sample of a geometric distribution, should be discussed also, because it can be demonstrated that the technique proposed by Line requires an accuracy that is impossible to reach in the library context."

Next year, Sandison (1971a) stated that there was no apparent reason by which older literature would always have a declining interest. Seymour (1972a, b) carried out two reviews of state-of-the-art researches on literature obsolescence publishing these in two parts, one referred to monographs and the other to periodic publications, in which she affirmed that obsolescence studies were the result of two factors: the explosion of publications and the lack of available space in libraries. In that same year, Chen (1972) observed a rapid decline in the use of journals as these were older. Sandison (1974) analyzed again Chen's data (1972) and found that most journals showed an increase in the density rate according to age. These observations were enough for Line & Sandison (1974) to define obsolescence as the decrease or fall into time of the validity or utility of information. However, studies and discussions on this matter continued with Bulick et al. (1976); Taylor (1976-1977); Longyear (1977); Bronmo (1978); Abramescu (1979); Gapsen & Milner (1981); Wallace (1986); McCain (1987); Heisey (1988) and other authors.

By that time, the way to carry out studies on literature obsolescence was clear. For example, Gupta (1990) observed that, in Physics, both the number of citations and density rate decreased with age, showing a half-life of 4.9 years and both fitted to an exponential model. Literature obsolescence can also be influenced by unknown factors; thus, Ravichandra Rao & Meera (1992) investigated the influence of literature growth rate on the obsolescence rate and demonstrated that, in the synchronic case, the faster literature grows, the faster it becomes obsolete. Egghe & Ravichandra Rao (1992b) also demonstrated that the obsolescence factor defined by Brookes (1970a) as an independent constant of time is not actually a constant, but a statistical function of time, since generally, citation data is not exponentially distributed, as Brookes stated (1970a). In practice, obsolescence presents an initial growth followed by a form of exponential decline, so, no obsolescence factor is independent from time, since this factor is independent from time only in the case of an exponential distribution. Egghe & Ravichandra Rao (1992b) stated that log-normal distribution is the model that best describes both the initial growth of citations and the subsequent decline.

Egghe (1994) studied the combination of growth with obsolescence stating that both phenomena can be studied with the same mathematic techniques. In the synchronic case, obsolescence increases with literature growth; in the diachronic case, the effect is opposite. Van Raan (2000) states that, without any doubt, the aging of the oldest published literature is part of reality, but the other part of reality is that in the initial phases of any discipline much less published documents exist than in more recent years; therefore, reference distribution according to years always has a combination of aging and scientific literature growth phenomena. With this vision in mind, Van Raan (2000) carried out a synchronic study of the references of all articles published in 1998 and included in the Science Citation Index. Results revealed that citations ranged from 1500 to 1998, but the period from 1500 to 1800 was characterized by much more “noise”; i.e., citations with very low frequency in published literature, so citations from 1800 to 1998 were paid more attention, showing a literature age-dependent nonlinear growth.

Egghe & Ravichandra Rao (2002b) analyzed the age of the first references of articles published in the Journal of the American Society for Information Science (JASIS) between 1985 and 1986. These first citations can be considered as a diachronic analysis of citations, since these are important in the life of an article. If the article is first used in a specific period, its status changes from “not used” to “used”, reason why this is also a measure of its use “immediacy”. Results revealed that log-normal distribution describes and fits very well to the age of the first references. Burrell (2002b) did not use formal sta-

tistical methods to evaluate the goodness of fit of log-normal, Weibull and log-logistic distributions, but instead used graphical methods to carry out a retrospective study (synchronic) of citations in a document. Paraphrasing the technical reliability studies in “life time” of mechanical objects, suggested that citations’ age is not a continuous variable but a discrete variable. In order to illustrate this graphic method, he used five sets of data from surveys carried out by Egghe & Ravichandra Rao (1992b) and Gupta (1998). The author concluded that the log-normal distribution model shows more success describing the fitting of the distribution of retrospective citations (synchronic) of documents, confirming previous studies such as that of Egghe & Ravichandra Rao (1992b). He emphasized this subject again in subsequent articles (Burrell, 2002b, 2003a, b), stating that it seemed reasonable to think that when citing articles, it is not always possible to cite the newest articles, because these are not very well known or they are not already incorporated into the knowledge of researchers. Thus, most citations would be of median age articles, which constitute the majority of references and have more probability to be cited. Then, older articles would be selectively cited to provide a historical perspective in performed researches.

Ahmed, Johnson, Oppenheim & Peck (2004) carried out a diachronic study of the paper on the DNA double helix structure, published in 1953 by Watson and Crick (1953). They used the printed volumes of the Science Citation Index from 1961 to 1980, and the Web of Science, for the period from 1981 to 2002. They observed 2,061 citations, with a mean of 49 citations per year. The authors concluded that this article is continuously being cited 50 years after its publication and found no explanation about why it is still cited. Glänzel (2004) offered a panoramic view of aging from the perspective of the reliability theory, representing different aspects that can be analyzed by both methods, synchronic and diachronic. If document citations are considered as a way to use information in the scientific communication process, the “technical reliability” of a scientific article expresses the realization of the intended function; i.e., to be read, to have some impact on scientific research and that its reliability can be measured by citations. As with any other technology that does not function correctly, it can be considered that an article never cited only performed its intended function satisfactorily at the time of its publication. Therefore, the concept of “technical reliability” implies a diachronic perspective (prospective).

More recently, Zafrunnisha & Reddy (2010) studied the obsolescence of Ph.D. theses in Psychology from 1963 to 2005 in four universities in India. They found the half-life for this literature is 14 years for articles and 19 years for books.

THEORETICAL MODEL

Literature obsolescence is measured through the citation analysis technique. This technique presumes an association relationship between the cited document and the citing document. Authors persistently and constantly cite more current documents to the detriment of older documents, which are set aside in their frequency of use (citations), and are condemned to obsolescence, because few people or nobody uses them (cite). This idea of a relationship between citing documents and cited documents makes up the theoretical model of this research and is presented in Figure 1. This article will be based on literature published on "Lotka's law" from 1926 to 2010. Until 2010, 663 documents were published in different languages, from which only the citations of 86 documents published between 2007 and 2010 were considered.

The elaboration logic of new research documents suggests that any author having written an article in 2008 on Lotka's law had 605 documents available, produced up to the previous year (2007), to be retrieved, reviewed and cited. Likewise, any author having written in 2009 an article on Lotka's law had available the 605 documents produced until 2007 plus 27 documents published in 2008; i.e., a total of 632 publications to be retrieved, reviewed and cited. Similarly, an author having written in 2010 an article on Lotka's law had available the documents produced until 2007 (605 documents), plus those produced in 2008 (27 documents), plus those produced in 2009 (28 documents) for a total of 663 documents to be retrieved, reviewed and cited. In this potentially citable literature is where literature obsolescence is intended to be measured. It is expected that citations to previous documents, if information obsolescence exists, be exponential as those observed in other researches and listed in the literature review. The absence of this scatter plot dispersion in the observed data would indicate that obsolescence does not exist and the cause of this form of dispersion of the cited literature would have other unknown causal variables not analyzed in this work.

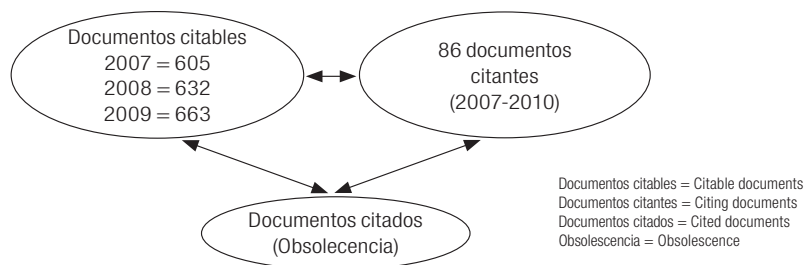


Figure 1. Theoretical model of the research.

METHODOLOGY

In order to identify published documents, a search in all databases of DIA-LOG was performed with the terms Lotka?(5n)Law?. This search strategy resulted in a total of 515 records, which after depuration of duplicates and false retrievals the total was 457 bibliographic references. These 457 references were transferred to Pro-Cite 5.0 for the elaboration of a specific database for this subject. In addition, searches were performed in the Information Science Abstract (ISA), Library Literature (LL) and Library and Information Science Abstract (LISA), Web of Knowledge, Scopus and Latin-American databases such as Infobila of Mexico and LICI from the *Instituto Brasileiro de Informação em Ciência e Tecnologia* (IBICT). Likewise, Chinese databases were consulted with China Academic Journals via EastView Online Services and Japanese databases via CiNii: Citation Information by National Institute of Informatics, Japanese Scholarly & Academic Information. Thus, an analytic bibliography on Lotka's law was gathered listing a total of 691 bibliographic references, including journal articles, book chapters, papers presented in congresses, brochures and letters to editors of specialized journals in Library and Information Science, produced and published from 1926 until December 2011.¹ From these 691 documents included in the database in Pro-Cite 5.0, only documents published in 2008 (27 documents), 2009 (31 documents) and 2010 (28 documents) were used as base documents, for a total of 86 documents, from which citations referring to the 663 documents published between 1926 and 2007 were isolated.

The exponential model was considered to measure data of retrieved citations, a model that published literature suggests to better describe the observed distribution of citations. The exponential decrease represents a reduction of the population in a fixed ratio in each time unit. It also considers a constant decrease rate with an undefined decrease limit. The model not only offers a mean decrease rate, but provides a duplication rate of that decrease; i.e., a rate in which the population size is reduced to a half. According to Egghe & Ravichandra Rao (1992b: 201), only "the obsolescence factor a must be determined, since both half-life and the utility factor are simple functions of a ". Mathematically, this function is represented as:

$$c(t) = \theta e^{-\theta t} \quad (1)$$

for $t \geq 0$ and when parameter $\theta > 0$.

1 The author keeps a bibliographic database in Pro-Cite 5.0 on this subject, which he continuously updates as years go by, adding new records permanently.

Based on this proposal, obsolescence factor a is defined as

$$a(t) = a = \frac{c(t+1)}{c(t)} \quad (2)$$

In the case of equation (2), $a(t)$ is independent from t , so

$$a(t) = \frac{\theta e^{-\theta(t+1)}}{\theta e^{-\theta t}} = e^{-\theta}$$

that Egghe & Ravichandra Rao (1992a) define as the aging factor

$$a = e^{-\theta} \quad (3)$$

However, in practice many fluctuations occur in the values of citations with zero years of obsolescence or with the first five years of obsolescence. The best way to overcome this issue was proposed by Brookes (1973). Then, presuming equations (1) and (2) are true, it can be stated that

$$c(t) = \theta a^t \quad (4)$$

If m indicates the total number of citations to publications with t years old,

$$m = \theta a^t + \theta a^{t+1} + \dots$$

$$m = a^t (\theta + \theta a + \theta a^2)$$

$$m = a^t T$$

where T indicates the total number of citations. Therefore,

$$a = \left(\frac{m}{T} \right)^{1/t} \quad (5)$$

However, in general, data of citations do not fit to equation (1) and show a different outline. Outlines of data most frequently found in researches show an initial growth of citations followed by an exponential decrease. Then, “there is no way to find an aging factor a independent from t : a is only independent from t in the case of exponential distribution” (Egghe & Ravichandra Rao, 1992b: 203). For this reason, these authors recommend the use of the half-life and state that total utility factor U is directly related to the aging factor through the formula:

$$U = \frac{1}{1 - a} \quad (6)$$

for $t \geq 0$.

Certainly, frequency of citations in literature published in any knowledge area decreases in time, so the older the document, the lower its possibilities to be cited, but how this decrease happens is unknown. Therefore, by studying literature obsolescence, a relationship is suggested between the age of literature (independent variable), measured in years, and the number of citations (dependent variable), measured in volume of produced citations. This relationship can be statistically modelable, in such a way that a dispersion graph (scatter plot) is built to evaluate the fit of the model based on the observed data. This allows us to evaluate if certain regularity exists in the distribution of the observed frequencies, and when that regularity is similar to the curve shown in the scatter plot, this curve is fitted through a nonlinear regression. The exponential distribution will evaluate if the frequency of citations in documents according to the years (t) derives from a nonlinear distribution. That is, the probability that the frequency of citations in the sample is equally probable for all citations in the same situation. As a high correlation between dependent and independent variables is expected, that correlation will be explored through Pearson's correlation coefficient. The analysis of variance and the calculation of the slope and the intercept of the exponential distribution were carried out using the estimation method of nonlinear regression curve with the statistical software SPSS 17.0 and Mathematica 5.0 for Windows.

RESULTS

In spite of those affirming that researches in this area "have been exhaustively analyzed and demonstrated since 1926, so currently it can be considered these conform part of the bibliometrics knowledge and little new information can be contributed [...] and these are no longer beneficial or no more works are published on this subject" (Referee of the *Revista Española de Documentación Científica*, 2011), the interest to investigate this field still is in permanent growth, so much so that in these three years (2008-2010) 15% of the total documents existing until 2007 were incorporated into this subject. Not for nothing Urbizagástegui (2009: 120) affirms that this area grows with an annual rate of 7% and duplicates its volume every 10.2 years. However,

obsolescence of this published literature, languages in which it is written, or citations of these documents have not been studied. Naturally, the language of the published document and the language of citations referenced in publications have obvious implications in literature obsolescence. Table 1 depicts the languages of the 86 documents studied by year of publication.

Table 1. Languages of documents published by years.

Years	English	Portuguese	Chinese	Spanish	Turkish	German	Total
2008	16 (59.3)	5 (18.2)	3 (11.1)	2 (7.4)	1 (3.7)	-	27 (100.0)
2009	21 (67.7)	4 (12.9)	3 (9.7)	2 (6.5)	-	1 (3.2)	31 (100.0)
2010	26 (92.9)	1 (3.4)	-	1 (3.4)	-	-	28 (100.0)
Total	63 (73.3)	10 (11.6)	6 (7.0)	5 (5.8)	1 (1.2)	1 (1.2)	86 (100.0)

* Numbers in parenthesis indicate percentages.

English language (73%) dominates the production of documents, followed by publications in Portuguese (12%), Chinese (7%) and Spanish (6%). Publications in Turkish and German are less significant and represent just 1% of the total documents published in the studied period. Consistently over the years, three times more documents are published in English than in the other languages about Lotka's law.

Table 2 shows the languages cited by the 63 documents published in English in the study period (2008-2010). Consistently over the years, those publishing in English only cite documents in English. For example, 16 documents were published in English in 2008 and these documents cited 358 times other documents also published in English, representing 98% of the total number of documents cited that year. Likewise, in 2009, documents written and published in English were cited 662 times, representing 94.4% of the total number of documents cited that year. From the 26 documents published in English in 2010, all (100%) only cited other documents published also in English. In general, in the 3-year period analyzed, 97% of citations are from documents published in English.

Table 2. Citations of documents published in English.

Years	No. docs.	Citations in English	Citations in French	Citations in German	Citations in Dutch	Citations in Spanish	Citations in Portuguese	Citations in Catalan	Total citations

2008	16	358	3	1	1	1	1	-	365
		(98.0)	(0.82)	(0.3)	(0.3)	(0.3)	(0.3)	-	(100.0)
2009	21	625	1	-	-	30	3	3	662
		(94.4)	(0.15)	-	-	(4.5)	(0.45)	(0.45)	(100.0)
2010	26	491	-	-	-	-	-	-	491
		(100.0)	-	-	-	-	-	-	(100.0)
Total	63	1474	4	1	1	31	4	3	1518
		(97.0)	(0.3)	(0.07)	(0.07)	(2.0)	(0.3)	(0.2)	(100.0)

* Numbers between parenthesis are percentages.

Table 2 also shows an anomalous behavior in 2009. In that year, 30 citations were generated in Spanish, but these citations derived from a single document published in English whose author lives and work in a Spanish-speaking region, but is forced to publish in English because it seems this way the document will be more visible and ensure a broad international dissemination; in other words, the author is seeking the way “to reach a fairer visibility of our scientific production in information sciences” (Miranda, 1981; 1982).

Three variables could be involved here: one can be the endogamy of those publishing in English claiming that “the language of science is English” (Price, 1971; Baldauf, 1986) and are not concerned in consulting documents in languages other than English because they underestimate documents published in other languages. Another variable can be the lack of familiarity or ignorance of foreign languages, it would seem that those whose native language is English do not know other language and this reinforces the endogamic behavior. The last variable can be the accessibility to documents produced in languages other than English, but since this subject is mostly published by specialists in Library and Information Science, who know all mechanisms to retrieve required information, there is no apparent reason to explain this variable of document access. It is hard to believe that accessibility may be one of the factors driving the lack of concern to cite documents published in languages other than English. Maybe it could be argued cost is involved, but that variable does not seem feasible either. Therefore, the thesis of endogamy is reinforced.

This does not seem to occur with those publishing documents in other languages. *Table 3* shows the documents published in Portuguese. The 10 documents published in the study period included a total of 353 citations to other documents published from 1926 to 2007. From these 353 citations, 44% were to documents published in Portuguese and 52% to documents published in English. Only in 2010, a high concentration of citations to documents in Por-

tuguese (86%) was observed. Citation to publications in English seems to be permanent, consistent and similar to publications in Portuguese. Citation of publications in other languages is less significant, i.e., the follow-up of publications in Spanish, French and German is almost nonexistent. Clearly, authors publishing in Portuguese cite the production of those publishing in English, along with that published in their domestic cultural context.

Table 3. Citations of documents published in Portuguese.

Years	No. docs.	Citations in Portuguese	Citations in English	Citations in Spanish	Citations in French	Citations in German	Total citations
2008	5	85	62	4	-	-	151
		(56.3)	(41.0)	(2.6)	-	-	(100.0)
2009	4	39	118	7	2	-	166
		(23.5)	(71.0)	(4.2)	(1.2)	-	(100.0)
2010	1	31	3	-	-	2	36
		(86.1)	(8.3)	-	-	(5.5)	(100.0)
Total	10	155	183	11	2	2	353
		(44.0)	(51.9)	(3.1)	(0.56)	(0.56)	(100.0)

* Numbers between parenthesis are percentages.

This behavior is similar among those publishing in Spanish. From the five documents published in this language in the study period (see Table 4), 37% are citations to documents of the same language; 58% to documents published in English; 3% to documents in French and 2% to documents in Portuguese. In this case, endogamic behavior does not seem to have a predominant role. With the exception of 2009, one fifth of citations is directed to documents published in English. Therefore, those publishing in Spanish are also aware of documents published in their own language and documents published in English.

Table 4. . Citations of documents published in Spanish.

Years	No. docs.	Citations in Spanish	Citations in English	Citations in French	Citations in Portuguese	Total citations
2008	2	18	6	4	-	28
		(64.3)	(21.4)	(14.3)	-	(100.0)
2009	2	9	59	-	2	70
		(13.0)	(84.0)	-	(3.0)	(100.0)
2010	1	18	5	-	-	23

		(78.3)	(21.7)	-	-	(100.0)
Total	5	45	70	4	2	121
		(37.2)	(57.9)	(3.3)	(1.7)	(100.0)

* Numbers between parenthesis indicate percentages.

This confirmation brings disastrous consequences for authors publishing in languages other than English. Since literature obsolescence is measured through citations of documents, who publishes in English only cites documents published in English, and documents published in English are more numerous (73%), the documents published in other languages come to life with no possibility of being read by that “international community” to which a “fairer visibility” is demanded (Miranda, 1981; 1982). That is, those not publishing in English write for a public that is not going to read or cite these documents because they do not cite documents in languages other than English, either because they are not familiarized with other languages, or due to the endogamy that characterizes them. So, if obsolescence exists, it will only occur among documents published in English, since documents published in other languages come to life obsolete even before being written. Therefore, the consumption of information produced in languages other than English will be restricted to the region where it is produced, that is, to a local consumption among those who know the author's language.

The 86 documents of the sample were produced by 95 authors, who in the study period received a total of 416 citations. Bradford's law was used to identify the most cited authors resulting in three consistent zones.² The zonal division is included in *Table 5*. The central nucleus is formed by 6 authors cited on average 24 times; the succeeding zone includes 16 authors, cited on average 8.5 times, and a dispersion zone formed by 73 authors cited on average 2 times in the three

- 2 One of the reviewers of this article states that “There are serious doubts about the use of Bradford's law to qualify the distribution of citations of the authors in this area: it is not demonstrated in the text or supported in the compared literature, that citations follow a similar model to that of literature distribution in the sources in which these are published. The fact that the law can be applied does not imply it makes sense to apply it. Alternative methods to describe such distributions exist, such as the use of quartiles, deciles or graphical representations like Box-plot diagrams” (Reviewer No. 1). Without engaging in any unnecessary controversy, is common sense not to use “quartiles, deciles or graphical representations like Box-plot diagrams” to identify the most cited authors. And since this reviewer demands “hired literature” I only mention Hubert (1978) and Yablonsky (1980), who discussed the equivalence of Bradford's law, Lotka's law and Zipf's law. However, Chen & Leimhkuler (1986) derived a functional relationship common between these three bibliometric laws. Therefore, it is legitimate to apply one law or another to citations, it only requires creativity. This same assessor demands the inclusion of citations data, but since these cover from 1926 to 2010 they require three pages, making this article longer than the extension allowed by the journal, which is already requesting a smaller extension. Thus, those interested in these data can request them directly from the author, who will gladly provide them.

years studied. Until 2010, a total of 728 authors had participated in the publication of at least one article, but only 13% of the authors active in this discipline were cited. In other words, 87% of the authors producing literature on this subject are not read or cited. This means that barely 0.8% of the authors active in this field has been cited 19 times or more in the studied period and most of these authors write and publish in English.

Table 5. Authors according to Bradford's zonal division.

Zones	No. of authors	No. of citations	Citation average
1	6	144	24.0
	(6.3)	(34.6)	
2	16	136	8.5
	(16.8)	(32.6)	
3	73	136	1.9
	(76.8)	(32.6)	
Total	95	416	4.4

* Numbers between parenthesis indicate percentages.

If authors who have been cited one or more times are considered, hardly 6% of them are cited continuously in one third of the documents, and two thirds of the documents cite only 23% of the observed authors. That is, in this discipline, barely 23% of the observed authors have possibilities to survive, escape from obsolescence and be visible to a community called “international”. From the 728 authors active in this subject only 95 of them were cited one or more times between 2007 and 2010. Additionally, only 22 of them were cited more than 4 times. These 22 authors are the ones who have the greatest possibilities of establishing in the discipline, survive and escape of obsolescence. *Figure 2* shows the outline in semilogarithmic scale of the observed data. The outline clearly shows a Bradfordian behavior with an initial concave portion subsequently transforming into a straight line indicating the authors' dispersion. The nucleus is formed by the 6 first authors listed in *Table 6*.

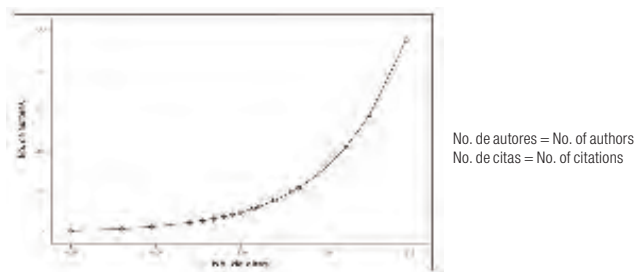


Figure 2. Outline of authors according to citations.

Although it was already demonstrated that the inverse square model proposed by Lotka (1926) does not support a statistical test and that other alternative models have been proposed to better predict authors' productivity, like the generalized inverse power model, generalized inverse Gaussian-Poisson model, and Poisson log-normal, among others, this author is still very cited. The mechanism of obliteration by incorporation seems to be inapplicable in the case of Alfred J. Lotka. The same can be said about Price's text, since the chapter "Galton revisited" in his book *Little Science, Big Science* (Price, 1963) is the third most cited (17 times) followed by Price's article (1976), which is cited 5 times.

Table 6. Most cited authors.

Authors in the nucleus	No. of citations
Lotka, Alfred J	39
Pao, Miranda Lee	24
Price, John Derek de Solla	22
Rousseau, Ronald	20
Nicholls, Paul Travis	20
Egghe, Leo	19
Authors in the succeeding zone	No. of citations
Potter, William Gray	16
Vlachý, Jan	14
Urbizagástegui Alvarado, Rubén	12
Chung, Kee H.	11
Patra, Swapan Kumar	10
Kretschmer, Hildrum	10
Bookstein, Abraham	8
Newby, Gregory B.	7
Rowlands, Ian	6
Gupta, B. M.	6
Schorr, Alan Edward	5
Nath, Ravinder	5
Sen, B. K., Che	4
Radhakrishnan, T.	4
Kuperman, Victor	4
Huber, John C.	4

The second most cited is Miranda Lee Pao, but citations to this author include 4 different documents. The most cited document is Pao (1985) which

is cited 14 times followed by Pao (1986) which is cited 8 times and other two documents with one citation each. From Ronald Rousseau 5 different documents are cited, being the Rousseau & Rousseau document (2000) the most cited (13 times), Rousseau (1992) 2 times, Rousseau (1993) 2 times and other two documents with one citation each. From Paul Travis Nicholls 4 different articles are cited, Nicholls (1989) 9 times, Nicholls (1986) 9 times and Nicholls (1987, 1988) 2 times each one. From Leo Egghe 14 different documents are cited, one 4 times (Egghe, 2005a), another 2 times (Egghe, 2005b) and the remaining one citation each. In general, authors in the nucleus have diverse amounts of publications with different frequencies of citation. This same behavior pattern is repeated with authors in zone 2 located in the succeeding zone. In other words, the more published documents, the more possibilities of being cited.

Figure 3 shows the distribution of citations ordered from the newest to the oldest. Although a growth in citations can be observed for the first 5 years, no defined obsolescence pattern is observed, since the oscillation of citations represented in the bar graph is notorious. For example, the most elevated bars represent, respectively, the most cited publications of authors like Alfred Lotka, Miranda Lee Pao, John Derek de Solla Price, Ronald Rousseau, Paul Travis Nicholls and Leo Egghe. If it had not been for these authors, citations would be grouped in four well-differentiated sections, three of these groups very integrated and the last very dispersed.

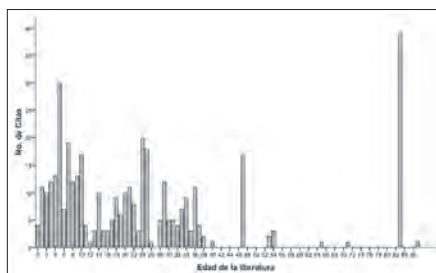


Figure 3. Distribution of citations according to the age of the literature.

No defined obsolescence pattern exists. An exponential pattern of obsolescence would show a decrease from the initial point constantly descending up to the end of the distribution. This decrease is not clearly observed in the bar graph in Figure 3. That decrease should be very similar to the outline in Figure 4.

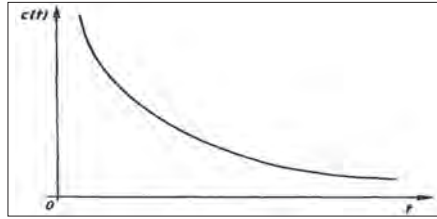


Figure 4. Exponential model of obsculence.

A log-normal pattern of obsculence would show a very slow initial increase, reaching a maximum level in the first four or five years. From that maximum inflection point, it would begin to descend up to the end of the distribution. That initial growth, despite it seems to appear in the first five years, is very irregular and does not represent an actual and consistent log-normal process of obsculence (*Figure 3*). A log-normal decrease model is shown in *Figure 5*.

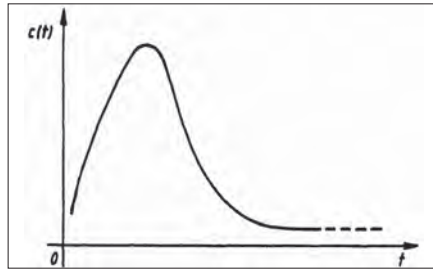


Figure 5. Log-normal model of obsculence.

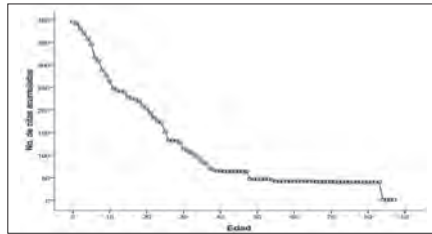


Figure 6. Distribution of observed accumulated citations according to age.

The distribution of accumulated citations by age seems to produce an exponential distribution of obsculence (*Figure 6*). An exponential decrease can be seen as cited literature ages; also, a trend is evident, high values of frequencies of citations are associated with the age of most recent literature. Lower values of frequencies of references are associated with older literature cited.

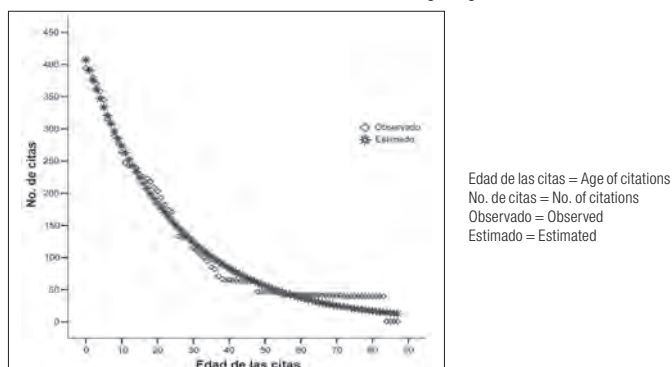
The nonlinear exponential function proposed by Egghe & Ravichandra Rao (1992b) was estimated using the statistical software SPSS 17.0 for Windows. A nonlinear regression resulted in an adjusted r^2 estimate of 0.985, which indicates that more or less 98% of variations in the frequency of citations are due or dependent on variations from the age of literature. The estimated value of C was equal to 407.069 and the value of g was equal to -0.961. These values produced an asymptotic standard error of 5.098 for g and 0.001 for C . The obsolescence equation estimated with the nonlinear maximum likelihood method with 86 degrees of freedom is

$$C(t) = 407.069 (-0.961)^t$$

indicating that literature declines at a rate of 3.9% per year and reaches a mean aging rate at the age of 17.4 years.

Figure 7 shows the observed and estimated values of accumulated frequency versus age of citations. This figure provides a visual indication of the way in which frequency of citations and age of literature covaries negatively with a vertical decrease in the first 40 years. An exponential decrease can be observed as cited literature ages; also, a trend is evident, high values of frequencies of citations are associated with the age of most recent literature, and lower values of frequencies of references are associated with older literature cited.

Figure 7. Observed and calculated values of citations according to age.



CONCLUSIONS

Reviewed literature establishes that a document is obsolete when it is no longer cited, i.e., when it is no longer used by an academic community as a source of information to justify, argue or contradict the statements or findings reported by other authors. The results of this study show that other variables can be influencing obsolescence and that, in general, these variables are not mentioned in the literature dedicated to analyze the phenomenon known as "literature obsolescence". In the case of literature on Lotka's law, one of these factors is the mother tongue of the document's author. Language of publication is a factor with a high impact on a document's obsolescence. In the literature published on Lotka's law, a high percentage of documents is published in English, but these documents only cite other documents also published in English, showing an endogamic behavior, if not ethnocentric, of authors publishing in English. This confirmation is extremely unfavorable for those publishing in other languages since their publications will not be cited by that community called "international". An "international" community should be capable to read, understand and cite research production in at least two or three languages other than the language of the author's cultural context. Not doing it implies an endogamic and ethnocentric behavior. That endogamic behavior is not produced among authors publishing in languages other than English. These authors attentively follow not only what is being produced in their own languages, but also what is being produced in English. The cases of authors publishing in Portuguese and Spanish illustrate this type of behavior.

The outline of the scatter plot distribution of nonaccumulated literature on Lotka's law published from 1926 until 2010 does not show a defined obsolescence pattern, but a group of data in three random groups, indicating the absence of the "obsolescence" phenomenon. However, the distribution of synchronically accumulated citations according to the age of cited literature produces an exponential decrease. This exponential form shows an aging rate of 3.9% per year, relating a mean aging rate to an age of 17.4 years. But these results seem to be more an artifice of data accumulation than actual literature obsolescence. This is demonstrated by nongrouped data which do not show an obsolescent decrease according to the age of cited literature.

