

Libraries and Information Services and the Content Analysis Method in Scientific Literature Produced in the Areas of Librarianship and Information Sciences in Mexico.

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Abstract. Information Services is defined as the activities carried out informative institutions to meet the information needs of its users. As the diversity of users and information services provided by libraries presents a variety of shapes and designs, so finding methodologies for understanding the current and prospective situation in which they find these services, essential. This article studies the cases, manner of application, and results obtained from utilizing the content analysis method in the postgraduate theses carried out in the area of Librarianship and Information Sciences in Mexico.

Keywords. Information services; Libraries and information services; Content analysis; Qualitative methodology of investigation.

1. Introduction

Ortega y Gasset, spanish philosopher and essayist (1883 - 1955), author of the Mission of the Librarian, modern library located around 1850 when the existence of books was sufficient and dissemination needs require the organization and selection documentary. Thus, in the twentieth century library activities focused on the organization of documents and in the XXI century trends are oriented human capital, content and services.

In general, services can be defined as the activities, benefits or satisfactions offered for rent or sale, and are essentially intangible and do not give as factual, performance or ownership of something physical, even when it involves the application of human or mechanical efforts to people or objects. (Thompson, 2013)

According to ISO 8402, services are the result generated by activities at the interface between the supplier and the customer, and supplier internal activities in order to respond to customer needs.

Library information services refer to activities consisting in facilitating access to information and meet the information needs of users. Traditionally they are: Counseling Services, Information and Training.

However, library information services are based on the type of library in question and the types of users who care, so there is great diversity in the ways to offer these services, making their study in an essential activity to achieve better results in achieving the goals set. Using the content analysis method is not widely used for the study of these activities, but in the field of postgraduate research in Mexico, was detected use of imaging and diffusion, training professionals' conceptualization and librarians, as discussed below.

2. Content Analysis

Some of the objectives followed by the Content Analysis (CA) method are to study the symbols, meanings, and messages issued by the communication media, as well as their functions and effects on society. This analysis has been used to find valid and reliable data for identifying explicit and implicit components of communicative products (texts, messages, speeches, among others), issued and recorded through communication media.

The process of investigation considers the *communicator characteristics, message effects on the auditorium, degree of public tension, sociopolitics, mediation processes, values, prejudices, cultural differences, institutional limitations*, (Krippendorf, 1997) among other aspects. All these influence to a greater or lesser extent on the creation of judgments and social opinions, and consequently, in the behavior, attitude, and expectations of individuals towards certain activities, professions, people, or institutions.

Although in the beginning CA was considered a descriptive and quantitative technique, nowadays it combines observation and data production. Data is obtained by means of its conceptual structure and its relations with inference, interpretation, as well as analysis of the characteristics of the message, sources, and receptors. This investigation method has evolved at the same time that social, scientific, and technological progress of the society itself. Three approaches can be distinguished: quantitative, qualitative, and mixed, which is the combination of both.

This combination completes and improves the results obtained, where evident contents are as important as latent. Currently, software application, mainly developed by the investigator himself/herself, facilitates the processing of alphanumeric data, helping in the analysis and interpretation process.

3. Content Analysis Method in Librarianship and Information Sciences

Every field or discipline has adapted CA according to its interests. In Librarianship, it has been used to study aspects related with content relevance of library collections, content comparison in novels and movies, the analysis of

how African-Americans were addressed in the United States in four significant adult encyclopedias, as well as documents published by public libraries directors to determine the impact of depression in metropolitan libraries (Busha, 1990).

On the other hand, European countries such as Germany and Spain have used CA to get to know the library's image and public perception so results may help in its promotion and coverage; also, it has been used to compare and analyze changes in perception, concepts, and tasks given by society to this institution through time (Mireles, 2010).

In Mexico, the programs for a Master's degree in Librarianship and Information Sciences have been offered since 1972 at four universities: National Autonomous University of Mexico (UNAM), College of Mexico (COLMEX), Technological of Higher Studies of Monterrey, and the most recent at the Autonomous University of Chihuahua (UACH).

