

INFORMATION LITERACY IN COLOMBIA: REPORT OF THE STATE OF THE ART 2010¹

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ABSTRACT

This report has been developed following a number of strategies (methods and technical/research instruments), namely documentary research, web content analysis, qualitative fieldwork and online surveys. This research was conducted in two contexts: in university libraries, public library networks and compensation funds libraries (mixed) and in research groups within the areas of information science, education and psychology in different cities. It focuses on the current state of information literacy in Colombia from the perspective of implementing educational programmes and projects at different types of libraries, educational levels as well as from the teaching and research perspectives.

KEYWORDS:

Information literacy training, information skills, university libraries, school libraries, public libraries, research groups, librarian education, Colombia

INTRODUCTION

Before we develop this report, some clarification about terminology is necessarily presented, since conceptual and contextual agreements (from the perspective of the report) will facilitate its comprehension and the identification of common and divergent characteristics in the topic of information literacy as understood and applied in Colombia in the past, which will remain in the future.

These clarifications are provided within the framework of the title given to this work:

¹ This report is supported academically in the doctoral research (in progress): "*Lessons Learned in Information Literacy Programs in Ibero-American Universities*" (Uribe Tirado, 2010-...). His first Spanish version is being edited for publication in the text: "Alfabetización Informativa" (Information Literacy) by the University Center for Library Science Research of the National Autonomous University of Mexico. For the English version and updating, has received contributions of Professor Leonardo Machette's, who is also Colombia's coordinator for the UNESCO / IFLA project "InfoLitGlobal".

• *State of the art*

Throughout this paper, we assume that the term ‘state of the art’ means what Vélez and Galeano (2002), drawing on several authors, describe as “...an inquiry into the production and research, both theoretical and methodological, about a topic with the aim of uncovering through it the dynamics and logic to be found in the description, explanation or interpretation of the phenomenon in question offered by theorists and researchers.”

Following this definition, according to Vélez and Galeano (2002), a ‘state of the art’ “... implies considering different strategies to locate the production –beyond the merely well documented and printed– as well as the qualitative perspective/approach, including case studies, focus groups, participant observation and content analysis (Andreu, 2000; Piñuel, 2002; Porta and Silva, 2003, Salinas, 2006; Solís, 2008, etc.), and more specifically web and digital content (Wan-Ying Lin, 2000, McMillan, 2000; Strijbos et al, 2005; Herring, 2010, etc.).

From this perspective, it becomes clear that any state of the art is an approximation to a certain set of sources at a given time, from a group of people (researchers) and by means of specific strategies. It cannot assume the existence of any kind of production on a certain topic, but it assures a systematic approach that aims to be as comprehensive in terms of breadth and depth’ as possible.

• **Information literacy (or ... defined as ...)**

With regard to ‘information literacy’ as a term, over the past three decades of information literacy developments (Pinto, Cordon and Gomez, 2010) there have been many discussions in different languages on what is the most appropriate term from different linguistic and translation perspectives.

This was certainly the case for Spanish, with different proposals such as Gómez-Hernández’s ‘alfabetización informacional’ (information literacy) or Marzal’s ‘alfabetización en información’; or variations such as Cortes and Lau’s ‘Desarrollo de habilidades informativas’ (information literacy skills training); or other proposals/positions based on certain traditions of library and educational perspectives such as Naranjo-Vélez and others (training / education of users).

In this regard, In this regard, this study assumed a pragmatic position, since, according to recent terminological agreements, this field of knowledge is still under construction and in many cases agreements have not been reached yet. It is therefore assumed as a term for "*alfabetización informacional*" following Gómez-Hernández’s proposal (2007), in turn validated through its use in language issues. This term is also the one that has gained more weight, since a search of the different terms related to this issue in Spanish² shows ‘*alfabetización informacional*’ as the most widely used term in the Hispanic American³ context, which is valid in the case of Colombia⁴.

2 Alfabetización informacional, Alfabetización en información, Alfabetización informativa, Desarrollo de Habilidades Informativas (DHI) - Information Literacy, Information Competency, Information Skills, Training of users to search for information, etc.

3 For example, using Google Scholar as a tool to compare the frequency of use of these terms for terms in Spanish is (November 2010): 991 documents including the term "alfabetización informacional", 180 including "desarrollo de habilidades informativas"; 499 including "alfabetización en información"; 191 including "alfabetización informativa"; 214 including "competencias informacionales"; 97 including "competencias en información"; 110 including "competencias informativas", and finally, 367 for "formación de usuarios"+"búsqueda de información".

Together with the above, during the development of information literacy over the past thirty years there have been several proposals, such as definitions (the way you understand), which directly and indirectly have sought to conceptualize this idea. In many cases, in our contexts (Latin American, Hispanic American, and Iberamerican) literal translations of most recognized English-language definitions (ALA, CILIP, SCONUL, CAUL) have been adopted, but there have also been proposals of certain authors who have sought to come up with their own definition to complement and expand, and in some cases, contextualize these definitions from English contexts.

In the present work, continuing a pragmatic position, it was assumed that there was a need to go beyond the definitions of a "synthetic" and very particular context and to draw on the potential strengths of most of the definitions in English and the descriptions of information literacy in recent years in order to create a comprehensive description of the term that covers all its complexity.

Therefore, in this text by information literacy is meant (Uribe Tirado, 2008, 2009, 2010):

*the teaching-learning process designed
for an individual or group of persons,

under the professional leadership and
guidance of an educational or library institution,
using different teaching strategies and learning environments
(classroom, mixed-blended learning or "virtual" / E-INFOLIT),

to be able to achieve the competences
(knowledge, skills and attitudes)
in computing, communications and information
that would enable and empower them,

after identifying and recognizing their information needs,
and applying different formats, media and physical,
electronic or digital resources,

to locate, select, retrieve, organize, evaluate,
produce, share and disseminate
in an efficient and effective way,
as well as with a critical and ethical approach
(Information Behavior)
the information that best satisfies those needs,
building upon their potentialities
(cognitive, practical and emotional)
and previous knowledge
(multiple literacies: reading and writing, functional,
visual, media, digital)

and to achieve an appropriate interaction
with other individuals and groups
(cultural practices-social inclusion),
according to the different roles and contexts involved
(educational levels, research, job-training),*

This same tendency is present when using the E-LIS repository or a general search on Google. However, the term "desarrollo de habilidades informativas" in the case of Mexico has a higher frequency, which is related to the first translation of the term in that country and work from the Universidad Autónoma de Ciudad Juárez.

4 After refining the overall performance of Hispanic America for "Colombia" and ".co", again using Google Scholar and E-lis repository as sources, the term "alfabetización informacional" (information literacy) is the majority.

*for finally with all this process,
to get and share new knowledge as well as
the foundations for lifelong learning
(to which every citizen has the right)
in order to facilitate the decision-making
for personal, organizational, community and social benefits
in view of the everyday and long-term demands
(opportunities and threats)
in the current information society.*

• Colombia

To try to present a 'state of the art' about 'information literacy' in a particular context; in this case, a country, is a great investigative purpose that involves a process of continuous inquiry.

In the case of this text, this process is based on the teaching and research work undertaken over the past five years, since the School of Library Science at the University of Antioquia (Medellin-Colombia) and the research group "Información, Conocimiento y Sociedad" ("*Information Knowledge and Society*") have facilitated, especially by conducting doctoral studies on this subject in the last year, to follow a systematic process to find information literacy related literature. Namely: articles and papers that Colombian authorities have published on this topic, thesis works on undergraduate and graduate research projects, programmes and projects planned for and/or implemented in different types of educational institutions and libraries, web resources (based on 1.0 and 2.0 content) that deal and have dealt with this issue, and processes related to training of information professionals on Information Literacy in different cities and networks/groups.

However, as implied by a state of the art and has been mentioned above, is not producing anything else. Thus, it can be considered, metaphorically: a panoramic photograph of a moment, taken from the specific angle of the photographer(s), and, which displays a large landscape, but not the whole of it.

METHODOLOGY AND RESULTS

Taking into account the three considerations in relation to the title of this work, we now present the methodology followed in the investigative process that frames this work and their specific results.

The following strategies (methods/techniques and instruments) were used: documentary research, analysis of web/digital content, interview-training-participant observation, and online surveys.

• Documentary research

The documentary research work carried out involved searching and retrieving information during several months, tracking back relevant sources of published work on information literacy in Colombia in recent years.

In particular, the following sources were consulted: Global InfoLit repositories and E-lis, the reference databases and LATININDEX REDALYC specific American context, and international

scientific databases (ISI, SCOPUS, ERIC, EBSCO-academic source; EMERALD, etc.), which identified most of the published work (publications, research-training proposals, learning objects) of what has been done and was being done on Information Literacy in Colombia.