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Penalties for plagiarism of literary works imposed by Peru's Instituto Nacional de Defensa de la Competencia y de la Protección de la Propiedad Intelectual (Indecopi) (National Institute of Jurisdiction and Protection of Intellectual Property) *

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ABSTRACT

The research describes and analyzes the jurisprudence of the Court of Indecopi, which through the Chamber of Intellectual Property issues rulings as the second and final administrative authority in Peru. This study examined rulings handed down over a four-year period (2008-2011) in copyright infringement cases, i.e., plagiarism, which, moreover, appear on the institution's web page. The study employs a documentary analysis methodology of each plagiarism case ruling issued by the Chamber. Notwithstanding the relatively

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scant number of plagiarism cases arising from online publishing, the study concludes that the legal conception of plagiarism has expanded since the advent of internet. Most of these cases are filed and pursued ex officio by the office charged with protecting intellectual property and copyright.

Keywords: Ethics; Plagiarism; Intellectual property; Copyright.

RESUMEN

Sanción al plagio de obras literarias en el Instituto Nacional de Defensa de la Competencia y de la Protección de la Propiedad Intelectual (Indecopi) en Perú

Rosalía Quiroz Papa de García

La investigación describe y analiza la jurisprudencia del Tribunal de Indecopi, que a través de la Sala de Propiedad Intelectual emite sus resoluciones en segunda y última instancia administrativa en Perú. El estudio se realizó con base en las resoluciones sobre casos de infracción a los derechos morales del autor en su modalidad de plagio, las mismas que se encuentran en la página web de la institución. El periodo objeto de análisis comprende los años 2008-2011. La metodología empleada ha sido básicamente el análisis documental, teniendo a la vista cada una de las resoluciones emitidas por la Sala que resuelven las causas de infracción al derecho de autor. En conclusión, no obstante que la figura del plagio se ha extendido con la aparición de Internet, las denuncias son muy escasas, la mayoría son formalizadas por denuncia de oficio a partir de la función que ejerce la entidad competente encargada de velar por la protección a la propiedad intelectual.

Palabras clave: Ética; Plagio; Propiedad intelectual; Derecho de autor.

INTRODUCTION

In the last decades, actions and conducts incompatible with moral and legal issues have exacerbated, especially in the scientific activity developed

in the academic world, among these we find plagiarism, fraud, piracy, which threaten science, art and technique.

Even when academic dishonesty among students is documented since long time ago, it was until the 1990s that its systematic research began, with the purpose of fighting the academic plagiarism phenomenon, which in those years was already starting to be alarming (Sureda, Comas and Morey, 2009: 1989).

Causes are multiple, one of the most important is the advance of new information and communication technologies, particularly internet, which has generated an explosion and abundance of information sources, along with the easiness to have in real time complete articles in journals, projects, theses, monographs, books and databases, among other materials. Another cause is the moral crisis that the entire society experiences, which reflects in dishonest conducts in all type of activities, including precisely the academic activity, by not respecting the intellectual property, turning to plagiarism without any trace of remorse. Thus, several studies report the theft of other people's creation, which has become a more and more extended conduct, up to the point of naming this the "copy and paste" generation. According to Carmona, "Plagiarism is a malicious fraud against the literary, artistic and scientific production of an author, in which, based on a preceding creation, a person appropriates others' work as own" (1988: 315).

Peru's reality is not alien to this problem; there is a high degree of permissiveness and impunity in all areas of society and an evident ineffectiveness, particularly in higher education institutions, due to the almost null penalty imposed to this type of conducts. It is considered a minor offense, not within the real dimension of a crime threatening the academic community. So authorities do nothing, or almost nothing, to implement measures for awareness and prevention of plagiarism. Besides, the use of modern technological tools to track and compare different texts with original documents is unknown.

Rojas and Olarte point out:

It is important, to reemphasize that plagiarism, so understood, constitutes a simultaneous infringement of different moral and economic rights. The infraction against the moral right of the plagiarized author is shaped according to its right of attribution, since the plagiarist pretends to be the author of another person's work. Likewise, it is common that the moral right of integrity is affected, because by disguising or hiding its illegal action, the actor modifies or suppresses substantial parts of the work to pretend it is a creation different from the original (2010: 2).

This fact lead us to set out our research objectives, that is, to identify and analyze the administrative procedure performed in Peru by the state agency in charge of looking out for the protection of intellectual property (Indecopi), in cases of plagiarism of literary works. A second objective was to determine the type of penalties the Court imposed in the last four years through orders issued as the last instance. For such purpose, the jurisprudence on infringement of moral rights resolved by the Intellectual Property Chamber of Indecopi-Peru was located in detail, and can be found in the institution website (*Attachment 1*). Having the orders at sight, these were analyzed according to a series of variables and indicators previously established to comply with the study objectives. Research results indicated that the higher incidence of complaints for moral rights infringement corresponds to the infringement of the author's right of attribution as direct plagiarism, a conduct that manifests in the robbery or theft of others' work. Complaints usually were formalized ex officio by the authorities of the competent entity, and penalties imposed in the first instance were high (more than 5 Applicable Tax Units), but were drastically reduced in the second and last instance.

REVIEW OF THE LITERATURE

Plagiarism

Plagiarism is the robbery of other people's intellectual creation that consists in the appropriation of the author's right of attribution, modifying, revealing or reproducing such creation as own. According to Cabanellas, plagiarism is "In matters of literary, scientific or artistic property, the copy or imitation that does not confess the model or author which was based on" (1976: 305). In the opinion of Saldaña, Quezada, Peña and Mayta, "Plagiarism is defined as the appropriation of ideas, processes or results, presented in a publication without crediting the original author" (2010: 2). While Delgado considers it as "An ideal appropriation of other's work, either presenting it as own, or using its creative elements to elaborate the illegitimate creation" (1988: 117).

In the literary field, plagiarism is the wrongful appropriation of phrases, sentences, paragraphs or full texts without citing the source or crediting the author.

Girón details some actions of literary plagiarism:

- Copy the total or partial work of another student (with or without authorization).

- Copy and paste the contents of internet articles or web pages without using quotation marks and citing the consulted source.
- Not citing the source where the information was obtained.
- Move or relocate some few words or phrases in a text or change their original order.
- Copy significant parts of another person's text or work.
- Not capable to explain or sustain work contents.
- Developing thoughts or theories based in other people's ideas, not crediting the person in whose idea the discussion is based.
- Repeat or paraphrase another person's words, ideas or arguments without giving due credit.
- Buy or acquire a work presenting it partially or completely as own (2008: 7).

Also considering the definitions contained in the resolutions of national and international courts when supporting their decisions, along with those corresponding to the community legislation and to another organisms mentioned below.

The *Tribunal de Justicia de la Comunidad Andina de Naciones* (CAN) (Court of Justice of the Andean Nations Community), cited by Astudillo, defines in Process 139-IP-2003:

Plagiarism is, in its most simplistic definition, anything involving copying others' works substantially, presenting these as own. It is a material action with very poor or no intellectual content, lacking originality (2006: 244).

The author adds:

In a former decision, the same Court stated "To that end, plagiarism is '[...] the act of offering or presenting as own, wholly or partially, the work of another person, in a way or context more or less altered [...]' " (Process 10-IP-99) (Astudillo, 2006: 244).

Balbuena also cites some jurisprudences in which plagiarism is defined:

The jurisprudence of April 27, 1978 of the Spanish Supreme Court stated that: Plagiarism occurs when the work creator is suppressed and eliminated putting someone else in his/her place, being the individual more than the thing who suffers the attack inflicted by the plagiarist, since identity is what disappears, the work remaining more or less undamaged. In the sentence dated on February 13, 1984, the Spanish High Court stated: Plagiarism also occurs when copying the original or authentic idea directly or falsified to induce a mistake on the authenticity or imi-

tation, partially or wholly, and when impersonating to present other's work as own taking advantage of the unpublished and mental signature of the author (n.y.: 4).

In this same line, Indecopi, state entity in Peru in charge of the protection of intellectual property, through a jurisprudence of the Court in Order No. 1266-2008/TPI-. Record No. 81-2007/ODA dated on May 29, 2008, reproduces Balbuena's quote about plagiarism, referring to Delgado, Quintano and García:

According to the doctrine, plagiarism is the appropriation of all or some original elements contained in other author's work, presenting these as own, either pretending that the work is his/her creation or using the creative elements of the original to produce an illegitimate work. Both cases suppress the author's right of attribution of the pre-existing work and his/her authorization, resulting in the capital offense in the field of copyright. Through this conduct, the plagiarist takes advantage of the creative work of another person, substantially copying the work pretending to be its authentic creator (Indecopi, Order No. 1266-2008/TPI: 5).

For the World Intellectual Property Organization (WIPO), plagiarism is "The act of offering or presenting as own the work of another, wholly or partly, in a more or less altered form or context" (1988: 182). The *Pontificia Universidad Católica del Perú* (PUCP) (Pontifical Catholic University of Peru) states in its web page (<http://www.pucp.edu.pe>): "Plagiarism consists in presenting as one's own ideas, the texts produced by others that were transmitted by them, either in writing or orally or by another means of communication."

According to the *Cuerpo Académico de Ética* (Academic Body of Ethics) of the *Universidad Autónoma del Estado de Morelos* (Autonomous University of Morelos):

Plagiarism is to dishonestly copy or imitate other's work, particularly, a literary or artistic work. It is a moral offense that can become serious given the conditions involved. Some of the circumstances that make plagiarism serious are the importance of the person making the plagiarism, quality of the plagiarized document, difficulty to distinguish it, and the amount of plagiarized material. In the education world, plagiarism is always serious from elementary schools to universities because it goes precisely against one of the essential rules of education: the search for truth and justice. Plagiarism steals ideas, images and projects from others. This dimension is unknown for many who consider this practice as a minor offense easily justified. It is important to show, instruct and educate to banish plagiarism from school life (UAEM, 2002: 1).

As the above definitions state, plagiarism is the conduct that deliberately infringes the author's moral rights, appropriating the right of attribution, modifying or altering the integrity of the work. Plagiarism involves three elements: the plagiarist, an individual with an evident unlawful and immoral conduct; the author, whose moral rights have been infringed; and the plagiarized work.

Origin

Literature reveals that the origin of plagiarism dates back to old times, since a work was created by the first thinkers, i.e. philosophers, poets or mathematicians, along with artists and painters. Astudillo notes: "The Latin poet Marcus Valerius Martialis seems to be the first one that used the term plagiarism in a figurative sense referring to the appropriation of others' phrases (L'Encyclopédie de L'Agora, sf. p. s(n))" (2006: 245-246).

Research performed by Perromat in his doctoral thesis also confirms that plagiarism dates from very ancient times. Even the most prominent philosophers, such as Plato and Aristotle, among others, were accused of theft or appropriation of other's work:

Plato, in a known anecdote that circulated in ancient times in different versions, was accused of plagiarizing Pythagoras, after having acquired a text of Philolaus (disciple of Pythagoras) for ten thousand denarii. Aulus Gellius, in the second century, reproduced in his *Attic Nights* the following verses of Timon: "Thou, Plato, since for learning thou didst yearn,/ A tiny book for a vast sum did'st buy,/ Which taught thee a *Timaëus* to compose."

(In <http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A2007.01.0072%3Apage%3D194> (Consulted: May 8, 2015))

The wide circulation of these complaints has left us some examples in preserved Greek texts. In this way, Theopompus of Chios in his work *Against the Diatribē of Plato*, affirms "One would find that many of his dialogues are worthless and fake. Most are plagiarized from the teachings of Aristippus, and some, even, from those of Aristotle, from those of Antisthenes and many also from those of Bryson of Heraclea."

(Modified from https://books.google.com.mx/books?id=1tRf3DQycDEC&pg=PA272&lpg=PA272&dq=%22theopompus+of+chios%22+%22bryson%22+%22plato%22&source=bl&ots=MI0KgOQSSf&sig=_lg34KwqRWpoWams-MQZ21ybcQO8&hl=es&sa=X&ei=Ee1MVbSbIZKsyASZsoDoBg&ved=0C-CkQ6AEwAg#v=onepage&q=%22theopompus%20of%20chios%22%20%22bryson%22%20%22plato%22&f=false p. 271 (Consulted: May 8, 2015))

These complaints also extended to Aristotle. They provide an approximate idea on the consolidation of an author figure (a specific function of proper names

accompanying the texts) and the resistance exerted by different authors facing works perceived as discordant with this hermeneutic paradigm. The fact that these complaints have political or ideological objectives mixed with literary appreciations does not invalidate the hypothesis of an ancient origin of the Author-Text relationship or, if you prefer, of the Function-Author as maximum guarantee of coherence and textual authenticity (2010: 29).

Other authors hold that the figure of plagiarism, as the appropriation of other's work, appeared in the fifteenth century with Gutenberg's mobile printing press, which made possible the appearance of printed works of different authors and therefore the cultural expansion and democratization of books, due to its wide circulation among various sectors of the population. Busta refers the following:

In ancient times, literary and artistic production did not have a great development; however, the Christian Church had the most brilliant production, which was protected from the barbarian hordes. Later on, in the Renaissance, creations were very productive in the field of painting, sculpture, architecture and other arts, but due to the lack of rules many authors and artists ended up in misery and oblivion. The discovery of the printing press originated the creation of the Royal Privileges or Royalties. These figures appeared to avoid the free circulation of ideas through previous censorship, prohibiting the reproduction and sell of the works without the king's permit. Likewise, the possibility to reproduce literary works massively was established, initiating the protection of intellectual creations by means of privileges (1997: 32-33).

After this brief historical overview on the origin of plagiarism, it can be said that the legal recognition and systematization of mind creations arose in the eighteenth century with the first copyright protection laws. Thus, in England (1710), the act named Statute of Anne was approved. It regulated the authors and editors activity ending the monopoly of the latter, the "royal privileges." Starting from that moment, authors had the exclusive ownership of their works, and also the right to authorize the printing of copies, initially for a 14-year term renewable for another 14 years, along with the obligation of giving nine copies for universities and libraries.

It is important to highlight that in 1813, the Court of Cadiz introduced in the field of copyright the concept of public domain for literary works, which was nothing more than the society's right to access information and culture in general, reproducing or communicating the works without the previous consent of the author or their rightful claimants, but always recognizing the authorship or right of attribution. The Court authorized the re-

production of the works after 10 years of the author's death and without the express consent of the heirs. Currently, according to the Berne Convention (1886) the minimum term of protection is 50 years, which later was extended in several countries up to 100 years, before the work enters into public domain. In Peru, the term is 70 years, in Colombia is 80 years and in Mexico is 100 years.

Requirements for the constitution of plagiarism

Since plagiarism is the plagiarist's wrongful and immoral conduct, to achieve its real identification and classification, it is essential the concurrence of several elements.

The work

The Legal Mandate No. 822 of 1996, Article 2.17, includes the following definition: "Work: is any personal and original intellectual creation, susceptible to be disclosed or reproduced in any way known or to be known." Lipszyc considers that "According to copyright, work is the personal expression of intelligence that develops a thought, which is manifested under a perceptible way with enough originality or individuality, and is suitable to be disclosed and reproduced" (1993: 61). Of course, in order for plagiarism to occur, it is necessary the previous existence of the work product of the author's creation. If this cannot be demonstrated, it would be useless to classify a conduct as plagiarism.

The author

Article 2.1 of the mentioned decree states the following: "Author: individual performing an intellectual creation." The author's presence is required, who is the only one that has the original ownership with moral rights on his/her work. It is worth to mention that the mandate distinguishes two types of ownership: original and derived.

- Article 2.44. Original ownership: The one arising from the sole creation of the work, only the author has ownership.
- Article 2.45. Derived ownership: The one derived from circumstances other than creation, whether by legal mandate or presumption, or by assignment *inter vivos* or *mortis causa* transmission.

Lack of author's consent

The author is the only person who has the faculty to authorize the use of his/her work; it is part of his/her moral rights, which are exclusive, non-attachable, imprescriptible, and unrenounceable. Accordingly, one of the characteristics of plagiarism is that it occurs because the author's authorization is lacking.

The unlawful conduct

The plagiarist will always be an individual, whose unlawful or contrary to the law conduct must be manifest, objective and demonstrable. The action of copying, reproducing or imitating wholly or partially phrases, sentences, paragraphs or the integrity of the contents of a literary work must occur, supplanting the right of attribution and without crediting the author or citing the source. This condition is essential to be in conformity with the law and the principle of law, since the classification of the conduct can only be performed by the law before the infringement, hence the Latin phrase *nullum crimen, nullum poena sine lege* (there is no crime and no punishment without a law).

Lack of originality

One of the elements in work contents is author's originality, understood as the clear and unequivocal manifestation of his/her personality.

The Indecopi sets out in its Order No. 286-1998-TPI-P.4.4 that:

Considering that any work is the product of the author's effort, not everything produced with effort deserves copyright protection. This will be possible to the extent that the creation has sufficient originality elements to be considered as a work. Admitting to the contrary, would imply to protect even those not being subject to copyright protection, as the lists of the movies shown in Lima. The requirement of originality or individuality implies that for work creation, a space must exist for the development of its author's personality. Consequently, those already included in the cultural heritage —artistic, scientific or literary— cannot be individual. Likewise, originality differentiates the works protected by copyright from trivial ones, those from daily life, unimaginative.

Elaborating on the subject, Lipszyc states that other requirements exist in plagiarism: "a. Appropriate the right of attribution of a work. b. Transform the work. c. Disclose the plagiarized work [...]. d. Act with deceit, with

bad faith, with intentionality, and be aware that the plagiarized work is not his/hers but from third parties, this is called '[...] the alienation of the work as element of competence to constitute the deceit [...]' ” (cited in Balbuena, n.y.: 11-13). Indeed, it has to be noted that the presence of these elements in the constitution of plagiarism excludes others, as the work value, contents, extension, purpose of its creation, contents support, as well as being in the market or not. It is enough that the infringement of the legally protected right occurs to demand its penalty, apart from other considerations serving as justification for the plagiarist. Therefore, the universal principle of the law has to be observed, stating that ignorance of the law does not prevent its penalty or exempt its observance.

Laws must be strictly applied as from the day following their publication, unless otherwise provided for, thus assumed as known by everybody, moreover, the respondent cannot argue that he/she ignored the legal issues on Copyright” (Indecopi, Order No. 0355-2007/ODA-INDECOPI: 2-12).

Plagiarism, theft of ideas?

From a conceptual overview, according to the *Diccionario de la Lengua Española*, idea is “Image or representation of the perceived object that remains in the mind. Plan and disposition ordered in the fantasy for the formation of a work” (RAE, 2001: 843). In the doctrine and legislation on copyright, ideas are not subject of plagiarism, thus it is erroneous to affirm that plagiarism is the theft of other's ideas. In this sense, the following domestic and international laws state:

- Legislative Decree No. 822 Article 9. Elements that are not subject to copyright protection: Ideas contained in literary or artistic works, procedures, operative methods or mathematic concepts itself [...].
- Decision No. 351 of the Andean Nations Community. Article 7. The way in which the author's ideas are described, explained, illustrated or incorporated into works is exclusively protected. The ideas contained in literary and artistic works, or the ideological or technical contents of scientific works, or its industrial or commercial use are not subject to protection.

From the foregoing, it is clear the law protects original contents, those which authors, using previous ideas or knowledge, express in their works, either literary, artistic or scientific. For example, the subject of the European economic crisis can be in the mind, it can be an idea of hundreds or thou-

sands of potential authors, what it matters is the original, novel form of expressing it. In that sense, the basic condition is the protection of the originality and individuality as a manifestation of the author's personality, "[...] the personal and peculiar way in which each author produces a character, this can be subject to protection, since it is here where the creative and artistic touch of the author appears" (Gaffoglio, n.y.: 2).

The Court of the Indecopi in its Order No. 2855-2010/TPI-.p.4 states:

Copyright protects work creation; these creations must be formal, in which the way ideas have been expressed is protected. Ideas are not works and, accordingly, their use is free. No protection or ownership on these is possible, even when these are novel.

In turn, Lipszyc states the following:

If exclusive rights were granted on ideas considered per se, their disclosure would be obstructed preventing the development of intellectual creativity, that is, the creation of an unlimited quantity of different works would be obstructed. One same idea, one same research, one same subject, are taken many times. In its development, each author provides the impression of his/her personality and individuality. Sometimes, the result is highly enriching, in others, trivial, but what drives each generation in the slow advance of civilization is the possibility of working on existing elements, to continue the way without remaking everything and initiating from the beginning (1993: 62).

Types of plagiarism

Plagiarism manifests under different types, it can be whole or partial plagiarism; in the first case, is the verbatim copy of the entire work contents by the plagiarist, substituting the author's right of attribution and pretending to be the real author. Partial plagiarism usually involves the use of synonyms, substitutions or minor changes of words, phrases, abstracts and paraphrasing, not citing the source and covering up the work's original text.

In Peru, the classification stated by Lipszyc is the most used in the founding of rulings issued by the Court of Indecopi:

The doctrine distinguishes between direct plagiarism (less frequent) in which the appropriation of other's work is total or almost total, and "intelligent" plagiarism in which the plagiarist tries to dissimulate plagiarism and gets some substantial and original elements. The last is the most common type of plagiarism, reason why this has to be presented by similarities not by differences between the involved works (1993: 567).

Notwithstanding, many authors offer their own classification criteria. Balbuena classifies plagiarism in direct imitation and elaborated imitation.

This mentioned appropriation of the right of attribution can occur in several ways. It may be that the plagiarist just plain and simply suppresses the name of the real author without modifying the work contents or take significant portions of it to incorporate into the plagiarized work. The first case is known as direct imitation and the second, as elaborated imitation. In both cases the infringement is classified, although in the last case discovery of the crime can be a difficult task (n.y.: 9).

Morató cites Tripathi and Kumar, who “[...] have elaborated one of the most complete plagiarism classifications listing 17 types of plagiarism [...]”:

1. Without citing sources
 - 1.1 Deliver other's work as own.
 - 1.2 Reproduction of complete fragments with no alteration.
 - 1.3 Combination of different sources without citing any.
 - 1.4 Reproduction of the fragment, changing certain words.
 - 1.5 Reformulation of different sources comprising the final work.
 - 1.6 “Borrowing” the own previous work, violating originality requirements.
2. Citing sources (but still plagiarized)
 - 2.1 The author is cited, but without the data necessary to locate the source.
This practice usually hides other forms of plagiarism.
 - 2.2 Cited sources cannot be located due to an incorrect reference.
 - 2.3 The author is cited, but actual words are not placed in quotation marks, pretending other's interpretation as own.
 - 2.4 Citations and references are correct, but practically comprise most of the article.
 - 2.5 In some fragments sources are correctly cited, but in others there is a paraphrase of the same sources, this time without express recognition.
3. Other types of plagiarism
 - 3.1 Direct citations are reproduced without quotation marks.
 - 3.2 Changes of some words in the citation, reproduced without quotation marks.
 - 3.3 Use an author's creative language without due recognition.
 - 3.4 Pretend other's idea as own.
 - 3.5 Follow another author's reasoning in an approximate order to that developed in the original article.
 - 3.6 Plagiarism of data from other studies (Morató, 2012: 363).

Causes of plagiarism

To be completely clear: plagiarism is considered as the robbery of another person's intellectual work. Among the multiple causes why students make this mistake, is the belief that ideas "belong to everybody" as well as an inadequate and poor methodology for knowing how to cite (Cerezo, 2006: 32).

The more and more recurrent presence of plagiarism is discussed in the academic world; this conduct sorely affects teaching-learning process and research. Also, this represents a real threat to the progress of science, art and technology, discouraging authors and inventors with the illegal appropriation of their works.

In this regard, Pastor states:

[...] students adopt and present in their research, as their own ideas, the theory and hypothesis generated by other investigators, and these technologies associated with the Information Society facilitate this ethically reprehensible and academically incorrect practice. Plagiarism has become a constant element in our society, because not only has invaded the academic world, but also has entered other spaces such as music, painting, movies, etc., that is, science and art in general (2009: 106).

Several researches establish that one of the first causes of plagiarism is the existence of new information technologies, particularly internet, which due to its capacity of storing unimaginable quantities of data and information (currently, zettabytes), has allowed illegitimate conducts, including the so-called "academic cyberplagiarism." This type of plagiarism has a high degree of permissiveness, not only from society, but also from educational institutions particularly, since few have in place rulings and concrete measures against academic fraud or dishonesty.

This happens so frequently that Comas, Sureda, Casero and Morey, after obtaining the results of an exhaustive research, ask in anger:

Why, if this data is so blatant as this work and others demonstrate, there are no measures in place in our country to improve the situation? It is possible that there is no intention to fix everything mentioned in these pages trying to keep a sort of silence pact between students and teachers that helps to maintain certain *statu quo* in the university institution? (2011: 223).

As such, what happens in the education world is only the reflect of society as a whole, which is going through an acute moral crisis, and lack of

compliance of rules and responsibilities. This reflects in the crisis of their institutions, than among other manifestations, show a lack of ethics leading to little respect for other's property. Additionally, from the legal field, countries jurisdiction becomes blurred because there is no global regulation in internet, so it can be presumed that the information contained there belongs to everybody and nobody. Vargas Llosa warned about this when he was recently impersonated: "[...] the theme of Copyright, in the digital world, is still a confused forest, subject to multiple negotiations in which still no one agrees on [...]" (2012: 11). "Frontiers do not exist in internet and States have serious trouble to delimit their jurisdictions. It is unquestionable that the State tries to regulate unilaterally, without the consent of other entities, any issue occurring in its territory" (Téllez, 2009: 103).

In a recent study, Sureda, Comas and Morey (2009) divided in two groups factors occurring in the incidence of academic plagiarism: those within the educational system (intrasystem) and those external to it. They also mention that plagiarism is the result of certain characteristics and conducts of the teaching staff; to certain characteristics and conducts of the students; to certain characteristics of the university, essentially overcrowding; to the development of ICTs; and to certain predominant social values.

Cabedo cites Parki regarding other factors that determine plagiarism:

1. Gender. Plagiarism is more common among men than women.
2. Age and maturity. Youngsters use to plagiarize more than older individuals.
3. Intelligence quotient. Individuals with lower intelligence quotient use to copy more, although there is also the contrary: students with a high intelligence quotient copy to a large extent.
4. Social life. Students with an active social life use to copy more because the time dedicated to social life prevents them to dedicate more intensively to prepare work and exams.
5. Student's personality factors. Students copy if they have an aggressive behavior, but also if they want to even out with their peers.
6. Student's attitude toward the course. In this case, the student's motivation influences on a greater or lower academic copy.
7. All these factors are present in the conduct and environment of the plagiarist. Therefore, being a complex event, it must be widely analyzed (Cabedo, 2010: 10).

According to the aforementioned, one of the factors that has to be considered to stop plagiarism is the educational issue, because this is one of the most important factors in the development of capacities of human beings, and its consequences persist throughout life.

Soto emphasizes:

As previously stated, there are multiple types of plagiarism, most of them can be prevented with an appropriate education on how to avoid plagiarism, both in universities and schools. This way students would get used to cite correctly from the beginning, not leaving the references in their works to the end, and at least they would not fall into accidental or unintentional plagiarism (2012: 12).

Indeed, responsibilities have to be shared, those of parents and teachers, educational institutions in general and the State. Several regulatory plans and instruments approved by the State set this out, such as the *Plan de Acción de Educación para Todos* (2005-2015) (Education for All Action Plan), which literally states:

The principles on which the Education for All Action Plan was founded arise from the fact of considering education as a universal right, inherent to the human being [...]. Education also has to promote people's moral conscience, an ethics exerted in public, which forms a society based on truth, justice, freedom, love, solidarity, peace, responsibility and respect (Vexler, 2005: 16).

There is a need to perform an intense work from the family, teaching values and moral conscience in children. In turn, teachers must develop in the student the knowledge of basic skills and capabilities in reading and writing. This will allow students to learn to read and understand so they will be capable to summarize, comment, analyze and synthesize texts autonomously and with personal effort. Using their own terms, they will progressively achieve a fluid oral and written communication, contributing to the development of their higher order mental capabilities.

Gutiérrez and Montes de Oca cite Arenzana, who mentions:

[...] the act of reading becomes a complex and superior capability exclusive of human beings in which all their abilities are simultaneously compromised involving a series of biological, psychological, affective and social processes that result in a particular meaningful relationship with what was read and, thus, this interaction leads to a new cognitive acquisition (Gutiérrez and Montes de Oca, 2004: 1).

When a child learns to read, he/she must internalize that the images perceived or the text he/she is reading are product of other people's creation, of the mental effort of its author and that this deserves respect, because the texts and other works that he/she will know beyond school life will constitute indispensable elements of personal development. In order to complement his/her learning, the student also needs to know he/she can copy the contents of

others' texts, regardless where they are supported. However, he/she needs to learn how to use citations, credit the author, and realize that what he/she is literally copying does not belong to him/her. So, he/she must clearly write whose phrase, paragraph, text, graph or image he/she used. It must be remembered what the UAEM mentions: "[...] plagiarism is always serious because it goes precisely against one of the essential rules of education: the search for truth and justice, since it steals ideas, images, and projects from others. [...]" (2002: 1).

Although students enter into higher education level with their own values and behavior patterns, it is the responsibility of the institutions to implement prevention mechanisms against dishonest and illicit conducts. As a first step, these should permanently raise awareness in community members with campaigns in favor of academic honesty, such as the PUCP is doing with the reiterative phrase around university environments "do not eat quotation marks." The purpose is to achieve the internalization of respect for other people's creation, as well as to understand and value that the basic conditions for the progress of humanity have always been the creativity and ingenuity of authors and inventors. At the same time, it would be worth to set out the compulsory nature, for teachers, to control and permanently follow up students to revert mental laziness, making no effort, and the culture of making a minimal effort which prevent them from thinking and creating by themselves.

Consequences of plagiarism

Plagiarism is the appropriation of other people's creation, since the moment it is classified as an offense or a crime, it can lead to personal, social, academic and work consequences, among others.

- a) Personal consequences. Human beings perform within a context of rules and values conditioning their behavior. Acting against morals by appropriating other people's work turns them into immoral beings devoid of values.

It impoverishes us as persons, it is a selfish act that impairs the creativity and innovation of human beings (who must be responsible for the truthfulness and quality of his/her work), and can also involve criminal liabilities or academic penalties, but mostly it implies damage of moral rights related to authorship, one of the most important parts of copyright (Dominguez, 2012: 498).

On the other hand, this type of conducts limits permanent learning and the development of higher order mental abilities and potenti-

alities, such as research, description, use of information, analysis and synthesis, which allow the individual to understand and interpret the world, the society in which he/she lives and the “home” he/she inhabits. In this regard, Polo stated: “Our being is constituted by three homes: natural, social and internal” (2001: 35).

- b) Academic consequences. If elementary and higher education academic centers have regulations in place, the plagiarist will be punishable by the institution proving such conduct.
- c) Administrative and criminal consequences. In the administrative context, the entity protecting intellectual property is Indecopi, which on behalf of the State in Peru penalizes plagiarism through a contested administrative process. As necessary, it can inform the Public Prosecutor to investigate the act and formalize the respective penal complaint. In the judicial context, plagiarism is an offense as defined in the Criminal Code. If the assumptions set out in the law are met, the plagiarist can be tried and sentenced in the Judiciary with up to eight years.
- d) Occupational consequences. If within the context of a work relationship the plagiarist’s dishonest conduct is proved, it can be subject to an internal penal process and even be removed from work, regardless of being a private or public institution.
- e) Social consequences. Another regrettable consequence is that society is cheated with a work generated by the theft of other people’s creation. This is an infringement of trust, of the good faith upon the goods and services acquired. Here, Cavanillas states:

[...] plagiarize means “To steal the author and cheat the target person of the plagiarized work.” One same act of plagiarism affects two groups of interests: a) the author’s interests (and, if applicable, the interests of the holder of the exploitation rights of the work, for example, the editor); b) the interests of the person acquiring the work, by intending to mislead him/her presenting the work as own (2008: 2).

- e) Stops the development of science, technique and art. Because of the creative ability of authors and inventors throughout history, humanity has achieved the evolution and development that society currently enjoys. Just as the wheel, energy, vapor and the revolution of new information technologies are the product of lucid minds, they have a positive influence on the development of society. However, conducts such as plagiarism discourage authors and inventors, consequently stopping the scientific and technological development of the country.

