

TITLE: Information literacy in the framework of Network ICT project in Cuba.

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Abstract

The *NETWORK University Cooperation: Strengthening of the role of ICT in Cuban Universities for the development of the society* is a VLIR project that has the aim to develop a national virtual educational network that will share courses material between all Cuban universities, at the same time and together with the virtual educational network, an information management system will be also share by all Cuban universities, that means that all Cuban professors and students can access the information stored in digital repositories and other information storage systems ("NETWORK Activity Programme," 2013). The network, in turn, is divided into three subprojects: *Research in ICT related sciences*; *Open ICT Systems and Management* and *ICT supporting the educational processes and the knowledge management in higher education (ELINF)*. In this context, the information literacy (IL) activities are essentials. The **objective** is to socialize the actions and benefits of these activities as good practices in the framework of the project at Central University of Las Villas (UCLV). To define IL actions it was necessary, in the **methodological** order, to carry out content analyze to the project documentation and how IL could contribute to the macro objectives of the project, as well as identify the information skills of the members included, through the application of ALFINEV model (Meneses-Placeres & Pinto-Molina, 2011). The principal **outcomes** are: information literacy status of the projects members at UCLV to contribute with the aim goal of the project; a description of the IL activities design in the framework of the project as good practices to expand to the others Cuban universities included in the network.

Keywords: *information literacy, UCLV, VLIR, ELINF*

Introduction

The NETWORK University Cooperation: Strengthening of the role of ICT in Cuban Universities for the development of the society is a VLIR project that has the aim to develop a national virtual educational network that will share courses material among all Cuban universities. At the same time and together with the virtual educational network, an information management system will be also shared by all Cuban universities. It means that all Cuban professors and students can access the information stored in digital repositories and other information storage systems ("NETWORK Activity Programme," 2013). The network, in turn, is divided into three subprojects: *Research in ICT related sciences*; *Open ICT Systems and Management* and *ICT supporting the educational processes and the knowledge management in higher education (ELINF)*.

The subproject 3 has developed a reference model called *ELINF ecosystem* (Fig. 1) as theoretical framework for working. *The ELINF Ecosystem Reference Model* is a minimal set of concepts, axioms and

relationships to support educational processes and knowledge management in Cuban universities developed by the expert committee of ELINF on July 15 2015 (Goovaerts, Ciudad Ricardo, & Benitez Erice, 2016).

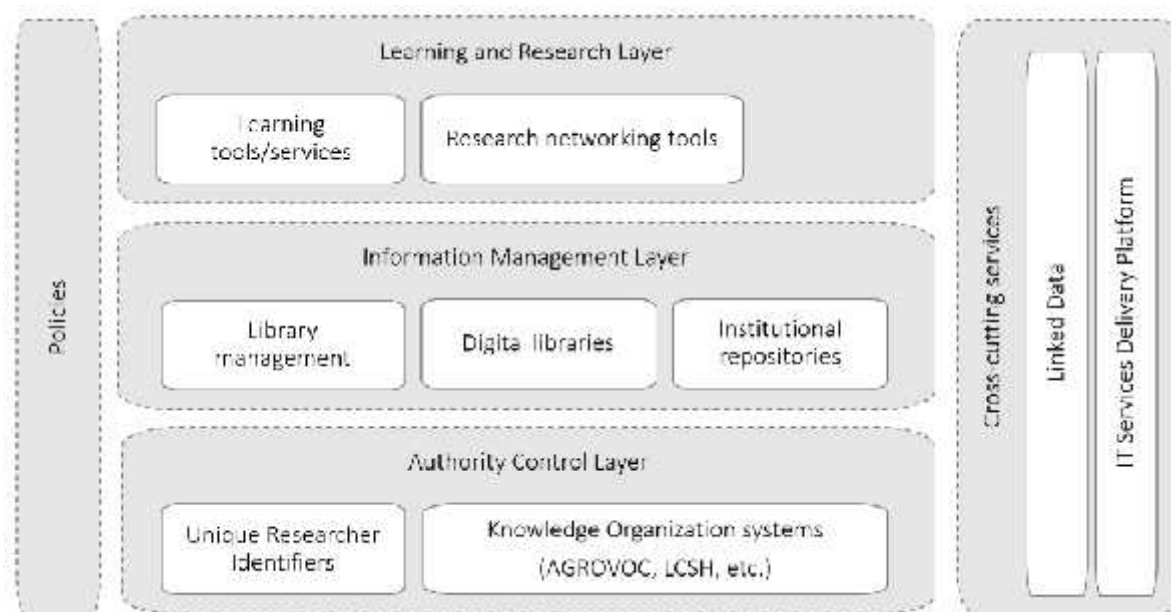


Fig. 1: ELFIN ecosystem

Although explicitly it is not reflected, the information literacy (INFOLIT) process is essential to achieve the wide aim of support education processes and knowledge management in Cuban universities, because the Cuban university community still needs to improve its performance in these aspects, mainly mediated by the use of information technologies and networking.

