
CONNECTION BETWEEN INFORMATION LITERACY AND THE DISCIPLINES INFORMATION SOURCES AND REFERENCE SERVICE: A CONCEPTUAL MAP

CONEXÃO ENTRE COMPETÊNCIA EM INFORMAÇÃO E AS DISCIPLINAS FONTES DE
INFORMAÇÃO E SERVIÇO DE REFERÊNCIA: UM MAPA CONCEITUAL

LA CONEXIÓN ENTRE LA ALFABETIZACIÓN INFORMACIONAL Y LAS DISCIPLINAS
FUENTES DE INFORMACIÓN Y SERVICIO DE REFERENCIA: UM MAPA CONCEPTUAL

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RESUMO: Análise das possibilidades teóricas e práticas da aplicação de modelos de competência em informação nas disciplinas de Fontes de Informação e Serviço de Referência, com base em seus planos de ensino. Pesquisa documental, tendo sido realizada análise comparativa entre a literatura sobre o tema e os planos de ensino das disciplinas de Fontes de Informação e Serviço de Referência oferecidas no curso de graduação em Biblioteconomia da Universidade do estado de Santa Catarina. Os resultados da análise documental apontam para uma estreita relação entre as disciplinas e o modelo de competência em informação escolhido como base teórica em especial com a disciplina de Fontes de Informação. Sua aplicação oportuniza um aprendizado capaz de levar o futuro bibliotecário a atuar como mediador no processo de desenvolvimento de habilidades para a busca, acesso, assimilação da informação a fim de solucionar problemas e de construir um ambiente de geração e transmissão de conhecimentos junto à comunidade de sua unidade de informação . Apresenta ao final um mapa conceitual desenvolvido a partir da pesquisa bibliográfica e documental.

PALAVRAS-CHAVE: Competência em Informação. Formação do bibliotecário. Fontes de Informação. Serviço de Referência. Planos de ensino

ABSTRACT: Analysis of the theoretical and practical possibilities of applying information literacy models in the disciplines Information Sources and Reference Service, based on their teaching plans. Documentary research, comparing the literature on the subject and the teaching plans of the subjects of Information Sources and Reference Service offered in the undergraduate course in Librarianship of the University of the State of Santa Catarina. The results of the documentary analysis point to a close relationship between the disciplines and the chosen model of information competence, especially with the discipline of Information Sources. Its application facilitates a learning that leads the future librarian to act as mediator in the process of developing abilities for the search, access, assimilation of information in order to solve problems and to build an environment of generation and transmission of knowledge to the community of users. It presents at the end a conceptual map developed from bibliographical and documentary research.

KEYWORDS: Information literacy. Librarianship graduation. Information Sources. Reference Service. Teaching Plans.

RESUMEN: Análisis de las posibilidades teóricas y prácticas de la aplicación de los modelos de competencia en las fuentes de información de disciplinas y servicio de referencia, en función de sus planes de enseñanza. investigación documental, se lleva a cabo un análisis comparativo de la literatura sobre el tema y la enseñanza de los planes de Servicio de Información y Referencia cursos ofrecidos en licenciatura en Ciencias de la Biblioteca de la Universidad del Estado de Santa Catarina. Los resultados del análisis de documentos indican una estrecha relación entre las disciplinas y modelos de competencias en información, especialmente en la disciplina de las fuentes de información. Su aplicación oportuniza un aprendizaje capaz de llevar al futuro bibliotecario a actuar como mediador en el proceso de desarrollo de habilidades para la búsqueda, acceso, asimilación de la información a fin de solucionar problemas y de construir un ambiente de generación y transmisión de conocimientos junto a la comunidad de Su unidad de información Ofrece al final un mapa conceptual desarrollado a partir de la investigación bibliográfica y documental.

PALABRAS CLAVE: Alfabetización informacional. Formación del bibliotecario. Fuentes de Información. Servicio de Referencia. Planes de enseñanza.

1. INTRODUCTION

The Information Competence is a recent Librarianship's field of study and practices, which his concept is related to long term learning. Belluzzo (2001) Defines Information's Competence as a process of interaction and internalization of concepts, attitudes and specific skills that leads to comprehension of information and search the fluency and necessary capabilities for the new knowledge generation and ethical use of the information.