Plagiarism detection

As mentioned above, plagiarism has become a generalized conduct, particularly in many education system levels; different studies reveal that a great percentage of students declare they have committed plagiarism at some point in their student life. Moreover, they have the idea that most students make high plagiarism, especially of internet sources or web pages, since the huge quantity of stored information makes it difficult to detect plagiarism. This is disturbing because society considers such conduct just a minor offense, reflecting there is no regulation in most education institutions, as in Peru, where no cases are known to have been punished in any instance by a competent authority.

Morató cites some research works revealing this serious problem:

More than three quarters of the student's population have partially or totally plagiarized a work with information from the internet at least once during university years (Bowman, 2004). Although other studies showed a lower proportion, the practice is so widespread that Comas, Urbina and Sureda (2005) talk about a "copy and paste generation." Hansen (2003: 773) considers that the percentage of students committing plagiarism is 40-50%, and states there are two fundamental causes leading students to resort to plagiarism. The first is the conviction they will not be discovered; the second obeys to the bad influence of the social context: "in the current ethical climate plagiarism is considered as something trivial if compared with more than known cases of political or business dishonesty" (2012: 361).

However, to detect and prove plagiarism is a complex task; not only knowledge, experience and thoroughness are required, but tools support as well. The plagiarist's conduct must be real, evident and discovered to prove plagiarism, facts that demand a search for the most suitable mechanisms to prove them. Whenever plagiarism is suspected, the first condition is that, in parallel with the plagiarized work, the documental preexistence of the plagiarized author's original work is demonstrated. Once located, a thorough contents comparison mechanism has to be set up ("parallel passages" method), either wholly or partially, and preferably done by experts. Administrative and criminal rules admit confession as means of evidence, an expert report, public or private documents presented in the process, and witnesses' declarations, who can express the circumstances that elucidate the act.

New technological tools, both commercial and free, facilitate the detection of plagiarism. So, we have the most important and accessible web search engines such as *Google*, *Yahoo*, *Javi*, *Altavista* and the *Turtunin* software, that facilitate web searches to locate original or similar documents for an effective comparison.

The details of some of these web tools are listed below.

- *Google and Google Scholar*. These are the most common and most easy to use web search engines. By just entering the searched phrase or paragraph between quotation marks, the engines will respond in real time. The huge collection of *Google Books* and *Google Scholar* includes books and journal articles in full text, among other documents.
- *Plagiarism Checker*. Using *Google*, allows to search for much larger and complete texts.
- *Articlechecker*. Very similar to the last tool, it works through *Yahoo* and *Google* search engines.
- *Plagium*. Performs the search in *Google*, the advantage is that it allows to locate the original documents in different languages.
- *PlagiarismDetect*. Free tool that makes easy working with complete documents.
- *Duplichecker*. Allows to enter a larger amount of data and shows the link of the original document, which facilitates the access to the contents.
- *Plagiarism Checker*. Similar to the last tool, based on the term “Possible plagiarism” goes to the link of the original document.
- *SeeSources*. It works with full documents or small extracts, facilitating the web search for documents similar to the searched one.
- *WCopyFind*. This is a scanner that manually helps to compare plagiarism between two documents, without requiring to enter the web. The comparison document must be on-site.
- *Viper*. Free software used to detect plagiarism.

Besides, it is important to note that new techniques are currently contemplated, such as that of Cabedo (2010), who based on Forensic Linguistics, proposes a methodology for text analysis addressed to plagiarism detection.

Table 1. Aspects in plagiarism detection.

Number of pages, paragraphs, lines, words and characters with and without space	
Typography information	Underlining, bold, italics, upper case, small caps...
Paratextual elements	Titles, subtitles, appendices, attachments...
Textual typology	Descriptive, argumentative, prescriptive... Record (formal/informal).
Structural arrangement	Absence or presence of structural division marks. For example: I. Introduction II. State of the question... Order of the entered information.

Text contentes	Subject Argument Narrative perspective. For example: an argumentative text can defend a position or attack it.
Morphosyntactic level	Grammatical categories: number of nouns, verbs, adjectives and predominant category. Indicative/subjunctive forms of verbs. Order of words. Abnormal constructions and errors (<i>*me se</i> , <i>*la digo...</i>) (reflexive use, passive use).
Lexico-semantic level	Semantics: concrete/abstract nouns, adjectives, among others.

Source: Cabedo, 2010: 12.

As can be seen, Table 1 shows a set of aspects divided in sub-aspects, such as typography, text type, contents, morphosyntax and others, to be thoroughly applied when comparing documents suspected of plagiarism.

In the Computer Engineering context, Alva develops in his thesis a method and original technique for plagiarism detection in digital documents.

One of the methods used, Document Fingerprinting, is an algorithm to extract a set of numeric values from the document representing several parts thereof. The set of values is named document fingerprint. Through the comparison of the fingerprints from several documents, it is possible to detect if these present common sections, thus, identifying plagiarism. In this project, an information system is implemented using a specific instance of the algorithm Document Fingerprinting, called Winnowing, to obtain a better result in the comparison. Likewise, the system has a suitable user interface for document analysis searching for plagiarism (2009: 2).

In the following table, the author compares a series of attributes of specific and alternative tools for plagiarism detection.

Table 2. Comparison of tools attributes for plagiarism detection.

Attributes	Detection tools							
	Specific tools							Alternative tools
	<i>Turnitin</i>	<i>Eve2</i>	<i>Copy Catch Gold</i>	<i>Word Check</i>	<i>Glatt</i>	<i>Moss</i>	<i>Jplag</i>	<i>Google</i> <i>Yahoo</i> <i>Altavista</i>
Type of text tool on which it operates								
Type of text tool on which it operates	-	-	-	-	-	X	X	-
Verifies source code?	X	X	X	X	X	-	-	X
Verifies free text?								

Type of corpus tool on which it operates	x	-	x	x	-	x	x	-
Operates inside the corpus?	x	x	-	-	-	-	-	x
Operates outside the corpus?								
Other attributes	x	-	-	-	-	-	-	x
Designed for students?	x	x	x	x	x	x	x	x
Designed for teachers?	-	x	-	x	-	-	-	x
Automatic response?	-	-	-	-	-	x	x	x
Free?								

Source: Alva, 2009: 29.

Plagiarism: infringement of copyright

Copyright is the part of intellectual property dealing with mind creations, either literary, artistic or scientific works. “ ‘Intellectual property’ is, in general terms, any human intellect creation. The intellectual property rights protect creators’ interests by offering privileges in relation to their creations” (WIPO, n.y.: 3). Copyright is a branch of private law that protects and regulates the author’s creation, who is an individual with moral and economic rights over his/her work. Guinchat and Menou state: “Copyright is a legal instrument guaranteeing the material and moral protection of the author of a work, or his/her assigns, for a determined period of time” (1992: 361). Several international treaties and rules signed by Peru guarantee the protection of the author’s moral and economic rights, recognize that the author has the right to own his/her creation, which by being part of the fundamental rights must be acknowledged without demanding any formality.

In this regard, Antequera and Ferreyros state:

A trend of almost unanimous universal acceptance grants the protection to the works of inventiveness by the mere fact of its creation, without requiring the fulfillment of any formal requirement, so work registry has only declarative nature and gives rise to rights (1996: 72).

The following are the most important international legal bases:

- a) Universal Declaration of Human Rights. Article 27. Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author. (In <http://www.un.org/Overview/rights.html#a27> (Consulted: May 18, 2015)). (In <http://www.un.org/Overview/rights.html#a27> (Consulted: May 18, 2015))

- b) Berne Convention. Article 6 bis. Paragraph 1. Independently of the author's economic rights, and even after the transfer of the said rights, the author shall have the right to claim authorship of the work and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation. (In http://www.wipo.int/treaties/en/text.jsp?file_id=283698#P123_20726 (Consulted: May 18, 2015)).
- c) Decision 351 of the Andean Nations Community. Article 11. The author has the inalienable, non-attachable, imprescriptible and unre-nounceable right of: a) Keep the work unedited or disclose it; b) Claim the right of attribution of the work at any time; and, c) Object to any deformation, mutilation or modification that is against the work propriety or the author's reputation. On the death of the author, the exercise of the moral rights shall accrue to the rightful claimants, for the period of time referred in Chapter VI of the present Decision. Once the economic rights elapse, the State or other designated institutions will assume the defense of the author's right of attribution and of the integrity of his/her work.

In Peru, the legal base is set out in the following rules:

- a) Political Constitution of Peru of 1993. Article 2. Everybody has the right to: [...] 8. Freedom of intellectual, artistic, technical and scientific creation, as well as the ownership over these creations and their products. The State favors access to culture and promotes its development and dissemination.
- b) Criminal Code (2007). Article 219. An imprisonment of four to eight years and a fine of ninety to one hundred and eighty days will be applied to the person that, regarding a work, diffuse it as own, wholly or partially, copying or reproducing it textually, or trying to dissimulate the copy through certain alterations, attributing to himself/herself or to another the authorship or ownership.
- c) Civil Code (2008). Article 18. Protection of the author and inventor rights. The author's or inventor's rights, regardless the form or mode of expression of his/her work, have legal protection pursuant to the respective law.
- d) Legislative Decree No. 822. Copyright Act.

As such, the legally protected property is the exclusive right that the author has for legal protection of his/her moral and economic rights.

Protection to moral rights

Moral rights are a set of powers that the law grants to the author due to authorship; accordingly, to protect his/her name and the authority to demand the respect to the rights over the product of his/her creation. "Moral rights are: a) the right of disclosure; b) the right of attribution; c) the right of integrity; d) the right of modification or variation; e) the right of removing the work from commerce; f) the right of access" (Leg. Dec. No. 822 Article 22). These are perpetual, inalienable, non-attachable, unrenounceable and imprescriptible. On the death of the author, moral rights will be exercised by his/her heirs, while the work remains in the private domain, unless otherwise provided for (Article 21).

Considering such characteristics, the author can dispose of, publish, perform, transfer, translate or adapt his/her work preventing any action lacking authorization to third parties. The close relationship between plagiarism and copyright is that one of the main features of the plagiarist's conduct is precisely the infringement upon the author's moral rights, usually substituting the original author's name, infringing the right of attribution and preventing the recognition of work attribution without giving proper credit.

In this regard, the Court of Indecopi in Peru states, in Order No. 2855-2010/TPI- p. 5:

Moral faculties are aimed to protect the author's personal sphere in relation to the creation; that is, "protect the author's personality in relation to his/her work" (Lipszyc, 1993: 62). These are characterized by being absolute, since can be opposed to everybody—even to the work owner; perpetual, since the author's right of attribution and the respect to the work integrity do not become public domain; inalienable, since these cannot be transferred or assigned by any act or contract; non-attachable and unexpropriable. Since no patrimonial nature is present, rights are unrenounceable, due to their inalienable, individual and personal features, and are imprescriptible because these are not acquired or lost over time (Lipszyc, 1993: 154). These rights are included in Articles 11 of Decision 351 of the Andean Nations Community and 22 of Legislative Decree No. 822.

Protection to economic rights

Economic rights are the faculty that authors have to obtain economic benefits for their creation. "Economic rights protect the economic value of the work produced by inventiveness, and as such, the author can take advantage of it economically and obtain an income through commercialization. On the author's death, economic rights correspond to the rightful claimants"

(Quiroz, 2003: 59). Authors can authorize the exploitation of their work by any means known or to be known to obtain these benefits as the rule sets out. Thus, third parties can take advantage of it economically without breaking the law, acting in exercise of a power called assignment of rights, which means that the new holder of the economic rights on the work will be the assignee. Leg. Dec. No. 822 states:

Article 31. Economic rights comprise, especially, the exclusive right to perform, authorize or prohibit:

- a) The reproduction of the work by any means or procedure.
- b) Public communication of the work by any means.
- c) Public distribution of the work.
- d) The translation, adaptation, arrangement or other transformation of the work.
- e) The import into domestic territory of work copies produced without authorization of the copyright owner by any means including transmission.
- f) Any other form of use of the work not referred in the law as an exception to the economic rights, being the preceding list merely illustrative and not limiting.

However, the law establishes a set of exceptions called “limits to the right of communication and reproduction” allowing society to access others’ works, provided that the source is cited, resolving the dichotomy of copyright protection and the right to culture and access to information, which are people’s fundamental rights.

Castillo refers:

This antagonist position between the authors’ right to receive remuneration for their work and the right to access to culture has already been mentioned by Antequera Parilli, Ph.D. who states that facing this position, the author’s material individual interest must be sacrificed before the collective interest of enjoying cultural goods (2012: 127).

Penalty to plagiarism in Peru

In the legal context, the term “plagiarism” has not been explicitly incorporated in the Peruvian law; however, we found it in several doctrinal studies, in the contents of multiple jurisprudences by the Indecopi and in different researches carried out in the academic world. Thus, doctrine considers plagiarism a crime, always classified as an unlawful conduct, if and when several conditions occur. A list by Lipszyc includes:

- a) The work is protected [...];
- b) The use has not been under the protection of a limitation to the right [...];

- c) The protection period is in force [...];
- d) The agent's conduct is in accordance with a typically incriminated figure [...];
- e) The existence of deceit in the agent [...] (cited in Balbuena, n.y.: 8).

The author adds:

Regarding the crime of plagiarism, the doctrine states that the type perfection requires the coincidence of the following conditions:

1. Appropriation of the right of attribution;
2. Absence of author's consent;
3. Disclosure; and
4. The intentional element or deceit (cited in Balbuena, n.y.: 9).

In Peru, the infringement of the author's moral rights is penalized administratively (Indecopi) and criminally (Judiciary). Administratively, the procedure is carried out in two instances; in the first, it is competency of the Copyright Office to accept the complaint and resolve it, and in the second and last instance, in avenue of appeal, corresponds to the Intellectual Property Chamber to confirm the order in whole or in part or repeal it, wherewith the process is exhausted. Criminally, the plagiarist is prosecuted according to the Criminal Code, which typifies the unlawful conduct as "False attribution of work authorship", and Judiciary initiates the criminal complaint *ex officio* or upon request of the interested party before the Public Prosecutor when notified of the act.

Article 219 of the Criminal Code (2007) indicates:

False attribution of work authorship. An imprisonment of two to eight years and a fine of sixty to one hundred and eighty days will be applied to the person that, regarding a work, diffuse it as own, wholly or partially, copying or reproducing it textually, or trying to dissimulate the copy through certain alterations, attributing to himself/herself or to another the authorship or ownership.

However in the academic world, particularly in the universities comprising the Peruvian University System, the University Law (No. 23733) and the statutes do not consider this type of infringements, most of the time are ignored. When plagiarism occur, universities appear reluctant to penalize it, except for some that separately have incorporated in their internal rulings actions and penalties to prevent and suppress these conducts. The *Pontificia Universidad Católica del Perú* (PUCP) states in its Code of Disciplinary Punishment:

Article 4. Serious infringements. [...] c) Commit plagiarism or any other act intended to alter or distort the academic evaluation objectivity [...].

Article 5. Applicable penalties. [...] Those committing more serious infringements, considered in Article 4 of these rulings, can be penalized with academic suspension up to twenty-four months or expulsion of the University.

We refer a case which at the time (2009) provoked rejection in the academic world. Applying the Rulings and according to the internal rules, the PUCP penalized two students who committed plagiarism. As expected, the penalized students appealed before the highest instance in the University, the National Assembly of Rectors, which through the *Consejo de Asuntos Contenciosos Universitarios* (Codacun) (Council of University Litigation Matters), annulled the penalty imposed by the University, proceeding only with a simple “warning” with arguments lacking any logical basis and common sense. Such decision was heavily criticized by different sectors of society and the University itself, which published a statement indicating this type of orders generates an unfortunate precedent against ethics and values, and demoralizes the university community. Below is an extract of the statement:

“[...] In March 2009, two students were penalized by the University Council of the PUCP with suspension since they committed plagiarism in the elaboration of research works, by using paragraphs of works without citing the authors; that is, they pretended to present other’s ideas as own [...] an act contravening the main task of the university: think and reflect; not the sole transmission and repetition of knowledge.” The penalized students appealed this penalty at the National Assembly of Rectors. The Council of University Litigation Matters (Codacun), which is the highest national instance in this type of cases, annulled the penalty imposed by the PUCP and proceeded only with a warning. Arguments were that “students behave naturally by imitating and copying too much without indicating the sources” and that “teaching consists fundamentally in the constant repetition of other’s ideas and formulations, omitting many times, trying to economize, the sources.” (<http://blog.pucp.edu.pe/archive/774/2010-4-19>)

In July 2012, the *Universidad Nacional Mayor de San Marcos* approved the Rulings of Disciplinary Process for Students of the *Universidad Nacional Mayor de San Marcos*, which states: “Chapter III. Offenses. Article 6. The following are offenses subject to disciplinary penalty: Partial or total plagiarism of research works.” This constitutes an important step in penalizing dishonest conducts that evidently are increasing in the academic world and might serve as a precedent so other higher education institutions approve this type of regulatory instruments to preserve ethics and academic honesty among university community members.

Finally, the quote of Morató is illustrative, who reproduces the following text from the web page of the University of Navarra:

It would be a mistake to describe plagiarism just as a minor offense, or as an academic formality issue. On the contrary, plagiarism is a serious offense of academic honesty. It is a principle of intellectual honesty that all members of the scientific community recognize their debt with the authors of the ideas, works and information in which their work is based on. To present other's work as own is not only a lack of comradeship, but also means a failure in the learning process. Deliberate plagiarism is an unethical conduct and can entail serious consequences for your future professional career, while it breaks the bases of the institution and studies carried out there (2012: 364).

RESEARCH METHOD

This is a descriptive research, based on bibliographic review, transversal observation and documental analysis of the orders issued by the Intellectual Property Chamber of the Court of Indecopi in Peru, which establish jurisprudence in intellectual property matters. The research quantifies in a frequency table the percentage incidence of each one of the variables and indicators of the research.

- Data was obtained from bibliographic and printed documentary sources: books, theses, reference material, journal articles, newsletters, among others.
- Electronic sources. The main information source was official: orders of the Court of Indecopi in the institution's web page. In turn, internet allowed the access to information, both domestic and international, of public and private agencies and non-governmental organizations, among others. These sources included official publications, essays, journal articles in full text and databases.
- Data collection. An analytical and interpretative study was carried out with the orders issued by the Intellectual Property Chamber of Indecopi, published in the institution's web page, about the infringement of author's moral rights. For this purpose, an ad hoc instrument was elaborated, a two-way table with data matching each of the indicators.
- Temporal scope. The study period was 2008 to 2011, including the records on infringement of author's moral rights, particularly those relating to the right of attribution.
- Analysis units. Each of the orders issued by the Intellectual Property Chamber of the Court of Indecopi.

- Applicable Tax Unit (ATU). This is a reference value for any type of taxes. It is also applied to set out penalties and other accounting obligations. The Ministry of Economy and Finances is in charge of fixing the amount of this unit on an annual basis.
- Data treatment and analysis. After the identification of the records concerning the subject matter, these were summarized based on the table of variables and indicators previously determined, to finally quantify frequencies and generate tables using Microsoft Excel software based on the results of each indicator and using Microsoft Word software for the final report.
- Theoretical-conceptual references. The concepts developed based on the review of the literature supporting the information description, analysis and interpretation were: plagiarism, copyright, and author's moral and economic rights.
- Population and sample. The population included all the records processed before the Copyright Office of Indecopi, from 2008 to 2011, relating to infringement of author's moral rights; the sample consisted in 43 records located in the institution's web page.
- Study variables. The significant issues to meet the proposed objectives were determined in eight variables, each one divided in respective indicators, as the following table depicts:

Table 3. Variables and indicators.

Variables	Indicators
1. Subject of the complaint (infringement of the author's moral rights)	<ul style="list-style-type: none"> • Right of attribution • Integrity • Modification • Disclosure
2. Type of plagiarism	<ul style="list-style-type: none"> • Intelligent plagiarism • Direct plagiarism
3. Type of complaint	<ul style="list-style-type: none"> • Complaint ex officio • Complaint upon request of a third party
4. Type of work subject of the complaint	<ul style="list-style-type: none"> • Literary text • Encyclopedias • Projects • Theses

5. Number of authors accused	<ul style="list-style-type: none"> · Single author · Various authors · Corporate authors
6. Penalty in the first instance (Copyright Office)	<ul style="list-style-type: none"> · Fine of more than 5 ATU · Fine of less than 5 ATU · Complaint before the Public Prosecutor
7. Judgment in second instance (Intellectual Property Chamber)	<ul style="list-style-type: none"> · Fine reduced · Complaint before the Public Prosecutor
8. Justification	<ul style="list-style-type: none"> · Considered a mistake · Does not accept the charges · Does not know how to cite

RESULTS

Previously to data description and analysis, it is important to know the conceptual definitions of the indicators analyzed in the study, which are contained in the doctrine and in Legislative Decree No. 822, legal rule approved in Peru protecting copyright.

- Complaint ex officio. The administrative or legal entity, as called for its powers provided by law, initiates the complaint considering that the rule has been infringed.
- Complaint upon request of a third party. The author or his/her assignees set a demand for infringement of their rights.
- Inadmissible complaint. This occurs when the background requirements are not met when initiating the complaint.
- Right of attribution. This gives the author the right to be recognized as such, to determine that the work has the corresponding indications and to decide if disclosure will be done under his/her name, a pseudonymous or sign, or anonymously (Leg. Dec. No. 822 Article 24.).
- Disclosure. According to the right of disclosure, the author has the faculty to decide if his/her work is to be disclosed and in which way. In the event of keeping the work unpublished, the author may dispose, by will or other written indication, that the work will not be published while

being in the private domain [...] (Leg. Dec. No. 822 Article 23).

- Integrity. According to the right of integrity, the author has the faculty, even before the purchaser of the material object containing the work, to oppose to any deformation, modification, mutilation or alteration of the work (Leg. Dec. No. 822 Article 25).
- Modification. According to the right of modification or variation, the author before or after the disclosure has the faculty to modify his/her work observing the rights acquired by third parties, who must previously be indemnified for any losses or damages caused (Leg. Dec. No. 822 Article 26).
- Intelligent plagiarism. To copy a work, altering or modifying it with words, phrases, or paragraphs, in order to hide the literal copy.
- Direct plagiarism. To partly or wholly copy a work textually, without major modifications, in such a way that it is very easy to distinguish the similarity.
- Original ownership. It results from the sole creation of the work (Leg. Dec. No. 822 Article 44).
- Derived ownership. It arises from circumstances different from the creation, whether by legal mandate or presumption, or by assignment *inter vivos* or *mortis causa* transmission (Leg. Dec. No. 822 Article 45).

Attachment 1 indicates the number of records (43 in total) and orders issued by the Intellectual Property Chamber of Indecopi between 2008 and 2011, which establish jurisprudence in intellectual property matters in Peru and are available in the institution's web page.

Based on the variables and indicators of *Table 3*, the results of the observation and analysis of the orders (43 in total) are described below.

Subject of the complaint (infringement of author's moral rights)

Author's moral rights include the right of attribution, integrity, disclosure, modification, withdrawal of the work from the market and the right of access (Leg. Dec. 822 Article 22). As such, the same offender can be denounced due to the infringement of multiple author's moral rights (for example, infringement of the right of attribution, integration and disclosure).

The review of the records (43) relating to the infringement of moral rights allows to conclude that a high percentage (95%) of administrative processes initiated in Indecopi between 2008 and 2011 were complaints for the infringement of the right of attribution of the work. At the same time, 19% were related to the infringement of integrity and in a lesser number to disclo-

sure, demonstrating that infringement of the right of attribution of the work, which mostly means plagiarism, is one of the most critical issues in author's rights protection.

Table 4. Subject of the complaint (2008-2011).

Subject of the complaint	Years				Total	%
	2008	2009	2010	2011		
Right of attribution	13	6	9	13	41	95
Integrity	-	4	3	1	8	19
Disclosure	2	2	-	1	5	12
Not precise	1	-	-	-	1	2

Type of plagiarism

Plagiarism is the appropriation of the author's right of attribution. Complaints filed for infringement to moral rights (right of attribution) have been specifically classified in the record (direct plagiarism and intelligent plagiarism). According to the results obtained from the documental analysis, almost half of the complaints (39.5%) correspond to direct plagiarism, and slightly more than a fourth (25.5%) to intelligent plagiarism, while a significant percentage of the orders (35%) do not specify the type of infringement only indicating that the infringement to the right of attribution was denounced. This empirical evidence shows that offenders most frequently turn to direct plagiarism (which means to "copy and paste" the other's text) presenting the work as own, appropriating the right of attribution of the real author without any ethical consideration and even less any legal consideration.

Table 5. Type of plagiarism (2008-2011).

Type of plagiarism	Years				Total	%
	2008	2009	2010	2011		
Direct plagiarism	2	2	6	7	17	39.5
Intelligent plagiarism	7	1	1	2	11	25.5
Not specified	5	3	2	5	15	35
Total	14	6	9	14	43	100

Type of complaint

Administrative complaints before Indecopi can be formalized by two ways: complaint ex officio, when the entity protecting the copyright, by minutely evaluating the contents of the work and before granting the certificate of registry, detects the infringement of the law; and complaint upon request of a third party, when the author or his/her assignees denounce the infringement of his/her rights. Regarding this variable, results show that more than half of the processes (67%) were complaints formalized ex officio, while only 33% were initiated by direct action of those affected. This indicates that infringement of author's moral rights is mostly detected during qualification process, after the request for a work registry at the Copyright Office of Indecopi. This result reveals the serious moral problem of requesters, who knowingly have infringed the author's moral rights in the elaboration of their works and try to mislead the authorities applying for the registry.

Table 6. Type of complaint (2008-2011).

Type of complaint	Years				Total	%
	2008	2009	2010	2011		
Complaint ex officio	10	4	6	9	29	67
Complaint upon request of a third party	4	2	3	5	14	33
Total	14	6	9	14	43	100

Type of work subject of complaint

The types of works protected by copyright are diverse; Leg. Dec. No. 822 mentions more than a dozen, one of those is literary works, which, for the purposes of this study, include texts, encyclopedias, projects and theses. The results of the observation and documental analysis indicates most works subject of complaint for infringement to the author's moral rights are literary texts (86%), followed by encyclopedias, projects, theses and others, which jointly only represent 14%. This result reveals that most authors registering their works produce scientific, technical or literary texts (books), and fewer authors produce another type of works.

Table 7. Type of work subject of complaint.

Type of work	Years				Total	%
	2008	2009	2010	2011		
Literary text	13	6	7	11	37	86
Encyclopedias	1	-	-	-	1	2.3
Projects	-	-	1	2	3	7
Theses	-	-	1	-	1	2.3
Other	-	-	-	1	1	2.3
Total	14	6	9	14	43	100

Number of authors denounced

Among all the formalized complaints, half (51%) are works with a single author, while 35% have multiple authors, and only 14% have corporate authors, such as publishers, municipalities or state institutions. This indicates that creation and elaboration of literary texts is, mostly, the effort of a single author, and puts aside co-authors collaboration.

Table 8. Number of authors denounced.

No. of authors denounced	Years				Total	%
	2008	2009	2010	2011		
Single author	6	4	4	8	22	51
Multiple authors	7	2	4	2	15	35
Corporate author	1	-	1	4	6	14
Total	14	6	9	14	43	100

Penalty in the first instance (Copyright Office)

The penalizing administrative procedure is the means that Indecopi uses, through the Copyright Office, to impose a penalty to the denounced party when a complaint upon request of a third party or ex officio is admitted by detecting that the denounced party has infringed the law. Penalties usually are pecuniary (fine). Regarding the analyzed jurisprudences, penalties imposed in this instance to most of the denounced subjects (72%) were a heavy fine equal or greater than 5 ATU (more than 18,000 *nuevos soles*) and only 7% received a fine smaller than 5 ATU. Only one denounced party was penalized with a warning. On the other hand, almost half of the offenders (49%) were penalized, along with the pecuniary fine, with a notification to the Public Prosecutor of the intentional act. This office is in charge of the investigation and, if acts warrant, should denounce and process them in the

Judiciary, considering that plagiarism is classified as a crime in the Criminal Code in force.

Table 9. Penalty in the first instance.

Penalty in the first instance	Years				Total	%
	2008	2009	2010	2011		
Warning	-	1	-	-	1	2.3
Fine of more than 5 ATU	11	3	7	10	31	72
Fine of less than 5 ATU	1	1	1	-	3	7
Unfounded		1-	-	2	3	7
False	1	1	1	2	5	12
Notify the Public Prosecutor	4	3	7	7	21	49

Judgment in the second instance (Court of the Intellectual Property)

Once completed the penalizing administrative procedure in the first instance, in avenue of appeal the penalized individual can take the cause to the Court of the second and last instance (Intellectual Property Chamber of Indecopi), whose order ends the administrative process. Among the reviewed orders, all 43 were appealed, and among the judgment issued in this instance, most penalized individuals (60%) obtained a reduction of fines well below those imposed in the first instance; in the event of several denounced individuals, payment was mutually. On the other hand, the Chamber decision of notifying the Public Prosecutor only reached a small percentage (26%) (11 complaints), less than half of those set out by the former instance.

Table 10. Judgment in the second instance

Judgment of the Court	Años				Total	%
	Years	Total	%	2011		
Confirm the order	1	-	2	-	3	7
Nullity	-	-	1	-	1	2.3
Reduce the fine	11	-	5	10	26	60
Unfounded	1	-	-	1	2	5
False	1	-	1	3	5	12
Notify the Public Prosecutor	2	1	5	3	11	26

Justification of the denounced individuals

Once the complaint is taken and admitted, the penalizing administrative procedure allows the denounced individuals to file their proofs. Among all

the complaints admitted in the first instance (43), almost half (47%) explicitly stated as justification that they took and included other's texts in the works whose registry they were requesting, considering this fact just a mistake, due to ignorance of the requirements and lack of care in the elaboration of the text. While a third (37%) did not accept the charge and denied having committed an infringement to the right of attribution, even though the evidences found by the authority were conclusive. This suggests that authors creating or producing a text minimize copyright infringement not recognizing another person's property.

Table 11. Justification.

Justification	Years				Total	%
	2008	2009	2010	2011		
Consider it a mistake	11	-	3	6	20	47
Do not accept the charge	1	5	5	5	16	37
Ignorance of the right of quotation	-	-	1	3	4	9
No justification	2	1	-	-	3	7
Total	14	6	9	14	43	100

DISCUSSION

Intellectual property is the right that authors, creators or inventors have on their work. According to the World Intellectual Property Organization, the intellectual property branches are two, copyright and industrial property, which are protected by the Peruvian State through Indecopi. Copyright "Is the branch of the law that regulates the authors' subjective rights on creations presented as the result of their intellectual activity, which usually are identified as literary, musical, theatrical, artistic, scientific and audiovisual works" (Cruz, 2007: 2). "The author of a work has by the sole fact of the creation, the original ownership of an exclusive right against third parties, which comprises, in turn, the moral and economic rights set out in this law" (Leg. Dec. No. 822 Article 18). This right is part of the fundamental rights of people, reflected in international agreements and standards that the Peruvian government has signed. Locally, there is a comprehensive legislation that safeguards these rights, which range from Article 2 of the Constitution —"Everyone has the right: [...] 8. To the freedom of intellectual, artistic, technical and scientific creation, as well as the ownership on such creations and its product. The State promotes the access to culture and encourages its development and dissemin-

nation”—to those with a lower status, being laws, legislative decrees, supreme decrees or others.

The objective of this research is to identify and analyze a set of orders (43) from the Court of Intellectual Property of Indecopi in Peru that administratively decides in last instance the complaints on infringement of author's moral rights, which can be: a) right of disclosure, b) right of attribution, c) right of integrity, d) right of modification or variation, e) right to withdraw the work from the market and f) right of access (Leg. Dec. No. 822 Article 22). These orders establish administrative jurisprudence and are generated during the penalizing administrative procedure held by the Indecopi competent bodies, which decide the causes in two instances. In the first instance, the Copyright Office “Is responsible of protecting copyright and related rights. It decides in the first instance the contentious and non-contentious cases under its jurisdiction, by complaint upon request of a third party or *ex officio*. It administrates the National Registry of Copyright and Related Rights [...]” (<http://www.indecopi.gob.pe>). In the second and last instance, “The Intellectual Property Chamber is the functional body ruling in appeal proceedings before the Indecopi Offices of Distinctive Signs, Inventions and New Technologies, and Copyright” (<http://www.indecopi.gob.pe>). With its order the administrative procedure is exhausted.

