From library to classrooms: building learning and knowledge communities from the information services

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Abstract: The objective of this study is to analyze the way that libraries and their information services are involved as mediators in Learning Communities in libraries and classrooms and how knowledge is constructed. The precedent of this research is a PhD project where the library is conceived as a learning community within the framework of social relations and the construction of knowledge. The type of study is analytical and descriptive. Result, after to describe the features, functions and products of libraries, we found how information skills are developed in students and how they built the tacit and explicit knowledge. From this contribution we propose a model to design the library as a Learning Community.

Keywords: libraries; information services; learning communities; knowledge communities; education.

Introduction

This paper is the following of a research presented last year at the *International Scientific Symposium. Information Society to Knowledge Society. Network and Exchange Knowledge Communities*. (González & Martínez, 2010). After that presentation we found that place librarian jobs had changed and diversified. This phenomenon caused for introduction of Information and Communications Technology (ICT), as librarian work tools as an implement to offer information services. Information services can be implemented anywhere, libraries or classrooms. This versatility is an advantage; librarian can move freely in physic spaces and using virtual tools to implement information services. Other reason to do this study is that we have observed librarians or information professionals had acquired new roles, as teacher and as research (Figure 1).

Figure 1. New paradigms about librarian tasks
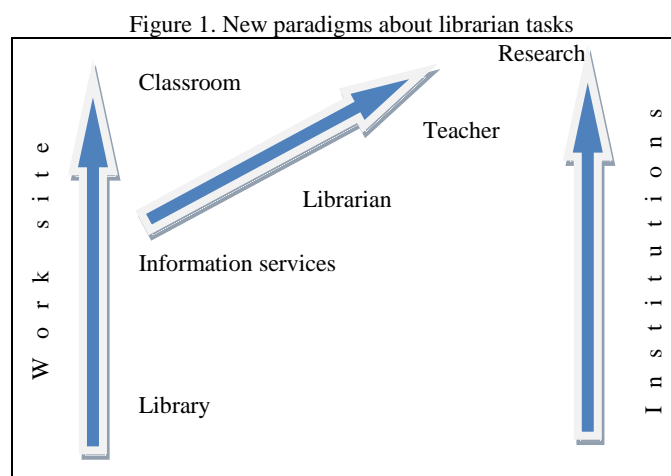
Source: own elaboration

Information society demand different ways to communicate us to attend aspects such as, politic, culture, education, health, etc. Libraries are organisms that provide information to

communities. Those communities are inserts in a global society that change and require innovative mechanisms of information services. Traditionally, libraries had to have give support to institutional or organizational goals. Nowadays, librarians or information professional get in new task to reach those objectives, for example to prepare educative planes or development institutional programs. Educational institutions, in the beginning, had to attend only instructional and teaching-learning activities to prepare students to insert to labor market. Now, institutions have the aims to lifelong learning.

After to describe this introduction, our proposal is**:** to analyze the way that libraries, and its information services, are involved as mediators in the learning communities in two spaces: libraries and classrooms.

Library: Components, Function, and Products.

Information society requires that people develop skills to use ICT and libraries need that their users increase skills in information seeking. Through human history, libraries have played important roles to develop societies like documental, informative and knowledge repositories. Principal function's libraries are: Organize, systematize and manage documental collections; Acquire or maintain furniture and equipment; Organize, manage and maintain infrastructure; Attend, according to profiles and needs, users; Select, train and update staff; Design, plan, and offer library and information services (Figure 2).

Figure 2. Elements, functions, and library products

Library components	Library functions		Library products	Learning communities	Knowledge building
Collections	Organize, systematize, and manage documental collections		Access to catalogs		
Infrastructure	Acquire or maintain furniture and equipment		Courses and workshops		
Forniture and equipment	Organize, manage, and maintain infrastructure		Optimal condition to offer services		
Users	Attend users, according to profiles and needs,		user with information seeking skill	• Learning circles • developing Informational skills • Information literacy	• Lifelong education
Staff	Select, train and update staff; Design, plan, and offer library and information services				
Services	Designing, planning, and offering services		Training programs: instructional, tutorial, induction courses, among others.	• Significant learning	

Source: González E., C.; Martínez M, C. (2010).