The initial ideas about how could be the information literacy actions inserted in the project were showed, in 2014, in the framework of a workshop with the Belgian coordinator of the project. Several workshops were developed with specialists of the Universidad Central "MARTAABREU" de Las Villas (UCLV), such as:

- Workshop: information searching, types and strategies (Meneses-Placeres, Mayo 2015). It was dedicated to foreign languages professors with the participation of members of ELINF.
- Workshop: cites and bibliographic references on IEEE style (Meneses-Placeres & Peralta-Gonzalez, Octubre 2015). It was to students of the doctoral school of the subproject 1: Research in ICT related science, included as part of a course on scientific communication.
- Workshop: DSPACE usability (Machado-Rivero, Abril 2016), for information science teachers with the participation of members of ELINF.
- Workshop: MARC 21 format to librarians members of the subproject ELINF (Leiva- Mederos, 2016)

However, the above mentioned workshops were not conceived as an organized system that could become an INFOLIT program.

So, they constitute the antecedents of the design of a set of INFOLIT activities to be developed in the future phases of the project, although various can be included at present. The aim of this paper is to socialize the actions and benefits of these activities as good practices in the framework of the project at UCLV.

Information literacy: some ideas to consider for designing activities

Information literacy is a term with several definitions around the international scientific community. According with Chartered Institute of Library Information Professionals it is *"knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner."* (CILIP, 2013)

For SCOUNL the concept of INFOLIT is associated with person's abilities as said *"Information literate people will demonstrate an awareness of how they gather, use, manage, synthesise and create information and data in an ethical manner and will have the information skills to do so effectively"* (SCOUNL, 1999)

The ACRL rescinded its earlier definition of 2000. Now *"Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning."*(ACRL, 2016)

To create actions of INFOLIT it is necessary to take into consideration at least the previous concepts. It is essential to assume a position that supports the proposal theoretically. On the other hand, the INFOLIT models can contribute also to achieve that. The idea is to elaborate actions that respond to an INFOLIT model and / or concept. Thereby, INFOLIT programs are presented and with a systemic approach they can contribute to the training of information skills.

Methodology

For the beginning and development of the present research the following methods of the theoretical level were used:

- HISTORICAL-LOGIC: allowed the description of the network from its genesis to the present, the recognition of the relationship between the objectives of the project and information literacy and Inferences were made both theoretical and practical that favored the analysis.
- INDUCTIVE-DEDUCTIVE: served to make analyzes and inferences of the obtained data to rich the regularities and conclusions presented in the research.

In addition to the empirical level were used:

1. CLASSICAL DOCUMENTARY ANALYSIS for the compilation of the basic information sources for the study. Among these are:
 - a. Phase I of NETWORK cooperation. Strengthening of the role of ICT in Cuban Universities for the development of the society.
 - b. Narrative reports for the years 2014 and 2015
2. CONTENT ANALYSIS was used to identify the categories and units of analysis associated with information literacy and its presence in the various activities within the project. The identified categories basically respond to the follow information skills:
 - a. Information searching
 - b. Information assessment
 - c. Information processing
 - d. Communication, use and diffusion of information
3. QUESTIONNAIRE was used to measure the skills level (high, medium or low) of ELINF members in the information skills described above. The questionnaire IL-HUMMAS (Pinto Molina, 2010) was used as a reference for the design of the instrument applied (see Appendix 1).

Results

In the analysis of the project documentation (narrative reports, description of the project phase 1 etc.), the relationship with the issue of information literacy is evident. All the general information skills (*search, evaluation, processing and communication*) are included in the information literacy process in the project conception. The following statements are an example of it:

- *all Cuban professors and students can access the information stored in digital repositories and other information storage systems* [**information skills: searching**]
- *to extend to all Cuban universities new experiences related with the English language training supported by ICT* [**information skills: communication**]
- *To enhance the capacity of participants universities for a better management of the information in learning and research.* [**all information skills**]

One of the goals proposed in the framework of the project is the use in all Cuban universities of an integrated library system. This action will generate training, and therefore, an information literacy process for librarians.

On the other hand, the creation, use and dissemination of institutional repositories (IR) of the universities of the network involve training workshops for specialists, professors and researchers. In this sense, topics about IR as sources of information, its characteristics, copyright in this context, the socialization of research that is generated in universities etc, are contents to be taught within an information literacy process.

Within the reference model, one of the base layers refers to authority control and the need to have a unique identifier for researchers to be recognized on the web. Today, this phenomenon constitutes one of the actions of INFOLIT that are developed for researchers in universities, therefore, educate in the creation of the researcher's personal brand, the use of social networks to create knowledge, become today sessions of INFOLIT.