It should be noted that although the legal asset protected by copyright is the authors' and inventors' intellectual property, the infringement of the right of attribution of the work through plagiarism is more and more extended, particularly in the academic world. One reason is the influence of new information and communication technologies that make available an enormous amount of data and information, another is by using software that facilitate “copy and paste.” In this regard, researchers Saldaña, Quezada, Peña and Mayta reached an instructive conclusion while reviewing and analyzing “[...] the total number of theses submitted for the degree of Medical Doctor in 2008 in a public university in Peru” (2010: 64). They found a high frequency of plagiarism, being the most frequent word-for-word plagiarism (also known as direct plagiarism). However, it is evident the scarce number of administrative complaints filed before the entity responsible for protecting intellectual property (Indecopi), which function limits, in most cases, to formalize complaints *ex officio* resulting from the review of a work in the registry stage. As such, the administrative proceedings files before the state entity do not reflect the complexity of the problem, instead it reveals the ineffectiveness of higher education institutions, which do less or nothing to establish rules for these matters. Also, few higher education institutions have regulated and penalized this type of dishonest conducts. At Judiciary level,

despite plagiarism is an offense penalized with imprisonment, the persecution and penalty for this kind of crimes are almost null.

For the purposes of this research, the analysis of the contents of 43 orders issued between 2008 and 2011 by the Intellectual Property Chamber of Indecopi, related to the infringement of author's moral rights, identified eight variables and their respective indicators. From data collected during the documental analysis period and subsequent tabulation, it can be noted that almost all penalized cases correspond to the infringement of the right of attribution of the work, which "Is the right that authors have for the work to be recognized as theirs and to link or not their name to the work. Authors can disclose their work to the public with their own name, with a fictitious name (pseudonym) or anonymously" (Martínez and Robayo, 2006: 11). Such infringement manifests in the robbery or theft of others' works contents, known as plagiarism. Lipszyc (1993) classified it as direct plagiarism and intelligent plagiarism, the most used classification in the basis of Indecopi orders. So, most complaints filed before Indecopi have been for direct plagiarism, revealing the little respect to copyright, which is an intangible right with more ethical and moral components than criminal.

Regarding the types of complaints in the administrative procedure, these can be formalized in two ways: complaint *ex officio* and by request of a party. The first case occurs when the competent authority (Indecopi Copyright Office) knows of the act in the stage of work registry qualification, and by finding enough elements or evidence of infringement to the law files the respective complaint. The second is by the request of a party, the act is formalized when the affected party or his/her assignees denounce the alleged perpetrators of infringement of the author's moral or economic rights. Data show that a high percentage of the complaints originate *ex officio* as part of the functions performed by the Copyright Office.

Since protected works are of several types, the study has only focused on literary works, understood as: "Any intellectual creation, literary, scientific, technical or merely practical, expressed by means of a determined language" (Leg. Dec. No. 822 Article 2.23). Such category includes literary texts, encyclopedias, projects and theses, among which the majority of the works subject of complaint due to infringement of author's moral rights are literary texts.

Regarding the type of penalties imposed in last instance by the Court of Indecopi, these have been very mild in comparison with that set out in the Legislative Decree No. 822, Article 188: "The Copyright Office may impose jointly or independently, the following penalties: b) Fine up to 150 Applicable Tax Units" (ATU equals 3,750.00 *nuevos soles*. This fine is a very high pe-

cuniary penalty; however, orders issued by the Court show that for the vast majority of penalized individuals, fines are reduced to figures much smaller than those imposed in the first instance. Therefore, little can be done to stop the serious moral and legal issue of plagiarism and infringement of author's moral rights. It has to be mentioned that decisions adopted by the Chamber are controversial, since the Court acts with indulgence before the infringement of author's moral rights. Likewise, the law authorizes: "To file, if it considers pertinent, penal complaint, when it has knowledge of an act constituting the alleged Crime" (Leg. Dec. No. 822 Article 169.c). And the most unbelievable is the small number of penalties implying the notification of the act to the Public Prosecutor, since these are considered only an administrative infringement. Not believing these are a crime, results in the impunity of the criminal action.

Regarding the justification presented by the denounced individuals at the stage of discharge, the majority considers they have made a mistake and not committed an infringement, much less a crime. This type of justifications are not more than the reflection of what happens in the collective imagery concerning the protection of intellectual property. Respect to other's creation is minimized with the usual phrases: "Nihil novum sub solem — 'There is nothing new under the Sun', Ecclesiastes (I, 10) — [...] Nullum est jam dictum, quod (non) dictum sit prius (there is nothing now said, or spoken, which has not been said and spoken before, Eunuchus Prologue) [...]" (cited by Perromat, 2010: 13).

(In [https://books.google.com.mx/books?id=Mt9FAQAAMAAJ&pg=PA116&lpg=PA116&dq=%22Nullum+est+jam+dictum,+quod+%28non+%29+dictum+sit+prius%22&source=bl&ots=55Q39wg3gq&sig=3CDIzFmatBCXkPf_yRU5PjiHRN0&hl=es&sa=X&ei=s4V0VfOYMsPIsAWvy4PQDg&ved=0CDUQ6AEwBQ#v=onepage&q=%22Nullum%20est%20jam%20dictum%2C%20quod%20\(non\)%20dictum%20sit%20prius%22&f=false](https://books.google.com.mx/books?id=Mt9FAQAAMAAJ&pg=PA116&lpg=PA116&dq=%22Nullum+est+jam+dictum,+quod+%28non+%29+dictum+sit+prius%22&source=bl&ots=55Q39wg3gq&sig=3CDIzFmatBCXkPf_yRU5PjiHRN0&hl=es&sa=X&ei=s4V0VfOYMsPIsAWvy4PQDg&ved=0CDUQ6AEwBQ#v=onepage&q=%22Nullum%20est%20jam%20dictum%2C%20quod%20(non)%20dictum%20sit%20prius%22&f=false) (Consulted: June 7, 2015))

This situation demands from the institutions in charge of protecting intellectual property more severe penalties and a permanent dissemination of regulations, seeking that society interiorizes the importance of authors' and creators' intellectual work, an essential condition for the country development.

[...] it must be taken into consideration that copyright allows creators (writers, scientists, painters, sculptors, poets, software developers, directors, etc.) to have incentives to continue creating and such creative process is indispensable for the country development [...]. In fact, in countries having an effective protection system of copyright and, additionally, that established a culture of respect of such

rights in society, copyright stops being an obstacle, becoming a necessary mechanism for the access to culture and contributing in the creation of a social identity (with education) for progress (Kresalja, Marticorena, Roca and Unger, 2007: 69).

CONCLUSIONS

Based on the study objectives on the role of Indecopi regarding the complaints of intellectual property infringement and penalties imposed by this entity, the following conclusions have been drawn.

- From all the records (43) subject of penalizing administrative procedure due to the infringement of author's moral rights, most cases (95%) are complaints due to the infringement of the author's right of attribution as direct plagiarism (39.5%). This means, the word-to-word copy without any modification, appropriating in this way the right of attribution of the work, which denotes the plagiarist's cunning and intentionality who takes the complete contents of a literary work, essentially without citing the source or crediting the author.
- Among the analyzed records, most (67%) were filed by complaints ex officio, after the author requested the registry of the work. The application of a work registry does not mean requesting the acknowledgement of copyright. Since it is included in the Human Rights, this is automatic without requiring any formality. Authors just demonstrate the work is product of their creation and the registry only serves as publicity and proof of priority.
- Regarding the type of works protected, a high percentage (86%) corresponds to literary texts, produced mostly (51%) by a single author, which indicates that the production of a text mainly relates to the action of a single person, who writes with a certain purpose, either for academic research, education or entertainment purposes. However, he/she steals or robs the contents of other's work, word-to-word or with some intentional alterations, so these go unnoticed. Then, he/she requests the registry, knowing full well that total or partial contents are not a result from his/her creation. Thus, by not recognizing or minimizing the control, qualification and review performed by the Copyright Office, he/she acts with absolute lack of moral, which is just the reflection of the deep crisis of values in our society.
- As regards to the penalties Indecopi imposes when confirming copyright infringement, the law authorizes among others: a) warning; b)

fine up to 180 Applicable Tax Units. The review of the orders indicates that in the first instance, almost three quarters of the denounced persons (72%) were penalized with fines greater or equal to 5 ATU (more than 18,000 *nuevos soles*). However, in the appeal process in the second instance, the Intellectual Property Chamber reduced the fine to more than half of the offenders (60%) to much less than 5 ATU. A fine that in practice is usually not paid due to the insufficient mechanisms compelling its compliance.

- Cases resolved in first instance that dispose, in addition to the pecuniary penalty, to notify the Public Prosecutor (to evaluate the penal complaint since it is considered a crime) represent in percentage terms almost half (49%) of the defendants. However, after the appeal, orders show that the Chamber rescinded the penalties or reduced these to insignificant amounts to 26% of all denounced individuals, which indicates permissiveness and tolerance for copyright infringement.
- Regarding the justification presented by offenders in the stage of discharge, almost half (47%) accepted they committed an infringement of the law; however, they qualified such conduct as a simple mistake, careless mistake or ignorance of the previous requirements for work registry application. Whereas others expressly considered themselves victims arguing that Indecopi also has certain responsibility by not performing a review before beginning the proceedings. A third (37%) of offenders stated explicitly they did not accept having infringed copyright and some individuals justified their conduct claiming ignorance of the right of quotation.
- Finally, it must be mentioned that the role of the Institute of Jurisdiction and Intellectual Property lacks effectiveness, given the results of the review and analysis of the orders issued by the Court, both in the first and second instance.

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Attachment 1

Records on infringement of author's moral rights (2008-2011)

2008	2009	2010	2011
NO. 1266-2008/TPI-INDECOPI EX. NO. 81-2007/ODA	NO.1134-2009/TPI-RECORD NO. 099-2008/ODA	NO. 0569-2010/TPI-EX. NO. 093-2009/DDA	NO. 0115-2011 /TPI-Exp. NO. 2108-2009/DDA
NO. 2720-2008/TPI-INDECOPI EX. NO. 271-2008/ODA	NO. 1382-2009/TPI-RECORD NO. 390-2007/ODA	NO. 0570-2010/TPI-EX. NO. 075-2009/DDA	NO. 1782-2011/TPI-Exp. NO. 390-2007/DDA
NO. 0183-2008/TPI-INDECOPI EX. N° 80-2007/ODA	NO. 2131-2009/TPI-RECORD NO.741-2008/ODA	NO. 0601-2010/TPI-EX. NO. 1810-2008/DDA	NO. 1694-2011 /TPI-Exp. NO. 1418-2009/DDA
NO. 0207-2008/TPI-INDECOPIEX. NO. 555-2007/ODA	NO. 2345-2009/TPI-RECORD NO. 565-2008/ODA	NO. 1417-2010/TPI-EX. NO. 450-2009/DDA	NO.1506-2011 /TPI-Exp. NO.125-2010/DDA
NO. 1121-2008/TPI-INDECOPI EX. NO. 1538-2006/ODA	NO. 3002-2009/TPI-RECORD NO. 079-2009/DDA	NO. 2824-2010/TPI-EX. NO. 110-2010/DDA	NO.1285-2011 /TPI-Exp. NO.1616-2010 /DDA
NO. 1341-2008/TPI-INDECOPI EX. NO. 709-2007/ODA	NO. 3459-2009/TPI-RECORD NO. 1125-2008/ODA	NO. 2853-2010/TPI-EX. NO. 1310-2009/DDA	NO.1287-2011 /TPI-Exp. NO.1048-2010/DDA
NO. 1517-2008/TPI-INDECOPI EX. NO. 345-2007/ODA	-----	NO. 2855-2010/TPI-EX. NO. 106-2010/DDA	NO.0795-2011 /TPI-Exp. NO.2010-2009/DDA
NO. 1597-2008/TPI-INDECOPI EX. NO. 707-2007/ODA	-----	NO. 2941-2010/TPI-EX. NO. 1481-2008/DDA	NO.0853-2011/TPI-Exp. NO. 799-2010/DDA
NO. 0723-2008/TPI-INDECOPI EX. NO. 1241-2005/ODA Accumulated al 1590-2005/ODA	-----	NO. 2945-2010/TPI-EX. NO. 801-2010/DDA	NO. 572-2011/TPI-Exp. NO. 798-2010/DDA
NO. 1340-2008/TPI-INDECOPI EX. NO. 706-2007/ODA	-----	-----	NO.0370-2011 /TPI-Exp. NO.111-2011/DDA
NO. 1516-2008/TPI-INDECOPI EX. NO. 719-2007/ODA	-----	-----	NO.0365/TPI-Exp. NO.1937-2009/DDA
NO. 2006-2008/TPI-INDECOPI EX. NO. 1159-2007/ODA	-----	-----	NO.0274/TPI-Exp. NO.632-2010/DDA
NO. 2280-2008/TPI-INDECOPI EX. NO. 321-2007/ODA	-----	-----	NO. 0209-2011 /TPI-Exp. NO. 796-2010/DDA

NO. 2307-2008/TPI-IN-DECOP EX. NO. 960-2007/ODA	-----	-----	NO.0220-2011 /TPI-Exp. NO.107-2010/DDA
14	06	09	14
Total: 43 records			

Source: www.indecopi.gob.pe
Own elaboration



Researching Latin America, part two: A survey of how the new generation is doing its research

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ABSTRACT

Students too often rely on Google for research, while demonstrating an alarming lack of awareness of other library resources. This is especially disconcerting to observe in graduate students who are expected to be experienced searchers and familiar with the resources in their fields. Following up on previous research done on US-based students, this paper seeks to assess the information-seeking behavior of Latin American graduate students. Student members of the Latin American Studies Association with mailing addresses in Latin America were contacted via mail and invited to respond to an online survey of their research

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strategies, including experience with bibliographic instruction and comfort level finding information on Latin America. Descriptive statistics were used to interpret the sample and Chi-squared tests to compare these results against those obtained in the previous survey. Respondents were found to feel comfortable and confident finding information using the preferred convenience of electronic media. They were also found to be unfamiliar with the research tools mentioned in the survey, and the majority had not received bibliographic instruction. There is clearly a need for faculty and librarians to work together to ensure these students are aware of the many available resources and to develop the information search skills they need to become effective researchers, scholars, or working professionals.

Keywords: Graduate Students; Information Seeking Behavior; Latin American Studies.

RESUMEN

La investigación sobre América Latina, segunda parte: un estudio acerca de cómo investiga la nueva generación

Orchid Mazurkiewicz y Tim Sturm

Los estudiantes dependen cada vez más de Google para realizar sus investigaciones y simultáneamente demuestran una alarmante falta de conocimientos acerca de los recursos de la biblioteca. Esto es especialmente desconcertante con los estudiantes de posgrado, de quienes se esperaba que estuvieran familiarizados con los recursos de investigación en su campo. En este artículo se trata de evaluar el comportamiento de búsqueda de información de los estudiantes latinoamericanos de posgrado en la región, continuando las investigaciones anteriores realizadas con estudiantes latinoamericanos estadounidenses. Los miembros estudiantiles de la Asociación de Estudios Latinoamericanos con direcciones en América Latina fueron contactados por correo y dirigidos a una encuesta en línea con preguntas sobre sus estrategias de investigación, sus experiencias con la instrucción bibliográfica y su nivel de comodidad hacia la búsqueda de información sobre América Latina. Se emplearon estadísticas

descriptivas para describir la muestra y las pruebas del Chi-cuadrado fueron utilizadas para comparar estos resultados con los de la encuesta anterior. Los encuestados se sienten cómodos y seguros hacia la búsqueda de información, preferían la conveniencia de los medios electrónicos, no estaban familiarizados con los útiles mencionados en la encuesta y la mayoría no había recibido instrucción bibliográfica. Se necesita que los profesores y los bibliotecarios trabajen juntos para asegurar que estos estudiantes estén conscientes de los muchos recursos disponibles y desarrollen las habilidades de búsqueda de información que son necesarias como investigadores, académicos o profesionales.

Palabras clave: Estudiantes de Posgrado; Comportamiento sobre la Búsqueda de Información; Estudios Latinoamericanos.

1. INTRODUCTION

This article reports on the second part of a two-part survey project investigating the information-seeking behavior and attitudes of Latin Americanist graduate students. The first part surveyed student members of the Latin American Studies Association (LASA) with mailing addresses in the United States and Puerto Rico (Mazurkiewicz & Potts 2007). This second part surveys student members with mailing addresses in Latin America.

The authors of the first survey, both of whom had worked as Latin American studies librarians at Arizona State University, often found themselves frustrated with students' lack of awareness of the library's resources. Too often it seemed that if students could not find what they were looking for with a quick Google search they would assume that the information could not be found. This was particularly frustrating with graduate students since the nature of their studies requires a broad awareness of the literature of their field as well as in-depth research into their particular topic. While there is often an abundance of information resources available, both print and electronic, too much of it seems unknown or underutilized by students and researchers. The project was designed to help test the veracity of our assumptions and to develop a clearer picture of these students' information-seeking behavior,

their awareness of research tools specific to Latin America, and their comfort level with research.

The hope is that the results of these surveys will be used by faculty, librarians, and the new generation of Latin Americanist researchers as starting points in assessing the ever-changing needs and research patterns of this sophisticated group of cross-cultural and cross-disciplinary scholars.

LITERATURE REVIEW

Departing from where the original literature review concluded we find that students' information-seeking behavior continues as a popular area of research. While there have been no other studies that specifically target students in the field of Latin American studies, research into the information-seeking behavior of graduate students continues apace. While much of this research originates in the United States, there is a growing body of literature that addresses the information-seeking behavior and information needs of graduate students around the world.

Catalano's recent (2013) meta-analysis of forty-eight English-language studies of the information-seeking behavior of graduate students is a useful guide to trends in the literature. One recurrent finding in her analysis is that graduate students do not use advanced search techniques; although they become more adept at finding what they need, there is little evidence that they use the search strategies that librarians often promote. She cited both Perrett (in Australia) who found that 59 % of students assessed needed search training and Hoffman (in Canada) who concluded that the most common difficulties for students were choosing keywords, refining searches, and dealing with information overload (266). In Hong Kong, Chu and Law studied postgraduates' research expertise and found that even at the PhD level students were not able to use advanced techniques effectively, although they did show improvement over time with some instruction (2007: 314). Earp's survey of graduate-level education students at Kent State University found that those surveyed "were not as advanced in their searching abilities as the faculty would have liked" (2008: 83). Korobili, Malliari, and Zapounidou's survey of graduate students at the Aristotle University of Thessaloniki found that students displayed low to medium level information-seeking skills and that Boolean operators, truncation, and proximity operators were seldom used (2011: 161-62). Malliari, Korobili, and Zapounidou, in a similar study at the University of Macedonia, found that most of the graduate students surveyed "used the simplest techniques" when seeking relevant information (2011: 85).

Catalano cited multiple studies that found that graduate students overrate their ability to find information (2013: 266). Perrett found that 56 of the 107 graduate students surveyed overestimated their skill level (2004: 163). Malliari, Korobili, and Zapounidou found that more than half of the respondents considered themselves experts at searching the web and competent and proficient in searching databases and ejournals. (2011: 85) Korobili, Malliari, and Zapounidou found that students were more confident in their skills with search engines than databases or ejournals (2011: 157-158).

Assessing the benefits of bibliographic instruction, Rempel's longitudinal study concluded that Oregon State University graduate students who attended a library literature review workshop demonstrated an increased sophistication in their searching (2010: 538). Malliari, Korobili, and Zapounidou also found a relationship between advanced search techniques and attending a library instruction workshop, although use of these techniques remained low (2011: 83-85). Damasio's study of graduate-level pharmacy students at the Universidade Estadual de Maringá found that they benefited from librarian intermediation in their effective use of online resources (2010: 379). As mentioned above, PhD students demonstrated a better understanding of search techniques after training in Chu and Law's study (2007: 314). Formal information literacy training also significantly improved undergraduate and graduate finance students' information-seeking behavior at Rutgers University (Long & Shrikhande, 2005).

Librarians recognize that many students begin their research on the Internet. While there might be some expectation that this would be less prevalent with graduate students with their more complex information needs the research suggests otherwise. Catalano concluded in her meta-analysis that "both masters and doctoral students are inclined to begin their research on the Internet" even though the unreliability of many sources on the Internet is recognized (2013: 260). Vezzosi's survey of doctoral students in biology at the University of Parma found that nearly all reported starting their research on the Internet, although they seemed aware of its shortcomings (2009: 69). Earp reported in her survey of graduate-level education students that the majority reported beginning their research on the Internet (2008: 82). Malliari, Korobili, and Zapounidou also found that the most common method used to find information was searching the web (2011: 82). Garcia and Silva, in their study from the Universidade Estadual Paulista, noted the appeal of the simple interfaces of Internet search tools in comparison to the various barriers to maximizing the use of a library's resources such as database selection, advanced search techniques, and controlled vocabularies (2005).

Recent literature also describes the predominance of ejournals and the importance of electronic availability in a student's choice of information. A

comprehensive study of Generation Y doctoral students in the UK found that ejournals dominated the types of sources normally used to find information (*Researchers of tomorrow*, 2012: 19). Furthermore, if students could not find the fulltext, almost half said they would make do with the abstract (*Researchers of tomorrow*, 2012: 19). Catalano also noted rising ejournal use as a trend (2013: 261). Earp found that “electronic availability” was the most important factor in students choosing a journal and noted that many students would not use an article if unavailable in fulltext (2008: 81, 84). Kayongo and Helm’s survey of library use among graduate students at the University of Notre Dame found that 62.8 % of respondents preferred the electronic version of a book or article (2010: 343). Vezzosi reported that all students had a preference for electronic resources over print (2009: 70). Ge found that students used free ejournals on the web because they did not fully understand what was available through library subscription databases (2010: 441-442).

Faculty expectations and the importance of their role in the training of graduate students is also a recurring topic in the literature. Fleming-May and Yuro study from the University of Alabama noted that faculty expect students to arrive in their graduate programs as competent researchers and accordingly do not provide research instruction from faculty (2009: 210). They also suggested that a faculty member’s endorsement of a librarian’s ability may be one of the most important factors in shaping how a student views the library (2009: 215). Catalano described research showing that faculty themselves are not always expert searchers and are sometimes unaware of the training available at their institutions (2013: 264). She concludes that it is faculty who should receive bibliographic instruction, particularly graduate student advisors (2013: 268). Monroe-Gulick and Petr concluded that the “important role of teaching faculty in delivering information literacy guidance emerged as a dominant finding” in their research on incoming social science graduate students at the University of Kansas (2012: 327).

Catalano found that students prefer to ask faculty for research guidance and rarely ask librarians (2013: 263). Fleming-May and Yuro reported that students sought “negligible assistance from librarians,” although they also noted students’ reluctance to ask for help at all, even from faculty (2009: 211). Earp found that 84.9 % of her respondents rarely or never sought help from a librarian (2008: 83). Similarly, 86 % of the graduate students in Santos’s study reported not making use of the bibliographic instruction programs offered at their Brazilian universities (2008: 76). The UK study *Researchers of Tomorrow* found that over 50 % of respondents indicated that they had never sought advice from subject-specialist librarians and only about 5 % used their services regularly (2012: 58). Similarly, only 50 % of

respondents in Garcia and Silva's (2005) study turned to a librarian for research assistance. Korobili, Malliari, and Zapounidou (2011), Malliari, Korobili, and Zapounidou (2011), and Kayongo and Helm (2010) all reported on the under-use of librarians as an information-seeking resource. Monroe-Gulick and Petr noted that "students seemed not to consider librarian assistance during the research process" (2012: 328). Rempel found that students mostly rely on self-taught research skills and thought that the complexity of their research was too advanced for librarians to understand (2010: 541). Du and Evans found that 40 % of participants doubted the effectiveness of assistance from librarians (2011: 111). Although Vezzosi found that students valued library services, research assistance from reference librarians was not mentioned as being one of these services (2009: 72-73).

Considering the high use of the Internet and electronic sources for research, it is not surprising that similar trends are found in studies from various regions around the globe. Nevertheless, only minimal research has been done to assess the generalizability of results on information-seeking behavior between countries. Romanos de Tiratel (2000) considered the question of whether UK- and US-based research on libraries and librarianship could be applied to countries without the same level of access to library systems and services. Comparing the results of her study of Argentine scholars to the literature from abroad, she concluded that researchers share common traits in their information needs and the same manner of accessing resources "despite the quality and quantity of resources and dissimilar working environments" (353). Cortés (2006) noted that while there are many studies on US students and their information needs and library use, there are far fewer on Mexican students and even less that make comparisons between the two groups (11). In their study of the applicability of the ACRL information literacy competency standards for Mexican universities, they found that Mexican and US students shared as many similarities as differences, but that Mexican students had a longer road to travel to meet these standards. In addition to more limited access to library resources and information technology and deficiencies in teacher training that helped to explain these differences, the authors also noted ethnopsychological differences in students' research behavior. Nevertheless, Cortés described a Mexican student population that includes many who have studied in the US and brought back research practices and expectations from their experiences north of the border (21-23). Francis also mentioned training abroad as a possible explanation for the similarities she found in the information-seeking behavior of social science faculty at the University of the West Indies to those described in studies of scholars from more developed countries (2005: 71). Al-Suqri (2011) studied

the scholars at the Sultan Qaboos University in Oman to determine whether a model of information-seeking behavior based on studies in Western countries could be applied to other regions of the world. He found that, in general, this could be done, but that the model might not be sufficient without the incorporation of additional contextual factors such as the limited availability of resources, poor Internet connectivity, and language constraints.

METHOD

Based on the original project's literature review and personal experience, the initial assumptions concerning the research and information-seeking behavior of Latin Americanist graduate students were: 1) students would not have a high level of awareness of the core tools in the field, 2) students who had received bibliographic instruction would be more likely to be familiar with the field's core tools, 3) medium or format would be an important determinant in the choice of research tools, and 4) the Internet would be a prominent tool for research. A three-part survey (owing much to Marcum and George's 2003 study) was designed to test these assumptions, as well as to gather some additional data on information-seeking behavior, and on students' perceptions of their ability to successfully carry out Latin America-related research. The first section ("How you do your research") included general questions related to the use of print versus electronic and library versus Internet resources when conducting Latin America-related research. A combination of Likert scale and multiple-choice questions allowed us to approximate and compare students' comfort levels with locating and using different kinds of research materials and search strategies.

The second section ("The tools you use for Latin America-related research") included questions on preferred tools for research and questions related to awareness and use of four Latin America-specific research tools. The tools were chosen based on the original authors' professional experience and training as US-based librarians, and on a review of a variety of librarians' online research guides. The four tools were:

- 1) The Handbook of Latin American Studies (HLAS) (<http://lcweb2.loc.gov/hlas/>) is a selective, annotated bibliography produced by the Hispanic Division of the US Library of Congress. Published since 1936, it covers both the social sciences and humanities and is available in both a print volume and in a free online database. One of the oldest and most esteemed resources of its kind, HLAS is the "...

principal ongoing bibliography of publications on Latin America.” (Covington, 1992: 3, 72; see also McNeil & Valk, 1990) It does not provide the fulltext of cited sources.

- 2) The Hispanic American Periodicals Index (HAPI) (<http://hapi.ucla.edu>), previously available in print and now exclusively online, includes citations to more than six hundred periodicals from the field of Latin American studies dating back to 1970. It is the only one of the four tools that requires a paid subscription. Historically, it has had a limited subscriber base in Latin America but this has grown in recent years as HAPI developed a tiered pricing structure for Latin American institutions and eventually became free to institutions in the region as of 2009. It is considered a “principal index to journals on Latin American themes” (Covington, 1992: 53, 71; see also McNeil & Valk, 1990: 216). While it does not include fulltext, it does include links to fulltext when available online—including links to widely-used subscription services such as JSTOR as well as to the freely available content on individual journal websites and Latin American aggregators such as Redalyc and SciELO. Over 75 % of the journals published in Latin America that are currently indexed in HAPI are freely available online.
- 3) The Latin American Periodicals Table of Contents (LAPTOC) (<http://laptoc.library.vanderbilt.edu>) was a product of the Latin Americanist Research Resources Project (LARRP), which itself is a project of the US-based Center for Research Libraries. LAPTOC was a searchable database of the tables of contents of more than eight hundred scholarly periodicals published in Latin America. Founded in 1997, it was created to fill the gaps in access to the region’s vast periodical literature left by HLAS and HAPI and was freely available online. Funding and content was provided by the LARRP member institutions. Unfortunately, it is now defunct and no new content is being added but it is still searchable via a database hosted by Vanderbilt University. While LAPTOC was a relatively young resource compared to the others, the authors were curious about its use as it was freely available and many US academic libraries had invested in its production.
- 4) The Latin American Network Information Center (LANIC) (<http://lanic.utexas.edu>) is one of the largest organized gateways to Latin American content on the Internet. It is affiliated with the University of Texas at Austin and includes editorially reviewed directories to relevant Internet sources, as well as hosting a variety of fulltext projects, such as a database of presidential messages. It is generally

recognized among US-based Latin Americanist librarians as an important starting point for organized access to Latin America-related websites, although funding cuts in the last few years have limited its maintenance.

The final section of the survey (“Information about you”) asked respondents about the degree they were working on, year of study, majors, languages used in research, the country in which they were studying, and whether they had received bibliographic instruction from librarians and/or class instructors.

The Latin American Studies Association student members were seen as an ideal target population as they identify themselves, at least to the extent of becoming LASA members, as Latin Americanists. They are also unlikely to “have built up the same information reserves as more established academics: rich personal collections of publications and a network of personal contact with expert colleagues, which can short cut the need for extensive information seeking” (Barry, 1997: 229). These students are also likely to be the next generation of instructors in the field of Latin American studies, passing along their own knowledge of research tools and strategies to the following generation of students.

LASA sells lists of their members’ mailing addresses but not of their email addresses. Cost and logistical constraints limited the first stage of the survey to LASA student members with postal addresses in the United States and Puerto Rico. In part one of the project, the survey was mailed to 667 Latin American Studies Association student members with mailing addresses in the United States and Puerto Rico and 211 surveys (31.6 %) were returned. Nevertheless, the researchers believed that the results would be incomplete without data from students based in the region itself. Disparities in access to resources between the US and Latin America impact the research process and the nature of scholarly communication. Scholars in Latin America (and the global South in general) often work in libraries with limited funds for the acquisition of print and digital materials, the preservation of archival and special collections, and the library personnel essential for accessing these resources. For example, in an issue of the Latin American Studies Association’s newsletter, Tinker-Salas (2009) described a panel on research practices at a LASA meeting in Rio de Janeiro. The panel quickly shifted from the expected focus on good research practices to a discussion dominated by the Latin American participants’ frustrations with lack of access to journals. “The economic requirements of the [Northern] publishing world create barriers that limit the full democratization of knowledge and aggravate

structural differences between the North and the South. Invariably, many resource-strapped universities in Latin America are unable to purchase these services; thus colleagues in the region confront a structural disadvantage in gaining access to these materials” (Tinker- Salas, 2009: 6). Ground-breaking Open Access initiatives in Latin America have been one response to these structural differences (see Poynder, 2013; <http://www.scielo.org>; <http://www.redalyc.org>; <http://www.clacso.org.ar>). The second stage of this project was seen as an essential step in creating a more inclusive understanding of the LASA student scholars’ information seeking behavior.

By the time funding was secured for the second stage, we were able to take advantage of inexpensive online survey tools. Spanish and Portuguese versions of the original request to participate in the survey were mailed to the 201 LASA student members with addresses in Latin America (Portuguese for Brazilian addresses and Spanish for the remainder). The letter directed recipients to an online version—either Spanish or Portuguese—of the survey. In early 2010, fifty-six online surveys (27.8 %) were submitted.

SURVEY RESULTS

The respondents

Two of the respondents had completed their doctorate, forty-three were working toward a doctorate, four were in master’s programs, and one was an undergraduate (not all 56 respondents answered this question). This closely mirrors the proportions among the US-based respondents in the first survey (hereafter referred to as Group One).

The LA-based survey respondents were asked which countries they study in (hereafter referred to as Group Two). The largest numbers of respondents studied in Brazil (eighteen) and Argentina (twelve), followed by the United States (seven) and Mexico (six). Three respondents reported studying in France and one respondent studied in each of Canada, Cuba, Ecuador, Guatemala, Peru, and Spain. Of those listed above, one respondent reported studying in both Argentina and France, and another in both Peru and France.

