

Article

Past, present and future of information literacy in Latin America

http://dx.doi.org/10.11645/18.2.632

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Abstract

This article synthesised the origin, evolution, current state, and future trends of information literacy (IL) in Latin America. This study employed a quantitative and qualitative review of documents published by Latin American authors to map out IL's development in the region. which was structured around four pivotal moments: 1) beginnings (1997-2007), marking the initial phase of IL's introduction and early development in Latin America, characterised by foundational texts and the organisation of critical events that set the stage for IL's growth in the region; 2) advances-positioning (2008-2019) pre-pandemic, it reflects a period of significant growth and establishment of IL, with the emergence of digital platforms, the creation of regional declarations, and the integration of IL into educational curricula, indicating a broader acceptance and institutionalisation of IL practices; 3) main trends (2020-2023), it focuses on the adaptation and innovation in IL practices influenced by the COVID-19 pandemic, highlighting the shift toward critical thinking, addressing misinformation, and integrating IL with other competencies in response to digital advancements; and 4) some perspectives (2024-...), which includes future directions for IL in Latin America, emphasising the need to adapt IL training to new technological realities such as generative artificial intelligence, and proposing IL as a dynamic research area poised for further integration with global educational and societal goals. The article emphasises the necessity of IL's continuous evolution in Latin America, advocating for its adaptation to technological advancements and its critical role in promoting informed citizenship and lifelong learning. Through the lens of these moments, the study offers a comprehensive overview of IL's progression and potential future impact in the region.

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Keywords

artificial intelligence; continuing professional development; information literacy; information literacy; information technology; Latin America; lifelong learning

1. Introduction

This study, as presented in its title, aims to identify how information literacy (IL) development has been growing as a concept and area of practice and research in the Latin American context. To fulfill this aim, it is necessary to achieve the following specific objectives that are related to identifying how this development has occurred in: 1) the past; 2) the present; and how it could happen in 3) the future. To achieve this therefore, it is necessary to present some clarifications and indicate several actions to consider:

- IL has two complementary facets. First, it is a concept and research topic (object of study) framed in a disciplinary area, specifically in library and information science. However, it offers ample opportunities for interrelation with other disciplines, such as communication, education, and computing, through information and communication technologies (ICTs), information systems, repositories, and digital libraries. At the same time, IL is a dynamic area of practice, a service and type of training carried out in different types of libraries, educational levels, and even various sectors of society and the economy. That is, IL is theory and practice; both complement each other, and their interrelation means that they have been modified and continue to be mutually and constantly shaped, as discussed in this paper's literature review.
- IL has had different developments over the last 50 years (since 1974), which have occurred in various contexts and obviously in some regions of the world earlier than in others, or with differentiated advances, depending on each context's needs, resources, and possibilities. Therefore, when talking about the development of IL at a global level, it does not imply that such growth has not affected or influenced how it has taken place in Latin America. Still, at the same time, the particularities of this region of the world mean that some specific contributions and characteristics would also be helpful and might be a reference in other regions. It is essential therefore to know and recognise them.
- To achieve a review as complete as possible of the development of this topic in the region, it is necessary to combine sources, products, and methods that range from traditional documents (articles, books, and dissertations) to the review of other content types such as websites where IL training services are presented and provided, to considering the expertise and research experience of the authors. Hence, a triangulation between the available documentation, content, and expertise was carried out, which is reflected in the methods and results of this work.
- Finally, like any work that tries to account for the development of a topic, some limitations lead to it being as broad and specific an approach as possible to the past, present, and future of IL in Latin America. However, due to some factors, such as the methodology employed, as well as time and space limitations, this work does not pretend to be complete, as several aspects, such as authors, practices, and lines of research, might have been left out. Nevertheless, this contribution attempts to offer a sketch, or an unfinished timeline, that will contribute to the topic and other studies that may deepen or complement this work, since this is not a unique journey.



Considering the four aspects indicated above, it is possible to delve into the topic in question to achieve the most complete view possible. This article will then offer insights into the four moments in which we can divide IL's development in Latin America, namely, the past: beginnings—pioneers (1997–2007), advances—positioning (2008–2019), the present: main trends (2020–2023), and the future: perspectives (2024 and beyond). In a previous article (Uribe-Tirado & Machin-Mastromatteo, 2024), we offered an account of the first moment (beginnings—pioneers); hence, in this article, we will summarise this moment, in order to avoid too much repetition between the articles.

2. Literature Review

2.1 IL: A concept that evolves worldwide

Returning to a particular and recent review of the topic (Pinto & Uribe-Tirado, 2022) but at the same time, considering other aspects presented in previous studies (Machin-Mastromatteo, 2021; Pinto et al., 2023; Villegas Muro & Machin-Mastromatteo, 2023), we can summarise and reiterate the main aspects when talking about the concept of IL and how it has evolved worldwide. The first formulation of the concept of IL, generally translated into Spanish as alfabetización informacional (ALFIN), is attributed to Zurkowski (1974). However, its first boost in higher education environments was thanks to the American Library Association (ALA) (1989), which considered IL to be a key competence for survival in the information age. Based on the ALA recommendations, the first National Forum on IL was held in the United States in 1999 to promote public awareness of the need for people to be information literate. In this sense, organisations and individuals were encouraged to promote IL by providing a National Forum for the exchange of ideas and programs to create public awareness of the need for IL, collecting concrete examples of how IL can affect citizens, and developing a public awareness program to draw the attention of citizens to the importance of IL.

Subsequently, ALA's Association of College and Research Libraries (2000) published the well-known *Information Literacy Competency Standards for Higher Education*, which were translated into several languages and adapted to various countries and contexts. This document proposed a set of standards (competencies) to be met by the person who wanted to be competent in accessing and using information. These competencies centred on the ability to determine the need for information, critically evaluate resources, incorporate new information into the knowledge base and value system, effectively use information, and understand the economic, legal and social issues related to the ethical use and access of information. In the definition of these standards, the interactions between the individual, society, information and ICTs, research, evaluation, and critical reasoning stood out. It was assumed that information-literate people could learn how to learn because they knew how knowledge was organised, how information was found, and how it was used so they could interact with information effectively and meaningfully for different purposes, enabling lifelong learning.