After the organization, treatment (duplicates) and systematization of those searches results in it was possible to locate and analyze (see extended specifications of bibliographic content in Appendix 1) a number of works, directly and indirectly related to information literacy in Colombia, namely:

Articles and Conference Papers:

- *Formación de usuarios de la Información y procesos formativos: hacia una conceptualización* (Naranjo Vélez, 2003)
- *Internet, software libre, brecha digital y analfabetismo informacional. Una reflexión y discusión pendiente en la Universidad.* (Uribe Tirado, 2005)
- *La alfabetización informacional, un prerrequisito y campo de acción para la e-inclusión y la gestión del conocimiento en red en las universidades* (Uribe Tirado, 2005)
- *Evolución y tendencias de la formación de usuarios en un contexto latinoamericano: resultados de la investigación.* (Rendón Giraldo, Naranjo Vélez y Giraldo Arredondo, 2005)
- *La investigación como proceso de aprendizaje. Bogotá: Colegio Los Nogales* (Vélez de Monchaux, 2006)
- *La fluidez de la información en la era digital* (Cortés S., 2006)
- *Programa de Alfabetización en Información del Sistema de Bibliotecas sede Bogotá de la Universidad Nacional de Colombia* (Ardila y Martínez, 2006)
- *Acceso, conocimiento y uso de Internet en la Universidad de Antioquia: modelo de diagnóstico y caracterización.* (Uribe Tirado et al., 2007)
- *Los bibliotecólogos y bibliotecarios, agentes líderes en la formación de estudiantes y comunidades para el acceso a información de calidad utilizando Internet* (Uribe Tirado, 2007)
- *Introducción al Desarrollo de Habilidades Informativas-Information Literacy.* (Machett's, 2007)
- *La alfabetización múltiple: reto de las bibliotecas* (Giraldo, 2007)
- *Implicaciones sociales y culturales de la Alfabetización Informacional* (Mesa, 2007)
- *Las habilidades informativas en el contexto de la formación profesional* (Ordóñez, 2007)
- *Acerca de la Alfabetización Informacional y el papel de la academia* (Naranjo Vélez, 2007)
- *Programa de formación y orientación de los alumnos* (Tinjacá, 2007)
- *La investigación en la biblioteca escolar: una estrategia para el desarrollo de la ALFIN* (Vélez de Monchaux, 2007)
- *La brecha digital, no solo conectividad. La Socio, Info e Infraestructura Informacional una triada necesaria para los análisis en la sociedad de la información.* (Uribe Tirado, 2007)
- *De la didáctica y otras acciones para la formación de usuarios en bibliotecas universitarias* (Naranjo Vélez, 2007)
- *Experiencia de un programa de formación de usuarios como apoyo al proceso de enseñanza-aprendizaje universitario en el Sistema de Bibliotecas de la Universidad de Antioquia* (Gil Jaramillo, 2008)
- *Competencias informacionales en estudiantes universitarios: Una reconceptualización.* (Marciales Vivas et al., 2008)
- *La formación en competencias tecnológicas e informacionales de futuros bibliotecólogos aprovechando la plataforma educativa Moodle: caso Escuela Interamericana de Bibliotecología Universidad de Antioquia 2007-2008* (Castaño Muñoz y Uribe Tirado, 2008)
- *Hacia una formación de usuarios de la información en entornos locales.* (Rendón Giraldo y Herrera Cortés, 2008)
- *El conocimiento y reconocimiento de los modelos de comportamiento informacional. Un aspecto necesario para los servicios de información Web 2.0 y la Alfabetización Informacional-DHI desde las bibliotecas.* (Uribe Tirado, 2009)
- *Interrelaciones entre veinte definiciones-descripciones del concepto de alfabetización informacional: Propuesta de macro-definición* (Uribe Tirado, 2009)
- *Formación de habilidades y competencias informacionales en entorno virtual. Caso Universidad del Rosario, Colombia.* (Lisowska, 2009)
- *Mitos, realidades y preguntas de investigación sobre los 'nativos digitales': una revisión* (Cabra Torres y Marciales Vivas, 2009)
- *Intranets, repositorios, alfabetización digital e informacional... Estrategias cubanas para evitar la brecha digital, replicables y adaptables en otros contextos iberoamericanos* (Uribe Tirado, Zayas Mujica y Fernández Valdés, 2009)
- *La Alfabetización Informacional en la Universidad. Descripción y Categorización según los Niveles de Integración de ALFIN. Caso Universidad de Antioquia* (Uribe Tirado, 2010)
- *Avances y perspectivas de ALFIN en Iberoamérica. Una mirada desde la publicación académico-científica y la web 1.0 y 2.0.* (Uribe Tirado, 2010)

- *Perfiles de la competencia informacional en estudiantes de primer semestre de carreras técnicas y profesionales.* (Marciales Vivas et al, 2010)
- *La formación y los estándares-competencias en alfabetización informacional para estudiantes universitarios. Una mirada contextualizadora desde los postulados de la teoría de la actividad y la acción mediada.* (Uribe Tirado, 2010)
- *El proyecto INFOLIT Global y su importancia para las instituciones bibliotecarias y educativas de Colombia para la enseñanza-aprendizaje de competencias informacionales/Alfabetización Informacional* (Uribe Tirado, 2010)
- *Alfabetización Informacional (ALFIN) en la Red Capital de Bibliotecas Públicas de Bogotá.* (Fino Garzón, 2010)
- *Asignaturas para el desarrollo de competencias en el manejo de información y uso de TIC.* (Menéndez y Mesa, 2010)
- *Formación cívica y ciudadana mediada por las tecnologías de la información y la comunicación- TIC: una experiencia de alfabetización informacional con contenidos locales.* (Bedoya, 2010)
- *La formación en competencias informacionales (alfabetización informacional) una necesidad imperante en la educación colombiana.* (Uribe Tirado, 2010)
- *Uso de los sistemas de información documental en la educación superior: estado del arte* (Naranjo Vélez, 2010)
- *Competencias informacionales en estudiantes universitarios* (Marciales Vivas et al, 2010)
- *Presencia, tendencias y aspectos diferenciadores de la formación sobre derechos de autor en la alfabetización informacional en el ámbito universitario* (Uribe Tirado, 2010)
- *Modelo académico para el desarrollo de habilidades informacionales: caso del departamento de ciencia de la información de la pontificia universidad javeriana* (Mesa, 2010)
- *Alfabetización Informacional desde la Universidad de La Salle: Retos y Oportunidades* (Gómez Dueñas, 2010)
- *El desarrollo de competencias informacionales desde la Biblioteca Pública: caso de la Red de Capital de Bibliotecas Públicas* (Sierra Escobar, 2010)
- *La emancipación a través del conocimiento como objetivo en el diseño curricular de programas de alfabetización informacional* (Machett's, 2010)
- *El desarrollo de habilidades informativas como componente del programa de Animación a la lectura Biblioteca Escuela PALBE* (Carrero Gómez, 2010)
- *La formación en alfabetización informacional en la Escuela Interamericana de Bibliotecología: Competencias para ser alfabetizados y competencias para ser alfabetizadores* (Uribe Tirado y Castaño Muñoz, 2010)
- *La emancipación a través del conocimiento como objetivo en el diseño curricular de programas de alfabetización informacional* (Machett's, 2010)
- *Recolectores, verificadores y reflexivos: perfiles de la competencia informacional en estudiantes universitarios de primer semestre.* (Marciales Vivas et al, 2010)
- *La Web semántica y sus posibles aplicaciones en las universidades.* (Uribe Tirado, 2010)
- *Una mirada a los telecentros regados por Colombia.* (Medina Franco, 2010)
- *La Alfabetización Informacional en Iberoamérica. Una aproximación a su pasado, presente y futuro desde el análisis de la literatura publicada y los recursos web.* (Uribe Tirado, 2010)
- *Reconceptualización sobre competencias informacionales. Una experiencia en la Educación Superior.* (Marciales Vivas et al, 2010)
- *La web semántica y sus aplicaciones. Una unidad de aprendizaje en línea (UAL-OVA) necesaria en programas de alfabetización informacional en universidades.* (Uribe Tirado, 2010)

Books

- *Evolución y Tendencias de la Formación de Usuarios en un Contexto Latinoamericano* (Naranjo Vélez et al, 2006).
- *Acceso, conocimiento y uso de internet en la Universidad: Modelo de diagnóstico y caracterización.* (Uribe Tirado et al. 2008)
- *MUFUS-Modelo de formación de usuarios de la información* (Naranjo Vélez et al, 2009).