Similar to Group One, anthropology, history, political science, sociology, and literature were the top areas of study. Art/art history, economics, education, geography, languages/linguistics, music, and the sciences were each selected by two to three respondents. Just under 30% of respondents selected multiple disciplines. This, along with the write-in subjects of social memory,

urbanism, and agro-ecology, might suggest the increasingly interdisciplinary nature of scholarship on the region, a trend also suggested by Group One.

Languages of research

The survey asked Group Two respondents to write in, from most-used to least-used, the top three languages they use to conduct their Latin America-related research. As expected, considering the population surveyed, 73 % of respondents listed Spanish or Portuguese as their top language, and 42 % listed one of these as their second language of research. English was listed as the top language for 16 % of respondents. Three of these nine respondents reported studying in the United States. English, Portuguese, or Spanish were listed by 48 % of the respondents as their third language of research. French was the only other language listed, with two respondents citing it as their second language of research and nine as their third. Interestingly, when all three choices are considered, English was the most commonly listed language. Only three of the forty-nine respondents who answered the question did not include English as one of their languages of research. Nine of the respondents did not list Spanish among their top three languages and twenty-seven did not list Portuguese. Perhaps this reflects the dominance of English in the “geopolitics of academic writing,” as Canagarajah (2002) calls it, and the need for English proficiency as “a career-defining issue for many scientists and researchers around the world” (Cronin, 2009: 433).

Research and information-seeking behaviour

As we had assumed, the majority of Group Two respondents reported that the medium of information was an important factor in deciding to use that information. Over 60 % of respondents reported that the medium was either extremely important or very important in their decision. This is a change from the results of Group One where 60 % reported that the medium of the information was either somewhat or not at all important. This shift might reflect the passing of a few years between surveys—as the availability of full text grows so too does the preference for it. As described in the literature review, current research overwhelmingly reports that students prefer electronic media to print.

Nevertheless, the growing availability of electronic resources has not yet eliminated the use of print resources. Exactly as in Group One, 73 % of Group Two respondents reported that they use print resources when doing their Latin America-related research either all of the time or most of the time. Up from 62 % of the Group One respondents, 79 % reported that the same

was true regarding electronic resources. Despite a preference for digital materials, online sources do not yet meet all these students' research needs.

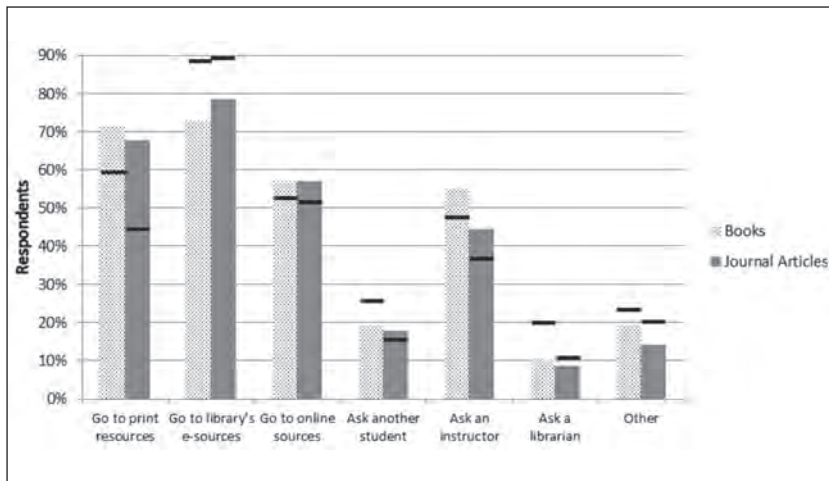


Figure 1. How students find books and journal articles with lines showing responses from Group One.

Generally, both groups of students report similar strategies for finding books and journal articles for their Latin America-related research (see *Figure 1*; see also Group One responses in the Appendix, *Figure 5*). Nevertheless, there is a highly significant statistical difference in the use of print and library e-resources to find books and journal articles between the two groups ($\chi^2 = 6.1$, $df = 1$, $.02 > p > .01$). This difference seems understandable when considering that many Latin American academic institutions do not have the same abundance of electronic resources commonly found in US institutions—where the greater challenges are information overload and choosing among the many databases available via institutional subscription (Monroe-Gulick & Petr, 2012: 329). For example, the University of California, Los Angeles libraries provide access to over one thousand databases. Mexico's largest public university, the Universidad Nacional Autónoma de México, has just over two hundred according to their online catalog of databases. In 2006 Cortés reported that US university library expenditures on electronic resources had already equaled that spent on print materials—a trend that has continued—and that Mexican academic libraries had only begun their efforts to build the digital library (61; *The 2012 State of America's Libraries*: 29). Nevertheless, the library's electronic resources are still the most popular source for finding books and journal articles. Consistent with the literature, these graduate students look to their instructors and, less so, their peers for assistance in their

research. Also consistent with the literature is the dishearteningly low use of librarian expertise as part of a search strategy.

Respondents were asked their level of agreement with the statement, "Browsing the stacks or journal shelves in a library is an important way for me to get information when doing Latin America-related research." This traditional method of finding resources remains popular—66.6 % of Group Two students agreed or strongly agreed with this statement. As well, 87.5 % of respondents either agreed or strongly agreed that "Using citations from bibliographies is an important way for me to get information when doing research on Latin America-related topics." This supports the findings in Vezzosi's survey where students stressed the importance of citation chaining as a method of finding information (2009: 71).

Despite the continued popularity of these search strategies, the library is losing its traditional role as the place where research is conducted. Only 32 % of Group Two respondents agreed or strongly agreed with the statement "My institution's library (physical and/or virtual) is where I conduct most of my research on Latin America-related topics" and 52 % disagreed or strongly disagreed. Compare this with the results in Group One, where 67 % of respondents either agreed or strongly agreed with this statement. This might reflect the passing of time between the surveys and the growing availability of materials outside of the traditional repositories of scholarly information. It might also reflect the growing invisibility of the library's role in providing subscriptions to Internet-based information. Providing seamless, easy access to subscription-based electronic resources has been a goal for academic libraries for many years, as seen in the use of IP authentication, proxy servers, and openurl linking as well as the growth of federated search tools and now discovery services. This can make it difficult for students to recognize that the information they are accessing has been provided by the university library's subscription. Nevertheless, students in Latin America may be driven to the open Internet out of necessity due to the limitations of library budgets, as mentioned above. The enthusiastic embrace of Open Access in scholarly communication and the extraordinary achievements of Latin American Open Access initiatives provide free alternatives for students of Latin American studies—both North and South.

Use of research tools

One might expect that graduate students would be among the heaviest users of the four tools mentioned in the survey. They have sophisticated research needs, often exploring their topics both in depth and breadth. However,

consistent with the pre-survey assumptions, results for use levels were low. When asked whether they had ever used these research tools, 19.6 % of Group Two chose yes for LANIC, 12.5 % for HLAS, 10.7 % for HAPI, and only 5.3 % for LAPTOC. The results from Group One of the study were also disappointingly low but were substantially higher than these, with the exception of LAPTOC (63.3 % for LANIC, 43.9 % for HLAS, 46.4 % for HAPI, and just 2.8 % for LAPTOC). Despite these modest sample sizes, we can be 98 to 99 % confident that use of the four databases varies between the two study groups ($\chi^2 = 11$, $df = 3$, $.02 > p > .01$). When asked the reason for not using each tool, lack of awareness of the existence of the tools was the most cited reason, as seen in *Figure 2* (see also Appendix, *Figure 6*). Clearly, outreach to promote the greater use of these freely available tools remains to be done—both to Latin American students and the faculty who are so critical in shaping students' perceptions of the importance of a resource.

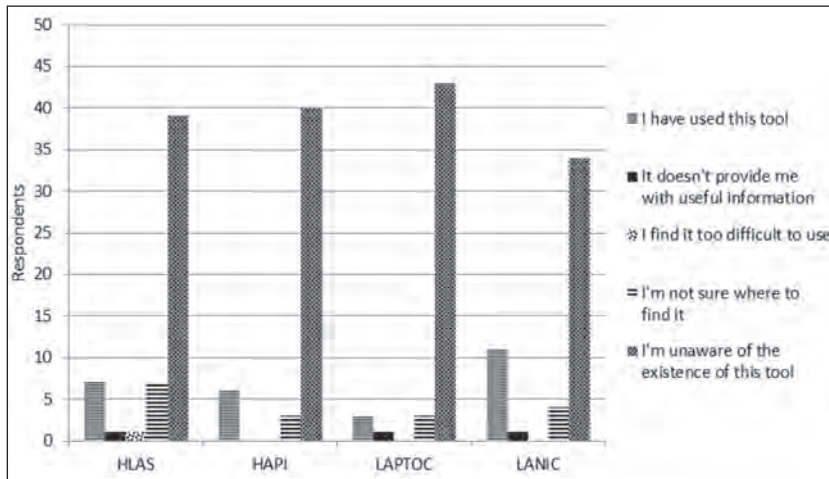


Figure 2. Reasons for non-use of tools.

Group Two respondents were asked what they considered the three most useful tools when doing Latin America-related research. Since this was an open-ended question, a wide variety of tools were listed and, not surprisingly, electronic resources predominated (see *Table 1*). A number of important Open Access regional initiatives were among the results: SciELO, CLACSO, and Redalyc were each cited by multiple respondents. Surprisingly, in a time when “google” has become a verb, neither Google nor Google Scholar were as popular as might be expected. One interesting contrast is the almost complete absence of discipline-specific tools (such as EconLit, PsycINFO, Popline,

Sociological Abstracts), which were heavily represented in Group One's responses (see Appendix, *Table 3*). We also see the presence of vendors (EBSCO, Sage, Springer, and Taylor) who package collections of research tools and make them available to libraries via subscription. They clearly do a good job of branding their products, although perhaps at the expense of researchers' awareness of what is actually being searched within that package.

Table 1. Most useful tools for Latin America-related research in order of number of respondents.

JSTOR	14	Cairn	1
SciELO	7	Casa de las Américas	1
CLACSO	4	ebrary	1
Libraries	4	HAPI	1
Google	3	Jornal Independente	1
Google Scholar	3	LATINDEX	1
Redalyc	3	Notre Dame University website	1
Amazon	2	Print resources	1
Databases	2	Sage	1
EBSCO	2	Scopus	1
Journals (specialized)	2	Springer	1
Online sources	2	Taylor	1
Portal CAPEs	2	Web of Science	1
Anthroplus	1	Wikipedia	1
Biblioteca Digital UNAM	1		

The most obvious similarity between the two groups of respondents is the selection of JSTOR as the most popular research tool. It received sixty-one votes in Group One (31 % of respondents) compared to fourteen votes (25 % of respondents) in Group Two. They both significantly outdistanced the next runner-up in popularity: OCLC WorldCat/FirstSearch with forty-two votes in Group One, and SciELO with seven votes in Group Two. JSTOR (<http://www.jstor.org>) is an online full text archive of over two thousand scholarly journals covering both the arts and social sciences, including a Latin American Studies collection of sixty-one titles. It is an incredible resource—it is well-designed and easy to use, access to its contents is typically quick and reliable, and the full text of journals starts with the first issue of a journal onward, although often with a moving wall limiting access to the most recent issues. It is widely held in academic libraries. However, within the Latin American Studies collection, approximately 20 % of the titles are published in Latin America and the Caribbean, the remainder primarily published in the United States and Western Europe. While there is Latin American content in JSTOR's other subject journals (anthropology,

psychology, history, etc.), it is surprising that such a relatively small universe of mainly US publications would be so popular among both groups of graduate students. Students may see it as a good starting place for their research—and few of us can resist the appeal of instant full text gratification. However, as researchers become more accustomed to the availability of full text online, there is a growing concern that a “full-text-fixated generation of researchers...will readily pass up valuable information...simply because full-text content is not instantaneously available” (Bell, 2003: 44).

Bibliographic instruction

The Group Two survey respondents were also asked about their experiences with bibliographic instruction on how to conduct Latin America-related research: 16 % responded that they had received research instruction from a course or instructor, only 7 % reported that they had received research instruction from a librarian—compared to 44.5 % and 34.5 % respectively for Group One—and no-one reported receiving instruction from both. (The concept of bibliographic instruction was used loosely in the survey, and the authors acknowledge that there are different approaches to promoting the use of library resources, ranging from one-shot librarian-taught sessions to credit-bearing research methods courses.) This is consistent with research suggesting a gap between faculty assumptions about the research skills of graduate students, and what the students actually know. Faculty assume that graduate students are skilled in using the library and so perhaps do not include bibliographic instruction (provided either by themselves or a librarian) in their graduate courses. The survey shows that respondents have developed strategies for carrying out their research, despite a lack of formal instruction—although the question remains as to whether these are the most efficient or effective strategies. As the literature suggests, there is room for improvement in graduate students’ search skills and instruction from librarians can make a difference. Nevertheless, as Uribe saw in Venezuela, not all academic libraries are offering bibliographic instruction, or at least aren’t actively promoting it as a library service, despite recognizing its significance in their educational mission (2012: 82; see also Pinheiro *et al.*, 2008). This is not surprising considering that the same resource limitations that restrict libraries’ access to print and electronic acquisitions can also restrict the staffing levels necessary to support outreach and instruction programs.

In the results from Group One, the pre-survey assumption that students who had received bibliographic instruction would be more likely to be familiar with the four tools got only moderate support from the survey results (see Appendix, *Figure 7*). There was no statistical correlation between those who had

received one type of instruction (instructor or librarian) and those who had received none and their use of HLAS, HAPI, or LANIC. However, there was a positive correlation for all three when the student had received instruction from both an instructor and a librarian. Unfortunately, chi-square tests revealed that responses from the second survey were too few to run viable linear regression models. Of the seven Group Two respondents who had used HLAS, five had no instruction and two had instruction from a librarian; for the six who had used HAPI, one had no instruction, three received instruction from an instructor, and two from a librarian; two of the three LAPTOC users had received instruction from a librarian and the third did not answer this question; and seven of the eleven LANIC users received no instruction, one received instruction from an instructor, and the remaining two received instruction from a librarian (see *Table 2*). Nevertheless, the importance of librarian-faculty collaboration is increasingly seen as critical to the success of developing students' information literacy skills, in both the North and South (Romanos de Tiratel, 2002: 305; Monroe-Gulick, 2012; Lau, 2001).

Table 2. Bibliographic instruction and use of the four tools.

	HLAS	HAPI	LAPTOC	LANIC
No instruction	5	1	0	7
From Instructor	0	3	0	1
From librarian	2	2	2	2
Total	7	6	2*	10*

*One *laptopc* and *lanic* user did not answer this question.

Assessing comfort/confidence levels with library resources

Several Likert scale questions on the survey prompted students to assess their own comfort levels with identifying and using library resources. Students were asked how much they agreed with the statements "I am comfortable locating and using print resources when doing Latin America-related research" and "I am comfortable locating and using information electronically when doing Latin America-related research." *Figure 3* shows that 75 % and 89.2 % respectively either agreed or strongly agreed with these statements (see also Appendix, *Figure 8*). Chi-square tests reveal that the differences between Group One and Two in this regard are not statistically significant.

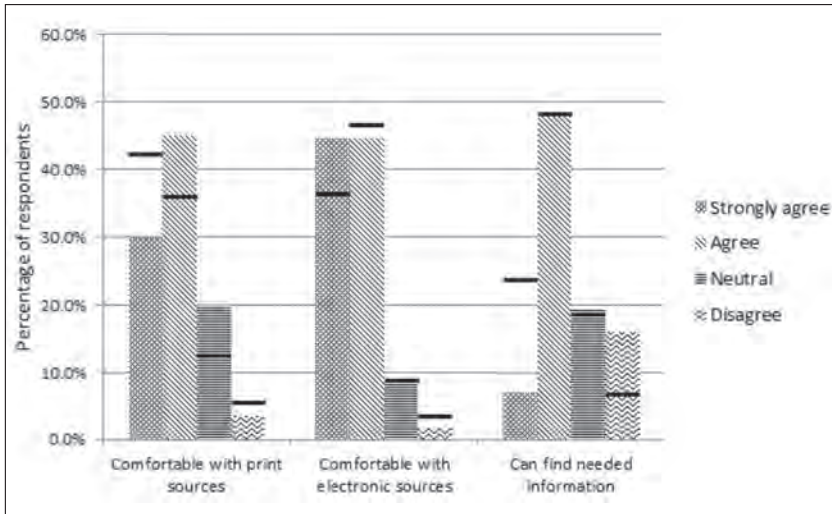


Figure 3. Self-assessed comfort levels with lines showing responses from Group One.

There was a more tempered agreement among Group Two respondents with the general statement “I can find the information I need on Latin America-related topics.” Figure 3 shows a similar level of agreement (48 %) with this statement as with the previous two statements, but a low level of strong agreement (just 7 %). This also had the highest level of disagreement among the three questions with 16 % of respondents disagreeing. No respondents strongly disagreed with any of the three statements. Group One respondents also expressed lower levels of strong agreement with this statement than with the previous two statements, but at 25 % it is still higher than we see here. Indeed, we see highly significant differences between the two groups’ levels of agreement and strong agreement with this statement ($\chi^2 = 5.2$, $df = 1$, $.05 > p > .02$, Yates = .5). The level of disagreement among Group One was slightly less than half that (7.5 %) of the Group Two respondents. With almost 36 % of these LA-based students responding neutrally or disagreeing with this statement it seems there are still challenges to face in assisting them in meeting their research needs.

In Group One, respondents who had received research instruction from an instructor or from both an instructor and a librarian (although not solely from a librarian) had statistically significant higher levels of agreement with this statement than did other respondents (see Appendix, Figure 9). A Pearson’s r correlation was run for the Group Two respondents but only a very weak positive correlation was found between levels of bibliographic instruction and the ability to find the information needed on Latin American topics

($r = 0.110296571$). *Figure 4* shows the percentage of Group Two respondents by type of instruction for each level of agreement with the general statement. Lack of instruction does not seem to be hampering respondents' sense of efficacy in their research as two thirds of the thirty-seven respondents who received no instruction report either agreement or strong agreement with the statement.

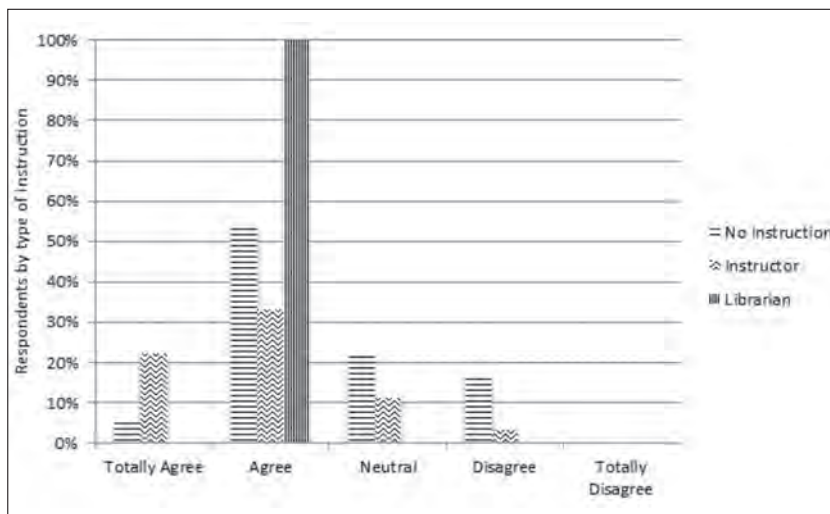


Figure 4. Agreement with "I can find the information I need on Latin America-related topics" and bibliographic instruction.

In Group One, there was evidence of higher levels of agreement and strong agreement with the statement "I can find the information I need on Latin America-related topics" among users of two or more of the tools. Nevertheless, 62.5 % of those who either agreed or strongly agreed had not used any of the four tools. Unfortunately, the sample size in Group Two is too small to show a clear relationship between dependent and independent variables when assessing levels of agreement with the statement and use of the tools but, similar to Group One, 65.5 % of respondents who had used none of the tools either agreed or strongly agreed with the statement.

CONCLUSIONS

Together, the two sets of survey results provide an overview of the information-seeking behavior and attitudes of the LASA student members—almost all

PhD students, many of whom are likely to become part of the next generation of researchers and professors studying Latin America. Comparing the results provides a glimpse into the similarities and differences between the two groups of students—those based in the US and those based in Latin America. The results of our survey do not stray far from what is found in the current research on the information-seeking behavior of graduate students. Both groups of survey respondents generally feel comfortable and confident finding information, both in print and electronic form; they prefer the convenience of electronic media; and the majority are not receiving bibliographic instruction.

Compared to their peers in Group One, the LA-based respondents of Group Two have a stronger preference for electronic resources and yet are even less likely than the former to be familiar with the four online tools for which use was measured. While sharing a fondness for JSTOR and electronic resources, the two groups of respondents show differences in their choice of the most useful tools for research. While librarians might be disappointed in the numbers of students in the Group One who had received some kind of bibliographic instruction for Latin America-related research, even fewer of the Group Two respondents received this training. Group Two respondents were less confident that they could find the information they needed than Group One. With a quarter responding neutrally or disagreeing, there is clearly a need for faculty and librarians to work together to ensure these students are aware of the many available resources (print and electronic) and to develop the information-seeking skills they will need as researchers, scholars, or working professionals.

Nevertheless, some structural barriers in information access will not be overcome by greater faculty-librarian collaboration and outreach to students. These barriers must be considered as we continue to investigate the information-seeking behavior of graduate students and to assess the generalizability of this research beyond national borders—even beyond national borders within the region. Future research might consider the impact of disparities among Latin America-based students as well. While the Group Two respondents all had addresses in Latin America and the Caribbean, two thirds of those were in Brazil, Mexico, and Argentina—the three wealthiest nations in the region. Latin America is often studied as a whole, but historical and socio-economic differences hinder easy generalizations among the region's countries. The second survey results might have been significantly different had the respondents included more students from the poorer Andean nations or Central America. Future research might consider the possible impact of Open Access resources and the shrinking digital divide on the research behavior of Latin Americanist students (North and South).

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APPENDIX:
Group One Survey Results

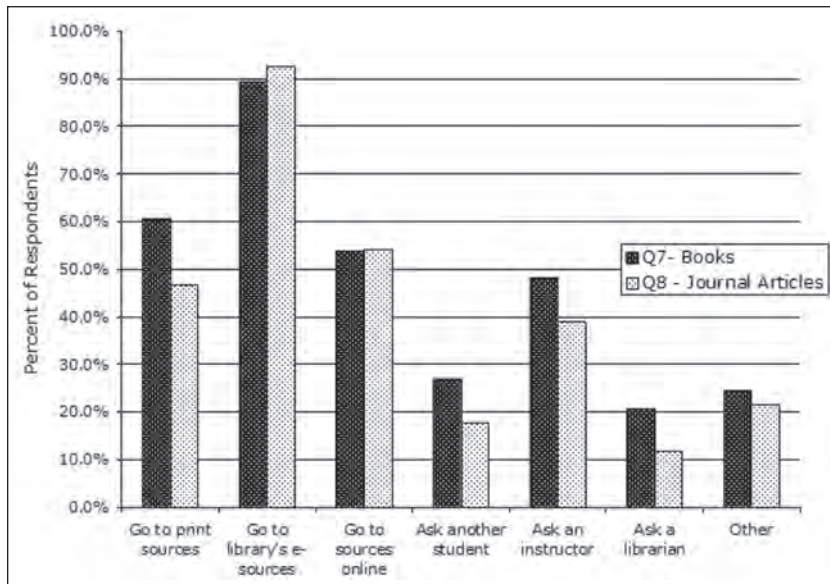


Figure 5. How Group One students find books and journal articles.

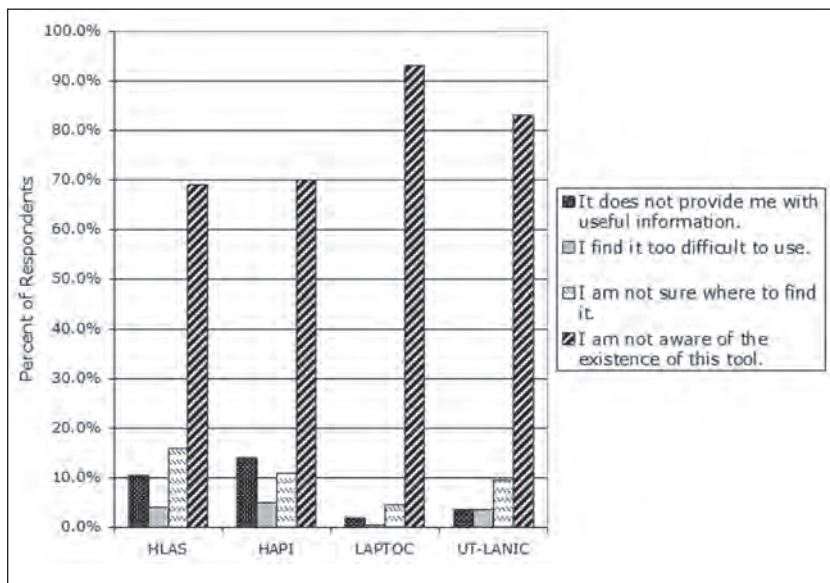


Figure 6. Group One reasons for non-use of tools.

Table 3. Group One's most useful tools for Latin America-related research in order of number of respondents.

JSTOR	66	Sociological Abstracts	2
OCLC WorldCat/FirstSearch	42	AA Index	1
LANIC	28	ABI Inform	1
MLA	27	Brasil.gov	1
HAPI	26	Cambridge Abstracts	1
Libraries' Catalog/Web Site	25	CEPAL	1
Bibliographies/Research Guides	23	CIRMA Guatemala	1
Google/Internet	17	Current Contents	1
HLAS	14	Dissertation Abstracts	1
EBSCOhost	12	eHRAF	1
Academic Search Elite/Premier	10	EndNote	1
LexisNexis	10	Ethnic NewsWatch	1
Web of Science/Knowledge (SSCI)	9	Famsi.org	1
Colleagues and Professors	8	Field Contacts	1
Latin American Research Review	8	Gender Watch	1
Project Muse	8	HOBCO	1
ERIC	7	Humanities Abstracts	1
ProQuest	7	Latin American Abstracts	1
Melvyl (University of California)	6	Latin American Studies	1
Anthropological Literature/Index	5	Latindex	1
Electronic Journals	5	Library of Congress Web Site	1
ECO	4	Medline	1
InfoTrac	4	New Left Review	1
Archives in Latin America	3	OVID	1
Online Newspapers	3	Popline	1
Political Database of the Americas	3	PsycINFO	1
ArticleFirst	2	PUC Rio Web Site	1
ATLA	2	RLIN	1
EconLit	2	SciELO	1
Expanded Academic Index	2	U.S. Census	1
Ingenta	2	WilsonWeb	1
PAIS International	2	World Bank Publications	1
Publishers' Web Sites	2	Worldwide Political Science Abstracts	1

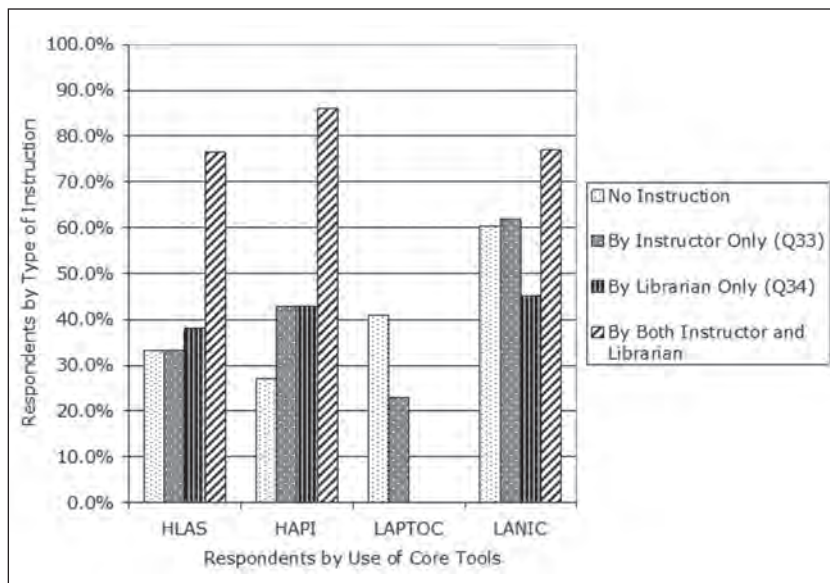


Figure 7. Group One's use of the tools and bibliographic instruction.

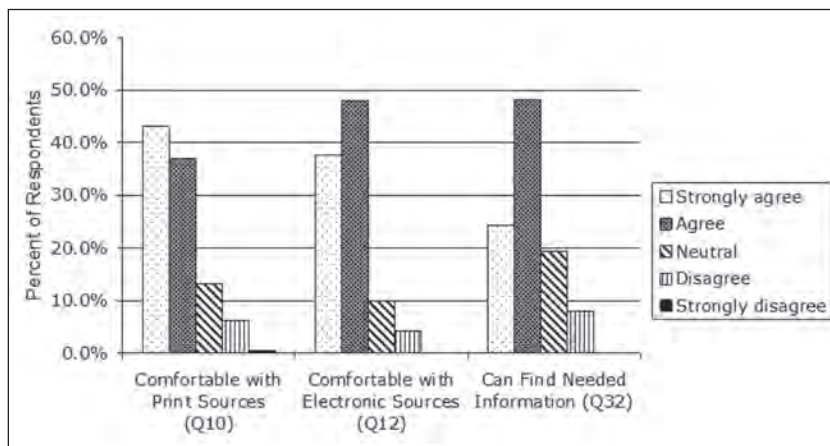


Figure 8. Group One's self-assessed comfort levels.

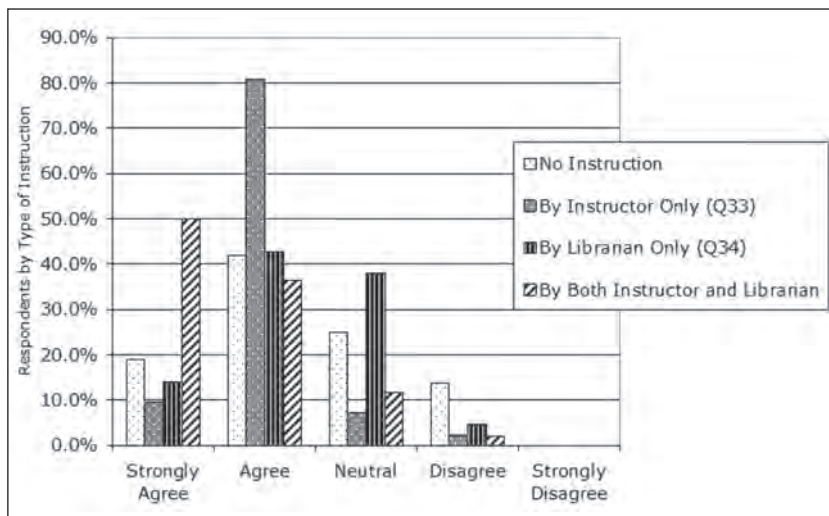


Figure 9. Group One's agreement with "I can find the information I need on Latin America-related topics" and bibliographic instruction.



Practice and innovation communities: learning to take action in the field of Library and Documentation Science

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ABSTRACT

This study aims to provide guidelines for designing, creating and developing a Community of Practice (CoP) in the field of Library and Documentation Science. The CoP offers the potential of bringing together community members who have shared interests and objectives, and who can reap real benefits through the generation of shared knowledge. This article presents a case study involving an innovative educational project with Master Degree candidates in Documentation, Library and Archives Management at the Faculty of Documentation Science of the Universidad Complutense de Madrid (Spain). This case provides a view of the effective use of the CoP, which constitutes a sce-

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nario or network for exchange of shared knowledge, while underpinning educational learning and promoting the culture of innovation and enterprise among all members of the community.

Keywords: Planning and Management of Documentation Projects; Communities of Practice; University Libraries; Educational Innovation in Library and Documentation Sciences.