Thus, IL became a key competency for the 21st century, beyond traditional education, to ensure individuals would be lifelong learners. Among its suggestions, *The Prague Declaration* (Declaración de Praga, 2003) proposed the inclusion of IL within the United Nations' Literacy Decade (2003-2012) and laid the foundations to consider it a necessary prerequisite in the information and knowledge society. For its part, at the *Alexandria Expert Colloquium* (IFLA,



2005), it was considered that IL, together with lifelong learning, would be the lighthouse that would guide communities toward development and freedom in the new century.

From the perspective of standards-competencies, IL was advancing. However, the changes in society, training, and technologies slowly led to different re-conceptualisations of IL proposed by different library associations. In the United Kingdom, the Society of College, National, and University Libraries (SCONUL) proposed the Seven Pillars of Information Literacy Model for higher education in 2011, according to which "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" (p. 3).

For its part, in the United States, the ACRL (2015) moved away from a set of standards to propose the Framework for Information Literacy for Higher Education, based on six interrelated concepts: authority is constructed and contextual, information creation as a process, information has value, research as inquiry, scholarship as conversation, and searching as strategic exploration (pp. 2-3). This framework is based on the concept of metaliteracy and goes beyond the mere acquisition of a set of competencies to lead to high-level affective, cognitive, and metacognitive behaviours and approaches.

In addition to these new models and frameworks, in 2018 UK's Chartered Institute of Library and Information Professionals (CILIP) proposed a new IL definition: "the ability to think critically and make balanced judgements about any information we find and use...It empowers us as citizens to reach and express informed views and to engage fully with society" (p. 3). It is arguably the most widely used definition today and has been translated to other languages (for example, into Spanish)1.

All these approaches have affected the theory and practice of IL, seeking more adequate responses to the increasing complexity of information. This implies that IL is multiple and must be interrelated with traditional literacy (reading-writing), functional literacy (comprehension and interpretation), and with other more recent literacies such as digital, media, visual, intercultural, scientific, data, etc., that have been proposed from library and information science and other disciplines.

Therefore, IL is assumed from this multiplicity as a set of knowledge, skills, attitudes, and aptitudes that enable people to know how to choose, make sense of information, and use it to solve problems, while facing new situations and continuing to learn. In addition, it is necessary to stress that IL is also, and above all, an area of practice, which is developed as a library service or through the establishment of a curricular component that can be present in different levels of education, but with more developments throughout the world from higher education, as was collected from a UNESCO-published report, Overview of Information Literacy Resources Worldwide (Horton, 2014), and as has been evident in the last ten years, starting with the European Conference on Information Literacy (ECIL) in 2013. The evolution of IL can also be identified from a quantitative perspective, considering studies from recent years, such as:

- Nazim and Ahmad (2007) and Aharony (2010) offered an evolution of the publications on IL during its first decades.
- Pinto et al. (2010) examined the changes experienced in the last three decades concerning information and digital literacies. In turn, Pinto et al. (2013) analysed the

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¹ See a Spanish translation of CILIP's definition



- scientific production of IL between 1974 and 2011 in the areas of social sciences and health sciences, establishing a structured vision of the topics addressed.
- Kolle (2017) examined the literature on IL between 2005 and 2014, verifying that the
 most productive countries are Spain, the United States, the United Kingdom, and
 Australia; while also pointing out that the three most used keywords were information
 literacy, media literacy, and digital literacy.
- Bhardwaj (2017) located in the Scopus database a total of 1,990 documents from the social sciences and humanities between 2001 and 2012 that addressed IL, which were signed by authors from 79 countries and published in 160 journals.
- Onyancha (2020) analysed the evolution of the literature on IL indexed in the Scopus database between 1975 and 2018, using visualisation techniques and concluded that IL had evolved towards an inter and multidisciplinary concept, and includes other types of literacies, such as digital, media, health, financial, workplace, and scientific.
- Haq et al. (2021) conducted a bibliometric analysis of the academic literature on IL in the Web of Science (WoS) database from 2003 to 2020, showing that the California State University (US) and the University of Granada (Spain) were the most productive institutions on the topic.
- Finally, Ali et al. (2023) analysed more than 4,000 publications (from WoS) between 2001 and 2020 on IL and research support services in academic libraries, identifying the growth and increasing importance of IL as a support, not only for training undergraduate students, but for research with graduate students and researchers. Researchers also found IL connections with other literacies, especially data literacy, which implies a consideration for key current trends, like big data, and all the interrelationships with open science and its different components.

From a more qualitative perspective, it is also possible to demonstrate changes at a global level, including the journey that IL has taken, its historical milestones, today's trends, and future perspectives concerning IL as a service, training, and part of the curriculum, especially from libraries and educational institutions. For example, if we consider the contributions towards the categorisation of IL that has been made for several years that are evidenced in publications like the <u>Selected Bibliography: Library Instruction and Information Literacy 1995-2022</u>, blogs like the <u>Information Literacy Weblog</u> (since 2005), and the publications in three journals that specialise exclusively in the subject (<u>Journal of Information Literacy</u>, since 2007 in the UK, <u>Communications in Information Literacy</u>, since 2007 in the US, and the <u>International Journal of Media and Information Literacy</u>, since 2016 in the US), it is also possible to identify IL's previous and current transformations and updates.

2.2 IL in the Latin American context: An overview

Although this article seeks to portray the development of IL in Latin America, it is relevant to refer to previous studies as a reference framework to highlight some fundamental aspects. In this sense, it is essential to mention that our regional understanding of Latin America includes the 20 countries that are located in South America, Central America, Mexico, and the Caribbean islands and that the native language in this region is Spanish or Portuguese. Being a region of the world where the main languages are Spanish or Portuguese has led, in relation to IL, to multiple words used to describe the concept and its training practices during the last decades. This great variety of terms includes some of the most widely used today, as evidenced by different studies (Castilla et al., 2016; Coronel et al., 2020; de Farias et al., 2021; de Souza



Alves et al., 2023; Fazzioni et al., 2018; García et al., 2022; Leite et al., 2016; Rivas Villena et al., 2021; Silva & Cardoso, 2020; Uribe-Tirado & Alhuay Quispe, 2017; Valenzuela Urra & Castro, 2020). However, in Spanish, the preferred terms for IL are *Alfabetización informacional* and *Competencias informacionales*; and in Portuguese: *Competência em informação* and *Competência informacional*.