Also, those libraries have developed products such as catalogs, courses manuals, tutorials, workshops, induction courses, among others. Some of these goods have the goal to create users training programs. These initiatives have been directed to develop seeking information to library's users. Libraries, through user training programs, offer more than information. Sometimes the

dynamics of their training schemes are far from, considering their program's objectives and goals related to learning issues. The participation of individuals as libraries users is important because it is the induction to the social construction of knowledge.

Currently, the library has become a fertile area for not only reading, but to develop skills that enable the construction of knowledge in a social environment supported by the relationships of individual's learning. To share and build this knowledge, subjects need to be gathered together in a learning community.

In addition, the library had changed its vision of service: providing traditional services to develop electronic portals with innovative technology platforms with validated information resources. In other words, information resources are linked to the objectives of some institutions, especially with the disciplines that are studied in schools, universities, colleges and institutes.

Learning Communities (LC)

What does LC means? Before to describe LC, is important to say that it is considered as synonymous of communities of practice. On the one hand, Learning Communities (LC) is a Group of people that share an interest, a set of problems, or an interest on one subject. These communities deepen about comprehension and knowledge of the same interests and interact actively (Wenger, McDermott & Snyder, 2002, p. 4). On the other hand, LC is a group of people learning together, using common tools in the same environment (García Fernández, 2009, p. 1). That is LC is a group of people with common purpose, where the participation of individuals generates the synergy needed to collaborate in solving problems or assist in making decisions leading to the construction of shared knowledge. LC constructs shared knowledge and forms a group identity supported and maintained by each and every one of the participants. LC's members have different level of participation which is maintained by background and training throughout meeting sessions, they can be physical or virtual.

Following whit LC characteristics it's necessary to say that there are two kinds of elements, experts and newcomers (novices). Experts motive and give confidence to newcomers. Therefore, newcomers start a peripheral participation that permits to individuals to be in a position, that, when they decide, will allow full participation in the context of an incoming trajectory in process on negotiation of meanings (Garrido, 2003, p.18). Peripheral participation, seen and heard in a line of introspection, enables individuals acquire confidence to venture into the subject based, on their knowledge and experience. Meanwhile, direct participation is practiced beginning with their background of knowledge (Figure 3).

Figure 3. Model to design the library as a Learning Community (LC)
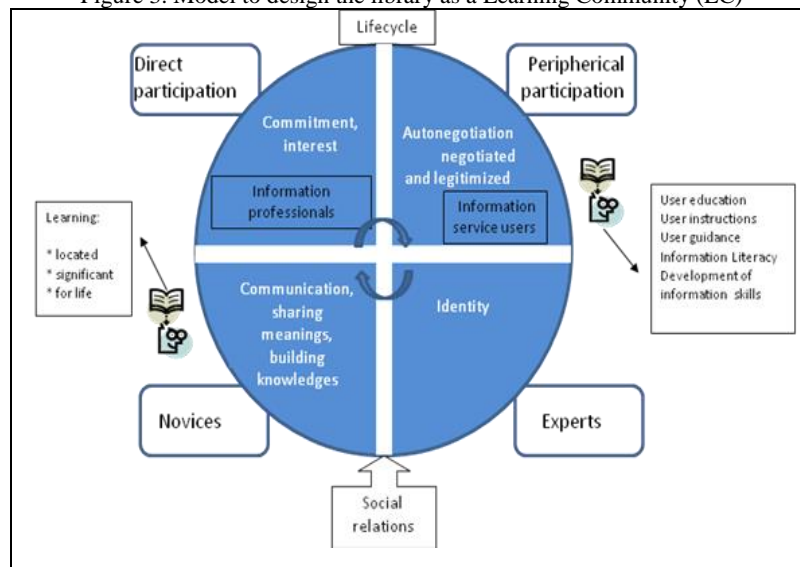
Source: González E., C.; Martínez M, C. (2010).

Thus, in interpersonal relationships based on respect and collective participation, are rated the speeches and the result of a collective work. Are valued, too, forms and styles of behavior and social relations which lead to cohesion in the dynamics of cooperative work. The cooperative work of the group integrates the factors necessary to make their actions leading to the successful outcome or achieve the goals and objectives. All this energy causes it to build together a group identity, able to confront problems and situations in the future short, medium and long term, sharing ideas and meanings through a climate of respect and trust.