RESUMEN

Comunidades de práctica e innovación: aprender a emprender en el área de Bibliotecología y Ciencias de la Documentación

Rosario Arquero Avilés, Gonzalo Marco Cuenca, Silvia Cobo Serrano and L. Fernando Ramos Simón

El propósito del trabajo es ofrecer directrices teóricas y metodológicas para diseñar, crear y desarrollar Comunidades de Práctica (CoP) en el área de la Bibliotecología y las Ciencias de la Documentación. Las CoP presentan la posibilidad de integrar en un mismo entorno o comunidad a miembros con objetivos comunes que buscan beneficiarse de la generación de conocimientos compartidos. En este contexto de desarrollo se presenta un caso real, circunscrito en el marco de un proyecto de innovación educativa, con alumnos del Máster en Gestión de la Documentación, Bibliotecas y Archivos de la Facultad de Ciencias de la Documentación de la Universidad Complutense de Madrid (España). Dicho caso ofrece una perspectiva de uso efectivo de una CoP aportando un escenario o red de intercambio de conocimiento común, que sirve de apoyo al aprendizaje educativo y cuya finalidad principal es fomentar la cultura innovadora y emprendedora entre todos sus participantes.

Palabras clave: Planificación y gestión de proyectos documentales; Comunidades de Práctica (CoP); Bibliotecas universitarias; Innovación educativa en Bibliotecología y Ciencias de la Documentación; Universidad Complutense de Madrid (España); Estudio de caso.

INTRODUCTION

Communities of Practice (CoP) have recently been considered to provide a potential theory for the creation of knowledge from a collaborative perspective (Roberts, 2006; Pan & Leidner, 2003). The basic objectives of CoP involve group collaboration and the generation of shared knowledge. As a social group, its members are united by a shared commitment to cooperate, focusing on a subject, activity or particular interest to share knowledge and learn in a practical way. In this situation, it is perceived that principal network assets are knowledge and good practices, and both are derived from the exchange of experiences, resources and information among members.

For this proposal, the Faculty of Documentation Science at the Universidad Complutense de Madrid has developed a project known as CoP-Innova, which follows the principles of the *Espacio Europeo de Educación Superior* (EEES) (European Space of Higher Education). This, as a European political commitment, was formally adopted at the so-called Bologna Declaration (European Ministers of Education, 1999). The implementation of the EEES has implied a structural change that engenders a teaching model focused on the learning process of students, clearly aimed at the acquisition and development of proficiency, while dealing with evaluation procedures. To meet the challenge of the EEES, the Universidad Complutense de Madrid has implemented an initiative: “*Convocatoria de Proyectos de Innovación y Mejora de la Calidad Docente*” (Call for Innovative Projects and Improvement of Teaching Standards), whose fundamental purpose is to promote educational innovation, to achieve high standard university teaching following the EEES premise, whereby the student’s learning process should be enriched by innovation, both in theoretical classes as well as in practice.

Creating a project within this framework indicates a commitment on the part of the Universidad Complutense for the institutionalization of good teaching practices in the teaching-learning process. The following aspects are evaluated:

- Originality of the proposal.
- Aptness of the project for improving the teaching-learning process.
- Contribution of the project towards promoting diffusion of good teaching practices.
- Experience and training of the work team in innovative education and development of resources of Information and Communication Technologies in learning.
- Progress and sustainability of projects.

- Project's potential, including the actual number of students who can benefit from the project, the applicability of the results to other subjects or qualifications and level of interdisciplinary integration.
- Adequacy of resources requested in relation to the work plan, methodology and objectives.
- Consistency of the project, including the adequacy of the methodology in terms of proposed objectives and timetable.

This innovative project, whose methodology and results we present in this work, is restricted to this initiative and is based on the conformation of a community of practice known as CoP-Innova, which has a double meaning. Firstly, we present community practice as a structure that facilitates sharing of knowledge and promotes its circulation (Vásquez, 2011) and, secondly, innovation appears as an element that involves the generation of a value chain that is manifested in three phases: the generation of the idea, its realization and its dissemination (Hansen & Birkinshaw, 2007). CoPs are also considered to offer a context for active learning and as incubators of innovation (Holly, 2004). However, for ideas to be brought to fruition in the form of products, services or other items of value, they must be formalized. Therefore, CoP-Innova builds on the principles and foundations of project management with the intention of promoting proposals, in the form of projects which are adapted to a pilot stage, whose feasibility will determine its applicability in real circumstances.

The theoretical context of CoP-Innova: management of innovative projects in information and documentation units

The course Project Management in Documentation Units, which is mandatory for the Master's in Documentation, Library and Archives Management at the Faculty of Documentation Science of the Universidad Complutense de Madrid and in which the CoP-Innova project is developed, focused on the study of the application of management techniques for projects devised by information and documentation professionals. Such application is involved in the planning of this type of areas.

In this sense, project management falls in the domain of units of information and documentation management and in particular, in the field of planning. Traditionally, many authors have described planning as a function of organization management in general (Drucker, 2002; Bueno Campos, 1996) and units of information and documentation management in particular (Koontz & O'Donnell, 1972; McClure & Samuels, 1982; Lynch, 1985;

Bryson, 1997 and 1999; Koontz and Weihrich, 1994; Prytherch, 1994; Evans & Layze-II, 2003; Stueart & Moran, 2002; Ramos Simón, 1995 and 2003; Pacios Lozano, 1997, among others).

This link between administration of projects and planning in the field of knowledge of management explains how the project formulation of information and documentation units is extremely limited to operational planning. In this sense, it is considered as a part of planning that is directly related to the strategic, but subordinate to this and hierarchically situated at a lower level. This means that long-term strategic planning establishes broad proposals describing how a unit of information and documentation must continue to proceed into the foreseeable future, whereas operational planning should translate the general guidelines for strategic plans to a more detailed and immediate level, with the principal purpose of obtaining results (Arquero & García-Ochoa, 2005: 34).

Once the scope of knowledge is identified, we highlight the literature of selected references on the matter that forms the scientific and conceptual basis of our review and analysis, in what concerns to the application of proper principles and methodology for project management.

In this context, we can cite monographic works from the 1990s that have placed project management as a fundamental and essential element, within the area of Library and Documentation Science. It is thus possible to understand the main characteristics of these publications following a short and concise evolutionary path from the establishment of two major chronological periods: 1990 to 2000 and 2001 to the present.

In the first period, works specializing on this theme, MacLachlan (1996) and Black (1996), stand out. Together, their publications include on one side, the different stages or phases of the lifecycle of the projects and then, they explain the need to make estimates of time, budget, risks and human resources.

From the second chronological period, we must emphasize several works. First we cite the contribution made by Alian (2004), which provides a resources guide for project management for all types of information services using verified methods. Studies by Carpenter (2008 and 2011) discuss the phases and activities relevant to the management of a project and address issues such as the formulation of project objectives, scope, the impact of co-operation between human resources from the information unit on project management, as well as topics included and funding programs. The work by Fagan (2009) is also noteworthy for its innovative impact, where web projects for the management of academic libraries is discussed, providing an overview of the importance and function of the project administrator, definition

of the project, equipment and various aspects related with internal and external communication.

To the content and focus of the monographic publications to which we have referred, we have to add a review of a series of additional publications, presenting the implementation approach that connects with the own orientation of the literature review of this section and the practical application of the CoP-Innova project. These publications refer to practical experiences in applying project management in information and documentation units and we can systematize them into the following groups or thematic categories: digitization (DeRidder, 2007; Fenton, 2007; Henshaw, 2011; Holley, 2004; Hull & Dreher, 2001; Levi, 2010; Londhe, Desale & Patil, 2011; Middleton, 1999; Müller & Maurer, 2011; Saikia & Kalita, 2011; Sakaguchi, Shimada & Wasserstrom, 2010), reading promotion (Roselló, 2006; Train & Elkin, 2001), user training (Betty, 2008; Murphy, 2008), content management tools (Hayman, 1997; Koontz et al, 2004; Medawar, 2007; Sharpe & Vacek, 2010), technical operations (Anderson, 1998; Martey, 2002), human resources (Anzalone, 2000), institutional repositories and other digital resources (Barwick, 2007; Chellapandi, Han & Boon, 2010; Greene, 2010; Piorun & Palmer, 2008), bilingual orientation of libraries (Evans, 2011), virtual reference services (Burich et al, 2006; Clements, 2009; Duncan & Gerrard, 2011) and integrated library management systems (Adeyoyin & Akinyosoye, 2004; Darko-Ampem, 2006; Evans & Thomas, 2007; Lewis, 1995; Otunla & Akanmu-Adeyemo, 2010).

Overall, from the review of the literature on the subject, we can derive a number of features that constitute the core of basic elements on which project management and its application in the CoP-Innova is based:

- Includes the development of successive identifiable stages (planning, design, implementation, control or monitoring and evaluation) (Webb, 2001; Winston & Hoffman, 2005).
- Projects are based on specific objectives (Rosacker, 2010) and, besides phases, require the application of certain tools, procedures and concrete expertise (Moore, 1998).
- The temporal and qualitative aspects, as well as economic resources are critical and must be considered in project management. Pat Wagner commented that "project management contemplates finishing work on time, within the budget and with the prescribed quality" (2006: 24). Another author who follows this approach is Roger Atkinson, referring in his work to the British standard *Project Management BS60794*, which indicates as essential elements in managing a project

“the motivation to achieve the project objectives on time, complying with specific costs, quality and performance” (1999: 338).

- The success of a well-managed project from a technical standpoint motivates professionals of information and documentation units to undertake more complex activities and also provokes interest in group work and work culture within organizations (Winston & Hoffman, 2005).

In short, it can be established that project management comprises applying a set of techniques, tools, knowledge and skills to carry out planned activities, to fulfill the objectives of a specific project in a limited time. In this regard, a project is conceived as a process with a defined beginning and end, which leads to the generation of a product, service, activity or specific result, and that also involves planning its design, development and conclusion.

In line with these considerations, we present a project-type model in information and documentation units on which the application of a theoretical and methodological basis in project management of the CoP-Innova has been based, integrating the following elements and principles:

- The purpose of the project is to obtain a single result (in terms of a information and documentation unit, this result is understood as a product, service and/or documentation activity).
- This product, service and/or activity is generated and projected for a recipient (it is very common that the recipients are the users of information and documentation units or the human resources who work in these).
- Obtaining the result implies the allocation of human, financial, material and technical resources; likewise, the result must be produced within a limited time (associated with a schedule and deadlines).
- These products, services and documentation activities should be planned, implemented and evaluated; i.e., these can be managed implementing lifecycle phases for a project: initiation, planning, execution and control, and end.

The institutional and strategic context of reference

The Universidad Complutense is an institution which was founded more than five centuries ago. It was founded by the Papal Bull issued by Pope Alexander VI in 1499 (Universidad Complutense de Madrid, 2002). This is one of the European and Spanish universities with greatest tradition and history. As a

significant fact, note that since 1509-1510 five faculties were already functioning: Arts and Philosophy, Theology, Canon Law, Literature and Medicine.

Today it is divided into two main campuses: the Moncloa campus and the Somosaguas campus. It has over 80,000 students enrolled, more than 6,000 teachers and offers 274 different official degrees (undergraduate, graduate and doctoral) and 187 of its own degrees (Master studies, Specialist and Expert) (Universidad Complutense de Madrid, 2013).

In this global institutional context, the *Biblioteca de la Universidad Complutense* (BUC) (Library of the Universidad Complutense) is emerging as a functional unit providing service to teaching and research. The BUC is considered the top university library in Spain and the second library in the country (with more than 2,700,000 volumes), after the *Biblioteca Nacional española* (Spanish National Library).

The structure of the *Biblioteca de la Universidad Complutense* is as follows (Biblioteca de la Universidad Complutense de Madrid, 2013):

- Location of the BUC.
- Central Services. Exercise the responsibility for the unification of criteria, coordination and standardization of library processes and services at the different centers of the Universidad Complutense (faculties, schools and research institutes).
- Historical Library “Marqués de Valdecilla”. Responsible for the management, maintenance, preservation and dissemination of bibliographic heritage of the Universidad Complutense.
- Center libraries. These are responsible for the impact of library services on the university community. This consists of a total of 34 libraries interconnected via the data network of the Universidad Complutense de Madrid. From any of these, it is possible to access the general catalogue and use any of their services.

Within the framework of this structure, the Faculty of Economics and Business holds a central library, but it also serves as library coordinator at the Somosaguas Campus. The double role of this library provided relevant and meaningful requirements for the choice of the test and pilot scenarios implemented from the CoP-Innova experience, whose creation, structure and characteristics we refer to in the next section of this article. This library, selected as the pilot library, has provided a contextual base for practice and professional application of the CoP-Innova, bearing in mind the link established in the previous section between project management and planning in the context of knowledge management. Likewise, we have focused on its relationship with

the six tactical areas related to the *Plan Estratégico* (Strategic Plan) 2010-2013 (Biblioteca de la Universidad Complutense de Madrid, 2010): People, Organization and Quality, Financing and Infrastructure, Services, Library and Society and finally, Collections. The seventh tactical area known as Bibliographic Heritage, reserved for issues of preservation and dissemination of ancient library collections is excluded. The reason this area is excluded is that everything prior to the 19th century of the Library of the Faculty of Economics and Business is managed by the Historical Library “Marqués de Valdecilla”, which as noted specializes in historical matters.

MATERIAL AND METHODS. CREATION, STRUCTURE AND CHARACTERISTICS OF THE CoP

As regards to the guidelines and elements for the formation and development of the CoP-Innova as a community of practice, we have initiated from the concept invented by Wenger & Lave (1991), according to which learning involves participation in a community and knowledge acquisition is considered a collective process. Authors add that communities of practice are groups of people who share a concern or a passion for something they do and that by interacting regularly, they learn how to improve this activity, which requires focusing on a topic of interest, a point or a specific task to be undertaken.

In this sense, the establishment of the CoP-Innova has been based on the three premises or aspects defined by Wenger E. (1998) (*Figure 1*):

- **Mutual Engagement.** All members of the CoP share their own knowledge and receive it from others (i.e., everyone has something to teach and everyone has something to learn).
- **Joint Enterprise.** The CoP should have common goals, regardless of whether members have different interests and needs.
- **Shared Repertoire.** This refers to the set of common resources of the CoP (terminology, procedures, tools, ways to perform or concepts a CoP produces or adopts in the course of its existence and become part of its practice).



Figure 1. Aspects established by Etienne Wenger for a CoP.

This project has considered the creation of the CoP as a collaborative strategy in which work perspectives, learning and innovation among the constituent members are combined, including members from different sectors of the University (Gongla & Rizzuto, 2001; Palincsar & Herrenkohl, 2002). Following this initiative, the CoP is conceived (as suggested by Lesser & Starck, 2001) as a means to counteract the effect different hierarchical levels have on the organizations and to obtain significant benefits for our organization (in particular for the planning and management of change in libraries based on previous pilot experience). Within these parameters, the CoP which has supported the development of our innovation project has helped generate ideas for new products and services (Lesser & Everest, 2001), conceived as projects in their formulation proposals for a real context.

The structure of the CoP-Innova (*Figure 2*) is based on the integration of three key elements: the provision of technical and methodological knowledge of project management in information and documentation units, a real context for implementing a collaborative experience, and the contribution of ideas transformed into innovative projects. The combination of these elements has resulted in a real integration experience for the actors who have helped shape the CoP: teachers, researchers, librarians and students, as members and direct beneficiaries of the CoP (*Figure 3*).

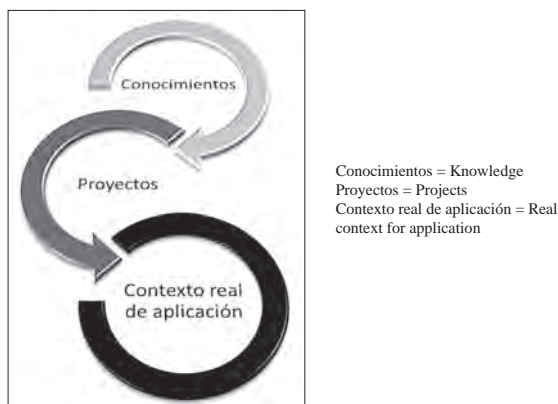


Figure 2. Key structural elements of the CoP-Innova.

The professor and researcher sector is integrated by:

- A person responsible for the project CoP-Innova who has served as CoP-manager. A CoP manager exists to facilitate and enable other members of the CoP to agree on relevant problems or issues (Gongla & Riz-

zuto, 2001). The CoP-manager must also encourage interaction by providing a correct interpretation of the varied contributions from other community members (Handley, Sturdy, Fincham & Clark, 2006). The CoP-manager also supervises and coordinates the development of activities and tasks performed by the participants (Brown & Duguid, 1991) and, ultimately, he/she takes final responsibility for the results from the operation of the CoP (including the development and delivery of the final report). In our project, this role has been played by the associate professor of the subject for which the innovation project has been developed.

- A project team made up of teachers and researchers. This team has the role of providing support and/or acting as advisor to the CoP-manager in the preparation of the technical and methodological work guidelines, as well as in the management and monitoring of the CoP itself and the entire project. The team involves consultants from academia and research who have offered support to the CoP-manager for achieving the stated objectives. The project team for this sector was composed by the following members: an associate professional, external consultant and expert in projects; a researcher and an expert associate professor in Information Economy.

The role of providing a real context for the implementation of the proposed projects in the professional arena has corresponded to the professional librarians sector in the project team, led by the Director and Deputy Director of the Library of the Faculty of Economics and Business.

The student sector of the CoP-Innova consisted of graduate students enrolled in the academic year, from both the morning and evening shift, with a total of 47 participating students divided into 17 work teams.

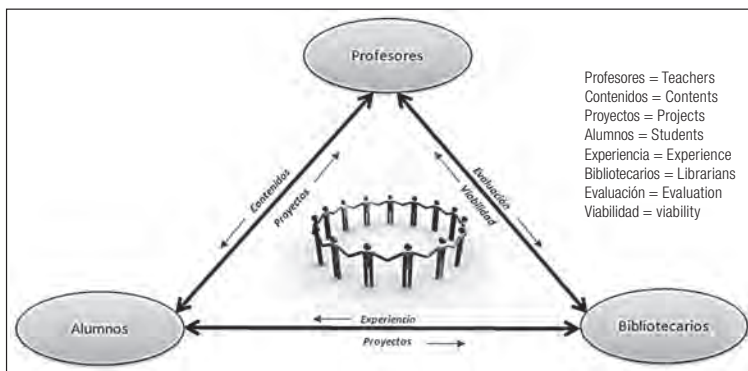


Figure 3. Roles for participants in the CoP.

The CoP-Innova has also had access to a series of tools to support communication, social participation and collaborative work, for example a virtual campus based on the Moodle web application, with management modules, tasks, consultation, forum, resources, RSS and Atom syndication, e-mail and even a wiki module, and also a virtual private network group on Facebook. Notably, through the virtual campus, statistics concerning participation of all members are obtained, providing information to the CoP-manager regarding community management, important messages, loyalty of members, reactivation of activities, etc. As exclusive project management tools, the MS Project 2010 has been mainly used.

Functioning of the CoP

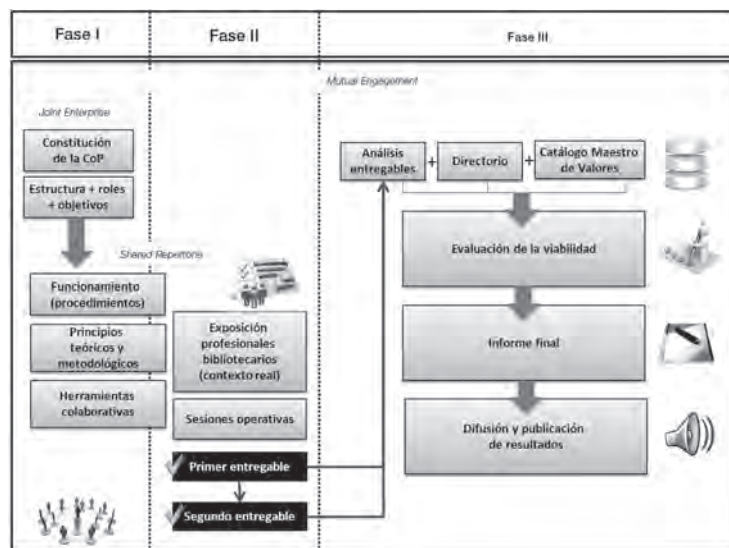


Figure 4. Operational model for the CoP-Innova.

Fase I, II y III = Phase I, II and III
 Constitución de la CoP = Composition of the CoP
 Estructura + role + objetivos = Structure + role + objectives
 Funcionamiento (procedimientos) = Operation (procedures)
 Principios teóricos y metodológicos = Theoretical and methodological principles
 Herramientas colaborativas = Collaborative tools
 Exposición profesionales bibliotecarios (contexto real) = Exposure to professional librarians (real context)
 Sesiones operativas = Operative sessions
 Primer entregable = first deliverable
 Segundo entregable = second deliverable
 Análisis entregables = analysis of deliverables
 Directorio = Directory
 Catálogo maestro de valores = Master catalogue of values
 Evaluación de la viabilidad = Evaluation of viability
 Informe final = Final report
 Difusión y publicación de resultados = Dissemination and publication of results

The CoP operation is based on the model described in *Figure 4* with the following phases and work methodology:

First Phase. Bases for Mutual Engagement are shared with the formation of the CoP-Innova, the definition of its structure, identification of the roles of its members and establishment of its objectives (Joint Enterprise). Subsequently, the bases of the Shared Repertoire are established by the CoP project team from the professor and researcher sector:

- Establishing operating principles for the CoP.
- Exposure of theoretical and methodological principles for planning and project management for information and documentation units, based on the overall objectives of the course in which the project CoP-Innova has been developed:
 - Knowledge of the theoretical and methodological principles for planning and project management for information and documentation units.
 - Comprehension and application of the methodology on which planning and project management in information and documentation units is based.
 - Search for interaction between this methodology and documentation processes conceived as projects and analysis of its implementation in university libraries.
- Presentation of tools and collaborative space.

The methodology used in this phase was based on showing students contents derived from the analysis and systematization of the contributions discussed in the section related to the theoretical context of the CoP-Innova, indicating the adaptation of this conceptual basis to the guidelines proposed in the course and in its specific application to the actual context of the CoP-Innova pilot library.

Second phase. Shared Repertoire bases were completed with contributions from the project team of the professional librarians sector, who essentially based on a set of good practices: powers and functions, quality commitments, procedures, services and products that are made in the pilot library. They also contributed by identifying the tactical outlook of the *Plan Estratégico 2010-2013* of the *Biblioteca de la Universidad Complutense de Madrid*.

During this phase, strategies are implemented to facilitate collaboration and interaction between the different members of the CoP (brainstorming sessions, group discussions, online activities, forums, presentations as well

as previous cases and results, among others). Such strategies seek to channel the initial proposals for innovative projects by the different work teams. These initial proposals were embodied in a first deliverable to be submitted by each team, responding to the following scheme:

- a) Prospección. Síntesis del funcionamiento y características de la unidad de información para la que se propone el proyecto en el marco de su plan estratégico y búsqueda y revisión de experiencias externas similares al proyecto que se propone.
- b) SWOT¹ analysis for project proposal.
- c) Choice of the area or strategic areas in which the proposal is included.
- d) Development of the overall purpose of the project, the needs to which this responds and the main benefits derived.
- e) Identification of the stakeholders in the project.

Finally, we undertook the formulation of final proposals in accordance with the elements of the shared repertoire and the final realization of these proposals by the different teams in a second deliverable that responded to the scheme shown in *Figure 5*.

Third phase. Involves the analysis of documents (specifically reports on proposed projects) and the creation of a final directory for these.² Also a *Catálogo maestro de valores* (CMV) (Master catalogue of Securities) was defined, which is the calculation tool that facilitates statistical data with the objective of providing a complement in addition to the qualitative assessment performed by experts; this was designed using the MS Excel 2010 software and has enabled the joint analysis of the various project deliverables based on the assignment of values for each variable of a deliverable. Essentially, it is a basic tool of quantitative evaluation that enables readings of generated data, either aggregated or specific. Values make it possible to group and classify common criteria, offering a minimum standard data set that facilitates the exploitation of dynamic tables and charts. Each value corresponds to a descriptor, identified by a unique code, which provides the meaning for each concept. Certain values also include other values that are at a lower hierarchical level, allowing data analysis at various levels of detail. For data related to costs (budget) and time, a Likert scale is applied based on three criteria: high, medium and low.

During this stage, final project proposals were evaluated and discussed to determine their viability in terms of possible effective implementation, paying special attention to those that could be reused and exported to other li-

1 Also known as the DAFO or FODA analysis (*Fortalezas, Oportunidades, Debilidades y Amenazas*) (Strengths, Opportunities, Weaknesses and Threats).

2 An extract from this directory can be consulted in the Appendix.

braries in the Universidad Complutense and other university libraries. At last, the final report of the innovation project was written, proceeding to divulge and communicate the results.

1	1. Project objectives		
2	Project scope and Structure of Work Breakdown		
	2.1. Project phases	2.2. List of tasks and milestones	
3	Estimated time		
	3.1. Estimated average duration of the entire project	3.2 Estimation of the duration of each task and generation of project schedule	
4	Project team		
	4.1. Reasoned proposal of functions, responsibility and roles	4.2. Organization chart of the project	
5	Resources and estimated costs		
	5.1. Personnel	5.2. Equipment	5.3. Consumables and other expenses
			5.4. Total estimated cost
6	Risks		
7	Dissemination of the project: audience, activities, channels and media		
8	Complementary material		
	8.1. Gantt Diagram	8.2. Network Diagram	

Figure 5. Elements in a project formulation model for documentation units (second deliverable).

RESULTS OF CoP-INNOVA

A living community of practice

We may consider that one of the main achievements and results of the experimental set-up is the vitality and dynamism it has provoked among its members. Different dissemination and communication tools have been used by

all its members who have participated at least once in the debates that have originated from any area in the active discussion. As for participation, notably the leadership of the CoP-manager has been essential for promoting debate and clarifying concepts so they can be implemented. Professionals have also played a role in providing clarification at the pilot stage and its characteristics, the duties of its members, and products and services.

The Virtual Campus and the e-mail of the campus itself were the most used tools, but classroom sessions or forums constitute those most highly valued by the working groups. These forums consisted essentially in the presentation of case studies with interventions in the form of debate.

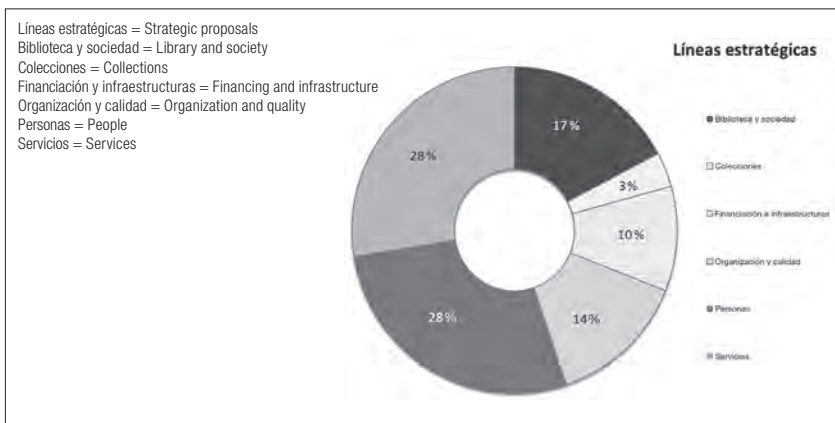
In terms of data quantifying activity, the average daily access to the Virtual Campus was 1.3 per participant, about 69 hits per day. Global quantitative data, taking into account the four monthly duration of the course, we can consider more than 5,500 hits at an average of about 104 per participant.

Most treated or most followed issues, either in person or online, have been those related to strategic guidelines, the formulation of the scope of projects and the estimation of resources and costs.

Projects related to the strategic plan outlook of the Biblioteca de la Universidad Complutense

In the section “Institutional and strategic context of reference”, the library of the Faculty of Economics and Business was established as the basis for proposals of projects related to the six strategic propositions incorporated in the *Plan Estratégico* 2010-2013 (Library at the Complutense University in Madrid, 2010), that affect the pilot library of the CoP-Innova: People, Organization and Quality, Financing and Infrastructure, Services, Library and Society, and Collections.

In relation to this context and in accordance with *Graph 1*, most projects are related to the strategic propositions People and Services, both represented by a 28%. This means that students appreciate the need for formulation and subsequent management of projects focusing on library staff policy or on the training, promotion and working conditions of the information and documentation unit staff (in the case of some projects proposed: telecommuting, job evaluation, staff turnover or balance between work and family life). In addition, projects concerning accessibility to the different library services and resources for those with hearing disabilities, conducting studies on foreign users or the creation of an institutional repository reflect the importance of continuous improvement in library services of universities.



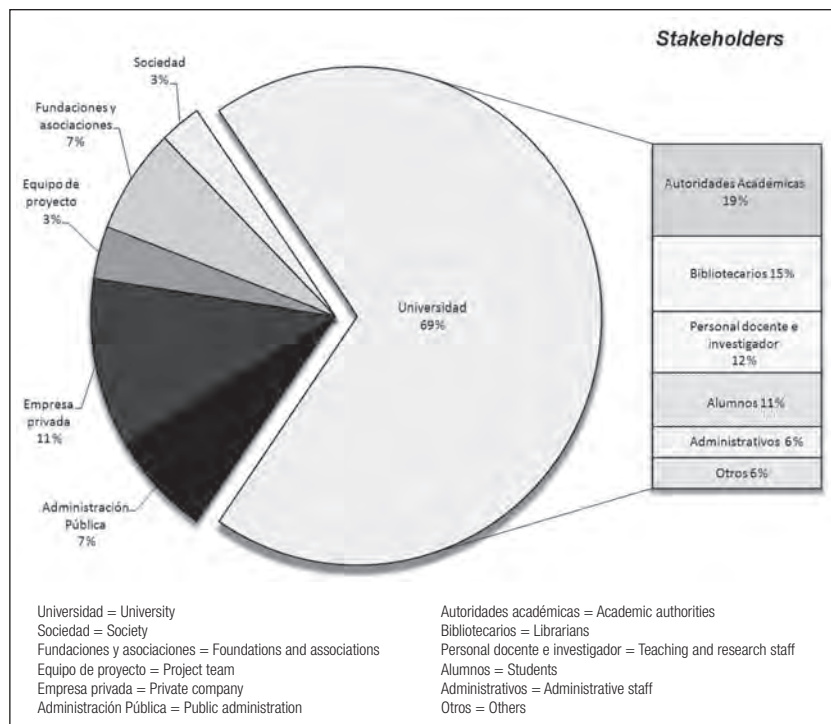
Graph 1. Identification of the strategic proposals of the Plan Estratégico 2010-2013 for the *Biblioteca de la Universidad Complutense de Madrid* in the projects proposed by the students

At a secondary level, there are remarkable projects that refer to the strategic proposal Library and Society (17%), aiming to bring the library closer to society, ensuring users and all citizens access to information, scientific knowledge and culture. This social labor is reflected in projects for library cooperation in developing countries and in those improving infrastructure and services for the elderly and disabled. Subsequently, the strategic proposal Organization and Quality has a 14%, being selected four times. Some of these projects, such as updating the library's marketing plan or the welcoming ceremony for new students at the faculty, affect on the strengthening of policies and internal quality systems of information and documentation units.

Finally, the presence of the strategic proposals Financing and Infrastructure and Collections is clear from the results. In the first case (10%), projects are related to the management of financial and physical resources (linked to projects of telecommuting and the creation of an informational repository), while the second strategic proposal is only selected to formulate the book donation project (3%).

Project stakeholders

Overall, the results obtained represent six categories of stakeholders (Graph 2), among which the University itself is an important part of the set, representing approximately 70%.



Graph 2. Identification of stakeholders in the projects proposed by students.

Given the magnitude of this type of stakeholder, it appears apt to identify the members who comprise the university complex and the degree of participation of these actors. As it is shown on the right side of the chart, stakeholders who constitute the collective “University”, are mainly academic authorities, librarians, teachers and research staff, and students. Private company is in second position (11%) compared to Administration and “Foundations and associations” group, which occupy the third place, both comprising 7%. In some cases these have been identified as stakeholders involved in the financing and support of projects. It is also important to note the impact of library projects on society as a whole and the involvement of the work team (3%), since society benefits directly from their implementation, and the work team is responsible for their management.