For this investigation, the theses completed in the time frame at three of the universities mentioned before were explored. In one university information was not available. Afterwards, the general introduction of each of them was analyzed to identify the method employed. In total, fourteen theses of the COLMEX were reviewed and seven theses from the UACH presented to date, as well as a sample of thirty works submitted in the UNAM from 2000 to 2010. The use of the CA method was identified in three cases from the latter university that were analyzed in the following way:

A. First part: Identification data: Title. Year. Tutor.

B. Comparative chart:

Content data based on the general process of the CA method: Objective; Research Problem; Determination of the Universe of the Study; Category System; Codification; Application of an Instrument; Quantification; Inference. After that, the conclusions of the analysis are presented.

4. Results

Identification data:

Nu mber	Title	Y ear	Thesis Director
1	La imagen pública de la biblioteca a través de la prensa en México. (<i>Public image of the library through Mexican press.</i>)	20 05	Jane Russell Barnard
2	La formación de usuarios en la educación bibliotecológica mexicana: nivel licenciatura. (<i>Users training in Mexican librarianship education: bachelor's level.</i>)	20 06	Patricia Hernandez Salazar
3	Estudios de Usuarios. Su conceptualización. (<i>User studies. Its conceptualization.</i>)	20 09	Patricia Hernandez Salazar

Comparative chart:

(Public image of the library through Mexican press.) (2005)

Director: Jane Russell Barnard.

To define the public image of the library by the application of an instrument for content analysis of the press notes published in the main newspapers of national circulation was the objective of this investigation. Based on the assumption that, nowadays, communication media is an important factor in the shaping of public images given its presence in several social activities of human beings.

In this aspect, studying the characteristics of the messages and their effects in receptor audiences has become a constant activity in several areas. This has been the case for commercial areas, but also educational and scientific areas to introduce, take a position, correct, or strengthen the presence of services, products, professions, or institutions, among others.

For a social institution such as the library, to identify its public image is an opportunity to reassess and strengthen its identity or essence, as well as to communicate its functions in the best way possible and justify its presence and social relevance.

As the universe of the study, the periodical "BIBINFOR: Bibliotecología e Información: Noticias periodísticas" (BIBINFOR: Librarianship and Information: Press news) published by the University Center of Librarianship Investigations (CUIB) of the National Autonomous University of Mexico (UNAM) from the year 2001 to 2002 was chosen as a main reference for this study, as well as the newspapers divulged through the Internet and published in the states of Mexico. Seventy-seven websites of Mexican digital newspapers were analyzed, but only 2 met the proposed requirements.

Finally, 2,843 news referring to the Library were reviewed, from which 286 fulfilled the established requirements, mainly that they would name the Library as an Institution. After performing several tests on the texts being the object of analysis, the validity of the instrument (category system) used in this study was proven. The instrument included 11 categories, the first 7 allowed to put into context the theme in question. The remaining categories provided data for the thematic and conceptual analysis since they focus on the study of the analyzed texts intrinsic characteristics. At the same time, category 9 was subdivided to obtain a better perspective of the content characteristics of messages and library-related themes, allowing a more accurate analysis to achieve the proposed objectives.

Since there was only one codifying person, reliability, known as the instrument's accurateness and consistency in its application, was established with the application of the instrument in a consistent fashion to the newspapers notes. These notes were examined with a codification format elaborated for such purpose. Categories were divided in recording units, i.e., specific contents of the texts being the object of study were fragmented to achieve the identification of the main components of the messages divulged by this medium. This was significant because these components shape the public image of people or

things, according to theories developed from communication sciences. To analyze each category, results were quantified with Excel® software, establishing relations among variables and elaborating the corresponding charts. Every category had corresponding inferences which supported the final result and the conclusion of the study: ***The current image of the library in the country is that of an institution in transition, connected to the traditional aspects of books, reading, and shelter.***

mexicana: nivel licenciatura. (Users training in Mexican librarianship education: bachelor's level.) (2006) Director: Patricia Hernandez Salazar

The aim of this investigation was *to determine the presence of the users occurrence by analyzing the curricula of the bachelor's degree on Librarianship and similar sciences in higher education institutions which offer it in Mexico.*

This objective is significant because it has been detected that users training offered in schools is minimal, limited to some type of instruction about the library, management of electronic catalogs, and use of databases, among others.