Undergraduate Theses

- *Búsquedas especializadas en la Web en texto completo puestas a disposición en el catálogo público Olib 7 del Sistema de Bibliotecas de la Universidad de Antioquia.* Recurso impreso. Escuela Interamericana de Bibliotecología. Universidad de Antioquia (Zapata Patiño/Arredondo Hernández -Dir.-, 2000).
- *Creación de indicadores para los estándares de alfabetización informativa propuestos por la ALA, como modelo de medición de las habilidades en el uso de la información, por parte de los estudiantes de grado 11^º: estudio de caso aplicado a los colegios Pureza de María y San Bartolomé la Merced.* Recurso electrónico, Pontificia Universidad Javeriana-Bogotá. Lugo y Mesa/ Hinestrosa -Dir.-, 2003).
- *Evaluación de servicios en línea en el ámbito de las bibliotecas universitarias desde la perspectiva del manejo de indicadores de gestión y la usabilidad.* Recurso impreso y electrónico. Escuela Interamericana de Bibliotecología. Universidad de Antioquia. (Arias Sanchez./Pineda Gaviria.-Dir.-, 2004).

- *Competencias en el manejo de información: Guía metodológica y didáctica para docentes y estudiantes de educación básica primaria de Bogotá.* Recurso electrónico, Universidad de La Salle-Bogotá. (Ruíz/Peña -Dir.-, 2005).
- *Diseño de un instrumento de evaluación para el programa de formación de usuarios en el acceso, uso y gestión de la información del departamento de bibliotecas de la Universidad de Antioquia.* Recurso electrónico. Escuela Interamericana de Bibliotecología. Universidad de Antioquia. (Gallo Builes/Pineda Gaviria -Dir.-, 2005).
- *Diagnóstico de las competencias en información de los estudiantes de VII semestre de la carrera de Ciencia de la Información - Bibliotecología de la Pontificia Universidad Javeriana.* Recurso electrónico, Pontificia Universidad Javeriana. (Valderrama/Mesa -Dir.-, 2006).
- *Propuesta de un programa de formación de usuarios para estudiantes y profesores de la Facultad de Odontología de la Universidad de Antioquia.* Recurso electrónico. Escuela Interamericana de Bibliotecología. Universidad de Antioquia. Llano Ochoa/Naranjo Vélez -Dir.-, 2007).
- *Diseño de un programa de desarrollo de habilidades informativas: estudio de caso aplicado al taller de Internet para personas mayores de la red de bibliotecas Colsubsidio.* Recurso electrónico, Pontificia Universidad Javeriana-Bogotá. (Machett/Vélez de Monchaux -Dir.-, 2008)
- *Diseño de un programa de desarrollo de habilidades informacionales aplicadas a la información pública para fomentar la ciudadanía digital en adolescentes.* Recurso electrónico, Pontificia Universidad Javeriana-Bogotá. (Fino y Castañeda, 2010)

Postgraduate Theses:

- *El bibliotecólogo como promotor de la lectura y sus bases pedagógicas* (Naranjo Vélez, 2003)-TM
- *Acceso, conocimiento y uso de las herramientas especializadas de internet entre la comunidad académica, científica, profesional y cultural de la Universidad de Antioquia* (Uribe Tirado, 2004)-TE
- *Diseño, implementación y evaluación de una propuesta formativa en alfabetización informacional mediante un ambiente virtual de aprendizaje a nivel universitario: caso Escuela Interamericana de Bibliotecología, Universidad de Antioquia.* (Uribe Tirado, 2008)-TM
- *La traducción de la transferencia de información para los estudiantes de ciencia de la información en Colombia* (Naranjo Vélez, 2008... -en proceso de desarrollo-)-TD
- *Lecciones aprendidas en programas de alfabetización informacional en universidades de Iberoamérica* (Uribe Tirado, 2009... -en proceso de desarrollo-)-TD

Standards, Tests of IL competencies/skills, Assessment Tools

- *Lineamientos y Directrices para la Formación de Usuarios de la Información* (Naranjo Vélez et al, 2006)
- *Modelo Gavilán* (EDUTEKA, 2006)
- *Modelo integrador de 7 macro-competencias de ALFIN* (Uribe Tirado, 2008)
- *Modelo de Formación de usuarios de la Información MOFUS* (Naranjo Vélez et al, 2009)
- *Niveles de incorporación de ALFIN en universidades y Escuelas/Facultades de Bibliotecología/Documentación/Ciencia de la Información* (Uribe Tirado, 2010)
- *Huellas digitales⁵* (2010)

Meetings

- *Alfabetización informacional: desafíos y posibilidades. XVII Encuentro de Bibliotecas de Cajas de Compensación Familiar* (Bogotá, 2007)
- *Simposio Internacional de Bibliotecas Escolares* (Bogotá, 2008)
- *II Congreso Internacional de Investigación en Ciencia de la Información* (Medellín, 2009)
- *BiblioTic 2010. Segundo Encuentro de Bibliotecas en Tecnologías de la Información y la Comunicación* (Medellín, 2010)
- *Jornada académica "La alfabetización informacional: aprendizaje para la vida"* (Bogotá, 2010)

• Web-Content Analysis

The analysis of library web sites is a strategy from the perspective of web-content analysis to identify relevant digital and developments from the libraries that provide training as a basic service and transversal to meet the requirements of the Information Society on different educational levels and types of libraries.

⁵ <http://www.huellas.bibliotecanacional.gov.co/?idcategoria=38665>

To develop this strategy a registration and content analysis form of web and digital content was generated (see Appendix 2), to keep a record of university library and public and mixed libraries (Colombian Compensation Funds), based on the use of different directories-systems Information:

- Higher Education's National Information System. Colombian's Ministry of Education:
<http://snies.mineducacion.gov.co/men/sniesBasico/consultarInstitucionesRegistradas.jsp>
- National Directory of public libraries:
<http://www.bibliotecanacional.gov.co/?idcategoria=28981>
- National Network of Libraries of Family Compensation Funds
<http://blogs.comfenalcoantioquia.com/redbibliotecasajas/>

After recording all the cases through the registration form and performing an analysis, the following data were identified for university libraries:

No. of Higher Education Institutions	No. of websites of the Higher Education Institutions visited	No. of websites of the Higher Education Institutions with explicit information about the library and its services	No. of university libraries that provide data on user training and / or Information Literacy	Level that would meet the University Libraries in relation to the training of users and / or information literacy based on the information presented from their websites	No. of University Libraries Program to provide information (courses / activities) from a comprehensive understanding of information literacy. (Level 1 and 2) ⁶
337 <i>(registered and linked from the Portal of Ministry of Education of Colombia)</i>	335 <i>(the domain name of 2 institutions did not exist)</i>	95 <i>(28.3% institutions)</i>	75 <i>(22.3% institutions)</i>	<i>User training Level 1: 26</i> <i>User training Level 2: 37</i>	12 <i>(3.5% institutions)</i> <i>Information Literacy INFOLIT-ALFIN Level 1: 8</i> <i>Information Literacy INFOLIT-ALFIN Level 2: 4</i>

Table 1. Summary of Programmes / Processes Information Literacy and / or User Training identified after analysis of the Web sites of university libraries in Colombia.

Therefore, considering the levels 1 and 2 proposed Information Literacy (INFOLIT) stand out from the Web-Digital information presented the following cases:

⁶ After reviewing the literature on information literacy, from the research that supports this work, four levels of locations are proposed depending on the degree of incorporation of user training and / or information literacy according to the trends and practices that universities and libraries have:

- **Training for Users. Level 1:** only training about general library services.
- **Training for Users. Level 2:** training about general library services and some "very instrumental" courses to search for information: use of catalogs and databases
- **Information Literacy. Level 1:** courses from the library aimed at providing training about information competencies: the instrumental + lifelong learning + critical thinking.
- **Information Literacy. Level 2:** courses from the library aimed at providing training about information competencies: the instrumental + lifelong learning + critical thinking; and course / module specific official involved in the curricula of various academic programs to form in a transversal way and discipline in those competencies.

Information Literacy Level 2:

- Universidad de Antioquia-Medellín⁷
- Universidad del Rosario-Bogotá⁸
- Universidad de La Sabana-Bogotá⁹
- Pontificia Universidad Javeriana-Bogotá¹⁰

Information Literacy Level 1:

- Universidad de los Andes-Bogotá¹¹
- Universidad San Buenaventura-Cali¹²
- Pontificia Universidad Javeriana-Cali¹³
- Universidad ICESI-Cali¹⁴
- Universidad del Tolima-Ibagué¹⁵
- Universidad del Norte-Barranquilla¹⁶
- Universidad de Manizales-Manizales¹⁷
- Universidad Nacional de Colombia-Palmira¹⁸

In the case of public libraries, after looking at the specific directory for this type of libraries, found that only the main library located in major cities (Bogotá, Medellín, Cali, Barranquilla) had its own website.