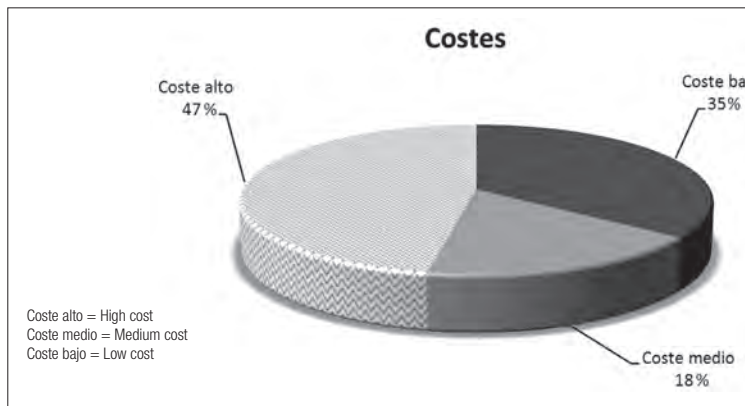
Viability of projects in terms of time and costs

Time estimates for the management of projects proposed in CoP-Innova are calculated both in days and hours, adopting as a general rule, a duration of

20 working days per month and days of 8 hours. As a global framework for the duration of the projects, it should be kept in mind that the CoP fixed timing requirements. It was established that the projects should adjust to the temporal scope of an operational plan, i.e. maximum time range of one accounting year.

Given this reference, it was considered necessary to establish 3 levels or degrees of duration according to a certain range of days: low duration (management proposals of less than 100 days), medium term (projects with a time frame of 100 to 200 days) and long duration (projects estimated to last more than 200 days). Results indicate that most of the projects have a medium duration, namely 7 formulation plans; low duration is represented by six proposals and only 4 projects are of long duration.

Costs are another key and essential factor in the management of any project, since not to consider this aspect would imply a lack of accountability and even define the initiated project as unviable. To avoid this situation and control the budget estimates of planned projects, 3 levels or types of cost have been established: low cost (less than €5,000), medium cost (between €5,000 and €0,000) and high cost (estimates above €0,000); percentages are represented in *Graph 3*. As presented, 47% of projects have a high cost for implementation, possibly because of the need to acquire necessary computer equipment, a common aspect of certain projects grouped under this type of cost (in the case of telecommuting or creating informational repositories). Another notable feature is the high number of projects that have a low cost, possibly as a result of the current economic crisis, reason why there is a surprisingly low number of projects estimated between €5,000 and €0,000 (medium cost) proposals.



Graph 3. Cost identification (group analysis).

Consistent with this evidence, the CoP has established a relationship between the time and budget estimates during the evaluation and discussion phase of the final project proposals with a view to actual implementation, so that the viability of a project is based on an adequate relationship between time and cost, remaining aware of the impact that the economic crisis is having on the budgetary allocation for the information and documentation unit, issued by the parent organization. For this reason, high cost projects often have *a priori* a high level of unviability because of the difficulty of the investment. Likewise, as already noted, the duration of the projects may not exceed the accounting period, in order to determine the degree of compliance with the annual operational plan.

Consequently, the most appropriate projects have a profile of low and medium cost (maximum \$0,000) and a low or medium term (up to 200 days, as estimated per academic year, which involves a period of 9 months with 20 working days per month, representing a total of 180 days).

De acuerdo con esta premisa, los proyectos con mayor grado de viabilidad son los que se muestran a continuación.

Table 1. . List of viable projects according to cost-duration relationship.

Group ID	Abbreviated title	Estimates			
		Cost		Duration	
002	Job evaluation	Low	⓪	Medium	⤵
004	Hearing disability	Low	⓪	Medium	⤵
008	Netvibes	Medium	⤵	Medium	⤵
010	Job rotation	Low	⓪	Low	⓪
014	Telecommuting	Low	⓪	Low	⓪
015	Marketing	Medium	⤵	Medium	⤵
017	Public Relations	Low	⓪	Low	⓪

CONCLUSIONS AND PROJECTION OF EXPERIENCE

A community of practice has been constituted, based on the development of innovative ideas for the planning and management of projects to support quality improvement of university libraries: the Library of Economics and Business of the Universidad Complutense de Madrid was chosen as the pilot stage since it acts as Coordinator Library of the Somosaguas Campus at the Universidad Complutense.

From a global perspective, the CoP-Innova has been formed from groups of people with shared needs and experiences derived from the same interest.

Some already trained and others being trained (students of the Master's in Documentation, Library and Archives Management at the Faculty of Documentation Science), others evaluating proposals and providing guidelines based on methods and professional experience (teachers from the Faculty of Documentation Science, consulting professionals in the field of Information and Documentation, and professionals at the pilot library of the Faculty of Economics and Business).

From this experience, several key factors become apparent: it is a dynamic that facilitates motivation and participation; having a pilot stage allows the application of theoretical foundations to a real context resulting in a better assimilation and understanding of the contents provided; the formulation of initiatives in the form of projects generates a climate of entrepreneurs well aligned to the demands of modern society and finally, professionals can reuse the proposals to improve their own centers with the prior knowledge of their viability.

The CoP-Innova has been a pioneer experience in Spain in the training and research for the planning and management of projects in university libraries. It has generated a directory of innovative projects for the context of the mentioned pilot library and developed a real experience of inclusive participation on the part of university stakeholders: students, library staff, teachers and researchers.

Quality surveys of the course carried out in the Faculty of Documentation Science at the Universidad Complutense have recorded an improvement in the quality of the learning process of students within the framework of objectives of the course mentioned and based on the essential principle of a community of practice: everyone has something to teach and everyone has something to learn.

This has constituted an immersion experience for students in a real professional pilot stage, beginning from the knowledge of theoretical and methodological principles for the planning and management of projects in information and documentation units.

Finally, we consider that from the methodological basis presented and the case study described, new applications and projections can be derived to other scenarios of innovation and entrepreneurship, including project proposals in additional types of information and documentation units and university libraries, to explore differences and similarities in development, as well as to compare results from the experience. Also, proposals may be related to other subjects or research topics in the area of Library and Documentation Sciences.

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Appendix

Directory of proposed projects

This appendix shows a synthesis of the Directory for the 17 projects resulting from the experience developed in CoP-Innova, corresponding to the following structure-type: Project or group ID, title of the proposed project and strategic proposal related to the *Plan Estratégico 2010 - 2013* of the *Biblioteca de la Universidad Complutense*, which includes the projects.

ID	Title	Strategic proposal
001	<i>Telecommuting at the Economics Library at the Universidad Complutense de Madrid</i>	1. People
002	<i>Job evaluation in the Library of Economics and Business</i>	1. People
003	<i>Library and Society</i>	5. Library and Society
004	<i>Accessibility for users with hearing disability at the Library of the Universidad Complutense de Madrid</i>	1. People 3. Finances and Infr. 4. Services 5. Library and Society
005	<i>Promotion and diffusion of library services</i>	2. Organization and quality
006	<i>Study of information needs for foreigners at the Library of the Faculty of Economics and Business at the Universidad Complutense de Madrid</i>	1. People 4. Services
007	<i>Informational repository</i>	2. Organization and quality 3. Finances and Infr. 4. Servicios 5. Library and Society
008	<i>Proposal to install Netvibes tool</i>	4. Services
009	<i>Welcome training program to the BUC for newly enrolled students</i>	1. People 2. Organization and quality 4. Services
010	<i>Job rotation project at the Library of Economics and Business at the UCM for recently employed staff</i>	1. Personas
011	<i>Library project for underdeveloped or developing countries</i>	5. Library and Society
012	<i>Resources for information, methodology and social networks applied to Economics and Business in the EEES</i>	4. Services
013	<i>"Provide culture to your university". Campaign for book donation to the Library of the Faculty of Economics and Business of the UCM</i>	4. Services 6. Colecciones
014	<i>Home librarian</i>	1. People 3. Finances and Infr.
015	<i>Renovation of the Marketing Plan</i>	2. Organization and quality
016	<i>Balance between work and family life for personnel at the Library of the Faculty of Economics and Business of the UCM</i>	1. People
017	<i>Project for public relations between the library and university community</i>	4. Services 5. Library and Society



Spanish publications that provide a theoretical framework for research relating to studies of information users

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ABSTRACT

Monographs, papers and articles published in Spain since 1993 are examined in order to shed theoretical light on the studies of information users, as a strategy for meeting user needs and measuring the degree of user satisfaction. This paper describes the most commonly cited sources and discusses the approach to the topic, whether general or specific. Particular aspects concerning authorship of these writings, as well as their chronological development are also examined.

Keywords: Studies of Information Users; Theory of Studies of Information Users.

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RESUMEN

Publicaciones españolas para la fundamentación de un marco teórico sobre los estudios de usuarios de información*Isabel Villaseñor Rodríguez*

En el presente trabajo se identifican y analizan los documentos publicados en España desde el año 1993, en forma de monografía, ponencia o artículo, que pueden arrojar luz sobre la teoría de los estudios de usuarios de información entendidos como la actividad que se desarrolla con el fin de conocer las necesidades, usos y grado de satisfacción de los usuarios de información. Se describen las fuentes más utilizadas y se analiza el tipo de acercamiento al tema, si general o específico. Se estudian, también, rasgos característicos de la autoría de esos trabajos así como el desarrollo cronológico de los mismos.

Palabras clave: Estudios de Usuarios de Información; Teoría de los Estudios de Usuarios de Información.

INTRODUCTION

Studies of information users are part of what Calva¹ has termed “the phenomenon of information needs”. This refers to an activity that, by applying one or more methods (with corresponding techniques and tools), seeks knowledge (identification and description) of all matters relating to the information needs of the human being; that is the emergence of the need for information, the manifestation of this need through user behavior searching for that information and the satisfying or failure to satisfy that need. It is an activity that therefore brings new knowledge using a scientific method for this, both defining aspects of an investigation. Delgado López-Cózar says research consists of “those projects that applying a more or less accurate methodology describe the scientific methods used and present original results that provide knowledge.”²

Experience in the context of Librarianship and Documentation regarding this matter essentially lies in the scope of professional practice. This is

1 Refer to Juan José Calva González, *Las necesidades de información. Fundamentos teóricos y métodos*, México: UNAM/CUIB, 2004.

2 Emilio Delgado López-Cózar, *La investigación en Biblioteconomía y Documentación*, p. 167.

research that takes either an experimental or applied form; in as far as it reveals empirical studies based on field work, directed towards solving specific problems in real situations. These may not provide the necessary elements for establishing a theoretical framework to serve as reference. These contributions do not usually establish general causal relationships that generate theoretical knowledge applicable to the phenomenon of information needs, that would be applicable in terms of information units fulfilling the information requirements of its users. From here we intend to influence the theoretical outlook by laying a sound foundation for further concrete developments.

The literature on the subject is controversial in terms of its validity and universality of results, and does not show much consistency in terms of terminology. Lack of a theoretical basis explains the limitations of this research, which has focused on tangible issues such as demand and use of information and not on more abstract issues, such as the needs for information. In recent years (late twentieth century), an effort has been made in this context, with the creation of different models based on empirical research, which aim to provide a framework for studying the information user. This includes the NEIN model developed by Juan José Calva González.

From the analysis of a Mexican database, Patricia Hernández Salazar concludes that work on studies of users are either descriptions of specific experiences or bibliographic analyses of the work of Anglo-Saxon authors; most studies do not apply concepts such as methodology, method, technique or work strategy; and that there is no consistency concerning concepts for key terms such as information, user, studies or training of users.³ This author argues for the need to develop conceptual frameworks in this discipline since user studies present, among others, the following deficiencies:

- Confusion between function and objectives.
- Lack of knowledge concerning techniques to be employed or employed, which are not well implemented.
- Required data has not been captured.
- Lack of rigor in statistical aspects, such as defining samples and analyzing results.

Aurora González Teruel discusses the criticism of research directed towards information needs and uses since the 1960s.⁴ Criticisms which stand out refer to

3 Refer to "El fenómeno de los usuarios de la información", in Filiberto Felipe Martínez Arellano & Juan José Calva González (compilers), *La investigación bibliotecológica en la era de la información. Memoria del XXI Coloquio de Investigación Bibliotecológica y de la Información. September 24-26, 2003*, México: UNAM/CUIB, 2004, pp.165-176.

4 Refer to *Los estudios de necesidades y usos de la información: fundamentos y perspectivas actuales*, Gijón: Trea, 2005.

the limited applicability of results and the use of inappropriate methodologies. Most studies direct the investigation to the need for a specific document, or use of a particular information resource, instead of telling us about what users need to solve concrete problems. Nor do they tell us anything about those users, who even when they require information have preferred to opt for another strategy or have decided not to search for this. By confusing the terms, they have preferred to study needs as defined by demands and even information use (use is a partial indicator of demand and this in turn, a partial indicator of needs). As for inadequate methodologies, the technique employed more often gathers information using a questionnaire, from which quantitative data but little qualitative information is obtained.

Juan José Calva González also denounces the limited literature on the theoretical aspects of the phenomenon of information needs, and states that what has been produced are studies describing the search for information on the part of certain groups, the sources and resources they use.⁵ According to the author, in order to meet information needs that impact core aspects of an information center, first it is necessary to become familiar with these: we must detect and identify them, while analyzing and developing the necessary mechanisms required to meet them (inside or outside the center). Among the mistakes made in studies of information users, he finds the following criticisms: no representative selection is made of subjects to be studied, these are applied to real users, neglecting any potential cases; do not discuss how the user obtains information or how this is used; and behavior is studied above all, rather than information needs.

Thus, we are interested to know what items have been published in Spain in relation to this issue, their applications and use, as well as the methodology to be applied to their development, because we consider it vital to create a theoretical framework to systematize information on this matter. Therefore, this paper considers as its essential objective to analyze those Spanish publications that have approximated a theoretical treatment of studies of information users or any of the issues implicated in these studies. The sample offered here is only part of the research process to be completed,⁶ as the study will be amplified to

5 Calva González, *op. cit.*, p. 2.

6 Here we present some research advances within the framework of the project for the *Instituto de Investigaciones Bibliotecológicas y de la Información* (Institute of Library Science and Information Research), known as "Analysis of the research on the phenomenon of information needs in Spain and Mexico: in several social and academic communities", directed by Juan José Calva González. On the other hand, we are hoping this study will complete that provided in a previous publication ("Los estudios de usuarios publicados en España en el siglo XXI", in *III Seminario de Usuarios de la Información. La investigación sobre las necesidades de información de diferentes comunidades*, México: UNAM/CUIB 2009, pp. 3-78), where we proposed to discover not only the level of diffusion of articles aimed towards the study of information users, but also aspects related to these such as authorship, sources where these are published, defined objectives, or methodology used.

include a larger number of examples found in the sources presented here and other possibilities such as doctoral theses. Our interest is to discover the kind of approach that has been applied to the issue at hand; whether this is general, including different aspects, or specific, focusing on a certain aspect or proposing a particular methodology. Moreover, we want to identify the type of source where this work is most often found: whether as a monograph, in conference proceedings or in journals, as well as the year when most of these were published, together with data related to the authors including their nationality, profession and way of working, whether individually or collectively. All this aimed to determine the interest provoked by this type of research, because we consider it necessary and important that the results of an investigation are made public (they may be useful for information professionals and academics), and because unfortunately it appears this is unusual.

We can say that, at least in Spain, there are no studies with features identical to this one; hence one of our main objectives is to lay the foundations for its development and proliferation, as we consider this to be essential for indicating research trends related to the theory of studies of information users.

METHODOLOGY USED

Our approach to the theme defined in this work has been to apply the method of documentary investigation, based on a search and analysis of written sources; information amassed is used to better understand and define the current state of a specific aspect. This involves a review of the literature from various sources, chosen for its interest.

The first step was to identify and select written sources and publications to provide the necessary information. In this case, we accessed monographs, congress or conference proceedings involving information professionals and journals specializing in Librarianship and Documentation, considering that all of these represent an essential channel of communication, not only for the sharing of professional experiences, but also for presenting lines of research, while providing up-to-date information. Concerning selection of samples, we applied criteria of prestige and continuity, as well as that sources were published in any format.

Regarding monographs, we have taken into account all those published so far. As for the proceedings from congresses or conferences, we selected the six that have most resonance out of all existing events, both in the professional and academic context, because of the quality of their organizers and because they represent variety, based on three criteria: meetings of general

type in national contexts, meetings of general type but of regional scope, and meetings related to a type of information center such as libraries and regional level centers.

Referring to Spanish specialized journals in Librarianship and Documentation, we have focused on the study of 12 that are included in major national and international databases of this field.

Finally, with regard to chronological time limits concerning the search of information from sources, we started from a certain date that has a particular significance for the present case. This is 1993, when Elías Sanz published an article entitled “*La realización de estudios de usuarios: una necesidad urgente*”⁷ (Undertaking studies of users: an urgent need), which resulted in the systematic and mindful inclusion of this issue in the context of Spanish Librarianship and Documentation. The search for information has been undertaken with reference to this date ending in June 2013, comprising a 21 year publication period in Spain.

Once the sources had been identified and selected we proceeded to locate studies that display the characteristics mentioned and which can be considered to constitute theoretical works on the subject. Subsequently we read these and undertook an analysis of their content, evaluating the data provided.

PRESENTATION OF RESOURCES USED

We have directly consulted sources in order to obtain the required information. These are now described in order to define the context where these publications appear.

Professional gatherings

By this we refer to all kinds of periodic events, where members of an association of professionals meet to discuss issues related to a work activity in previously organized events. We focus on communications or essays that are submitted but sometimes difficult to access because either they were not published or their publication has not been through the usual distribution channels, so the edition or delivery is limited to participants at the meeting. At times they may appear as a separate document, forming part of a collection or a special issue of a journal. If published as a result of this activity, they are usually termed “Proceedings”. These meetings can be held at a local, national

or international level and go by the names of conference, meeting, roundtables, etc. Their interest for scientific and professional contexts is as communication channels, because through these the latest trends and achievements are disclosed, serving not only to reveal ongoing investigations but also for keeping abreast of the profession and exchanging experiences and views. These are held frequently and at different locations, making it difficult to systematize this information. In the case of Spain, there is a publication⁸ which has collected those events aimed at professionals in Documentation held at regular intervals. From all these, for this study we selected those with greater representation as they received the highest rating both by Spanish professionals in Librarianship and Documentation, as well as by academics. Most of these enjoy continuity and all of them publish their proceedings:

1. *Jornadas Españolas de Documentación* (Spanish Conferences on Documentation)
2. *Jornadas sobre Gestión de la Información y del Conocimiento* (Conferences on Management of Information and Knowledge)
3. *Jornadas Andaluzas de Documentación* (Andalusian Conferences on Documentation)
4. *Jornades Catalanes d'Informació i Documentació* (Catalan Conferences on Information and Documentation)
5. *Jornadas Bibliotecarias de Andalucía* (Andalusian Librarian Conferences)
6. *Jornadas Bibliotecarias de la Comunidad de Madrid* (Librarian Conferences for the Madrid Community)

Except for the last, all are conferences organized by professional associations: FESABID (*Federación Española de Sociedades de Archivística, Biblioteconomía, Documentación y Museística*) (Spanish Federation of Archivistics, Librarianship, Documentation and Museology Associations), SEDIC (*Sociedad Española de Documentación e Información Científica*) (Spanish Society of Scientific Information and Documentation), AAD (*Asociación Andaluza de Documentalistas*) (Andalusian Association of Documentarists), COBDC (*Col·legi Oficial de Bibliotecaris-Documentalistes de Catalunya*) (Official College of Catalan Librarians and Documentarists) and AAB (*Asociación Andaluza de Bibliotecarios*) (Andalusian Association of Librarians), given that the first of these, FESABID, represents a broad and diverse group of professional

8 C. Tejada Artigas & L. Rodríguez Yunta, "Recursos de Internet sobre desarrollo profesional en Documentación 4. Reuniones científicas, congresos, jornadas, simposios y seminarios en España", in *Revista Española de Documentación Científica*, vol. 29 (1), 2006, pp.153-173.

associations. The *Jornadas Bibliotecarias de la Comunidad de Madrid* are the responsibility of a public body (the General Sub-Department for Libraries of the Madrid Community) and only they restrict participation of professionals from libraries in that organization. Although some carry in their name a determining feature (either geographical, or informational institution), the rest is open in terms of participation and subject. We selected the *Jornadas Bibliotecarias de la Comunidad de Madrid* due to the important role they played in the consolidation of the library system of this Autonomous Community, establishing agreed common criteria for all libraries dependent on this library system (decisive for the rest of the country).

The *Jornadas Españolas de Documentación* are held every two years and we have analyzed those from the IV (1994) to the XIII (May 2013).

The *Jornadas sobre Gestión de la Información y del Conocimiento* are held annually. We analyzed the papers published since the first edition (1999) up to the XV (2013).

The *Jornadas Andaluzas de Documentación* were held with this name for three editions (1997, 1999, 2003), to be renamed from 2005 as the *Foro de especialistas en Información y Documentación en Andalucía* (Information and Documentation Specialist Forum in Andalucía). They have been held eight times annually with this new name. For our study we analyzed the papers presented at this event from 1997-2012, as there is still no information on the latest, held in June 2013.

The *Jornades Catalanes d'Informació i Documentació* are held biannually, providing us with nine editions in the proposed timeframe: 5th (1995), 6th (1997), 7th (1999), 8th (2001), 9th (2004), 10th (2006), 11th (2008), 12th (2010) and 13th (2012).

The *Jornadas Bibliotecarias de Andalucía* are held every one or two years. We have analyzed editions from the VIII, held in 1994, until the XVI held in 2011. The XVII was held in October 2013.

Finally, the *Jornadas Bibliotecarias de la Comunidad de Madrid* have only published the proceedings from the 3rd (2002) and 4th edition (2004). However, we had access to the (unpublished) contents of these editions, the 1st (1991) and the 2nd (2000).

Specialized journals

For the identification of Spanish journals specializing in Librarianship and Documentation we have consulted DICE⁹ (*Difusión y Calidad Editorial de*

9 Refer to <http://dice.cindoc.csic.es/>

las Revistas Españolas de Humanidades y Ciencias Sociales y Jurídicas) (Distribution and Publishing Quality of Spanish Journals in Humanities, and Social and Judicial Sciences), a database product of a collaborative agreement between the *Consejo Superior de Investigaciones Científicas* (CSIC) (Higher Council for Scientific Research) and the *Agencia Nacional de Evaluación de la Calidad y Acreditación* (ANECA) (National Agency for Evaluation of Quality and Accreditation).¹⁰ This database aims to facilitate knowledge and consultation concerning some of the editorial characteristics more related to quality of the Spanish journals in Humanities and Social Sciences. Such characteristics relate to qualitative aspects as the evaluation mechanisms of originals to be published, the openness of management organs, the presence of various institutions unrelated to the publisher among the published contributions, dissemination of journals in multidisciplinary and specialized databases of international prestige, or the type of presence in the internet. The consultation of this resource has been contrasted with that of RESH (*Revistas Españolas de Ciencias Sociales y Humanidades: Valoración integrada e índice de citas*) (Spanish Journals for Social Sciences and Humanities: Integrated Evaluation and Citation Index),¹¹ which particularly provides data relative to the use and influence of journals, by the elaboration of citation indexes that calculate the impact of each on the nearest discipline environment. The fact that DICE provides information on Latindex criteria (Online Regional Information System for Scientific Journals of Latin America, the Caribbean, Spain and Portugal) fulfilled by the journals included, has made us consider this resource as having great fundamental validity, when selecting specialized journals for Librarianship and Documentation. We will focus on studying 12 of these, which are included in the main national and international specialized databases. The selected journals, among the 39 analyzed by DICE and the 33 collected in RESH, are as follows:

- 10 The entity that finances its maintenance and was created by the Research Group "*Evaluación de publicaciones científicas en Ciencias Sociales y Humanas*" (Assessment of scientific publications in Social and Human Sciences) from the *Centro de Información y Documentación Científica* (CINDOC) (Center of Scientific Information and Documentation), CSIC. ANECA uses DICE as a quality reference for Spanish publications in their teacher evaluation processes.
- 11 "This gives the results of the analysis of Spanish Journals of Social Science and Humanities from the point of view of their quality. First it presents the Citation Indexes from the years 1999, 2000, 2001, 2002 and 2003 from which the use and influence of each of the cited journals can be evaluated. From the cited journals, with a simple click, you can access basic bibliographic data of the journals, as well as compliance levels in terms of other key quality parameters, including editorial and international visibility, thus facilitating an overview on the different quality aspects of each journal, the basis of an integrated assessment" (Information obtained from the web page: <http://epuc.cchs.csic.es/resh/#>).

1. *Anales de Documentación* (Annals of Documentation)
2. *BiD: textos universitaris de biblioteconomia i documentació* (BiD: university texts on Librarianship and Documentation)
3. *Boletín de ANABAD* (ANABAD bulletin)
4. *Boletín de la Asociación Andaluza de Bibliotecarios* (Bulletin for the Andalusian Association of Librarians)
5. *Cuadernos de Documentación Multimedia* (Notebooks of Multimedia Documentation)
6. *Documentación de las Ciencias de la Información* (Documentation of Information Sciences)
7. *Forinf@. Revista Iberoamericana sobre Usuarios de Información* (Forinf@. Iberoamerican Journal on Information Users)
8. *Ítem. Revista de biblioteconomía i documentació*. (Ítem. Journal of Librarianship and Documentation)
9. *El Profesional de la Información*. (The Information Professional)
10. *Revista Española de Documentación Científica*. (Spanish Journal of Scientific Documentation)
11. *Revista General de Información y Documentación*. (General Journal of Information and Documentation)
12. *Scire: Representación y Organización del Conocimiento*. (Scire: Representation and Organization of Knowledge)

All these represent three sectors of activity in Librarianship and Documentation: academic, research and professional. We have to say that publication number 7 has been included omitting certain criteria used in the selection of sources: this comprises an electronic (not printed) journal that falls below others regarding the fulfillment of Latindex criteria; however, notably this is the only Spanish journal devoted exclusively to issues related to information users. All of these welcome contributions from both academic and professional sectors.

Los Anales de Documentación is a journal published by the Faculty of Communication and Documentation at the University of Murcia. This has been published annually up until 2010 and biannually since 2011. It has two complementary editions: the printed version, which was published until 2010, and the electronic version, available on the website of the University of Murcia.¹² This journal specializes in any branch of the Sciences for Documentary Information and its first issue was in the year 1998, so that, given the established time limits, we have consulted works published for 16 years, from

1998 to 2013. This publication meets 33 Latindex criteria in its traditional version and 36 in its website version.

The *BiD: textos universitaris de biblioteconomia i documentació* is the work of the Faculty of Librarianship and Documentation at the University of Barcelona. It has been published biannually since 1998. It meets 30 Latindex criteria. For our study, we have taken into account issues published from 1998 to June 2013.

The *Boletín de ANABAD* is published by the *Federación Española de Sociedades de Archivística, Biblioteconomía, Documentación y Museística*, which collects information relating to each of the matters associated with the activity of the various professionals who make up the association. It is published quarterly and has been published since 1950, making it the oldest specialized journal in Spain. For this work, we have been able to cover the entire period from 1993 to January 2013. This publication meets 19 Latindex criteria.

For its part, the *Boletín de la Asociación Andaluza de Bibliotecarios* is a quarterly journal (biannual in the last two years), edited by the same association, focusing on articles, reviews and news related to Librarianship and Documentation. The first issue appeared in 1984 and the last in 2011. Given the chronological limits, we have analyzed articles published over 19 years, from 1993 to 2011. This bulletin meets 27 Latindex criteria.

The *Cuadernos de Documentación Multimedia* is a publication from the Universidad Complutense de Madrid that aims to treat documents from a standpoint primarily related to new technologies. It is published annually with its first issue in 1992, named *Cuadernos de documentación audiovisual* (Notebooks of Audiovisual Documentation). From the 2nd issue, corresponding to 1993, the current name came into use. The last issue (23) was published in 2012. This journal meets 32 Latindex criteria.

The journal *Documentación de las Ciencias de la Información* is the responsibility of the Department of Librarianship and Documentation, School of Information Sciences at the Universidad Complutense de Madrid. It has been published annually since 1976 and meets 33 Latindex criteria. For this work, we have analyzed 20 volumes (from 1993-2012).

Referring to Forinf@. *Revista Iberoamericana sobre Usuarios de Información*, notably this is the electronic journal for the International Forum of Work with Users (FITCU). It has been published since 1998 and is the responsibility of the Laboratory of Metric Studies for Information at the Department of Librarianship and Documentation at the Universidad Carlos III. It is published quarterly but has not been published since 2007. It meets 27 Latindex criteria. Besides articles, other sections were taken into account,

such as the “Editorial” or “Communications” as this is the only Spanish journal specializing on the subject of information user studies.

The Official College of Librarians and Documentarists of Catalonia publishes *Ítem, Revista de biblioteconomía i documentació* since 1987, which collects together publications on all fields of activity of associated professionals. It meets 31 Latindex criteria, was published every four months until 2007 and biannually since 2008. For this project, we have taken into account the issues published from 1993 to January-June 2012, as this is the last one that appeared.

El *Profesional de la Información*, published bimonthly and biannually, is about information, libraries and new information technologies. The first issue appeared in 1992 with the title *Information World en español* (IWE) (Information World in Spanish) changing to the current title in 1998. Given the chronological limits of our research, we have analyzed the papers published from 1993 to January-June 2013. This publication meets 33 Latindex criteria and is the only privately printed journal which we deal with.

The *Instituto de Estudios Documentales sobre Ciencia y Tecnología* (IEDCYT) (Institute for Documentary Studies on Science and Technology) of the *Consejo Superior de Investigaciones Científicas* (CSIC) publishes the *Revista Española de Documentación Científica* (REDC) since 1977 on a quarterly basis. It meets 35 Latindex criteria. We have analyzed the articles published from 1993 until June 2013.

The *Revista General de Información y Documentación* is published by the Faculty of Documentation Science at the *Universidad Complutense de Madrid*. It was created in 1992, on a biannual basis until 2008, and published annually since 2009. It collects work generated by the institution's own research and from outside the institution, as well as that related to all aspects of its academic field. It meets 32 Latindex criteria. Analyzed volumes range from 1993 to 2013.

Finally, the journal *Scire: Representación y Organización del Conocimiento* is edited by the Ibersid Network¹³ and has been published since 1995. It is biannual and discusses representation, normalization, treatment, retrieval and communication of information and knowledge. We have analyzed the articles presented from its creation until the first issue in 2013. It meets 33 Latindex criteria.

13 International annual forum, which aims to facilitate the communication between professionals, researchers, professors and students of Documentation Science and related disciplines.

ANALYSIS OF PUBLICATIONS

Publication of monographs

Evidently among other advantages, the monograph provides a deeper development of the subject being studied with greater dissemination. If the monograph is also created with the aim of disseminating a little-known subject within a context such as the academic, with the intention of serving as support material for the classroom, its value is still greater. In this respect in Spain, we only have three monographs covering the theme of this study published by university professors who specialize on the subject. The first to appear was *Manual de estudios de usuarios* (Manual of User Studies) of Elías Sanz Casado; the second, 11 years later, the work of Aurora González Teruel entitled *Los estudios de necesidades y usos de la información: fundamentos y perspectivas actuales* (Studies of Information Needs and Uses: basis and current perspectives). This same author, along with Maite Barrios Cerrejón, in 2012 published the manual, *Métodos y técnicas para la investigación del comportamiento informacional. Fundamentos y nuevos desarrollos* (Methods and Techniques for the Investigation of Informational Behavior. Basic aspects and new developments). In the first two publications, we find a historical-conceptual approach to the topic with a pronounced introductory character, whose purpose is to support teaching, as it consists of two manuals. The last is an excellent work of practical application with the same purpose as the previous ones. The *Manual de estudios de usuarios* marked the first complete work to appear in Spain on information user studies and is one of the most cited in this context.¹⁴ It is a descriptive introduction to the history, concept and methodology to be applied in studies of information users. The second work completed the mentioned approaches in detail, emphasizing the use of qualitative methodologies applicable to user studies, infrequent in our country, besides focusing its interest on one of the components of these studies: informational behavior. The text by González Teruel and Barrios Cerrejón, although it does not go into conceptual digressions, focuses on methodological techniques applicable in the study of this same topic.