Under these conditions, it is necessary to begin with a self-assessment of the status or skill level that the UCLV project members have today to confront an information literacy process in our academic communities.

Information Literacy status of UCLV team members of ELINF

The organization of the members of the project is divided into 3 groups, corresponding to the research line initially defined: *Information management, Language and communications and Learning technologies*. The figures 2 and 3 show the distribution by line and sub line within the project.

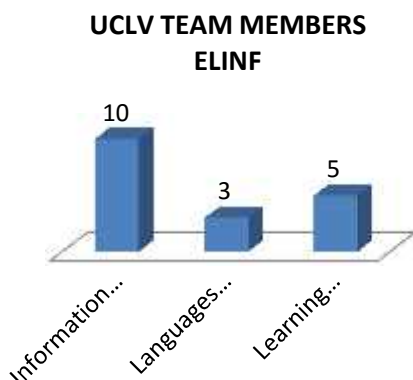


Fig. 2: UCLV Team members in ELINF Project in ELINF Project

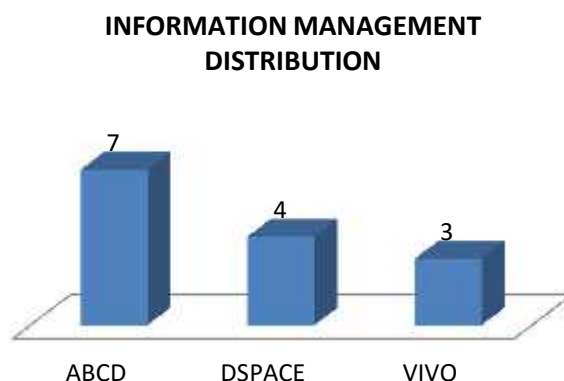


Fig. 3: Information Management UCLV members

The figure 4 shows the general behavior of skill levels self-described by project members, which allows ensuring - apparently - a very favorable situation to face an INFOLIT process in the framework of ELINF.

However, there are some specific items that need to be specified, for example: 27% of respondents are considered between the medium and low levels in *know the legislation related to the use of information within their subject area (intellectual property)*. This aspect might directly affect the goals associated with the effective achievement of institutional repositories in universities. It is an essential aspect for influencing in the teachers and researchers culture. Likewise, 28% assert to possess medium / low levels in *Communicate in any other languages*.

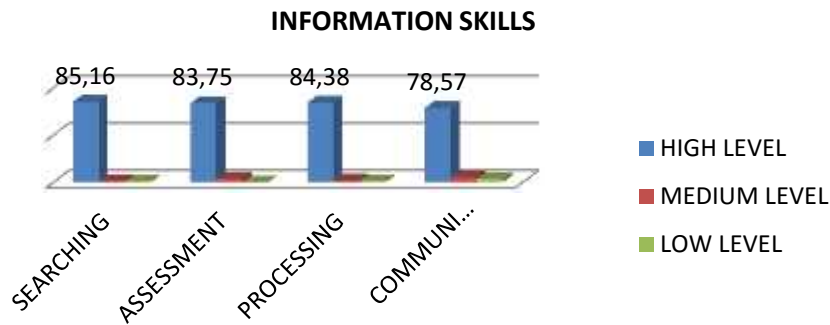


Fig. 4: Information Skills level of UCLV members in ELINF Project

The information management goal included in the project, specifically the use of ABCD, seems to be the most solid for its diffusion and training in the university as information literacy activity, the 93% of people surveyed affirmed with high levels of *knowledge in the use of automated catalogs* (Fig. 5). In appendix 2 other results can be observed with the application of the questionnaire.

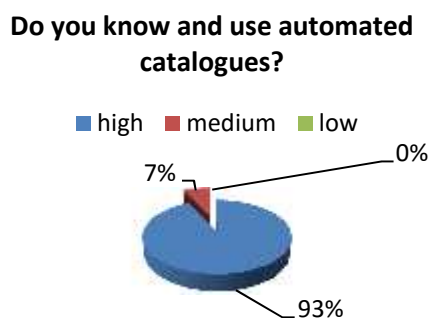


Fig. 5: use automated catalogues by UCLV members in ELINF Project

Information Literacy activities design: lessons and solutions

From knowing the skill levels that have the members of the project, several INFOLIT actions were designed, i.e. the activities designed respond to the diagnosis applied. The table shows the information skill, the research line within the project, all these, according with the information literacy activity made.