Of these, only the library network of the Bank of the Republic and its library headquarters Luis Ángel Arango¹⁹, Network libraries and Parks-libraries and Metropolitan Area of Medellín²⁰ and the Network of Libraries of Bogotá BIBLORED²¹ presented information regarding training aspects, but focus mainly on training Level 2 users (libraries belonging to the first two) or initiating actions to achieve the Level 1 Information Literacy (for BIBLORED).

In the case of the libraries belonging to Family Compensation Funds (mixed) with a similar situation to the public library developments were focused on user education levels, standing at level 2, next to information literacy, learning processes libraries belonging to: COMFENALCO-Medellín²², COMFAMA-Medellín²³, COMFAMILIAR-Barranquilla²⁴ and COLSUBSIDIO-Bogotá²⁵.

However, these libraries mixed (public-private) emphasizes training programs from the Local Information Service COMFENALCO has done with a broader perspective considering

7. <http://formacionbiblioteca.udea.edu.co/moodle/course/category.php?id=6>

8. <http://www.urosario.edu.co/Biblioteca/ur/Informacion/Biblioteca-Antonio-Rocha-Alvira-%287%29/>

9. <http://biblioteca.unisabana.edu.co/capacitacion.htm>

10. <http://www.javeriana.edu.co/biblos/capacitacion/capacitacion.htm> -
<http://www.javeriana.edu.co/biblos/capacitacion/documentos/cm10.pdf>

11. <http://biblioteca.uniandes.edu.co/Servicios/capacitacion.php>

12. http://www.usb.edu.co/index.php?option=com_content&task=view&id=474&Itemid=45

13. http://www.javerianacali.edu.co/Paginas/Servicios/Biblioteca/Biblioteca_Index.aspx -
http://www.javerianacali.edu.co/banners/PLAN_DE_FORMACION_DE_USUARIOS-2007.pdf

14. http://www.icesi.edu.co/biblioteca/servicios_formacion_usuarios.php

15. http://desarrollo.ut.edu.co/tolima/hermesoft/portal/home_5/htm/cont0.jsp?rec=not_15843.jsp

16. <http://www.uninorte.edu.co/biblioteca/secciones.asp?id=35>

17. <http://umanizales.edu.co/~biblio/inducccion.htm>

18. <http://www.virtual.unal.edu.co/unvPortal/courses/CoursesViewer.do?reqCode=viewOfFaculty>

19. <http://www.banrepcultural.org/actividadeseducativas.htm>

20. <http://www.reddebibliotecas.org.co/sites/Bibliotecas/Paginas/Bibliotecas.aspx>

21. <http://www.biblored.org.co/es/programas/formacion-usuarios>

22. <http://www.comfenalcoantioquia.com/bibliotecas/InicioBibliotecas/tabid/1565/Default.aspx>

23. <http://www.comfama.com/contenidos/servicios/Bibliotecas/Bibliotecas.asp>

24. <http://www.comfamiliar.co/opencms/opencms/comfamiliar/Servicios/CCultural/Portafolio/servicios-bibliotecarios.html>

25. http://www.colsubsidio.com/porta_serv/educacion/bibliotecas3.html

Information Literacy, information skills for information management (of government procedures and employment) for the public.²⁶

In short, in the case of public libraries and the Family Compensation Funds from the analysis of their websites, it is evident even more concern design and digital-computer literacy to the information, which although a necessary and preliminary step and complementary, falls short of considering the need for training for life, critical thinking and implementation of the universal right of access to information leads to information literacy.

In the case of school libraries, the situation of this kind of libraries in the country is very poorly developed, as in the institutions of primary and secondary education outside the state sector, public libraries, from the National Plan for Reading and Libraries²⁷, have focused all efforts on the creation and staffing of these centers and are they (public libraries) only cover the needs of the school.

In the institutions of the primary and secondary private type, libraries have not undergone large developments. As highlighted only some institutions have taken the perspective of CREA (Center of Resources for Teaching and Learning), but in most cases, they are traditional libraries where they already existed, or it has been assumed that the personal libraries (each family + Internet) or computer rooms of the institution, meet the needs of information but with little or no training in information literacy.

However, should be emphasized at school level, a particular case in the country, and is the educational institutions have been advised and had spaces for training, especially in the region of Valle del Cauca (Cali), through the work of Gabriel Piedrahita Foundation, which has developed the model GAVILÁN (*EDUTEKA*)²⁸.

It highlights the work done by a team led by Patricia Vélez de Mochaux in the Nogales School of Bogotá and their participation in the development of research tools for the National Library of Colombia known as a *Huellas Digitales (Digital Fingerprints)*, and the organization of the International Symposium School Libraries in 2008 where the topic of Information Literacy was highlighted through the participation of recognized authorities in the school library as Ross Todd PhD in library science and associate professor at the School of Information Sciences, Rutgers University.

• Interviews-Training-Participant Observation

Continuing with the interest to achieve information triangulation on this topic from different strategies (methods / techniques and instruments), a number of spaces and means for more development in Colombia from different educational levels and types of libraries on information literacy were exploited.

First, we used semi-structured interviews to determine the status of some major universities in the country:

- Universidad de Antioquia
- Universidad del Rosario-Bogotá
- Universidad de La Sabana-Bogotá
- Pontificia Universidad Javeriana Bogotá

²⁶ <http://www.conexionciudad.com/Programas/tabid/235/language/es-ES/Default.aspx>

²⁷ <http://www.bibliotecanacional.gov.co/?idcategoria=27535>

²⁸ <http://www.eduteka.org/modulos/1/258>

- Universidad de los Andes-Bogotá
- Universidad ICESI-Cali
- Universidad Nacional de Colombia-Palmira

This confirmed the status of developments in information literacy reported from the websites of these institutions, located in a Level 1 and 2 developments in information literacy.

On the other hand, building the organization of different areas of training in this area, we had the opportunity to know the state of knowledge, skills and attitudes (competencies) of part of information professionals responsible for university libraries and public and mixed libraries (Colombian Compensation Funds), in relation to information literacy. Observers participated in the fieldwork and in the development of the following training programs:

- Workshop on "Information Literacy from the libraries' BiblioTic 2010 (university and public libraries in Colombia)
- Workshop on "Information Literacy for Learning" (libraries headquarters Universidad Nacional de Colombia: Bogotá, Medellín, Manizales, Palmira, Amazon, San Andrés)
- Conference-Workshop: "Information literacy in the service of the Library" (university libraries, public and Compensation Funds Colombia)
- Conference Workshop: "Impact of new technologies in the world. Realities, Challenges and Perspectives for Libraries "(Library Colombia Compensation Funds)
- Workshop: benchmarking, a key strategy to design programs-Projects-Informational Training in Information Literacy Skills (university and public libraries in Colombia)

These two strategies allowed the identification and reconfirmed the status of university libraries that do have advances in information literacy, lack of programs and projects in the vast majority of libraries in the country, and greater emphasis on training in digital-computer competencies.

Similarly, training of information professionals in this area is very low. In the case of graduates from before 2005 in the four Faculties / Schools / Departments that offer higher education programmes in library science in the country (*Inter-American School of Information Science at the University of Antioquia-Medellín*,²⁹ *Department of Information Science, Pontificia Universidad Javeriana-Bogotá*³⁰, *Department of Information and Information Systems of Universidad de La Salle-Bogotá*³¹ y *Universidad del Quindío to remote*) the issue of training, technologies and their interaction in information literacy was not very present in their curricula. Processes of curriculum transformation in the first three universities only started recently, with several mandatory subjects and two to three optional subjects that have incorporated aspects of information literacy. These changes can only be considered for recently graduated students, therefore we are still assessing the impact of this training in different types of libraries.³²

This curricular transformation adds to the fact that this issue has only begun to have a presence as a research topic in the last five years, having in several projects as a result. In this connection, consult the websites of the four Faculties / Schools / Departments that provide training and consulting librarian also the Information System and Research Groups of Colombia (COLCIENCIAS-ScienTI - Colombia)³³, is located who is from the University of Antioquia (Group Information, Knowledge and Society)³⁴ and the Pontificia Universidad Javeriana-Bogotá in partnership with the Universidad Industrial de Santander (Group Learning and Information

²⁹ <http://formacionbiblioteca.udea.edu.co/moodle/course/view.php?id=97> -

<http://aprendeenlinea.udea.edu.co/lms/moodle/course/category.php?id=16>

³⁰ <http://www.alfintic.tk/> - http://www.javeriana.edu.co/cyl/website/dep_ciencias_infor/serv_acad.htm

³¹ http://sisinfo.lasalle.edu.co/index.php?option=com_content&task=view&id=217&Itemid=230

³² <http://www.bilored.org.co/files/programacionweb.pdf>

³³ <http://www.colciencias.gov.co/scienti/>

³⁴ <http://201.234.78.173:8080/gruplac/jsp/visualiza/visualizagr.jsp?nro=00000000008625>

Society)³⁵ which are being directly theoretical developments and contributions from conceptual and applied research concerning Information Literacy, Information Literacy and / or training of users, because in this respect, there is between these groups and researchers terminological agreements.