The Studies about the subject are dated of first years of the XXI century in Brazil, and are not yet implemented as proper and obligatory disciplines in most part of the main college's curriculums. Besides the subject freshness on the country, Information Competence is now considered indispensable during lifetime learning, bringing together all kinds of study fields that can be accessed and used by society to construction of knowledge.

To Librarianship, specifically, Information Competence was considered an expansion of the user education and allows the Librarian to develop his skills as an educator. However, the richness of his concepts and applicability's are beyond this initial approach, empowering not only the librarians but the libraries in the development of the new generation of knowledge.

The librarian, which concerns about his social and education duties, must be aware for information competence as one of his fields of works in information units. The Librarianship's graduation aims to offer to this future professional, tools available for his preparations needed to deliver an excellent performance in his social tasks. So, the college's graduation must allow the student the opportunities to acquire the needed skills and competences I order to excel at his tasks.

Although the introduction of Information Competence as specific discipline on the main curriculums are not always possible, or because curriculum changes can be heavily bureaucratic and slow process sometimes, or not seemed as a priority on pedagogic proposals, his inclusion on programmatic content at the already existing disciplines is not only possible, but heavily recommended.

Between the main disciplines on the FAED/UEDESC Librarianship's College curriculum, is possible to see a very strong connection between "information Competence", "Information Sources" and "Referral Services", because the subjects addressed In those disciplines offer the student the necessary theory and practical knowledge for information search and recovery in an array of different supports.

So, this article discusses the connections in theory and practice approach, that can be identified in the subject "Information Competence" and the content now available in the disciplines "Information Source" and "Referral Services", that can be helpful to a better professional formation and contextualization to the current informational demands and society.

Highlighted the connections, is proposed a conceptual map that allows to see with more clarity the relationship between “CoInfo”¹ and the concepts addressed in the disciplines and their teaching plans.

2. COINFO AND LIBRARIANSHIP’S TEACHING

The Information Competence appears at the United States of American at 1970, under an industrial perspective that aimed developing the use of information for finding daily problem’s solutions. Soon, however, the term is updated, being used to acquire citizenship knowledge. Only in 1980, the north American librarians started to use the precepts of the Information Competence for a more pedagogic approach, specially using them at school libraries (Campello, 2003).

The ideas related to Information Competence spread through the world, arriving in Brazil by a work of Caregnato, at 2000, where the first mention of “Information alphabetization” as a translation proposal for information literacy was first mentioned. During the first years of the 2000’s decade, other authors dedicated themselves to present the subject on the country, specially Dudziak (2003), who proposed different translations as literacy, informational fluency and Information Competence, being the last term, adopted in this research, once that was recommended by UNESCO² for the Brazilian context.

One of the strongest aspects in contemporary society is the acceleration of production and consumption of information, driven mainly by communication technologies whose channel is the Internet. In this way, given the immensity of offers of information to which people in general are submitted every day, we see the increasing need to develop skills in different aspects to deal with the excess of information in different formats.

Such skills involve from the capability to precisely define the existence of an informational problem, while finding, defining and accessing the best sources of information, as well as the cognitive abilities to understand and assimilate contents to solve the problem and generate new information from it. In particular, the stage of locating, defining and accessing information sources also require to be skilled in the use of technological equipment and tools.

Thus, it is perceived that CoInfo covers different aspects related to 'learning to learn' and 'lifelong learning' as well as demands the development of different skills for different

¹ The initials “CoInfo” are used to represent Information Competence

² The document that shows UNESCO’S indication is “Overview of Information Literacy Resources Worldwide (HORTON JR., 2013)

daily tasks, be they personal or professional. Therefore, thinking about the competence in information during undergraduate education in the present day is justified by the different challenges that are constantly posed to professionals who work in contemporary society in constant change.