At the same time, it is necessary to indicate in this section that since the appearance of IL as a concept and practice in the region, production on the subject increased if we consider, for example, data from LENS, a free database for scholarly and patent literature (see Figure 1) or from SCOPUS, a proprietary citation database² (see Figure 2). Although the publications on IL show some ups and downs and a decrease in the last two years, this does not imply that documents about IL are not being published at a steady and increasing rate. Instead, its decline can be explained by the different speeds at which publications are indexed in these databases (particularly from sources in Spanish or Portuguese), but also because publications are increasingly integrating the main concepts. For instance, IL is sometimes combined with media literacy to become Media and Information Literacy (MIL), as UNESCO (2013) calls it. Therefore, this joint concept is appearing increasingly in publications.

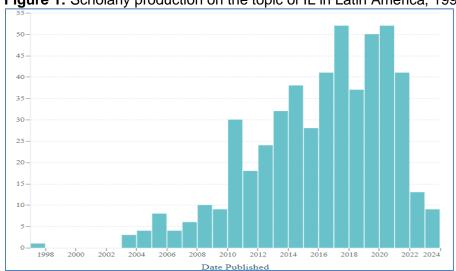


Figure 1: Scholarly production on the topic of IL in Latin America, 1997-2024

Source: LENS, CC BY-NC 4.0

JIL, 2024, 18(2). http://dx.doi.org/10.11645/18.2.632

² Although it has a global reach, as has been indicated in different studies, it only indexes a minor percentage of the entire production of the Latin American region, since not all the journals in the region are available, neither in Spanish nor Portuguese.



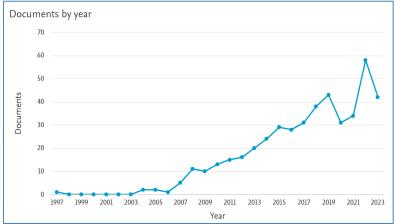


Figure 2: Scholarly Production on the topic of IL in Latin America, 1997-2023

Source: SCOPUS

To trace the origins of IL in the region, it helps to start in the 1990s, when the following key requirements became evident: a pressing need for improved information systems, increased user demand in libraries, the challenge and need to offer enhanced information training to address the rise of information resources, ICT integration, and internet development (Machin-Mastromatteo & Lau, 2015). The foundations of IL in Latin America were established between 1997 and 2007, marked by key events and literature. First, the 61st World Conference of the International Federation of Library Associations and Institutions (IFLA) in Istanbul in 1995 played a pivotal role, where regional professionals were introduced to IL, particularly through Hannelore Rader's (1996) influential presentation titled, *User education and information literacy for the next decade: An international perspective*. Additionally, the period saw the first Spanish translations of essential standards and documents, like those from the ACRL (2000) and Rader's (2000) article translated as *Information Literacy in the Reference Environment: Preparing for the Future*, which facilitated the adoption of IL practices in the region.

IL was slowly advancing and positioning itself as an essential topic in some countries in the region and among different types of libraries—although predominantly in university libraries—between 2008 and 2019 (prior to the COVID-19 pandemic) until today where we see discussion of *trends* (present) and *perspectives* (future) of IL in the region, but obviously in interrelation with the world reality.

The methodology, analysis, and discussion presented in this article present a regional timeline that includes the past of IL (*Milestones*), between 1997-2007 and 2008-2019; the present (*Trends*), as a continuum of what happens today and a process that evolves into the current times, between 2020-2023; and finally, the future (*Perspectives*), as a projection of everything that is expected to come and change and that has already started. This portion will also consider generative artificial intelligence (GAI) and its disruptive influence, as the population might massively adopt it. GAI tools like ChatGPT might have excellent implications in the educational field and in libraries (Andersdotter, 2023; Hirvonen, 2024), but it will indeed alter training actions and services, and thus, also the concepts and practices of IL worldwide, including in Latin America.



3. Methods

The study used a qualitative, documentary-based methodology focused on content analysis. Initially, it involved searching, selecting, and analysing content using previous categorisations of IL developed in the open platform, Wiki ALFIN Iberoamérica, and from the databases SciELO, RedALyC, LA REFERENCIA, LENS, and SCOPUS. An updated documentary database was developed to facilitate a thematic-conceptual review to identify the *milestones* (past), *trends* (present), and *perspectives* (future) of IL in Latin America. The methodology was structured into three phases: bibliographic search, selection criteria, and database and content analysis.

3.1 Bibliographic search

The search terms and Boolean operators were defined, which considered the linguistic variants of the IL concept in Spanish and Portuguese (Spanish: Alfabetización informacional OR Competencias informacionales; Portuguese: Competência em informação OR Competência informacional). These terms were used to search in the title, abstract, and keywords fields. A bibliographic search was carried out between November and December 2023 in various sources. The Wiki ALFIN Iberoamérica platform was used first, because it already had a database on the topic (of documents published or created until 2018) and it is divided by countries in the region. This search resulted in 2,401 documents. Then, we proceeded to complement these references by searching in three resources specific to the region (SciELO, RedALyC, and LA REFERENCIA) to identify texts (articles, books, chapters, presentations, or dissertations) that were not already present in the Wiki, especially newer documents published between 2019 and 2023. Finally, the databases were further used, applying available filters to exclusively retrieve material from Latin American authors (from the 20 countries stated above) or from studies with a Latin American perspective that had not already been retrieved. This process led to a total of 2.996 documents available in full text (2.401 from the Wiki + 595 texts from the other databases).

3.2 Selection criteria

The following two inclusion criterion were used to select the documents to be included in the analysis: 1) works that made a theoretical contribution from the region to IL; and 2) practical works that represented a *milestone*, *trend*, or *perspective* beyond the case they presented. That is, the source provided an account of a practice that could be generalised or that provided a significant contribution to IL which could apply to the entire region, not just remaining in the context of the case itself. In order to apply this selection criteria, it was necessary to begin carrying out a general content analysis of each document by using their titles, abstracts, and keywords to discard those that did not meet the specified criteria.

3.3 Database and content analysis

The application of the criteria resulted in the selection of 205 documents. The authors created a database in a cloud-based storage folder to be able to apply a content analysis to each document to identify the *milestones* (past), trends (present) and perspectives (future) of IL in Latin America. These selected texts are cited throughout this study when referring to the Latin American context in the *Four Moments* of IL development, which are defined below.