In addition, we could identify other research groups³⁶, although with an even stronger trend toward digital-computer literacy and the incorporation and appropriation of ICTs and information resources for learning and e-learning, have jobs only indirectly related to information literacy from the definition-description that this work offers comprehensive information literacy.

• Virtual Surveys

Another strategy used in this work, we generated two types of spaces for consultation on developments in information literacy programs and projects in university libraries, and public and Family Compensation libraries of Colombia.

On the one hand, using the above training events the participants were asked (pre-entry diagnosis) about their level of training and experience(s) as professionals on the topic of information literacy and the reality of the incorporation of this basic service and transversal in their respective libraries.³⁷ 50 information professionals from different cities in Colombia and linked to different types of libraries participated. Their responses confirmed low levels of training in this area and that most libraries were starting to advance in the process of traditional training programs for users of information literacy programmes, information skills training for learning throughout life.

On the other hand, focusing on university libraries,³⁸ 82 institutions of higher education in Colombia participated and were researched. The results presented below were obtained. These results show the state of development of information literacy at level 1 and 2 of some libraries and the desire to start these processes in a large percentage of the remainder, and no (concern) for training at any level, in as much:

³⁵ <http://201.234.78.173:8080/gruplac/jsp/visualiza/visualizagr.jsp?nro=0000000001836>

³⁶ View other groups with indirect jobs: <http://alfincolombia.blogspot.com/2009/10/grupos-de-investigacion-colombianos-que.html>

³⁷ Ver cuestionario: <http://www.surveymonkey.com/s/MCCQ8KD>

³⁸ Ver cuestionario: <http://www.surveymonkey.com/s/ALFIN-LeccionesAprendidas>

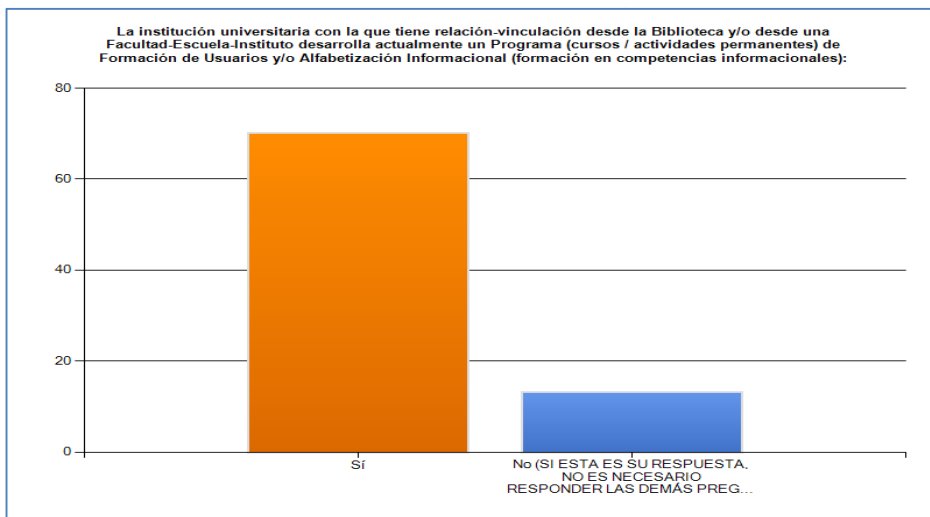


Figure 1. Question 3. Colombian universities. Presence or absence of user training and/or Information Literacy programme

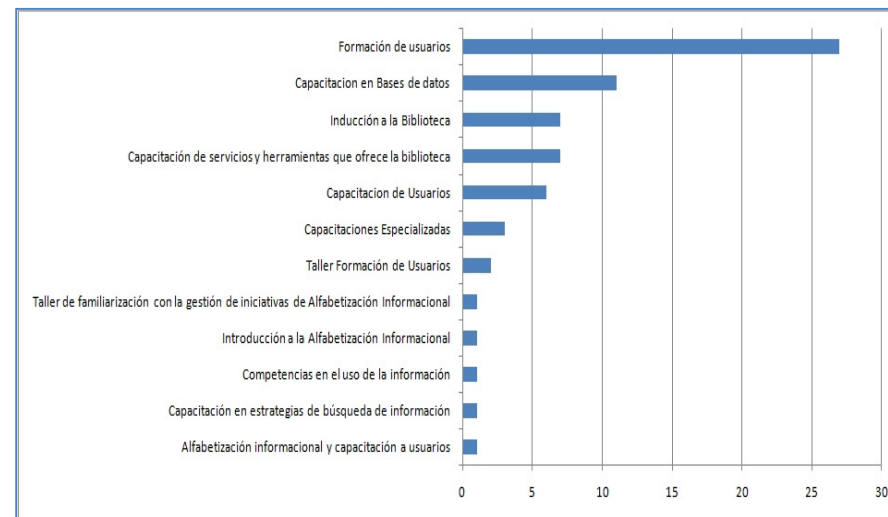


Figure 2. Question 4a. Colombian universities. Name of a training programme.

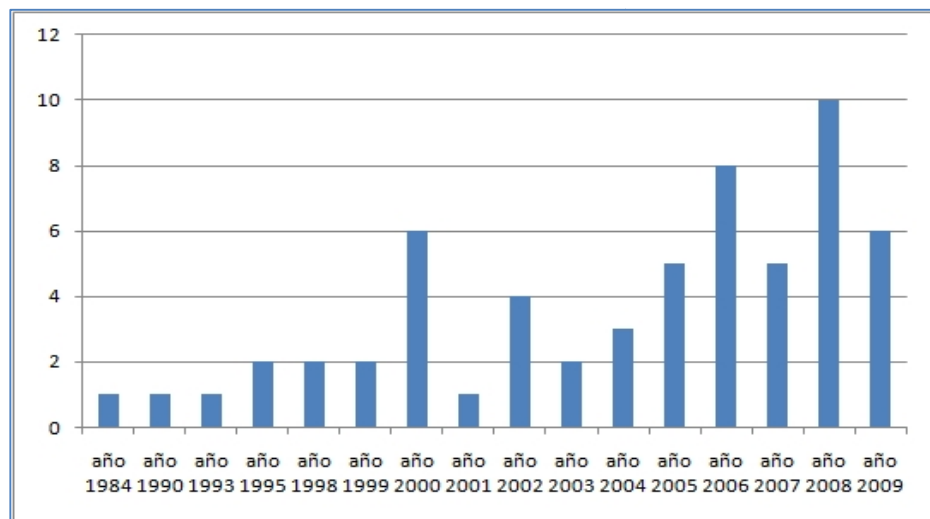


Figure 3. Question 4b. Colombian universities. Source Year Training Programme

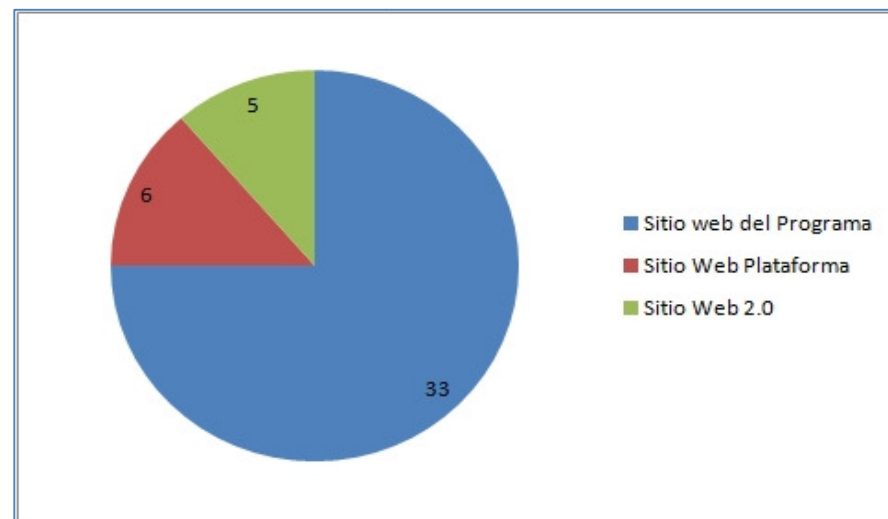


Figure 4. Question 5. Colombian universities. Information and Web Resources of a training programme