Academic life requires the college student to develop very specific and much needed skills in order to obtain performance such as methodological aspects and the use of information technologies for the research and accomplishment of works. In addition, the need to train competent information professionals with skills that will make them better equipped and with competitive advantages over their competitors in the world of work, as Basseto (2013, p.68) points out: "the protagonism is intrinsic to the development of the worker regarding information competence, even to ensure their employability in the market. "

Bernhard (2002, p.410-411) presents some reasons why information literacy in higher education is necessary:

- a) exponential growth of available and accessible information in any format;
- b) increasingly heterogeneous information that demands constant confirmation as to its authenticity, validity and credibility;
- (c) an economy heavily based on services using rapidly evolving technologies;
- (d) the need to acquire and develop transferable and usable skills through life and to learn from a problem-solving perspective;
- e) absolute need to update on the latest research developments;
- f) increasing demand for professionals capable of mastering technologies, searching for information in electronic sources and on the Internet, and evaluating and managing internal and external information, as well as carrying out alert activities;
- g) evolution of an active student-centered pedagogy, based on training and problem solving;
- h) impact of continuing education on the use of information and achievement of success.

According to Nascimento and Beraquet (2009, p.4), one of the major challenges facing higher education is "the entry of students with serious problems in relation to the information environment." The authors state that "academic life will be much easier if students have informational autonomy, because they will be able to fulfill the demands of the university environment" (2009, p.5).

So, it is imperative to include the approach of information competence in university education, since

the development of skills for the use of information has a great impact on student performance, as it strengthens their ability to access, select, evaluate and incorporate information. This competence will act actively in the process of

assimilation, creation and transmission of knowledge, key elements for intellectual growth. (HATSCHBACH, OLINTO, 2008, p.26)

The authors point out that very positive results have been observed in the different countries in which Information Competence was formally introduced in the university environment, among them the United States, United Kingdom, Canada and Australia (BERAQUET, 2009, p.25).

For the Australian case, Bruce (1997) points out seven facets of information competence in higher education as a result of the experience described by educators in two Australian universities, presenting them in 7 categories:

Category 1: Information Technology Conception - Information competence here is seen as the ability to use information for information retrieval and for communication. In this category, it is understood that the information-competent person is able to use the technological resources to carry out a 'scanning' in that environment and achieve a high level of conscious search of the information.

Category 2: Conception of information sources - Competence in information allows finding information contained in information sources. It covers knowledge of information sources and the ability to access them independently or through intermediaries.

Category 3: Conception of information as a process - Information competence takes place in a procedural way. This process corresponds to the strategies used by the interacting agents when they are confronted by some situation where they have to deal with the lack of some ability, either in the search or appropriation of knowledge.

Category 4: Information control Conception - The information competent person in this category is able to store the information in different media in order to facilitate their access and use.

Category 5: Conception of the construction of knowledge - Here, the competent in information is able to aggregate new knowledge from the critical and evaluative use of information.

Category 6: Concept of extended knowledge - In this concept, the focus is on the ability of the competent to work the knowledge and the personal perspectives that come from it, adopting its insights in a creative way as it acquires them.

Category 7: Conception of wisdom - The competent in information is able to use information wisely for the benefit of other people. Enter here the ethical questions and the personal values that the critical and competent use of information allowed to acquire.

Bruce's contribution, for his completeness of aspects, and specially for focusing on higher education, was chosen to serve as a basis for the analysis of teaching plans. These

seven faces demonstrate that, in addition to a cognitive effort, being competent in information covers aspects related to skills that cross ethical issues for the use of information for their own benefit and society.

Farias and Vitorino (2009) corroborate with this conception, that list four dimensions which the competence in information is evident: aesthetic, ethical and political, technical. The aesthetic dimension refers to sensitivity and creativity; ethics is related to the orientation of action based on principles of respect and solidarity and politics returns to participation in the collective construction of society in the exercise of rights and duties (FARIAS; VITORINO, 2009).

The technical dimension presents itself as the most strongly linked to the objectives of this analysis. For the authors (op.cit., Page 6),

The technique refers to the accomplishment of a profession, that is, the ownership of a specific field of action. Here is important to emphasize the need of education to enrich the domain of conceptual contents and research, since this training is the necessary basis for the other dimensions of professional competence.

Specifically, about the formation of librarians, it is known that one directs diverse contents that allow the development of technical skills, necessary for a future professional performance not only competent, but also, critical and autonomous and, therefore, must have a balance between the 4 dimensions:

It is not enough for the practice of the library to be competent only in some knowledge and to resort to some 'techniques'. It is necessary that the technique be fertilized by the autonomous determination and conscious of the objectives and purposes, by the commitment to the concrete needs of the collective and by the presence of sensitivity, of creativity.