3.4 Findings and Limitations

The results presented below are a synthesis of the content analysis process carried out with the selected texts, and such analysis was divided into the following *Four Moments*, which we used as a temporal framework:

- *Moment 1.* Beginnings (1997-2007)
- Moment 2. Advances-Positioning (2008-2019) pre-pandemic
- *Moment 3.* Main Trends (2020-2023)
- Moment 4. Some Perspectives (2024 and beyond)

These moments set a timeline of IL's development in Latin America, which is divided into four time periods that allow for summarising and the adaptation of previous categorisations within this framework (for example Uribe-Tirado, 2013). Under these *Four Moments*, this analysis starts by considering IL's *milestones* (past), which include *Moments 1 and 2*. Similarly, in the Analysis and Discussion section, we present *Moment 3* as the *trends* (present), which should be considered as a continuous reality that was experienced in recent years and that was especially marked by the changes brought upon by the COVID-19 pandemic. Finally, adding to these *trends*, we take a look at what is coming, our *perspectives* (future), with *Moment 4*, which has already begun and will imply short, medium, and long-term changes in IL's training, practices, and conceptualisations in the Latin American context, but that might also be applicable at a global level.

4. Moments 1 and 2

4.1 Moment 1. Beginnings (1997-2007)³

IL's most notable milestones in Latin America began in the late 1990s and early 2000s, depending on the country, with pioneering texts from Mexico by Lau, Cortés-Vera, Mears, Angulo Marcial, Solís Valdespino, Hernández Salazar, Vega Díaz and Córdoba (see these and other notable research between 1997-2006 at Information Literacy in Ibero-America Mexico). These publications sought to present what IL (or the Development of Information Skills, DHI in Spanish, or DIS in English) entailed. The initial publications on IL highlighted its significance in relation to lifelong learning, library functions, and librarian training. According to Cortés-Vera (1999), succeeding in a knowledge-based society necessitates lifelong learning skills, which encompass not just techniques and knowledge but also an attitude of continuous learning. Although DIS programs do not address all IL needs, Cortés-Vera (1999) argued they offer a practical starting point in which librarians can collaborate and enhance their professional skills, gathering more resources to excel in their careers. Additionally, these publications emerged from the first IL event in the region, the *Encuentros Internacionales sobre DHI* (International Meetings on DIS), which was carried out from 1997 to 2006 in Ciudad Juárez (Mexico).

The first <u>IL declarations</u> from the Latin American context were made, in 2002. The first guidelines, the <u>Standards on Information Literacy in Higher Education</u> were published as a result of the <u>Third International Meeting on DIS</u>, and a Mexican researcher prepared one of the

³ As indicated, this first moment was published in a previous article (Uribe-Tirado & Machin-Mastromatteo, 2024), so this section presents the fundamental aspects to contextualise and understand Moment 2 onwards.



first normative documents published by IFLA: *Guidelines on Information Literacy for Lifelong Learning* (Lau, 2006), all of which contributed to give IL the initial push it needed in the region.

Other significant contributions came from Brazil, Cuba, and other countries in the first decade of IL in Latin America (1997-2007). Brazilian authors like Belluzzo, Campello, Dudziak, and Vitorino advanced IL as a key area of study and research in library and information science, integrating it into undergraduate and graduate courses and developed new initiatives in library training programs. In Cuba, early contributions to IL were made by Ponjuán Dante, Martí Lahera, Sánchez Tarragó, Meneses Placeres, Zayas Mujica, and Viera Valdés, which were closely associated with the *INFO Congresses* in 2002, 2004, and 2006. The *INFO Congresses* occurred during the same period as the DIS Meetings in Mexico, which facilitated the presentation and sharing of the first theoretical and practical insights on IL across Latin America. Finally, other IL pioneers from other Latin American countries during the early 2000s include Saurina de Solanes and Matus Sepúlveda from Chile⁴; Alejondro Uribe-Tirado and Machett's Penagos from Colombia⁵; Miranda Córdoba from Costa Rica⁶; De la Vega from Peru⁷; and Machin-Mastromatteo from Venezuela⁸.

4.2 Moment 2. Advances-Positioning (2008-2019) pre-pandemic

After those first years of IL development in the region, starting in 2008 and until the second decade of the 21st century, IL made essential advances, due to a greater massification of programs, courses, and virtual learning objects offered by libraries, especially at universities. Advances also occurred as a result of IL training in undergraduate and postgraduate curricula, and because the topic was growing as a line of research for different groups and researchers in various countries. To contextualise this moment of advancement and positioning, consider the following four key aspects.

- 1. The appearance of different 2.0 websites to publicise what was being done in the region through different experiences/libraries/universities and from different countries, which allowed these web spaces to generate work networks and collaboration. The following sites stood out at that time and some are still online:
 - Competência Informacional para Bibliotecários (Brazil, 2008-2016)
 - Coapisuagm Competencias de Información (Puerto Rico, 2008-2011)
 - Alfin en Uruguay (Uruguay, 2008-2012)
 - Destrezas de Información (Puerto Rico, 2009-2011)
 - Alfabetización Informacional ALFIN / Colombia, (Colombia, 2009-2017)
 - Alfabetización Informacional / Iberoamérica (Latin America/Ibero-America, 2009-2015)
 - Alfabetización Informacional en Cuba (Cuba, 2010-2013)
 - <u>Alfabetización Informacional en Iberoamérica</u> (Latin America/Ibero-America, 2011-2018)

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⁴ see notable research in the early 2000s at <u>Information Literacy in Ibero-America Chile</u>

⁵ see notable research in the early 2000s at <u>Information Literacy in Ibero-America Colombia</u>

⁶ See notable research in the early 2000s at Information Literacy in Ibero-America Costa Rica

⁷ See notable research in the early 2000s at <u>Information Literacy in Ibero-America Peru</u>

⁸ See notable research in the early 2000s at Information Literacy in Ibero-America Venezuela