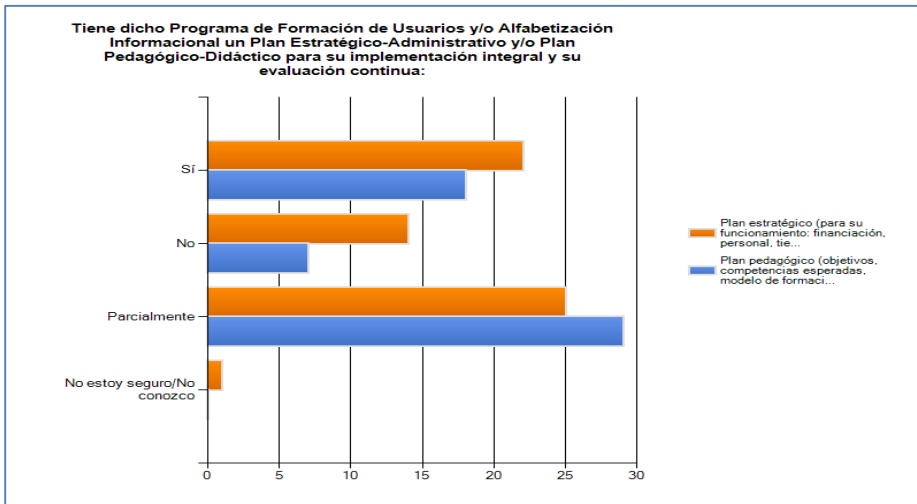


Figure 5. Question 6. Colombian universities. Plans to support the Training Programme

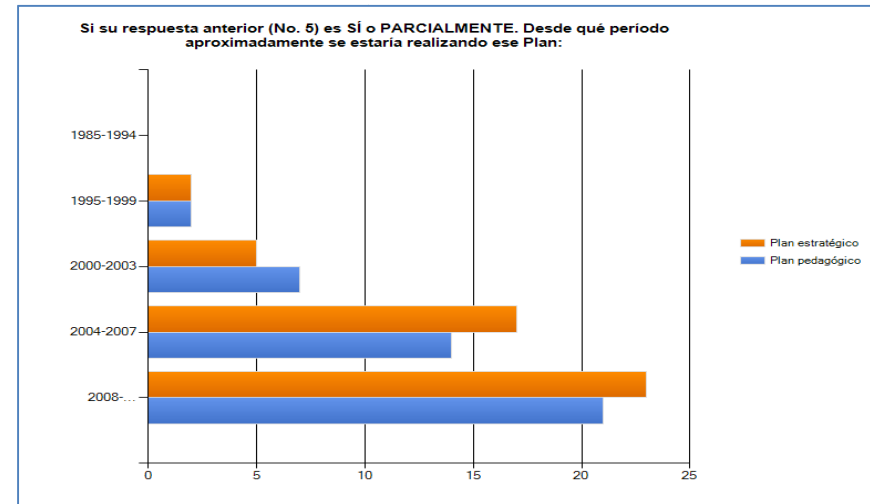


Figure 6. Question 7. Colombian universities. Year Implementation Plans to support the Training Programme

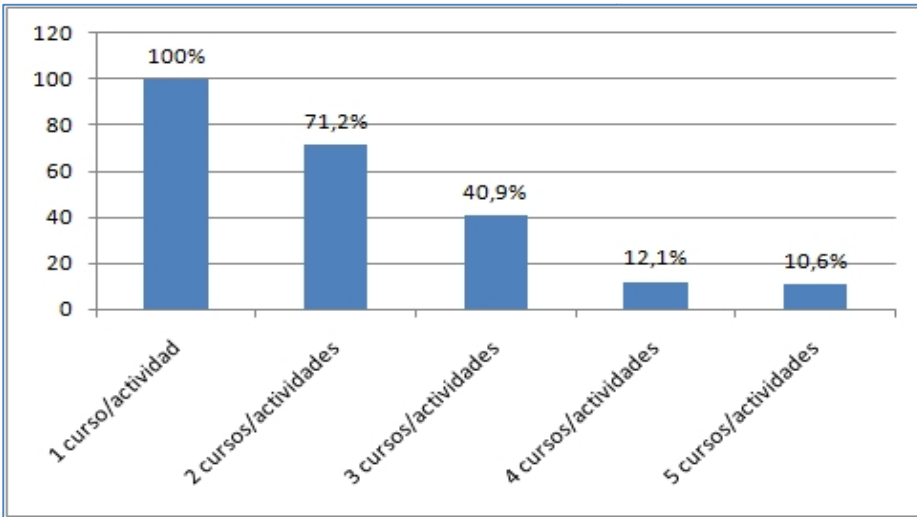


Figure 7. Question 8. Colombian universities. Courses / Activities that make Training Programme

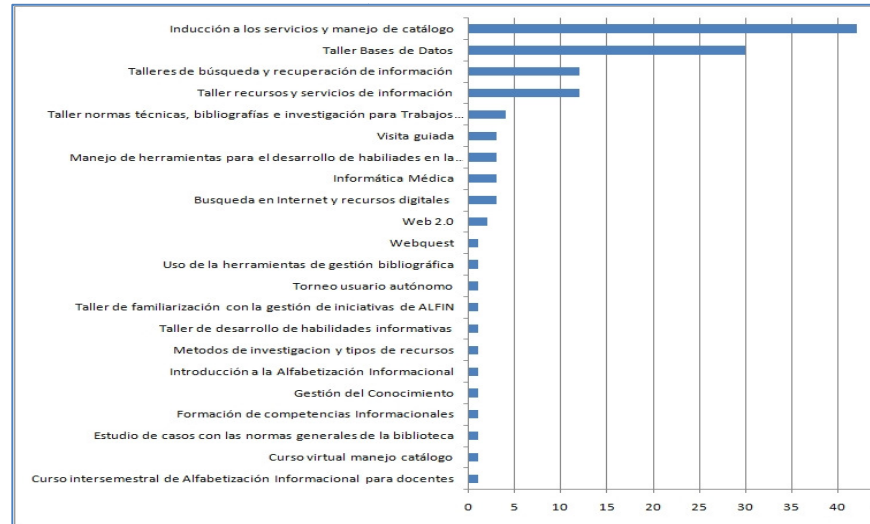


Figure 8. Question 8a. Colombian universities. Training courses and activities more frequently

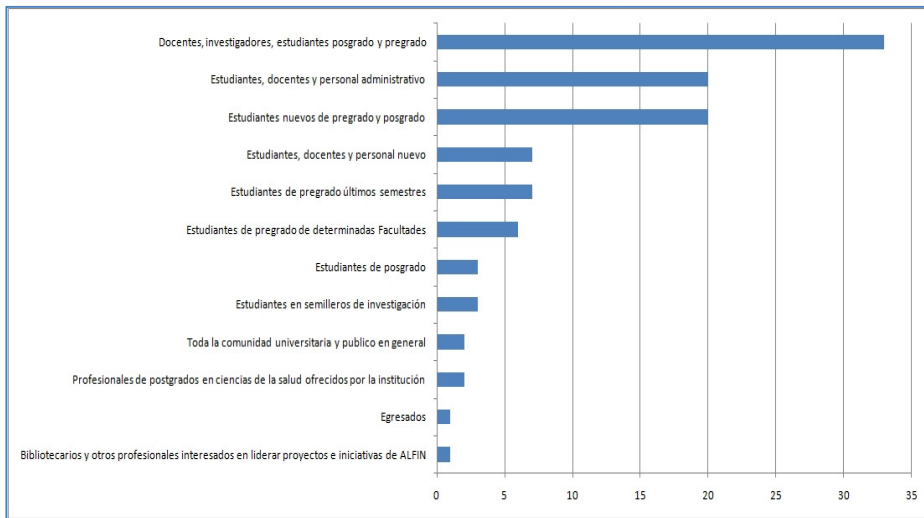


Figure 9. Question 8b. Colombian universities. Users following training

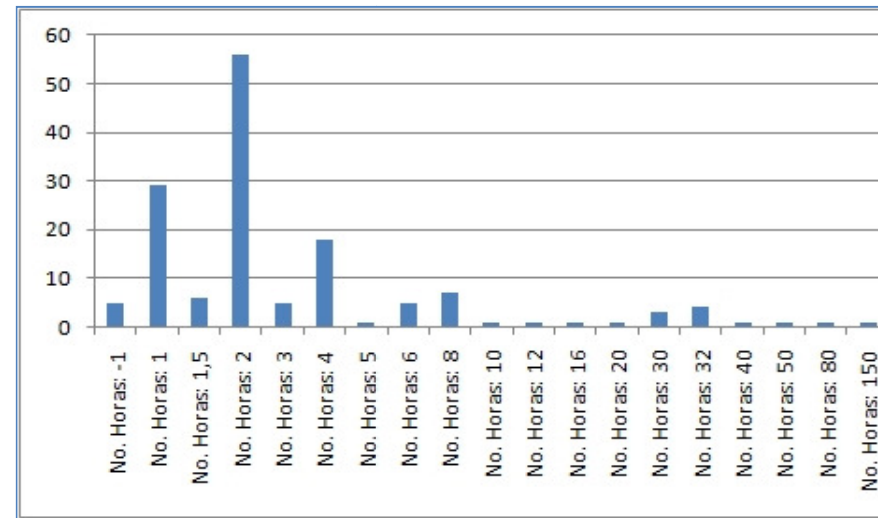


Figure 10. Question 8c. Colombian universities. Average hours of training.