In this context, in which "information skills have become a necessity and a requirement in university education" (ALVES; ALCARÁ, 2014, p.87) and, in view of the origin of information competence as an area of Information Science (HASCHBACH and OLINTO, 2008), it is necessary to think about their inclusion in the formation of the librarian.

Mata (2009, p.81) states that:

The specific skills of the librarian's profession cover a variety of knowledge related to the treatment and organization of information. His training presupposes that he is qualified to use the available information sources in all formats and media, whether printed and / or multimedia, and that he is prepared for the selection, acquisition, treatment and dissemination of the information, recovering it when required. And because of this specific knowledge that this professional is considered the ideal to work in the formation of skills related to the process of use of information sources, that is, informational competence.

The construction of these specific knowledge is given initially during graduation, through the theory and practice proposed in the different disciplines of the course, being

indirectly linked to the formation of the competence itself. Mata (2009) points out that the User Studies disciplines are the ones that most resemble these contents and emphasizes that in Brazil, courses that offer content on information competence as a formal discipline are still rare, with only 10 subjects with this degree or equivalent content were identified in a universe of 39 Librarianship courses in Brazil (MATA, 2014, p.106).

Campello and Abreu (2005) carried out research to understand how the information competence is put into practice by undergraduate students in Librarianship in Brazil, having as presupposition "the fact that, in extrapolating its technical function of trainer and organizer of collections, the librarian interacts with its users, assuming an educational function" (op.cit., p.181). The results of the research showed that future librarians were not sufficiently prepared to act as mediators of information in the learning process through search and use of information resources.

Similar analysis performed by Possobon et.al. (2005) with freshmen of the Librarianship course in the south of the country (RS) revealed similar results, in particular, the use of the Google search engine as the main means of access to information.

Thus, it is necessary to introduce in the curricula of the courses of Librarianship in Brazil the subject of the competence in information, in order to allow a formation that better prepares this professional for the important work of facilitator in the process of search and use of the information society today.

Campello and Abreu (2005, p.179) state that "in order to be able to construct a new paradigm and to contribute to the education of competent people, the librarian must be competent in information and master the skills necessary to carry out the process of research properly. "

The development of skills and abilities in the search, access and use of information obviously permeates the entire training of the academic in Library Science, since the performance of this professional is based on the organization for dissemination and effective use of information. In today's society, however, such skills are essential because of the changes in the profile of users of information resources driven by communication technologies.

It is necessary that the librarian be led to develop his own abilities for the search and use of the information. Campello and Abreu (2005), after applying the information competency model presented by Kuhlthau (1996), in order to know the preparation levels of this professional in relation to his own ability to search, access and use information, presented results that, according to the authors:

indicate that the future librarian is not sufficiently prepared to play the role of mediator in the learning process through the search and use of information. The

practice of this process during the period of professional training is one of the didactic strategies, in which the process, not the final product, should be emphasized. The formulation stage can be better mediated by teachers, helping students to focus on their work and to plan the topics to be researched. The search for information should be planned to allow the practice of more complex tasks such as identification and selection, not just location. The most obvious difficulties experienced by the students, such as interpretation and production of the text, should receive special attention from teachers (CAMPELLO, ABREU, 2005, p.190)

Thus, there is a gap in the librarian's training regarding his / her own status as a researcher, and it is necessary for the courses to make greater efforts to offer better conditions so that academics can construct their facilitator profile in the processes of construction of knowledge.

For this reason, we sought to know CoInfo's assumptions more deeply, relating them to two specific subjects offered by the undergraduate degree in Library Science with a degree in Information Management from the Center for Human Sciences and Education (FAED) of the State University of Santa Catarina (UDESC).

The present proposal seeks to discuss this knowledge from two disciplines that focus on the professional performance of the librarian as mediator of information and, extrapolating this activity, acting as a facilitator in the generation of knowledge in any type of information unit, a social demand not yet according to a study by Gomes, Prudêncio and Conceição (2010, p.154) carried out in the context of university libraries:

as well as the library keeps presenting important limits in fulfilling one of its most relevant roles in the academic environment, which, as Gomes (2008) emphasizes, is to favor the user's approach to information, contributing more actively to the development of reading skills and written production, essential to the process of appropriation of information.