- 2. In January 2009, UNESCO's <u>Information Literacy Workshop: Training the Trainers</u> was held, and resulted in the <u>Lima Declaration</u> (UNESCO, 2009). The workshop was an opportunity to bring together experts and librarians from across the region to look at how to advance IL, how to strengthen training to increase programs, and how to enhance the quality and quantity of courses. The conclusions of the workshop are expressed in the <u>Lima Declaration</u> where different actions were proposed for each country to try to develop under its particular conditions and scope. It was also proposed that these actions be continued in person and through remote interaction. The participants signed the declaration, which contains the recommended future actions:
 - Promote the development of local, regional, and national diagnostics on IL activities.
 - Develop IL programs with the active participation of professionals from different disciplines who continue to train trainers.
 - Include the contents of IL in formal and informal educational programs at all levels and modalities.
 - Share and disseminate the results, experiences, lessons learned, and information resources generated concerning IL actions and initiatives.
 - Disseminate IL actions and reflections in the media within our reach (press, radio, Internet, etc.) to raise awareness among local actors, authorities, etc.
 - Evaluate and share the initiatives of different IL activities worldwide.
 - Suggest creating a coordinating center in the Latin American sphere to collect and disseminate information produced worldwide on IL.
- 3. The Havana Declaration: Fifteen Information Literacy Actions (2012) was the result of the work of various librarians and researchers from the region, including Spain and Portugal, as a result of the networking that was already taking place at the beginning of the second decade of the 21st century. The Havana Declaration was a vital part the INFO 2012 Congress in Cuba. The Havana Declaration, later translated into five languages, sought to promote the following actions that, from IL regional reflection and practice, were identified as fundamental to advance the development and positioning of this topic at the different educational levels and library typologies:
 - Formal development of informational sub-competencies processes.
 - Consider both the general and the specific.
 - Promote training across all academic levels and types of activities.
 - Training in these competencies is for everyone.
 - Working for its recognition as a transversal and fundamental education in all contexts.
 - Generate spaces for the continuous exchange of learning acquired in the development of training programs in different contexts.
 - Supporting each other in the growth and development of formative programs.
 - Offer and maintain exchange and support through the use of web resources.
 - Enabling spaces for collaborative and interdisciplinary training-actualisation.
 - Positioning the importance of training in these skills at various local, national, and regional instances based on the recognition it has received from worldrenowned organisations.
 - Search for training in these skills to respond to specific information needs according to the social needs of each context.
 - Generating relevant research topics and fostering collaborative interdisciplinary and transdisciplinary work.



- Perform and generate joint work for updated diagnostics on training development in each context.
- Facilitating the training and development of current and future information professionals in acquiring the needed skills to act as suitable training leaders.
- Considering multiliteracy, promote integrated and joint work.
- 4. The organisation of 75 Lessons Learned in the IL Programs in Ibero-America (Uribe-Tirado & Pinto, 2017) drew from the experiences in 20 Latin American countries and their university libraries (plus Spain and Portugal) and classified such lessons in four categories: 1) on the specific social and organisational context; 2) on teaching and research processes; 3) on learning processes; and 4) on quality assessment and continuous improvement processes. This work was a synthesis of what was achieved so far, but at the same time, it constituted a guide of crucial aspects to consider continuing the advancement of the implementation, updating, and improvement of IL training programs from the trends that marked those years.

The above four key aspects were fundamental in giving way to the following three developments that identify IL's progress and positioning at this time. Some works and experiences that were key for these three developments are highlighted, and they influenced the realities of the present (*trends*) and the future (*perspectives*), which are presented in the Analysis and Discussion section, thus completing the picture of IL's development in the region.

4.2.1 Massification of IL programs, courses, and virtual learning objects offered by libraries, especially university libraries.

IL's positioning highlighted how libraries took the necessary steps to transcend bibliographic instruction and traditional user training and move toward more complete forms of training through IL. This focus considered different training activities that allowed users to acquire different informational competencies, from identifying the need for information and searching appropriately, organising and selecting helpful information, to applying an ethical use of information and pertinently communicating the new information-knowledge produced. The programs from the following libraries in the region stand out (as found in previous studies Uribe-Tirado, 2010; Uribe-Tirado & Pinto, 2013; Uribe-Tirado et al., 2017). Even some of these notable cases (sorted by country) are still ongoing, according to a more recent study (Pinto et al., 2023):

- Universidad Nacional de Cuyo (Argentina)
- Universidad Católica (Argentina)
- Instituto Brasileiro de Informação em Ciência e Tecnologia (IBICT, Brazil)
- Universidade de São Paulo (Brazil)
- Pontifícia Universidade Católica do Rio Grande do Sul (Brazil)
- Universidade Estadual de Campinas (Brazil)
- Universidade Federal de Santa Catarina (Brazil)
- Universidad Católica de Chile (Chile)
- Universidad Católica del Norte, Antofagasta (Chile)
- Universidad de Playa Ancha (Chile)
- Universidad de Valparaíso (Chile)
- Pontificia Universidad Javeriana de Bogotá (Colombia)
- Universidad de Antioquia (Colombia)
- Universidad del Rosario (Colombia)



- Universidad EAFIT (Colombia)
- Universidad Santo Tomás-Bucaramanga (Colombia)
- Universidad Nacional de Colombia-Palmira (Colombia)
- Universidad Nacional Costa Rica (Costa Rica)
- Centro Agronómico Tropical de Inv. y Ens.-CATIE (Costa Rica)
- INFOMED-Universidad Virtual de Salud (Cuba)
- Universidad Central de las Villas (Cuba)
- Universidad de las Ciencias Informáticas (Cuba)
- Universidad Autónoma de Ciudad Juárez (Mexico)
- Universidad Nacional Autónoma de México-UNAM (Mexico)
- Universidad Veracruzana (Mexico)
- Universidad de Colima (Mexico)
- Universidad de Lima (Peru)
- Universidad de Puerto Rico (Puerto Rico)
- Universidad de la República (Uruguay)
- Universidad Metropolitana (Venezuela)

4.2.2 Incorporation of IL training in undergraduate and graduate university curricula as formal courses.

These processes took place little by little during this period and it occurred either as curricular courses of specific disciplinary programs or a standard solution for an entire university. The IL literature from the region has disseminated the results of these courses. The following is a list of publications that stand out (sorted by country, translated titles); their titles characterise some of their curricular implications:

- IL as a social construct in the training of school librarians. Documentation Department at Universidad Nacional de Mar del Plata (Argentina)
- IL: Development of information skills in the study plans of library science majors at national universities in Argentina (Argentina)
- The ten years of the IL program in the Central Library of the Faculty of Agronomy of the Universidad de Buenos Aires (Argentina)
- Insertion of disciplines on informational competence in Brazilian Librarianship courses (Brazil)
- Information Competencies: an analysis focused on the curriculum and the teaching production of two courses in Library Science and Information Management (Brazil)
- Bibliographic research course (CPB): a UFSM/RS experience for information competence in the health area (Brazil)
- Informational competence of agents involved in Remote Teaching at the Universidade Federal de Goiás (Brazil)
- IL Education: The case study of Escola Politecnica da Universidade de Sao Paulo (Brazil)
- Competence in information in the post-graduation of the chemistry school of the Universidade Federal do Rio de Janeiro (Brazil)
- IL: A first step in the training of Librarians at the University of Playa Ancha (Chile)
- IL: study of its impact on final year undergraduate students of the faculties of education and natural and exact sciences at the Playa Broad University of Educational Sciences (Chile)



- The challenge of implementing Skills Development Programs in Universities: A look from the Universidad Católica del Maule (Chile)
- Transversal Digital IL in the Curriculum: Experience of the Universidad de Chile (Chile)
- Information Education Program (P.E.I.) at the Universidad Católica del Norte: as part of the nine educational model (Chile)
- Experience in designing and applying a subject with virtual aids for the development of informational competencies in undergraduate students - Universidad Santo Tomás-Bucaramanga (Colombia)
- Training in technological and informational skills of future librarians taking advantage of the Moodle educational platform: case Inter-American School of Library Science, Universidad de Antioquia 2007-2008 (Colombia)
- Training of informational skills and competencies in a virtual environment. Case Universidad del Rosario (Colombia)
- Academic model for the development of information skills: case of the Department of Information Science of the Pontificia Universidad Javeriana (Colombia)
- The development of information competencies from the information and documentation systems program of the Universidad de la Salle (Colombia)
- Basic course design for IL for teachers (Cuba)
- The evaluation of information skills in the journalism degree at the Universidad Central "Marta Abreu" de Las Villas (Cuba)
- IL in software development processes. Proposal for a program for Universidad de las Ciencias Informáticas (Cuba)
- Informational competencies in the area of Biology from undergraduate studies at the Universidad de La Habana (Cuba)
- IL at the Universidad Médica de Cienfuegos Cuba: experiences of training information competencies in undergraduate (Cuba)
- IL program of the Universidad Central de Las Villas (Cuba)
- The development of information skills in university students through a course worth credit - Universidad Autónoma de Ciudad Juárez (Mexico)
- The online module Research Tools of the language teacher training course-culture of CELE-UNAM (Mexico)
- Inclusion of IL in the curriculum through learning communities and action research Universidad Autónoma de Chihuahua (Mexico)
- The use of participatory methodologies for conducting literacy activities: A perfect but not explicit fit Universidad Autónoma de Chihuahua (Mexico)
- Outcomes and Challenges of Offering an IL Compulsory Undergraduate Credit Course: A Mexican Case (Mexico)
- Information skills integrated into the school curriculum at the Universidad de Puerto Rico en Humacao: a shared experience (Puerto Rico)
- Integration of information and research competencies and the assessment of student learning: Pilot Project, Universidad de Puerto Rico en Bayamón (Puerto Rico)
- Situation of IL training, given to students from the Information Units of the Universidad de la República (Uruguay)

4.2.3 Lines of research of various groups and researchers from various countries

IL is not only training from libraries or curricular courses at different universities, nor is it exclusively practiced by librarians in diverse libraries or in collaboration with teachers in different



curricular programs. Advancing IL also requires theoretical-conceptual scientific inquiry from a global or specific context. Therefore, it is necessary to theorise, reflect and study, that is, for this topic to be assumed and developed as a line of research. This aspect is evident from theses that experienced researchers supervised. However, at the same time, it resulted in permanent research projects from some groups and research centers attached to different universities. During these years, with different paths, the following researchers stand out; as such, they have been affiliated with different postgraduate training programs and research groups and centers, thus developing their research trajectories on IL (some of them have been present since the beginning of IL in the region, around the late 1990s and early years of this century). For this reason, these researchers have been vital in the reflection, classification, and academic-scientific promotion of IL in the region. Thus, they have become references and support for librarians or professors who have led IL implementation processes in libraries or curricular courses. Therefore, Table 1 highlights them as part of the development of this topic in Latin America (sorted by country).

Table 1: Notable Latin American IL researchers with linked online profile

Name	Current institutional affiliation and country
Regina Baptista Belluzzo	Universidade Estadual Paulista, Brazil
Elizete Vieira Vitorino	Universidade Federal de Santa Catarina, Brazil
Kelley Cristine Gonçalves Dias G.	Universidade de Brasilia, Brazil
Alejandro Uribe-Tirado	Universidad de Antioquia, Colombia
Gloria Patricia Marciales Vivas	Pontificia Universidad Javeriana-Bogotá, Colombia
Gloria Ponjuán	Universidad de La Habana, Cuba
Maria de las M. Fernández Valdés	C.Nal. de Información de Ciencias Médicas, Cuba
Roberto Zayas Mujica	Universidad de Ciencias Médicas-Habana, Cuba
Jesús Lau	Universidad Veracruzana, Mexico
Jesús Cortés-Vera	Universidad Autónoma de Ciudad Juárez, Mexico
Javier Tarango	Universidad Autónoma de Chihuahua, Mexico
Juan D. Machin-Mastromatteo	Universidad Autónoma de Chihuahua, Mexico
Judith Licea de Arenas	Universidad Autónoma de México-UNAM, Mexico
María Gladys Ceretta	Universidad de La República, Uruguay

This entire process of initiation, development, and progress that took place from 1997 to 2019 (categorised as Moments 1 and 2) gives way to the present and the future of IL in Latin America. The following section presents the final analysis and discussion of the topic. The *trends* and *perspectives* of IL in Latin America are presented as a synthesis of the literature. They are indirectly linked in the next two Moments (3 and 4).

5. Analysis and Discussion

This section presents a synthesis of this research process, as space limitations prevent delving deeper into each Moment. However, we highlight the critical aspects found and that represent the *present trends* (Moment 3) and *future perspectives* (Moment 4) of IL in the region, which would not have been reached without the foundations provided by the milestones (past) from the beginning since 1997 to its advances before the 2019 pandemic, and the subsequent changes that have occurred and will occur.