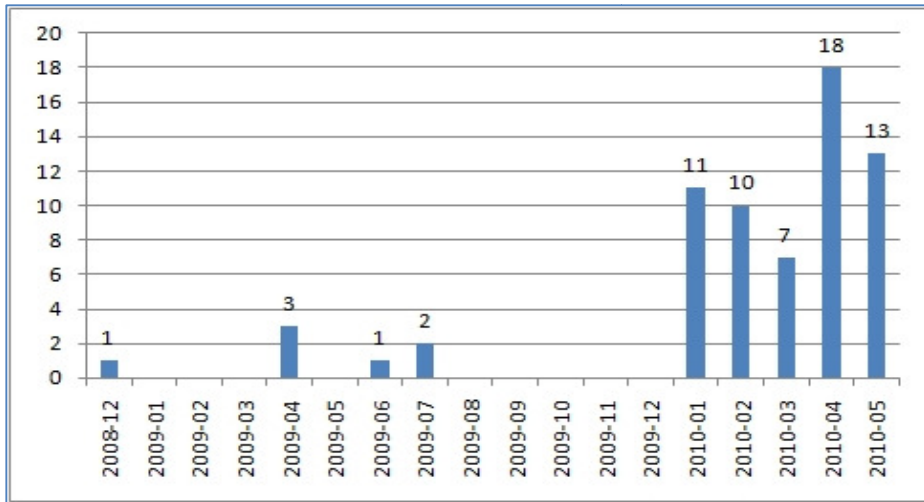


Figure 11. Question 8d. Colombian universities. Latest Activity Training

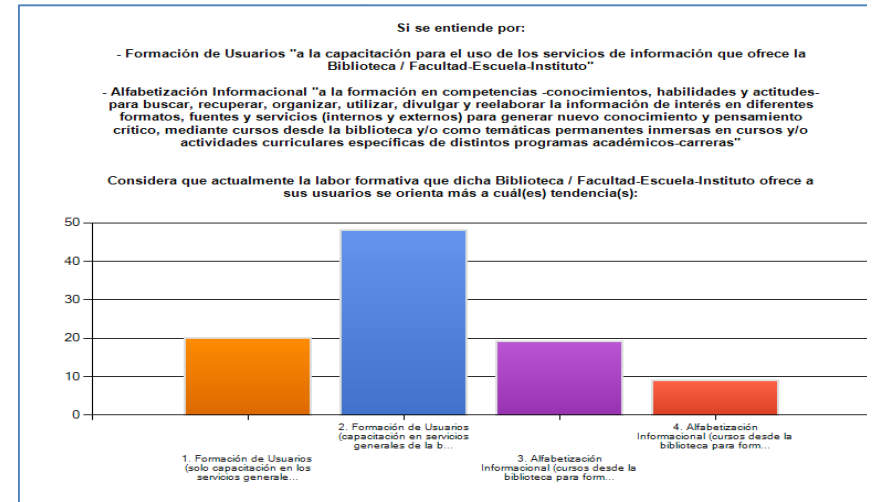


Figure 12. Question 12. Colombian universities: self-evaluation of levels of development in user training and/or Information Literacy

These results, along with the strategy of Digital Web content analysis, provided information of great interest about this research can be summarized in the following points:

- The invitation to participate in this online survey was made via e-mail directly to multiple instances of the 337 higher education institutions in Colombia. Finally, 83 institutions answered -25%- but of these, 13 reported to reach the third question (Figure 1) and had no training program or it was based on user perspective , rather than from the perspective of information literacy. That is, there were valid answers from 70 institutions, which the auto-classified in the four levels proposed (Figure 12), 70% indicated that they were in levels rather than User Training Information Literacy, which is consistent with results analysis made web sites (Table 1). This self-classification, validated in turn, to analyze the results of two questions (Figures 2 and 8) where inductions, guided tours, training in the use of the catalog and databases instrumentally, as part of a traditional user training programmes, are mostly common practices, and even the fact that many of these libraries do not have more than 2 courses / training (Figure 7, 8, 10 and 11).
- Although traditional user training in university libraries has a history of several decades, a large percentage of the Colombian higher education institutions participating in this study indicated that their programme had no more than 5 years of life (Fig. 3 and 6). Furthermore, the planning structures were presented, especially teaching (Figure 5 and 6), which displays the delay would have on this subject, which validates some of the results already presented years ago from research "Developments and trends in training users in Latin America "(Naranjo Vélez et al, 2006).³⁹
- In relation to the possible pedagogical quality and innovation programmes, the failure or failing completely, lesson plans, and extensive use of new technologies to support learning (platform-Web 2.0), plus the few hours training on average to support training in this subject (Figure 4, 5, 6, 8 and 9), shows that traditional user education is what mostly remains in university libraries in Colombia, besides that it is not always giving a permanent, continuous... (Figure 12).

ANALYSIS AND CONCLUSIONS

After the implementation of the four strategies of inquiry referred to in the previous item and the results of each one, some general statements can be made about the current state of information literacy in Colombia:

• Theoretical Trends

In this regard, it is necessary to indicate that only the last 5 years have begun to develop theoretical and conceptual contributions from the work of teaching and research taking place in a particular way in some of the Schools / Colleges, which offer courses in library level undergraduate and graduate programs, supported and linked to research groups. In this respect, it is necessary to highlight the work of researchers like Edilma Naranjo Vélez, Nora Elena Rendon, Gloria Maria

³⁹ <http://bibliotecologia.udea.edu.co/formausuarios/parte1/55.htm>

Marciales and Alejandro Uribe Tirado are those that provide an academic and scientific contribution by presenting specific proposals of models, standards, definitions, descriptions of information literacy and their various relationships –with users, technology, pedagogy and didactics, e-learning, etc.

However, the ongoing work of only these researchers and the groups they belong to, shows that information literacy is still, as a research interest and available projects, an emerging topic in Colombia. In fact, it has little or no recognition presence in all four Schools / Colleges, and other disciplines (disciplinary and interdisciplinary groups), which would relate to information literacy.

In turn, taking into account all the available literature identified: articles and papers, books, theses, papers, models, levels and standards, as well as events; it is obvious that this field has been experiencing a growth influenced by academic and research events, thus reflecting a particular importance and awareness of this issue that is slowly growing in some libraries, schools / colleges, universities, etc.. Still, there is much to do, learn and share, if we consider all the libraries and educational institutions of the Colombian context and compared with developments in other Latin American contexts, and especially if compared globally.

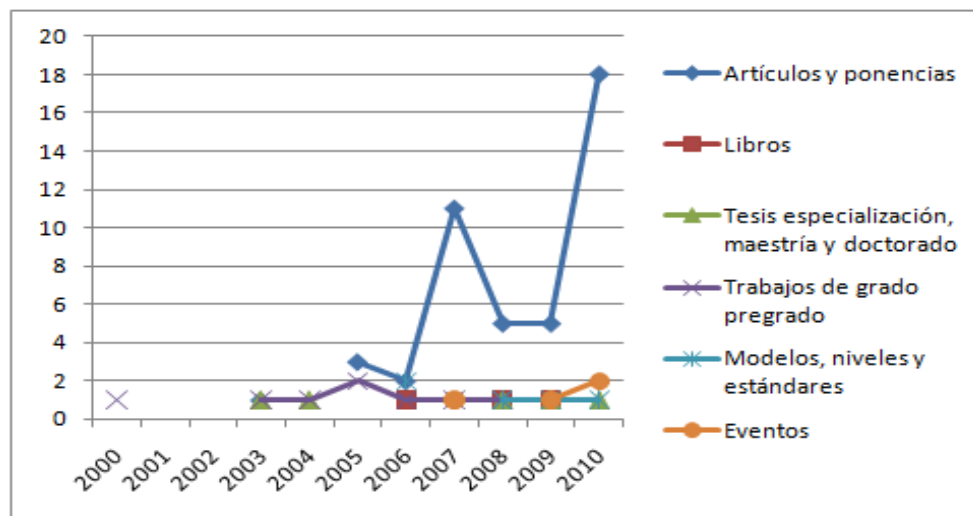


Figure 13. Growth in a number of publications related to information literacy written by Colombian authors

• National policies

Results of the four strategies followed, adding key documents in the educational and library in Colombia to this analysis:

- Ten-Year Education Plan 2006-2016⁴⁰
- National Plan for Reading and Libraries⁴¹
- National Law Library⁴²
- National Plan of Science and Technology⁴³
- National ICT Plan 2008-2019⁴⁴

⁴⁰ <http://www.plandecenal.edu.co/html/1726/w3-channel.html>

⁴¹ <http://www.bibliotecanacional.gov.co/?idcategoria=28574>

⁴² <http://www.mincultura.gov.co/?idcategoria=29073>

⁴³ http://www.colciencias.gov.co/programas_estrategias

⁴⁴ <http://www.colombiaplantic.org.co/>

In Colombia, it is notorious that the information literacy training is not clearly seen as a key strategy in education, and research libraries.