This means that the training should lead the Librarianship not only to the delivery of documents themselves, but should make it competent to apply the content of these to generate and share knowledge from that access.

The methodologies for CoInfo, applied in disciplines such as Information Sources and Reference Service, may be important tools to achieve this objective.

METHODOLOGIC WAYS TRAVELED AND RESULT PRESENTATION

The data collection was based on bibliographical research with characteristics of bibliographic research, using the Reference Database of Periodical Articles in Information Science - BRAPCI, to explore the published literature on the subject in Brazil. To perform the search in the database the following terms were used: *Information Literacy*, *Alfabetización en Información*, *Habilidades Informacionais*, *Competência Informacional*, *Aprendizagem Informacional*, *Information Competencies*, *Letramento Informacional e Competências Informacionais*.

In the first research, 695 articles were retrieved. For further analysis and tabulation of the data, spreadsheets were developed in Excel software properly fed and categorized according to the results from the search terms. Each spreadsheet contained columns designating: single code (number given to article), search term, article producers (authors and co-authors), article title, publication journal title, magazine volume and number, year, keywords, abstract of the article and language.

The next step consisted of the task of reviewing the survey and, after adjustment for appropriateness for repeated articles, a total of 179 articles were found that were considered relevant and assembled, thus composing the corpus of the study, to be analyzed. Articles were retrieved in a chronological period between 1995 and 2015.

In a second screening, 110 articles were identified with the term listed for this research, namely information competence. From these, the articles that directed content referring to the competence in information in the environment and university formation, giving priority to those directly related to the teaching of graduation in Librarianship were identified. Thus, we reached a total of 25 articles in which we read to identify recurring keywords and keywords for the construction of the conceptual map.

The tool used to construct the conceptual map was the free MindMaple software, available at <http://www.mindmaple.com/Default.aspx>

A comparative analysis was also carried out between the specific literature on the subject and the teaching plans of the subjects of Information Sources and Reference Service offered in the undergraduate course in Librarianship of the State University of Santa Catarina (UDESC) during the year 2015. According to Prodanov and Freitas (2013, p.55) documentary research "is based on materials that have not yet received an analytical treatment or that can be re-elaborated according to the research objectives."

The disciplines listed for the analysis, Information Sources (72 h / a) and Reference Service (54 h / a), are offered in the fifth and sixth semesters of the course, respectively. Their menus are described below:

a) **Sources of information:** typologies, characteristics. Analysis and evaluation of printed or electronic information sources. Use and guidance in general and specialized information sources. Producers and providers of databases.

b) **Reference Service:** History and trends of the reference service. Reference Processes. Services and products of dissemination of information. Functions of the Reference librarian. Reference centers. Evaluation of the reference service. Virtual and digital reference services.

The teaching plan of the Information Sources' discipline has the general objective of "providing academics with the necessary tools to know and evaluate general and specialized sources of information, so that they can safely carry out activities in their future professional activity, being able to acquire, research and assist in the research of printed or electronic sources of information. "

The Reference Service discipline, in its teaching plan, aims to: "Enable the student to act in the Reference and Information Service of the various Information Units", detailing as its specific objectives: "Knowing the origins, concepts, the history, philosophy and attributions of IRS³; understand and identify the steps of the Reference Process; meet and interact online with the services and products pertinent to IRS; understand the importance of the relational aspect in the work of attending to the public in the Information Units ".

From the bibliographical survey carried out, the model of Bruce (1997) was chosen as the theory most suited to the purposes of the research. Thus, documentary analysis was carried out in order to identify the theoretical connections between the model and the teaching plans of the disciplines of Information Sources and Reference and Information Service.

In order to do so, we analyzed the syllabi, objectives and syllabus contents of the two disciplines, identifying concepts and terms that indicate the theoretical and practical possibilities of applying the Information Competence assumptions, relating them to each one of the seven faces presented by Bruce.