The universe of the study was the Schools of Librarianship in the country, having in every case the study plan with the respective programs for each subject. The line of services where subjects relative to the user are offered were carefully chosen to represent it.

Six schools offer the bachelor's degree on Librarianship in the country, however, only 3 study programs met the requirements for this study, such as: clearly define the name of the subject, objective, syllabus, learning activities, approving criteria, and basic and complementary bibliography.

Regarding reliability, a value of a higher to a lesser degree was assigned to each one of the analyzed elements, according to the impact level they have within the subject. Afterwards, a quantitative analysis of the composing elements was performed, filling out the obtained data in a chart to proceed with the qualitative analysis of the revealed categories. The analysis units, context units, categories, and syntactic units are developed according to the theoretical body established. Six categories were determined (User, Information, Levels of users training, Stages to design programs for users training, Techniques for users training, Didactic media) and each one of them covered a different number of syntactic units.

Inferences of each program of the analyzed subjects in the 3 schools are presented and later, general inferences are also shown. As a general result, ***a limited presence in the analyzed subjects of the three schools was determined, demonstrating the need to reinforce and increase the contents of theoretical aspects about users training.*** It was confirmed that until the 4th semester the student of the bachelor's degree on Librarianship acquires some theoretical knowledge relative to the subject in question, however, it is insufficient to achieve a successful program of users training.

(User studies. Its conceptualization.) (2009) Director: Patricia Hernandez Salazar

The objective of this study was *to establish a concept of the user studies occurrence that may be accepted by the Latin-American Librarianship community, with the purpose of contributing to the creation of the theoretical frame of Librarianship and Information disciplines.*

This is significant because a conceptual theoretical frame that includes the subject of User Studies is lacking. Analysis units are represented by several document types such as monographs, theses, and articles from periodical journals registered in the database called INFOBILA. These were created in many Latin-American countries like Argentina, Colombia, Cuba, Costa Rica, Ecuador, Mexico, Panama, Peru, Uruguay, and Venezuela. Two hundred and fifty-three records were recovered and 46 analysis units, from which only 16 fulfilled the requirements to meet the target.

An extension list was created considering the general rule with 44 categories, divided in semantic, lexical, syntactic, and complementary. The quantification was carried out from a matrix in which the information for classifying them and proceeding with their study was brought together. The frequency of each one of these categories was the measure used as the enumeration rule and the mode was the central tendency measure to identify the value of higher frequency or occurrence. In other words, the value most repeated in a group.

Eleven inferences were established, achieving the fulfillment of the proposed objective. The result is expressed in the following definition: *User studies have the same meaning that a group of investigation methods used for obtaining important facts to detect the habits, characteristics, attitudes, and behavior of users in the recovery and use of resources and information services offered by the libraries, so that communication is established to allow the planning of several services and the fulfillment of their information needs.*

As it may be observed in these 3 examples, even when the aim of each was very different, there are several similarities related to the application of CA, such as:

- Based on the work of Krippendorf, the definition given is that of an Investigation Technique. The methodology established by this author was followed.
- The theses were individual so there was no problem codifying the records in each one of them.
- Each category and record unit employed was carefully defined from specialized dictionaries and encyclopedias.

Among the differences, we found the way of quantification, higher frequencies in 2 theses and the assignment of numerical values in the other. On the other hand, categories were divided according to each author on the concepts used as well as established objectives.

5. Conclusions

CA is a method composed by a series of techniques that identify certain characteristics of communicative products through obtaining quantitative or qualitative indicators, or both, with the aim to infer their production and

reception conditions. This is achieved with the systematic, impartial, and valid reading of the messages chosen to become significant information units, under which certain common characteristics are revealed.

The use of CA in different studies presents a series of related advantages, like its relative ease of application producing quantifiable data, as well as the great variety and quantity of subjects on which it may be used regardless of the time they were produced. Therefore, it may be stated that every communication is susceptible to be analyzed by this method.

Although CA is considered a method with a relative ease for its application, and its effectiveness to meet the proposed objectives has also been demonstrated, it is slightly used to carry out investigations in the area of Librarianship and Information Sciences in Mexico. It is inferred that the main cause for not being used as much is the ignorance of its advantages, like the broad fields of application where it may be employed or the software created for it. Also, another cause may be the minor disclosure of the studies using this method.

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