As shown in these documents, and in a few cases found where it is reaching levels of information literacy (1 or 2), the concern is more on the physical infrastructure, collections, equipment, technology, integration into the classroom and generation networks scientific than on a specific aspect such as computer-digital competence. In this respect, the scope of training and the design is largely determined by the concern on information literacy from the perspective of the digital divide, focused on access issues, infrastructure that infostructure (Uribe Tirado, 2007).

This implies the need for an informative and proactive role of the libraries, educators, researchers, groups and universities that have made some progress in this respect to be gaining ground for the positioning and the discussion of this issue as a fundamental issue in education and transverse, the library services and research and knowledge generation of new knowledge that a country in 'developing' countries like Colombia should meet soon.

• Programmes and Educational Levels

As presented in the results of the four strategies discussed above, higher education, university libraries show further development than programmes and projects of public or school libraries.

However, even in the case of university libraries, programmes and projects about information literacy issues are still very limited, given that institutions categorized as a Level 1 or 2 of information literacy in the broader universe of Colombian higher education institutions only account for 3.5% of the cases, a figure which in the case of public and school libraries would be almost nothing.

This implies the need to develop different strategies, particularly for enabling the dissemination and positioning of this topic within current networks, increasing training of information professionals, recognizing the impact of information literacy programmes already underway, and raising awareness levels of the importance of information skills, among others.

The design and development of web 2.0 resources on Information Literacy / Colombia (<http://alfincolombia.blogspot.com>) has fostered these two strategies (scope and networking) by generating a number of resources to share information, to know what is being done both locally and nationally and internationally, and to propose contributions to Information Literacy from the Colombian context, and even Latin American (with web resources such as ALFIN/Ibero America⁴⁵), which during the first year of existence (September 8, 2009, "World Literacy Day") have been recognized by experts around the world⁴⁶ and trainers of the workshop for UNESCO⁴⁷ Information Literacy Section of IFLA InfoLit⁴⁸, among others.

45 <http://alfiniberoamerica.blogspot.com>

46 <http://information-literacy.blogspot.com/search/label/Colombia>

47 <http://medina-psicologia.ugr.es/biblioteca/course/view.php?id=3>

48 <http://www.ifla.org/files/information-literacy/newsletters/february-2010.pdf>

Alfabetización Informacional - ALFIN / Colombia



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Mariposas amarillas
que preceden, constituyen y fortalecen
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la inclusión social, académica y científica,
el aprendizaje para toda la vida...*



08/09/2010

ALFIN / Colombia. En nuestro primer año... un gracias a TODOS..

Este 8 de septiembre –Día Mundial de la Alfabetización– se cumple el primer año de “compartires” del [Blog ALFIN / Colombia](#) y de los demás recursos web 2.0 relacionados (grupos-comunidades en [Facebook](#), [Google](#), [Twitter](#), etc.) y asociados: [ALFIN / Iberoamérica](#).

Este primer año ha sido muy positivo, ya que ha permitido dar más visibilidad-posicionamiento a los trabajos que desde Colombia, en relación con la Alfabetización Informacional (*con la formación en competencias informacionales*) se vienen realizando en docencia, investigación, extensión, aplicación práctica y demás; y a su vez, ir construyendo una comunidad de interesados en esta temática que en nuestro país tiene aún mucho por hacer y donde poco a poco se va avanzando con casos puntuales, especialmente desde el contexto universitario.

Es por ello, que con este post-nota de efemérides, y como avance del trabajo de investigación que se viene realizando en este campo, queremos invitarlos a conocer algunos de estos casos aprovechando el recurso web 2.0 que se ha venido construyendo para ello desde la perspectiva Iberoamericana, y en este caso, con énfasis en Colombia:



Experiencias, noticias, programas, conceptualizaciones, teorías, investigaciones y publicaciones sobre **Alfabetización Informacional** útiles para Colombia y el mundo



Adscrito a los recursos Web

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Infolit GLOBAL - Colombia



- [Alejandro Uribe Tirado](#)
- [Leonardo Enrique Machett's](#)



Multibuscador ALFIN-DHI-LITINFO-INFOLIT

Google Custom Search



Mapa: Alfabetización Informacional - ALFIN Iberoamérica / Bibliotecas y Proyectos

A todos los que han participado directa o indirectamente en este primer año queremos reconocerles el haber compartido estos contenidos y recursos, especialmente a los:

- Más de **5000 visitantes**... provenientes principalmente (en su orden) de Colombia, México, España, Argentina, Perú, Estados Unidos, Venezuela, Chile, Portugal, Cuba, etc.

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Terminología



Figure 14. Blog: ALFIN/Colombia (<http://alfincolombia.blogspot.com>)

Figure 15. Facebook Group: ALFIN/Colombia (<http://www.facebook.com/group.php?gid=129149432049>)



Figure 16. Timeline of publication on issues of information literacy by Colombian author and Web 1.0 and 2.0
<http://www.dipity.com/alfincolombia/personal>

For this reason, we would like to conclude this report by highlighting that although the topic of information literacy in Colombia, as a whole, is still at an emergent stage, there are people working from this early point, and there are proposals and institutions that are doing an outstanding work. Growing is necessary and it is important to share such developments within the national context to support the promotion of information literacy in the country, and, at the same time, assess it, make it contribute to other professions, countries and contexts, and promote the INFOLIT-ALFIN movement globally.

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APPENDICES

Appendix 1. Literature and content form/register


FICHA BIBLIOGRAFICA Y DE CONTENIDOS		
TITULO DEL LIBRO		
TITULO DEL ARTICULO		
AUTOR(E S) DEL LIBRO		
AUTOR DEL ARTICULO		
INSTITUCIONAL		
PALABRAS CLAVE		
PUBLICACIÓN	CLASIFICACIÓN	
EDITORIAL	CIUDAD	FECHA
REVISTA	VOLUMEN	NÚMERO
INSTITUCIÓN QUE TIENE EL DOCUMENTO		
DIRECCIÓN ELECTRÓNICA		
OBSERVACIONES		
ELABORADO POR: _____ GRUPO: _____		

RESUMEN: _____

PUNTOS CLAVE DEL TEXTO: _____

1

Appendix 2. Format for recording and analysis of web sites

FORMATO DE REGISTRO DE PROGRAMAS DE FORMACIÓN DE USUARIOS Y/O ALFIN DE BIBLIOTECAS DE UNIVERSIDADES COLOMBIANAS					
NOMBRE DE LA BIBLIOTECA: Sistema de Bibliotecas Universidad de Antioquia					
DIRECCION WEB: http://formacionbiblioteca.udea.edu.co/moodle/course/category.php?id=6					
E-MAIL: hlopera@biblioteca.udea.edu.co					
PRESENTA SU WEB INFORMACION SOBRE SU PROGRAMA DE F.U. y/o ALFIN			SI	X	NO
<p>QUE INFORMACION PRESENTA: Nombre: Programa de Formación de Usuarios</p> <ul style="list-style-type: none"> • <i>Formación de usuarios (tres niveles)</i> Des de la biblioteca y en los currículos • Otros cursos desde las bibliotecas de las diferentes facultades: <ul style="list-style-type: none"> ○ GESTIÓN INTEGRAL DE LA INFORMACIÓN ○ LA BIBLIOTECA COMO ESCENARIO DE LA NUEVA CULTURA DEL APRENDIZAJE: De La Información Al Conocimiento ○ BÚSQUEDA DE INFORMACIÓN ESPECIALIZADA ○ SEMINARIO CIBERCULTURA Y BIBLIOTECA ○ VISITA VIRTUAL 					
EN QUE NIVEL SE ENCONTRARIA:					
	1. Formación de Usuarios (solo capacitación en los servicios generales de la biblioteca)				
	2. Formación de Usuarios (capacitación en servicios generales de la biblioteca y algunos cursos -muy instrumentales- para búsqueda de información: utilización de catálogos/bases de datos)				
	3. Alfabetización Informacional (cursos desde la biblioteca para formar en competencias informacionales: lo instrumental + aprendizaje para toda la vida + pensamiento crítico)				
X	4. Alfabetización Informacional (cursos desde la biblioteca para formar en competencias informacionales: lo instrumental + aprendizaje para toda la vida + pensamiento crítico; y cursos/módulos específicos inmersos oficialmente en los currículos de distintos programas académicos-carreras para formar de manera transversal y disciplinar en esas competencias)				