The *trends* presented came from IL's development. However, the changes brought upon by the COVID-19 pandemic since March 2020 and what has been identified as post-pandemic or the "new normal" (Bury, 2024; Lloyd & Hicks, 2023) led to accelerated IL training and research



processes worldwide (Akkoyunlu & Menzi Çetin, 2023; Gross & Latham, 2022; Joe, 2022;), including in Latin America (Avilés-Cañón & Civilo-Becerra, 2020; de Arenas & Labra, 2021; Gómez & Núñez, 2021). Together with the emergence of GAI (Flierl, 2023; Zhou, 2024), these evolutions form the basis for the upcoming changes.

5.1 Moment 3. Main Trends⁹ (2020-2023)

The following *trends* result from the analysis and classification carried out in this research process, together with the literature and the cases selected and analysed (for example, Pinto et al., 2023). It is possible to summarise several trends from the last four years.

- Advances from different libraries that were already working on IL training are continuing their initiatives and incorporating the perspective of critical thinking in relation to other competencies. Trainings also include different technological advances to help users achieve better academic and research development, and improved performance in daily life and at work (including telework). IL trainings also seek to strengthen and generate innovations in different types of organisations (public or private; companies or NGOs) from diverse actions (Berbel & Andrelo, 2020; da Conceição & Belo Angeluci, 2020; Fernández & Dávila, 2020; Gazzola et al., 2020; Junior et al., 2020; Ottonicar et al., 2021a; Santos & Maia, 2023).
- IL training efforts incorporate the constant Internet developments and the omnipresence of mobile devices and social media to address significant current problems such as information overload—which was present in previous years—and, more recently, misinformation, fake news, and post-truth, especially in a current context of political polarisation and the effects of the COVID-19 pandemic, which even generated the concept of the *infodemic* (Corona-Rodríguez, 2021; Estabel et al., 2020; Goulart Righetto et al., 2021; Luft & da Silveira, 2020; Mejía-Trejo & Loza-Vega, 2021; Mello & Schneider, 2021; Ortega-Martínez et al., 2022; Rodríguez-Hidalgo et al., 2020; Sena et al., 2020).
- Innovations in different IL teaching-learning processes through programs and actions that respond to dynamics such as learning and games/video games, mobile technologies, social media, and digital educational platforms, which lead to modifying some information professionals' roles, making them venture into other activities and training spaces, thus seeking to achieve greater attraction-motivation (learning psychology) for their youngest users (children, adolescents, and young adults), who are also the closest to these new information dynamics characterised by a more active mediation (Cabra-Torres et al., 2020; Machin-Mastromatteo, 2023a; Maia & Furnival, 2020; Mariscal et al., 2023; Prudencio et al., 2020; Reis et al., 2020; Torres Pérez, 2020; Vidal et al., 2021).
- Promotion of different curricular proposals to increasingly integrate IL in transversal and
 permanent trainings at different educational levels, in conjunction with the other
 necessary literacies. In other words, IL training is integrated as an institutional policy
 and/or a social-public policy at the local, national, or regional level, depending on the
 contexts, and thus obtains sufficient political, legal, educational, informational,
 technological and economic support and resources for its adequate implementation. This
 enables it to achieve a greater scope that benefits different communities, not only
 educational but also from other sectors or specific social groups (Aguaded et al., 2020;

JIL, 2024, 18(2). http://dx.doi.org/10.11645/18.2.632

⁹ For this analysis, 'trends' are understood as the theoretical-conceptual aspects and practices that have occurred in IL during the last four years and that reflect the advances in this topic for a given context.



- Estrada, 2021; Goulart Righetto et al., 2022; Machin-Mastromatteo, 2021; Machin-Mastromatteo, 2023b; Pérez-Rodríguez et al., 2021; Spudeit & Vitorino, 2020; Villegas Muro & Machin-Mastromatteo, 2023).
- Identifying the increasing need for different literacies (skills-capabilities) in today's society; therefore, it is necessary to work in an integrated manner, although recognising the differences between IL, media literacy, digital literacy, academic literacy, and data literacy, among others and in this way, assuming these different literacies as complementary and not opposed in education and the different sectors and spaces of contemporary society (Baptista Belluzzo, 2020, 2023; Paladino et al., 2020; Pardo Rodríguez & Pirela Morillo, 2020; Reyes & Avello-Martínez, 2021; Rivera Aguilera, 2020; Sánchez-Obando & Duque-Méndez, 2022).
- Recognition of the importance that has been gained explicitly in this integration of different literacies, the convergence of IL and media literacy since UNESCO's proposal materialised in the concept of MIL, even with recent proposals like MIL Cities and MIL Cities and MIL Cities.
 Integrating these two literacies implies more coordinated work between librarians, educators, and journalists, and between libraries, educational institutions, and media (traditional or digital). At the same time, it leads to promoting that MIL training should not only occur in formal education (elementary, secondary, or university), but it should also be available for the broader society as a critical training option for citizens. This stems from problems such as the recent defense of democracy against totalitarianism, protection of the environment against climate change, and to counteract information overload and misinformation (Bonami & Le Voci Sayad, 2021; Durán-Becerra & Lau, 2020; Felix, 2021; Gebera et al., 2023; Lau & Grizzle, 2020; Martínez, 2023; Pérez-Rodríguez et al, 2021; Sanchez & Moore, 2020; Varela & De Menezes, 2021).
- Emergence and positioning of new concepts and proposals about literacies, how to integrate them and apply them critically, considering all the capacities needed to face the current information and knowledge society (or post-truth society). Then, in addition to IL and MIL, multi-literacy, trans-literacy, meta-literacy and/or transmedia literacy are required, as well as linguistic, read-write, visual, audiovisual, film, sound, gestural, competencies, without losing the broad sense of literacy training objectives (Aguilar Trejo & Moctezuma Franco, 2020; Alonso Varela, 2023; Paredes & Jasso Peña, 2020).
- School or public libraries (as well as curricula at primary and secondary education) are more concerned about providing a type of IL training to students and users that incorporate the perspective of educational innovation, considering the increased importance and presence of digital systems, social media environment, tablets and smartphones, thus developing closer e-training proposals (dos Santos et al., 2021; Okada & Alcará, 2021; Vannini & Rega, 2020;).
- Harness the benefits of social media for IL training, centring on avoiding harmful social and personal practices, specifically those related to cyberbullying, happy slapping, etc., or sexual aspects such as sexting, sextortion, etc., while incorporating the perspectives of computer security and preventive health (health literacy), how to face or avoid the threats related to cyberbullying and its different modalities—cybersecurity literacy or body care—so as not to fall into harmful practices, which can significantly affect children and young people, or certain minorities or social groups (Ceretta et al., 2022; Cesar et al., 2022; Santini et al., 2021; Valério & da Silva, 2020).
- Integrate proposals to avoid disinformation, whether they come from the library field, such as that of IFLA's (2018) statement on fake news and its infographic on the matter