INFOLIT activity	Topics	Information Skills	ELINF Research line	To Whom
Training about the use of Dspace@uclv	<ul style="list-style-type: none"> Institutional repositories as information sources Dspace@uclv: characteristics and use How to incorporate my scientific publications in Dspace@uclv 	Searching information	Information management	Teachers
Training about the use of Digital Library SCHOLAR@UCLV ¹	<ul style="list-style-type: none"> Information searching through SCHOLAR@UCLV 	Searching information	Information management	Librarians Teachers
Online course with moodle@UCLV	<ul style="list-style-type: none"> Ethical and legal elements concerning information. Intellectual property and Copyright. Ethical and legal aspects in the use, dissemination and communication of information on the web 	Communication information	Learning Technologies	Librarians Teachers
Workshop on Searching and retrieval information through ontologies	<ul style="list-style-type: none"> Ontologies and Thesaurus and its information retrieval systems VIVO 	Processing and Communication information	Information management	Teachers Researchers
Training on academic writing		Processing and Communication information	Language and communications	Members ELINF UCLV team

The activities designed still are not considered an INFOLIT program according to the ALA principles (ALA, 2003), but they constitute a starting point for this purpose in a second phase of the ELFIN project.

Conclusions

- The information literacy (INFOLIT) process is essential to achieve the wide aim of the ELINF project, the documentation revised states it.
- The UCLV team members of ELINF consider having an appropriate information skills levels for developing the INFOLIT activities.
- The INFOLIT activities design constitute a starting point to further INFOLIT program in the framework of ELINF project

Acknowledgments

International project: Network of University Cooperation "Strengthening the role of ICT in Cuban universities for the development of society". Sponsored by the Flemish Interuniversity Council (VLIR) from Belgium

¹ This digital library is based in the dark archive tool, develop by team members of ELINF at UCLV

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Appendix 1: Survey applied (in Spanish language)

CUESTIONARIO: El presente cuestionario responde a un estudios sobre **HABILIDADES DE INFORMACIÓN** desarrollado en el marco del proyecto ELINF (VLIR) Por favor, indícanos cómo evalúa su **NIVEL DE DESTREZA** marcando el número que mejor expresa su respuesta, sobre una escala de menor a mayor que va del 1 (bajo nivel) al 5 (alto nivel). Gracias

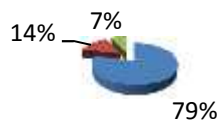
En relación a: Búsqueda de información	NIVEL DE DESTREZA				
	Baja-----Alta				
	1	2	3	4	5
1. Saber utilizar fuentes de información impresa					
2. Saber acceder y usar los catálogos automatizados.					
3. Saber consultar y usar fuentes electrónicas de información primaria (revistas...)					
4. Saber utilizar fuentes electrónicas de información secundaria (bases de datos)					
5. Conocer la terminología de tu materia					
6. Saber buscar y recuperar información en Internet (ej. Búsquedas avanzadas, directorios, portales...					
7. Saber utilizar fuentes electrónicas informales de información (ej.blogs, listas de distribución, ...)					
8. Conocer las estrategias de búsqueda de información (ej. Descriptores, operadores booleanos...)					
En relación a: Evaluación De La Información					
9. Saber evaluar la calidad de los recursos de información					
10. Reconocer en el texto las ideas del autor					

11. Conocer la tipología de las fuentes de información científica (ej. tesis doctorales, actas de congresos, ...)					
12. Ser capaz de determinar si la información que contiene un recurso está actualizada					
13. Conocer los autores o instituciones más relevantes en tu ámbito temático					
En relación a: Tratamiento De La Información					
14. Saber resumir y esquematizar la información					
15. Ser capaz de reconocer la estructuración de un texto					
16. Saber usar gestores de bases de datos (ej. Access, MySQL, ...)					
17. Saber utilizar gestores de referencias bibliográficas (ej. Endnote, Reference Manager, ...)					
18. Saber manejar programas estadísticos y hojas de cálculo (ej. SPSS, Excel, ...)					
19. Saber instalar programas informáticos					
En relación a: Comunicación Y Difusión De La Información					
20. Saber comunicar en público					
21. Saber comunicar en otros idiomas					
22. Saber redactar un documento (ej. informe, trabajo académico, ...)					
23. Conocer el código ético de tu ámbito académico/profesional					
24. Conocer la legislación sobre el uso de la información y de la propiedad intelectual					
25. Saber hacer presentaciones académicas (ej. Powerpoint, ...)					
26. Saber difundir la información en Internet (ej. webs, blogs, ...)					

Appendix 2: Other Results of the survey applied

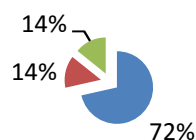
know the legislation related to the use of information within your subject area (intellectual property)?

■ high ■ medium ■ low



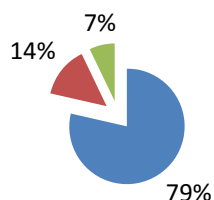
Communicate in any other languages

■ high ■ medium ■ low



disseminate information on the internet (webs, blogs, etc.)

■ high ■ medium ■ low



use of reference management

■ high ■ medium ■ low