As result of this LC analyzes, we can mention its necessary collective work to attend same interests. Share information, learning, and knowledge are necessary to have success for goals consecution. Other results are that LC has advantages and advantages. On one hand, principal advantages are: a) LC provides, emotionally, confidence in the organization and its members; b) there is a social construction of knowledge based on individual participation.

On the other hand, LC disadvantages are: a) LC members, attending a work proposal negotiated by and with some autonomy, can create conflicts in the programs and goals setting previously by the institutional authorities; b) The participation of individuals can be problematic in the course of identifying experts and novices within the activities and issues addressed, can create a competitive atmosphere among who know more and who know less.

Information to Built Learning and Knowledge Communities

The concept *information* is related to many aspects in society, throughout history it has been intangible yet enduring. Its manifestations in each generation tell us much about society's attitude towards control, culture, politics, knowledge, and education (Weller, 2007). The study of information can be made from various positions, disciplines or perspectives. This analysis it will be from the perspective of information science.

Before to talk about information, is necessary to say that it relates to other words, *data* and *knowledge*. Both, data and knowledge are closely related to the information, but there are differences that may well be enumerated as follows. Blackmer (2005) argues that these figures

include numbers and statistics that are generated are sorted and interpreted to produce useful information, becoming knowledge. On the other hand, Zins (2006) notes that data is a set of symbols, which represents empirical stimulus or perceptions, while information is a set of symbols that represents empirical knowledge; and finally, knowledge is a set of symbols representing the meaning or content of the thoughts that individual beliefs justify as it considered to be true.

From the point of view of information science knowledge is a subject covered recently. Blair (2002), for example, thinks that knowledge is misleading even to data and information. The author notes that the data and information found in artifacts and objects (computers and informative reports, respectively), while knowledge is present in people.

Faibisoff (2002) indicates that, in addition to contain data, the information is made up of ideas, symbol or symbols with a set of potential significance. In a broader sense, Bellinger, Castro, and Mills (2004) to the terms data, information and knowledge, add the term wisdom as the highest stage of knowledge. This term, the wisdom, will not be subject of analysis in this research.

To finish this part, we consider that information as a mental process through which its constituent elements come together when there is a problem or need to be solved. They solve problems and needs are manifested in individuals and organizations, information is an element that can help in making decisions. In addition, if information helps to individuals to make decisions, how information can support LC?

Before to answer question, is necessary to know that in an academic community is composed for tree elements: 1) classrooms, which there are formal learning; 2) library, where sel-flearning take place; and, 3) workgroup environments, places where there are organized groups of study, and informal meetings of students to study together, or to have casual conversations in coffee shops or halls (Kearney, 2002, p. 3).

We have only interest to talk about two spaces, libraries and classrooms. Information services have been implemented by librarians and other information professionals to promote their services and to help users. That is, librarians and researches, product of information services, have implemented services to develop information seeking. Some results as proposals of Ellis (1989), Ellis, Cox & Hall (1993), Lowe & Eisenberg (2002), and González & Martínez (2010) to describe the processes of information literacy skills, which users of libraries or information systems: identifying information needs, defining tasks to solve a problem, executing the search with respect, selecting, analyzing, and assessing types of information resources. After organizing these resources, students can develop synthesis to present results and socialize with their teammates and their teacher (Figure 4).

Figure 4. Models of information skills process

Kuhlthau Information seeking		Eisenberg / Berkowitz information problem	AASL/Stripling Research process standards	Pitts / Stripling Research process	New South Wales Information Process	Ellis	Ellis y Cox	González y Martínez
1 initiation 2 selection		1 task definition 1.1 define the problem 1.2 identify into requirements	1 formulation/analysis of information need	1 choose a broad topic 2 get an overview of the topic 3 narrow the topic	Defining	1 starting 2 chaining	1 starting 2 chaining	identified information needs defined tasks
	4 formulation (on focus)	2 into seeking strategies 2.1 determine range sources 2.2 prioritize sources	2 identification/appraisal of likely sources 3 tracing /locating indiv. Resources	4 develop thesis / purpose statement 5 formulate question to guide research	Locating	3 browsing	3 browsing	solve problems
3 exploration investigating into on the general topic	5 collection (gather into on the focused topic)	3 location & access 3.1 locate sources 3.3 find information	4 examining, selecting & rejecting individual resources	6 plan for research & production	Selecting	4 differentiation	4 differentiation	execute queries to select information
6 presentation		4 information use 4.1 engage (read, view, etc.) 4.2. extract info	5 interrogating /using individual resources 6 recording /storing information	7 find, analyze evaluate resources 8 evaluate evidence take notes /compile bib.	Organizing	5 monitoring	5 monitoring	analyze and evaluate types of information resources organize and develope synthesis
7 assesment (of outcome process)		5 shyntesis 5.1 organize 5.2 present 6 evaluation 6.1 judge the product 6.2 judge the process	7 interpretation, analysis and evaluation of information 8 shape, presentation, and communication of information	9 establish conclusions / organize in utline 10 create and present final product (Reflection point - is the paper / project satisfactory	Presenting Assessing	6 extracting	6 extracting 7 verifying 8 ending	socialize with his teammates, group, and with the teacher building tacit and explicit knowledge