or from the field of communication, such as <u>ALFAMED</u> and its inter-university network. Even from a more journalistic field, with the different fact-checking platforms in Latin America (such as <u>Chequeado</u>) and world-wide (such as <u>Poynter's International Fact-Checking Network</u>), which have generated greater social responsibility by sharing information. Additionally, these platforms have led to programs such as "school press" and "responsible public media", among others. Though it's also important to constantly review the possible ideological biases in which these programs may develop, depending on the institution(s) that support them. That is why an IL that fosters critical thinking is key (Cerigatto, 2020; Figueroa Alcántara, 2021; Ledur & dos Santos, 2021; Quintana-Pujalte & Pannunzio, 2022; Rojas & Núñez Benítez, 2021).

- Deepening the need to evaluate the learning results of IL training proposals in interrelation with other literacies, considering different evaluation models and instruments (assessment) from a digital context (de Souza & de Lima, 2022; Delgado et al., 2020; Espinoza-Colón & Medina-Gual, 2021; Falcón & Serpa, 2021; González-López et al., 2020; Sales, 2022; Valenzuela Urra et al., 2021; Vitorino & Pinho Neto, 2023; Vitorino & Johann, 2023).
- The advent of data science highlights the need for an IL strongly interrelated with programming, big data, blockchain, and with open data platforms to provide training in their management and usage (a need possibly filled by a data librarian). There is also a need to consider the open research data movement in order to improve citizen decision-making based on these trends, and everything related to data literacy, which is here to stay (Brozia, 2023; Costal et al., 2021; Villegas-Muro, 2023). Also, it should be kept in mind when updating IL training topics that everything related to open science, scientific communication, or publishing should be coming from library and information science, and what refers to digital humanities and computational social sciences are from the social sciences and humanities. In addition to everything related to GAI and all the changes that it has brought, and everything it will imply (Anchondo Granados et al., 2020; Machin-Mastromatteo, 2023c; Narea Cortés, 2023; Ottonicar et al., 2021b; Passarelli & Gomes, 2020; Provenzano et al., 2023).

5.2 Moment 4. Some Perspectives¹⁰ (2024 and beyond)

All the events that took place during the last four years lay the foundations of everything that will come for IL developments in Latin America in the coming years (short, medium, and long term). The following *perspectives* can be seen as the basis of what is to come regarding IL in Latin America

- Advance and adapt IL training proposals to align with the most recent social and technological realities, such as the internet of things, big data, but especially GAI, which represents a paradigm shift in society with more and more developments and with significant influence on libraries and education. Proposals should think about updating trainers and the institutions they train, and the new skills of learners and citizens in general.
- Establish IL as one of the most dynamic areas of research and practice in library and information science, which can also represent one of the most substantial opportunities to develop initiatives that contribute to societies from the discipline or that can be integrated through different inter or transdisciplinary relationships.

JIL, 2024, 18(2). http://dx.doi.org/10.11645/18.2.632

¹⁰ For this analysis, 'perspectives' are understood as the theoretical-conceptual aspects and practices that are seen as those that will determine and guide the IL theme for a given context in the coming years.



- Integrate IL training more radically with the 17 Sustainable Development Goals (SDGs) proposed by the United Nations (2015) to achieve the goals proposed for 2030, proposing concrete actions in those goals with a more direct relationship with IL or the other literacies to train in different capacities.
- Propose new actions that further promote IL as a critical component for greater integration and multiculturalism, responding to the most recent social realities related to aspects such as wars with global impact, the increase in the climate crisis, political instabilities in the world and the Latin American region, the economic crisis and inflation, the greater south-south and south-north migratory flows, the growing mental health problems after the pandemic, public health problems (future Pandemic X as indicated by the WHO), the need for a more significant boost to entrepreneurship and the possible labour crisis due to the substitution of jobs due to advances in GIA, and others.

6. Conclusions and Recommendations

After this analysis based on the history, present, and future of IL in Latin America, we can conclude that this is a conceptualisation and practice that, although it has been around for several years in the world (Zurkowski, 1974) and in the region, it continues to be—with its due updates and interrelations with other literacies—increasingly necessary. It is impossible to train in IL in the present and the future, without thinking, both in the documentary and the media, in the textual as well as in the multimedia, in scientific databases as in social networks, in academic information as in political and health information, in libraries and the media, in human intelligence and artificial intelligence. This need to continue advancement in IL training implies reiterating that in the present and near future, it becomes increasingly important:

- to promote the importance of inter- and trans-disciplinarity, bringing together IL with MIL
 to inform and train users in the current digital society. In this sense, UNESCO's
 integrative and driving role has been vital. It will continue to be, not only in the
 contributions of this institution but in those of other organisations in interrelation with
 other literacies, meta-literacy, and trans-literacy.
- to advance new conceptualisations and practices and put them at the integrative service
 of all literacies, as CILIP (2018) did at the time, by proposing a new definition for IL, or
 ACRL (2015) by betting on the framework model to be more flexible. However, the
 changes are so rapid, mainly because of GAI, that it will be necessary to develop new
 conceptualisations and frameworks to develop the GAI-IL.
- to convert the threat of misinformation, fake news, post-truth, infodemic, information, and creation by GAI into an opportunity to promote IL in interrelation with other literacies further, and thus enable the development of people with better informational behaviours facing the challenges and technological advances of society, not turning their backs on them, but facing them to make the best use.

All this means continuing, little by little, to respond to the challenges that IL has been experiencing for 50 years worldwide and for just over 25 years in Latin America. It means to advance and adapt the training offered, with quality and continuously, in interrelation with all literacies, that is, with LITERACY, in a broad sense, from the still current perspective of lifelong learning.



Declarations

Ethics approval

Ethical review was not considered necessary in alignment with the Universidad de Antioquia, Colombia or the Universidad Autónoma de Chihuahua, México on the conduct of ethical research.

Funding

Not applicable.

Al-generated content

No Al tools were used.

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