2.1 *Teaching plan's Analysis*

The teaching plans' readings were carried out from the point of view of its connections with the seven categories of information competence in higher education presented by Bruce (1997), named: Conception of technological information; Conception of information sources; Conception of information sources as a process; Conception of information control;

³ "IRS" stands for "Information Referral Service".

conception of the construction of knowledge; concept of extended knowledge and conception of wisdom. The analytical reading in the menus, general and specific objectives and program contents of each teaching plan resulted in a list of terms and key phrases related to each of the seven categories, as follows:

2.1.1 Information Sources

The discipline aims to provide students with tools capable of providing academics with the development of skills and abilities for analysis, evaluation, use, research and guidance for the use of sources of information of different types and areas of knowledge, both general and specialized, as well as printed and electronic.

The verbs "to know", "to differentiate", "to evaluate", "to analyze", "to recover" and "to identify" are recurrent in almost all the items of the teaching plan. The words "domain" and "safety" are mentioned as the purpose of the discipline in preparing the student to exercise "their future professional performance".

It emphasizes the technical character of the competence in information, seeking an academic formation that guarantees him success in the use of information sources as librarian.

In relation to the categories of Bruce (1997), the results present the following phrases and key terms:

Table 1: Analysis of the education plan of Sources of Information

CATEGORIES	EMPLOYMENT	OBJECTIVES	CONTENT
1 Technological Information	Eletronic Information Sources Database Developers and Providers	MAIN: Eletronic Information Sources Specific: ESPECÍFICOS: Eletronic Information Sources Database Developers and Providers	Eletronic Information Sources Eletronic Information Recovery Digital Curation
2 Information Source's Concetpion	Typologies, characteristics		Document Types Organization of Information Sources Concept, evolution and characteristics General and specialized works
3 Information as a Process	Usability and Guidance	GENERAL: Acquire, search and assist in research SPECIFIC: Retrieve	Eletronic Information Recovery

	proficiency		information through research	
4 Information Control	Usability Guidance proficiency	amd	GENERAL: Acquire, search and assist in research SPECIFIC: Retrieve information through research	Eletronic Information Recovery Informational Competence Digital Curation <i>Embedded librarian</i> ⁴
5 Knowledge Construction	Usability Guidance proficiency	amd	GENERAL: Tools [...] to know and evaluate sources; exercise safely [...] SPECIFIC: Know and differentiate types of documents; know and evaluate sources; retrieve information	Informational Competence Sources Evaluation Information Recovery
6 Extended Knowledge				
7 Wisdom	Usability Guidance proficiency	amd	GENERAL: Exercise safely [...] professional activities; search help	Informational Competence Librarian's Activities

Source: researched data.

In relation to the theoretical possibilities, it is important to highlight that the Information Sources discipline has theoretical connections with CoInfo in most of the contents covered in the seven categories, since:

a) It directs its attentions to facilitate the academic's development of its capacity to use the information for the recovery and communication of the same, this implied as professional action. Provides conditions for the use of technological resources and technical search, access and analysis in both the physical and electronic environment;

b) Enables the knowledge of the sources of information in its conceptual, historical and organizational aspects as well as in the processes of knowledge construction and independent and autonomous access ability;

c) The proficiency in use and orientation for the use of sources presupposes the acquisition of control abilities of registries for future uses, as well as the capacity to track the information in different types of sources of information, indicating ability of control of terms and descriptors for the search;

⁴ Term without official translation in Brazil, here understood as an 'immersed' librarian, who follow particular researchers in all stages of his research, be it in the search, access, curation and use of information.

d) The development of the content's program of the discipline supposes the conception of the construction of a technical knowledge and of the critical and evaluative use of the information in order to obtain the necessary information retrieval in a precise way and, thus, allow the student to add knowledge with the purpose of assisting others in the development of their information competence.

Category 6 "Concept of extended knowledge" was the only one that was impossible to identify terms or phrases directly related to CoInfo. However, it is possible to affirm that the construction of the course's curriculum is made in order to interconnect knowledge in different disciplines and, thus, to 'extend' previously known contents to those proposed by the discipline. The mention of aspects related to the ethical use of information was also excluded.

2.1.2 Information Referral Service

The teaching plan of this discipline present verbs only in the items of general and specific objectives, named: 'to qualify' (to act in IRS), 'to know', 'to identify', 'to plan' and 'to evaluate'. In the other items of the plan, short sentences are found that contemplate in a direct and succinct way the intended contents. In this way, the analysis that follows is based on possible connections from inferences that can be observed indirectly.