Sources:

Column 1-5: Lowe, C., Eisenberg M. (2002). Big6TM Skills for Information Literacy. *Looking for Information: a survey of research on information seeking, needs,* New York: Academic Press, Elsevier Science. 63-66and behavior.

Column 6: Ellis D. (1989). A behavioural approach to information retrieval system design". *J. of documentation, 45(3), 171-212*

Column 7: Ellis D.; Cox D.; Hall K. (1993). A comparison of the information seeking patterns of researchers in the physical and social sciences. *J. of documentation, 49 84, 356-369*

Column 8: González Esquivel C.; Martìnez Musiño C. (2010). La biblioteca como mediadora entre las comunidades de aprendizaje y la construcción del conocimiento

Learning is a problem or need to be solved, individual, team, group, and institutionally. When individuals work in team to obey common goals, in this case learning, result can be satisfactory. But what are requirements to LC? Learning requires elements such as infrastructure, staff, and definite goals. If students meet to share experiences, share information, and share knowledge about their experiences as important way to learn, their initiatives should translate in collective benefits. After to analyze the proposal we think information seeking processes can be apply as in libraries as in classroom (Figure 5).

Figure 5. Building (tacit and explicit) knowledge from Learning Communities (LC)
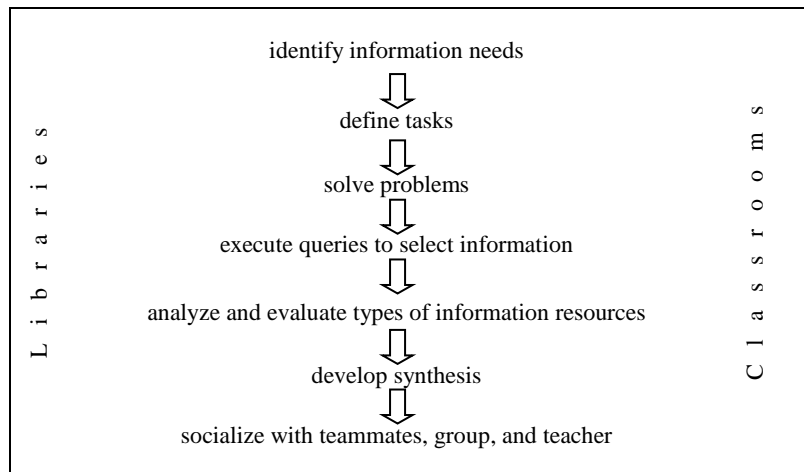
Source: own elaboration

Conclusions

The library as a place of learning and independent learning, creating environments for work group, study groups all organized by their services. From the standpoint of LC, people share spaces; share experiences, share interest, and share information (information seeking in specific topics, for example) and its deepening interact and build knowledge.

The libraries and classrooms are a place of learning and independent learning, which creates environments for work group, or study groups. This situation favors collective learning.

The construction of knowledge in libraries and classrooms is possible through exercises, and implementation of training programs to development of information skills, beginning with information needs. The acquisition, organization and distribution of knowledge of different actors (instructor, assistant instructor) are given in different directions and intensities. In proposals for training of library information needs are identified, also defined tasks to solve problems, execute queries to select information, analyze and evaluate types of information resources.

These resources are organized and developed synthesis. As a consequence, results are presented and socialize with his teammates and teacher, building this way tacit and explicit knowledge.

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