Apparently, there is no uniform criteria in these for the concept and term used to refer to this line of research of Librarianship and Documentation. What they all have in common is a strong interest in describing methods and techniques adopted from other Social Sciences, which are applicable to stud-

14 According to Javier Salvador Bruna, this is the second most cited book in Spain for the period from 1996 to 2006 ("Top ten. Diez años de investigación española en Biblioteconomía y Documentación (1996-2006)", in *Revista General de Información y Documentación*, no. 2, 2007, p.163.

ies of information users, perhaps because of limited experience in this area. Delgado López Cózar,¹⁵ anxious to define the extent to which Librarianship and Documentation are scientific in nature stated that research in these disciplines in our country is at an embryonic stage. From the study of the literature (scientific literature generated), he concludes that the most commonly used methods include surveys, historical and theoretical methods, but from the 1980s bibliometric methods become important. These disciplines are dominated by purely descriptive methods (what and how), aimed at resolving the problems of library practice (applied research), and methods are applied by authors who are markedly deficient in terms of methodological training.

Publication of lectures

Of the six meetings analyzed in their various editions, we have only found in four of these some lectures of our interest.

The VI edition of the *Jornadas Españolas de Documentación*, held in 1998, offers three articles dealing with issues related to the theory of studies of information users. These lectures are:

- “*Los estudios de usuarios en los programas de gestión de calidad. Propuesta de un marco teórico integrador para el estudio del usuario de información*” (User studies in programs for quality management. Proposal of a theoretical integration framework for the study of the information user) (1998)
- “*El cuestionario estructurado como herramienta básica para la evaluación de las instituciones documentales*” (The structured questionnaire as a basic tool for the evaluation of documentary institutions) (1998)
- “*La representación del usuario en la recuperación de la información*” (User representation in information retrieval) (1998)

The first two lectures are the work of the same authors, all of whom are related to academia and research and who have collaborated on other oc-

15 Refer to works “Los métodos de investigación empleados en la literatura científica producida en Biblioteconomía y Documentación”, in *I Congreso Universitario de Ciencias de la Documentación. Teoría, Historia y Metodología de la Documentación en España (1975-2000)*, Madrid: Departamento de Biblioteconomía y Documentación, Universidad Complutense de Madrid, 2000, pp.625-641; *La investigación en biblioteconomía y documentación*, Gijón: Trea, 2002; “La investigación por encuesta en Biblioteconomía y Documentación española: análisis de las encuestas publicadas en revistas y congresos de la especialidad entre 1976 y 1997”, in *Metodologías de investigación en Información y Documentación*, Salamanca: Universidad, 2004.

casions in relation to the subject of studies of information users: Mónica Izquierdo Alonso, Joaquín Ruiz Abellán and José Tomás Piñera Lucas. In the first lecture, the user is taken as the central axis for the model of total quality management, viewed from the perspective of quality applied to the reality of the informational documentary process, in all its phases (creation, processing, distribution, use and influence of information). Authors emphasize the importance of user studies for the successful implementation of a quality management program. They indicate the world of users as a multidimensional phenomenon with the existence of a significant number of determinants for evaluation, when conducting a user study. Thus they consider it necessary to define an interdisciplinary framework with the integration and complementarity of approaches; especially when there is no clear conceptual framework for the systematic study of the information user. The authors propose a methodological model for the study of the user from the perspective of the documentary communication process, based on authors' analyses, types of documents, types of users and the relationships between these three aspects. They also emphasize the importance of qualitative methodology based on the perception of the human being for studying the processes that determine the activation of a need, the factors that induce the transformation of this need into demand, individual or collective behaviors on the part of information users, processes creating informational habits, aspects of information use, etc.

The second lecture distances itself from this theoretical and conceptual approach, to present a very concrete methodology which refers to the elaboration of questionnaires. Stating that this tool is frequently (and poorly) used as a methodological tool for assessing documentary institutions, the authors provide a detailed examination of all the stages involved in its preparation, offering guidelines for compiling a rigorous and scientific design.

The third lecture provides a comprehensive study of the theoretical approaches that most influenced the outlook of the user of information retrieval systems. The author, María José López-Huertas Pérez endorses the conviction that there is a need to incorporate the user in the design and development of information retrieval systems, and analyzes developments in the theory of information retrieval, which has changed from an interest in the object, to an interest in the subject (user). She also presents a comprehensive description of information retrieval systems based on the user (some thesauri and classifications).

Meanwhile, regarding the *Jornades Catalanes d'Informació i Documentació* in terms of editions which could be included in the proposed time frame, only the 6th and 9th offered two works that we could consider:

- “*L’auditoria de la informació com a eina per millorar l’input d’informació dels usuaris en un entorn corporatiu*” (An audit of information as a tool to improve the information input of users in a business context) (1997)
- “*L’auditoria del coneixement com a pas previ per definir un projecte*
- *de gestió del coneixement: metodologia*” (An audit of knowledge as a preliminary step to define a project for knowledge management: methodology) (2004)

Both lectures have in common the use of a new terminology and a partial approach to the subject being considered, because they face the analysis of a specific application for studies on information users in the business environment.

The first lecture, the documentary work of Núria Casaldàliga Rojas and Cristina Soy i Aumatell, presents a study on what is understood by an audit of information,¹⁶ what can it be used for, in what cases should it be used, its status and analysis of some case studies. The work finishes by providing some methodological indications concerning its use, indicating some of the tools used (interviews and questionnaires).

Likewise, the second lecture proposes a methodology for auditing knowledge from an organization, destined to design a management project. The author, Montserrat García Alsina, a documentarist from a private company, describes in detail the aspects to consider before, during and after the audit and reflects on the benefits this can offer, as well as the risks involved. She also provides an example questionnaire for amassing data, differentiates between audit of information and audit of knowledge¹⁷ and notes that either of these contemplate the needs of information users.

The *Jornadas Bibliotecarias de Andalucía* offered one example of the works searched for:

- “*Nuevas demandas del usuario*” (New user demands) (2002)

The author, Roser Lozano, librarian, offers a reflection on the changes experienced in the public library-user relationship. She analyzes the phenomenon that explains the transformation of the public library focused on

16 A term that refers to the process/tool that makes it possible to determine the use that organizations make of this information, who their clients are, what information resources are available, how the information is distributed, why is it used and who manages and controls it, in order to establish an information policy for the company.

17 This deals with processed information and focuses on people and corporate culture that foster the creation of knowledge.

offering services to the public library focused on user demand. She indicates the new role played by this institution and stresses the importance of conducting studies on users and their environment, but mainly studies on non-users.

Finally, of all the lectures analyzed from the *Jornadas Bibliotecarias de la Comunidad de Madrid*, we highlight one that has to do with the issue we are interested, it is entitled:

- “*Evaluación y calidad de los servicios*” (Evaluation and quality of services) (2002)

This is an article presented by a team of librarians from public libraries. The authors, convinced of the need for quality, based on orienting services towards satisfying the needs and expectations of users, propose a series of tools that enable to evaluate the library as a whole, by assessing the needs of the community. Two models for evaluation are offered (qualitative and quantitative) as well as two types of tools (data logging and questionnaire), described in great detail. The aim of the proposal is to standardize actions in this respect and in all public libraries in this Autonomous Community.

As is apparent, in the various editions of the conferences analyzed, we only found seven articles that could be considered as theoretical studies on the phenomenon of information needs; among all the meetings, the *Jornadas Españolas de Documentación* represent those which offer the greatest number of records (three). This can be observed in Table 1.

Table1

Conferences	Period	Publications
<i>Jornadas Españolas de Documentación (biannual)</i>	From the IV edition (1994) until the XIII (May, 2013)	3
<i>Jornadas sobre Gestión de la Información y del Conocimiento (annual)</i>	From the 1st edition (1999) until the XV (2013)	0
<i>Jornadas Andaluzas de Documentación (irregular) / Foro de especialistas en Información y Documentación en Andalucía (annual)</i>	From the 1st edition (1997) until the VIII (2012)	0
<i>Jornades Catalanes d'Informació i Documentació (biannual)</i>	From the 5th edition (1995) until the 13th (2012)	2
<i>Jornadas Bibliotecarias de Andalucía (annual/biannual)</i>	From the VIII edition (1994) until the XVI (2011)	1
<i>Jornadas Bibliotecarias de la Comunidad de Madrid (irregular)</i>	From the 1st edition (1991) until the 4th (2004)	1

On the other hand, there seems to be no correlation between the number of published studies and the year when each event is celebrated (*Table 2*). The first does not necessarily increase with the passage of time, even taking all the conferences together. Thus we find an example in 1997, three in 1998, two in 2002 and one in 2004; that is to say, for most of the years analyzed, we did not find any example.

Table 2

Year	Publications
1997	1
1998	3
2002	2
2004	1

As for the approach to the subject, we can say that only one study was undertaken taking a generalist perspective, while others offer the analysis of some particular aspect (the new user demands in the public library, contemplating the user in information retrieval systems or what an audit of information means) or methodological proposals (how a questionnaire is done, a data recording sheet or an audit of knowledge) (*Table 3*).

Table 3

Approach	Publications
Generalist	1
Specific	6

Regarding authorship (*Table 4*), we see that all the authors are Spanish and professionals of information predominate (four articles) on university professors teaching our subjects (three papers). Projects undertaken by co-authors (four) also predominate over those written individually (three).

Table 4

Author characteristics	Publications
Spanish nationality	7
Other nationalities	0
Information professionals	4
University professors/researchers	3
Work by coauthors	4
Individual work	3

Publication of articles

Most journals analyzed offer us articles that relate to the subject of our interest, as out of the 12 publications selected, only three do not. These are: *Cuadernos Multimedia*, *El Profesional de la Información* and *Scire*.

The journal *Anales de Documentación* offers the following articles:

- “*El modelado orientado al usuario: una perspectiva global*” (User-oriented Modeling: a Global Perspective) (1999)
- “*La satisfacción del usuario: un concepto en alza*” (User satisfaction: a concept on the rise) (2000)
- “*El análisis de citas en trabajos de investigadores como método para el estudio del uso de información en bibliotecas*” (The citation analysis in research work as a method for the study of information use in libraries) (2001)

The first work is the translation of a text by Professor Tom Wilson, at the Department of Information Studies at Sheffield University (UK). It is a reflection on the study of information system users, based on computer systems. The author states that the design of these systems is more than just a technical or technological problem. Although computer manufacturers have been interested in the ergonomics of computer equipment and have designed tools equipped with appropriate characteristics to meet the psychological needs of the human being, the author proposes understanding the cognitive processes of the user to develop more appropriate systems. Thus, his work focuses on the effect of the cognitive style in the search for information, which reveals different behavior among people with different learning styles. The article continues with the analysis of the concept of information to locate and analyze the information user in different contexts: social, work, family, and ends up focusing on the study of the user while at work..

The second article was written by Carina Rey Martín, professor at the Faculty of Librarianship and Documentation at the University of Barcelona, concerned with studies of information users as evidenced by various publications on this topic. On this occasion, she presents certain conclusions on the concept of “user satisfaction” and proposes Rachel Applegate’s model for user satisfaction. Starting from the premise that studies on user satisfaction are really, studies of users, she upholds the effectiveness of these as reasonable criteria for assessing an information system in an operational environment and believes the most appropriate way is with a survey. At the same time, she states the lack of a conceptual framework in the field of documentation that

facilitates the realization of this type of research, as evidence shows that there are few user satisfaction studies either in Spain or in Europe, and those that do exist do not focus on libraries but rather on service companies. She refers to some studies that focus on assessing user satisfaction, that have been carried out in some European countries and presents some doctrinal contributions from different authors, concerning the concept of studies of user satisfaction.

Finally, Cristóbal Urbano Salido, professor at the Faculty of Documentation at the University of Barcelona, in the third article offers us an analysis of citations as an effective indirect method for studies of users and information needs, which does not interfere on the behavior of the studied group: researchers as library users. This is a literature review and a theoretical approach that offers recommendations concerning the application of this technique.

The journal *BiD. Textos universitaris de biblioteconomia i documentació* provides two articles that are in some ways similar:

- *Màrqueting i biblioteques: buscant la satisfacció dels usuaris* (Marketing and libraries: seeking user satisfaction) (2009)
- *“Les enquestes als usuaris de les biblioteques públiques de Catalunya: comentaris metodològics”* (Surveys on public libraries in Cataluña: methodological comments) (2009)

Both articles are short and conclusions reached are derived from practical experience. The first one, work by the university professor Manuel Cuadrado García collects brief concepts about marketing and the need to gather information about users. It is true that he does not explicitly discuss user studies, but perceives marketing as a discipline oriented to satisfy desires and needs of information “consumers”. The second article by Antoni Laporte Roselló, an information professional, offers a series of recommendations for good practices in questionnaires and another type of “studies of the public” derived from descriptions of the main user surveys applied in Catalan public libraries in the 21st century.

The *Boletín de ANABAD* presents us with two works that mainly focus on the methodology to be used in studies of information users:

- *“Metodología de cuestionarios: principios y aplicaciones”* (Methodology of Questionnaires: Principles and Applications) (1993)
- *“Integración de cuestionarios en el OPAC: reflexiones sobre su viabilidad”* (Integration of Questionnaires in the OPAC: Reflections on their Viability) (2004)

In the first, María Amérigo Cuervo-Arango, from the Department of Social Psychology at the Universidad Complutense, offers what are considered essential aspects when developing a questionnaire, analyzing some definitions of this concept. She identifies four stages in the development of this tool consisting of presentation, questions to be asked and their types, organizing topics and codification or presentation of data obtained.

On their part, Miguel Ángel Sánchez Herrador and Mariano Boza Puerta, consultants at the public libraries of Cordoba and Granada respectively, present a theoretical study in the second article, which proposes the inclusion of user questionnaires in OPAC (online catalogue), with the aim of increasing communication between the user and the library, by establishing a quick and constant flow of information to improve library management. As recommendations, the authors present a standard questionnaire, as well as the kind of information this would provide, and they also study its feasibility from different points of view: quality of information, relative aspects in terms of computer implementation, issues related to data privacy and impact on decision-making at the library.

The *Boletín de la Asociación Andaluza de Bibliotecarios* only has one article of interest to us:

- “*Los usuarios de la biblioteca universitaria*” (Users at the University Library) (1995)

Sonsoles Celestino, director of the University Library at Seville, having noted the changes produced in the context that affects libraries, reflects on what it is that users really expect from these, what can be considered as a good library and whether it is really possible to provide a library that responds to user and librarian expectations. She offers a concept of user, reflects on the information needs of the university community as a whole, and presents the basic principles in which, in her opinion, a university library should be based, obviously including user studies.

The journal *Documentación de las Ciencias de la Información* offers us three articles with very separate publication dates:

- “*Aportaciones en torno a los usuarios en Documentación*” (Contributions related to Documentation Users) (1998)
- “*La evaluación de colecciones: métodos y modelos*” (Evaluation of collections: methods and models) (2002)
- “*La importancia de la satisfacción del usuario*” (The importance of user satisfaction) (2011)

The first is written by the same authors who presented two lectures at the VI *Jornadas Españolas de Documentación*: Mónica Izquierdo Alonso, Joaquín Ruiz Abellán and José Tomás Piñera Lucas. Here they offer an extensive work, divided into two parts,¹⁸ which reiterates that expressed in the mentioned lectures, referring to studies of information users in general and the survey technique in particular.

The second article, by university professor Ana Pérez López, provides an extensive work on the different methods and models used to evaluate collections. Among them are “those that focus on users”, mainly detailing the way the user accesses a collection from an information center. She discusses quantitative techniques (record of library loans) as well as qualitative methods (interview, survey, observation), in detail.

The third and final article is written by Patricia Hernández Salazar, researcher at the *Instituto de Investigaciones Bibliotecológicas y de la Información* at the National Autonomous University of Mexico. The author focuses on the conceptual study of one of the elements of what Calva¹⁹ termed “the phenomenon of information needs”: user satisfaction; she emphasizes the need of its study and describes possible methods and techniques for this.

Forinf@. Revista Iberoamericana sobre Usuarios de Información is the publication which evidently has most articles related to the topic at hand. These are:

- “*Los métodos cualitativos en los estudios de usuarios: una revisión bibliográfica*” (Qualitative methods in user studies: a literature review) (1998)
- “*Propuesta metodológica en los estudios de usuarios y su aplicación al caso de la industria farmacéutica*” (Methodological proposal for user studies and their application in the case of the pharmaceutical industry) (1998)
- “*Usuarios y necesidades de información*” (Users and information needs) (2000)
- “*Sistema de factores de la conducta del usuario*” (System of factors of user behavior) (2000)
- “*Las investigaciones cuantitativas y cualitativas en Ciencia de la Información: algunas consideraciones*” (Quantitative and Qualitative Research in Information Sciences: some considerations) (2001)

18 In the heading of the inside pages of the article we find as the title “Dos aportaciones en torno a los usuarios en Documentación”.

19 Refer to Calva González, *op. cit.*

- “*El usuario de la información: unidad de observación mensurable y convergente en los Estudios Métricos de la Información*” (The information user: measurable and converging unit of observation in Metric Information Studies) (2001)
- “*Los estudios de usuarios: asignatura pendiente para la Archivística*” (User studies: pending assignment for the Archivist) (2002)
- “*El usuario de la información y la biblioteca escolar*” (Information user and the school library) (2003)
- “*El diseño centrado en el usuario para la creación de productos y servicios de información digital*” (Design focused on the user for the creation of products and digital information services) (2003/2004)
- “*Estudios de usuarios y archivística: una alianza lógica*” (Studies of users and the archivist: a logical alliance) (2004)
- “*Perspectiva sistémica de los estudios de usuarios de información*” (Systemic perspective of studies of information users) (2005)

The first article is written by a Costa Rican Professor, Saray Córdoba. She presents a list of some literature contributions on unconventional methods and techniques applied to studies of information users.

The second article, written by the university Professor María José Ordóñez Vergara, states the development of a study of information users. It focuses on the description and detailed reasoning process employed by the author in the research carried out on a specific user community.²⁰

The third is not really an article, but the translation of a conference given by the Indian Professor H.N. Prasad. It provides a broad conceptual overview on the phenomenon of information needs: emergence of the need, information behavior, use and satisfaction, etc. The speaker stresses that this subject, as a discipline is underdeveloped, thus work on its conceptual framework needs to continue.

The fourth article, work of the Cuban researcher Enrique González Suárez offers a possible methodological model for addressing the studies of information users called “factor system of user behavior,” which includes the “productive and informational scientific environment of the user in the social environment,” information needs, “awareness of information needs,” “informational motivation,” “decision to implement informational activi-

20 Results obtained were disclosed in two articles: “La entrevista personal: método para el estudio de usuarios de información”, in *Forinf@ Revista Iberoamericana sobre Usuarios de Información*, no. 14, October-December, 2001, pp. 6-23 and “El consumo de información en la industria farmacéutica. II. Resultados de una encuesta”, in *Revista Española de Documentación Científica*, vol. 23 (2), 2000, pp.179-196.

ty,” “informational preparedness” and “informational activity of the user, where informational preparedness is performed through actions and informational operations.” The author describes the characteristics of each of these concepts.

The fifth work is similar to the third in the sense that it is the text from a conference. It is the work of Cuban professor Ramadés Linares Columbié. It provides a brief reflection on the use of qualitative research in what he refers to as “Information Science,” that is, research alternatively focused on the user.

In the sixth work, the Mexican researcher Salvador Gorbea offers us an approximation to metric information studies (Library Metrics, Bibliometrics, Infometrics, Archivalmetrics), showing different possibilities for user studies at different levels.

Regarding the seventh work by Professor M. Paz Martín Pozuelo, we find an editorial note claiming the need of user studies for theoretical and practical Archivistics. Although she does not go deeply into any topic, it is interesting that this issue is addressed in the context of Archivistics, since at least in Spain there are few conceptual or practical experiences.

In the eighth study, the Professor and Mexican investigator Juan José Calva González offers us a comprehensive reflection on an unusual type of information user such as children and adolescents. He raises certain subjects related to this context and types of research that can be carried out regarding this sector.

The ninth article by Professor Jesús Tramullas Saz studies the basic concepts in system and interfaces design for user-centered computer applications, addressing the different approaches discussed and techniques employed. He emphasizes the importance of the user to develop this design.

The penultimate article continues with a theme discussed earlier in this journal: the need to consider user studies in an area where they are not usually found, such as the Archivistics. The Professor and archivist Alfonso Ruiz Cagigal presents a short essay in which he attempts to point out the need for studies of information users for the Spanish archivists, as there is little experience in this area. He lists some of the possible applications of great value, a center assessment, identification of user groups and content production, among others.

Finally, the documentary producer Rita Santaella offers an article that presents user studies as a subcomponent of the documentary system. She points out the need to systematize the process of a user study so it can be extrapolated in investigations of similar characteristics. She puts forward a theory, based on a common model, which includes a set of rules of engage-

ment to operate independently from the concrete example applied, that in this case is three archives of a Spanish city.

The journal *Ítem* presents two articles of interest:

- “*Els serveis als usuaris en les biblioteques universitàries*” (Services for users in university libraries) (2009)
- “*Els usuaris: algunes reflexions al seu voltant*” (Users: some comments about them) (2009)

In the first, librarians Cristina Güells and Judit Casals approach the study of the services that current university libraries should provide for their users, primarily considering their information needs and the changes occurred in the external environment. They offer a very interesting classification of these services, according to needs and user types.

Professor Carina Rey Martín states in the second article that not only there is no consensus concerning the definition of “user” but also with reference to its typology, while reviewing the comments of different authors. She analyzes the terms employed and others which have not been accepted (“consumer”, “client”). After a brief historical review of her practice, she emphasizes the need to undertake user studies. The article is found in one of the issues of the journal, whose content is devoted to information users in celebration of the publication’s 50th volume.

The *Revista Española de Documentación Científica* offers only one article among all the volumes analyzed:

- “*La investigación cualitativa y sus aplicaciones en Biblioteconomía y Documentación*” (Qualitative research and its applications in Librarianship and Documentation) (1999)

From the study and analysis of the themes and techniques used in research articles in two American journals and one British, the university Professor Ángel Borrego Huerta concluded that most of those using qualitative techniques, study user behavior in information retrieval. Subsequently, he presents the main features of the research that uses qualitative methodology. In truth, he does not expressly mention studies of information users, but he discusses the research methodology employed in them.

As for the *Revista General de Información y Documentación*, we can say this is one of the journals that gathers more articles related to the topic at hand. These are:

- “*La realización de estudios de usuarios: una necesidad urgente*” (Undertaking user studies: an urgent need) (1993)
- “*Técnicas bibliométricas aplicadas a los estudios de usuarios*” (Bibliometric techniques applied to user studies) (1997)
- “*Porqué requerimos una metodología para el estudio de las necesidades de formación e información en las organizaciones y comunidades*” (Why we need a methodology for the study of training and information needs in organizations and communities) (2001)
- “*Los estudios de usuarios en los planes de estudio de Biblioteconomía y Documentación*” (User studies in the study plans for Librarianship and Documentation) (2007)
- “*Metodología de investigación en estudios de usuarios*” (Methodology for research in user studies) (2007)
- “*Análisis de la Investigación Cualitativa en el área de Biblioteconomía y Documentación (1981-2010)*” (Analysis of Qualitative Investigation in the area of Librarianship and Documentation) (2013)

The first article is the one we considered as a reference to delimit our search chronologically since it can be considered as the first article to be published in Spain that deals theoretically with these topics. After a brief description of the evolution of user studies, it considers what is meant by this term and lists various methodologies to be applied.

In the second article, Elías Sanz Casado and Carmen Martín Moreno, both academics, speak of the interest in applying bibliometric techniques to scientific consumption and production, as a way of undergoing studies of information users. Throughout the work what is meant by Bibliometrics is defined, resulting in a history of the application of these techniques to user studies, it also discusses types and applications of bibliometric indicators, in particular in terms of published documents.

As for the third article, this is an extensive work by the Cuban Professor Israel A. Núñez Paula, the result of his bibliographic investigation on research trends in the field of Information Sciences. From the results obtained, two factors emerge on which he focuses his interest; first, the constant need to undergo user studies, dealing with the training and information needs and expectations to design and develop new services and products; secondly and contradictorily, the poor conceptual, methodological and practical treatment that has been given to studies of information users.

The fourth and fifth articles are the work of two university professors, presented as lectures at the *XVI Jornadas EUBD/FADOC: Los estudios de usuarios de información* (XVI EUBD/FADOC Conferences: Studies of information

users).²¹ In the first of these María Luisa Lascurain Sánchez provides a brief introduction to the subjects related to the studies of information users, found in the study plans of Librarianship and Documentation Bachelor's Degree in the academic year 2006-2007. The rest of the article is devoted to present a brief history of user studies and to expose what the author considers should be their objectives and contents in the curriculum. She devotes a section to briefly discuss the role of this issue for the proposals for graduation in European Higher Education. As to the second article, the work of Professor Carmen Martín Moreno, this provides a brief theoretical compendium on user studies that closely follows the outline of the book by Elías Sanz that we have taken as a reference: brief history, definition, applications, methods and data collection techniques... She dedicates a brief final section to scientific methodology in general and its application to studies of information users.

The last article, written by Beatriz Morena de Diago, Ph.D. in Documentation Sciences from the Universidad Complutense de Madrid, offers a literature review of some works dealing with qualitative methodology. Although not specifically addressed to the theory of studies of information users, it describes some techniques applicable to this type of research.

As seen in *Table 5*, among the various volumes of journals analyzed, 31 works are considered in our study; out of these, *Forinf @* offers the greatest number of texts (11).

Table 5

Publication	Period	Articles found
<i>Anales de Documentación</i> (annually until 2010, biannually from 2011). 33 and 36 criteria	1998-2013	3
<i>BID. Textos universitarios de biblioteconomía y documentación</i> (biannual). 30 criteria	1998-2013	2
<i>Boletín de ANABAD</i> (Quarterly). 19 criteria	1993-2013	2
<i>Boletín de la Asociación Andaluza de Bibliotecarios</i> (Quarterly until 2009, biannually from 2010). 27 criteria	1993-2011	1
<i>Cuadernos de Documentación Multimedia</i> (annual). 32 criteria	1993-2012	0
<i>Documentación de las Ciencias de la Información</i> (annual). 33 criteria	1993-2012	3
<i>Forinf@. Revista Iberoamericana sobre Usuarios de Información</i> (quarterly). 27 criteria	1998-2007	11

21 XVI Jornadas EUBD/FADOC: *Los estudios de usuarios de información* (March 15 and 16, 2007. Faculty of Documentation Sciences, UCM). Notably the academic session for these was celebrated together with the IV Seminario hispano-mexicano de investigación en Bibliotecología y Documentación.

► <i>Ítem. Revista de biblioteconomía i documentació</i> (three times a year until 2007, biannual from 2008). 31 criteria	1993-2012	2
<i>El Profesional de la Información</i> (bi-monthly and biannually). 33 criteria	1993-2013	0
<i>Revista Española de Documentación Científica</i> (quarterly). 35 criteria	1993-2013	1
<i>Revista General de Información y Documentación</i> (biannual until 2008, annual since 2009). 32 criteria	1993-2013	6
<i>Scire: Representación y Organización del Conocimiento</i> (biannual). 33 criteria	1995-2013	0

Moreover, there seems to be no correlation between the number of articles published and the year in which the different volumes analyzed are published. The first does not necessarily increase with the passage of time, even when considering all the journals together. It is true that publications were issued during a greater number of years than those when conferences were held, so that of the 21 years analyzed, only in the case of six (1994, 1996, 2006, 2008, 2010, 2012) no examples were found. The years in which more articles related to the topic were published have been 2001 and 2009, with four articles; in second place were the years 1998, 2000 and 2004, with three articles; and then, 1993, 1999, 2002 and 2007 with two, and the rest with only one (*Table 6*).

Table 6

Year	Publications	Year	Publications	Year	Publications
1993	2	2000	3	2007	2
1994	0	2001	4	2008	0
1995	1	2002	2	2009	4
1996	0	2003	1	2010	0
1997	1	2004	3	2011	1
1998	3	2005	1	2012	0
1999	2	2006	0	2013	1

As for the type of approach to the subject, we could say 14 articles include a general view, addressing issues such as the need for studies of information users in different contexts, or dealing with what is studied in courses devoted to the training of future information professionals. Seventeen articles are specific, eight of these discuss data collection methodology (fundamentally qualitative), two are about types of users, three about techniques and data collection tools and four about applications for user studies, including the evaluation of the collection, marketing, user-centered design, study of satisfaction or Archivistics (*Table 7*).

Table 7

Type of approach	Publications
Generalist approach	14
Specific approach	17

Regarding authorship, we discovered greater variety in terms of nationality of the authors, as there are nine articles by nationalities other than Spanish (one British, another Hindu, three Cubans, one Costa Rican and three Mexicans). Most of the authors are university professors or researchers in Librarianship and Documentation, resulting in only five articles signed by information professionals and one written for a Ph.D. This proportion is also seen in the way work is accomplished, as most of the articles (27) are signed by a single author and only four by more than one author, so that individual work predominates over group work (*Table 8*).

Table 8

Parameters	Publications
Spanish nationality	22
Other nationalities	9
Information professionals	5
University professors/Researchers	25
Doctorate students	1
Coauthored article	27
Individual works	4

Finally, two papers are translations of lectures given by their authors, but we considered these in the calculations since they have been published as articles in Spanish journals, indicating the interest of those responsible for publicizing these issues.

CONCLUSIONS

After completing this study we are able to reach the following conclusions:

1. Publication of work in Spain on aspects related to the theory of studies of information users is scarce, as for the 21 years analyzed only three monographs, seven lectures and 31 articles have been found.

2. Monographs published during the selected period are introductory in character and serve a didactic interest, to support the authors teaching in the university training of future information professionals.
3. The most used periodical source for publicizing works with these characteristics is the journal, through the article. Only seven of the identified studies have been reported from conferences, while 31 have been from specialized journals. It is true that conferences are celebrated less frequently than the periodicity in which the different volumes of the analyzed journals are published, but it is significant that we found examples of what is sought in nine out of 12 journals, and only in four out of 6 conferences. This suggests that the article is the most appropriate vehicle for the theoretical approach to a topic.
4. Most of the lectures belong to the *Jornadas Españolas de Documentación*, a gathering which enjoys great diffusion in Spain, as it is organized by the FESABID (*Federación Española de Sociedades de Archivística, Biblioteconomía, Documentación y Museística*). However, the greatest number of articles does not correspond to the journal which meets most Latindex criteria and is supposed to be the most prestigious (*Revista Española de Documentación Científica*), but to one of the journals that has less (*Forinf@*). The reason is this is the only Spanish journal that specializes on the subject of studies of information users.
5. Regarding the year of publication, we can say that four years pass since the article by Elías Sanz appears, article that we have taken as an initial time reference, and three years since the publication of the first monograph on the subject (in 1997 and by the same author), until the first works appear both in conferences and journals. Since that time (1993) until today, we have examples of work, except in the years 1996, 2006, 2008 and 2010. Notably, the passage of time does not imply an increase in publications among any of the sources studied, as the greatest number of works corresponds to the year 1998 (six);²² it is also true that they have not stopped being published, even in the last year. This brings us to the conclusion that this issue still continues to be of interest in our area.
6. Regarding the type of approach to the subject at hand, the specific

22 Considering that the article published in the journal *Documentación de las Ciencias de la Información* during that year holds the same text as the authors presented in two lectures during the VI *Jornadas españolas de Documentación*, then it appears that in 1998 we only have four works of interest, as occurred in 2002.

approach predominates, 24 works (a monograph, six lectures and 17 articles) over the 41 identified. Of all the aspects dealt with, the analysis of methodologies and data collection techniques predominates (a monograph, three lectures and eight articles). Other discussed issues are, in order of interest, the user, various applications for user studies and methodological proposals. The rest deal with the issue in a generalized way: two monographs, a lecture and 14 articles.

7. With regard to authorship, out of the works analyzed we can say that Spanish authors predominate (32), university professors or researchers of Librarianship and Documentation (32), and those working individually (32). Either way, if we consider data obtained in terms of the source where they appear, we see there are differences between them, as in the case of lectures, where there is a majority of authors who are information professionals (four out of seven), while for articles, most authors are university professors or researchers (26 of 31). The same applies to monographs, whose authors are university professors. There are also differences in the way they work, as in the case of lectures, it is more usual to find co-authors (four to three), while in the case of articles, these are usually the work of an individual (27 of 31). In the case of the three monographs only one is written by two authors. This suggests that the theoretical approach to a topic turns out to be an activity of individual conception.
8. Apparently the theoretical framework for studies of information users in Spain is primarily located in the university context, not only because most of the authors of the identified works are university professors or researchers, but also because the sources where most articles on the subject have been published are two journals which are the responsibility of a university department (*Forinf@*) and one faculty (*Revista General de Información y Documentación Científica*).

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