Table 2: Referral Service's Teaching Plan Analysis

CATEGORIES	EMPLOYMENT	OBJECTIVES	CONTENT
1 Technological Information	Digital and Virtual Referral Service		The IT impact on IRS Online digital and virtual products and services
2 Information Source's Conception	Information Dissemination Services and Products		Types of services / information products; Information on science and technology, business information
3 Information as a Process	Information Dissemination Services and Products	SPECIFIC: Identify the steps of the reference process; to plan IRS services and products	Stages of the reference process; Reference issues; Reference interview
4 Information Control			Online digital and virtual products and services
5 Knowledge Construction		GENERAL: Prepare the student to act in Reference and Information Services in any type of Information Unit	

6 Extended Knowledge		SPECIFIC: Know the history and functions of RIS; Identify the steps of the reference process; planning IRS services and products; evaluate IRS.	
7 Wisdom		GENERAL: Prepare the student to act [...] specifically: Plan IRS services and products; evaluate IRS	Planning and Operationalization

Source: Research Data

The concise characteristic of the construction of the teaching plan has resulted in several gaps in the framework of analysis. However, it was possible to find connections with all categories presented by Bruce (1997). Regarding the theoretical possibilities, it is verified that:

a) There are aspects related to the use of electronic sources and information technologies, thus being understood the skills of use, access and registration of information; as well as the need to establish information as a process, especially in the reference process (issues and interview);

b) The creation and supply of information products also presupposes the use of printed, electronic and digital sources of information, being also present aspects related to the skills required for its use;

c) The professional performance in IRS requires previous knowledge of other areas as management, being present in the teaching plan aspects of planning, evaluation and marketing;

d) The concept and the proposal of IRS discipline, already represents an action directed to the social role as educator and facilitator in the generation of knowledge.

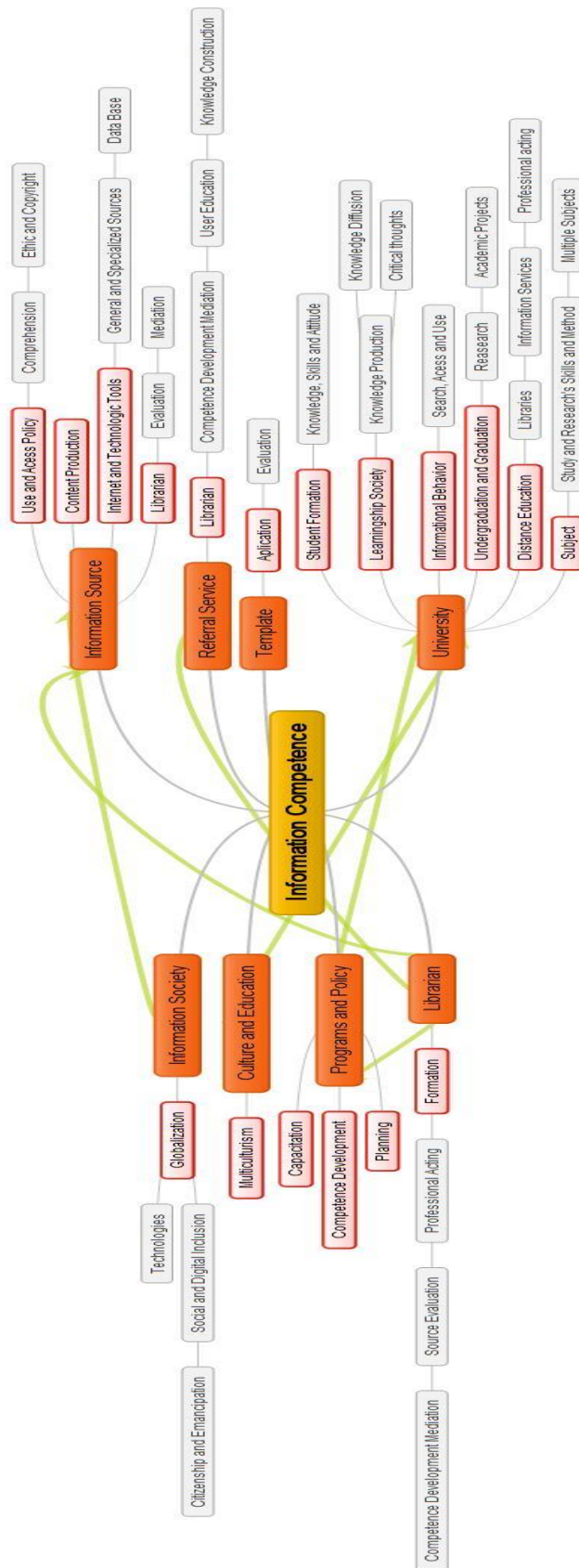
Among the categories of analysis, the least outstanding were: the Fourth, which deals with the 'Conception of information control', that although the programmatic content of the Education Plan brings elements of this category, there was no identification to it in the menu or objectives of discipline; The fifth category 'Conception of knowledge construction', on the other hand, appeared only in the general objective of the teaching plan; and category 6, 'Concept of extended knowledge' on the other hand was present only in the specific objectives. Categories 1, 'Conception of technological information', and 2, 'Design of information sources', were not covered by the objectives. However, both appear in the menu and in the programmatic content.

Among the categories represented with greater emphasis in the Teaching Plan of the Reference and Information Service discipline, we can highlight the seventh category 'Conception of wisdom', which, although not appearing in the menu - pre-approved element of the Teaching Plan based on the Pedagogical Project of the Course - is portrayed in the objectives and program content of the Plan. With greater emphasis we have Category 3, 'Conception of information as a process' represented in all analyzed parts of the Teaching Plan: Menu, Objectives and Programmatic Content. Highlighting the characteristic of the discipline itself through the different processes that compose it in the search of the information necessary for the best execution of the Reference Service.

2.1.3 *Mapa Conceitual*

The literature analysis, compared to the teaching plans, allowed the identification of common concepts and terms that, being related, form the conceptual framework that can give base to the construction of the disciplines with a view to the professional formation regarding the development of abilities of CoInfo for the social work of the librarian in the context of contemporary society. Recurrent terms were listed in the articles according to the categories: higher education, information competence, Library Science teaching, Information Sources and Reference Service.

Thus, technical, theoretical and practical aspects of vocational training and performance are contemplated based on concepts and terms that represent both the constitution of the society and the social role of the librarian, as well as specific formative issues of higher education. In relation to the academic life of the student, the issues related to the search, access and use of sources of information for research and learning stand out. Regarding the future professional activity, its role as mediator, educator for the use of information sources and the knowledge of information policies are evidenced. The map indicates that the training and performance of the librarian should be tied to the issues of technology, culture and education and thus be present in the disciplinary approach.



4 FINAL CONSIDERATIONS

The CoInfo application models in higher education allows the student to develop skills for access and assimilation of information in a more efficient and critical way, building the necessary knowledge for his academic and professional training.

In the specific case of the Librarianship course, it was found that CoInfo's application exceeds these objectives while prepare it to be a multiplier in this training in its future performance. In addition to being competent in information, the future librarian will be able to act as mediator in the process of developing abilities to search, access, assimilate information in order to solve problems and to build an environment of generation and transmission of knowledge to the community of information unit.

In particular, the discipline of Information Sources presents itself as a fertile field for the application of CoInfo models because it is closely related to its stages and processes. The discipline of Reference and Information Service, despite having a less close relation, points to the librarian as mediator and, therefore, also offers the possibility of insertion of CoInfo in its programmatic content. In this way, it can be seen that such connections between the subject and the disciplines analyzed can open the way for a more up-to-date reflection on the role of the librarian as curator and mediator of information with a view to a better understanding of his social role as an educator.

The conceptual map, in turn, allows to visualize these relations and makes an important connection with the context of the current society. This tool can be used to guide the development of the disciplines giving the teacher a direction capable of conducting them in a way more connected to the other disciplines of the course, contributing to an integrated and holistic academic formation.

Finally, it is believed that the application of CoInfo in these subjects of the undergraduate degree in Librarianship will help in the formation of a librarian more competent in information, inserted in a critical and conscious way, that could become an important member in the construction of a better-informed society and, therefore, with a better quality of life.

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