



TEEM'16

TECHNOLOGICAL ECOSYSTEMS
FOR ENHANCING MULTICULTURALITY

The Systematic Review of Literature in LIS: an approach

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Introduction

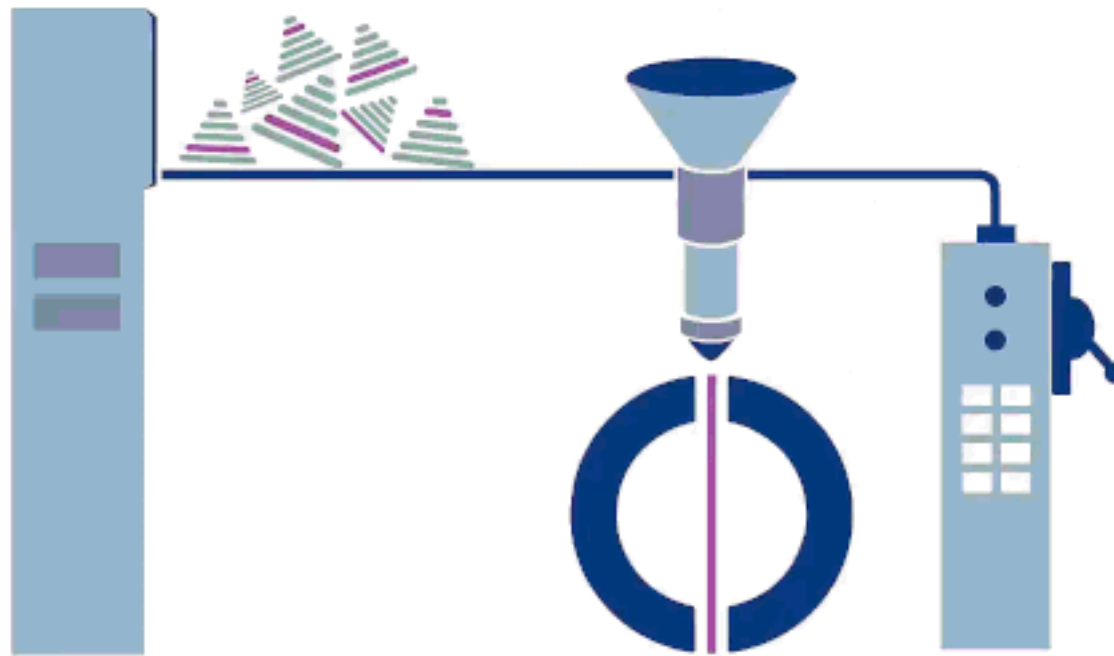
- Carry out a review of the literature has been traditionally a way to demonstrate knowledge about a particular field of study, including vocabulary, theories, key variables and phenomena, methods and history. Conducting a literature review it will also report about researchers and research groups influential in a particular area (Campbell & Menk, 2003).
- However, authors such as Xu and others go further in assessing the importance of literature review stating that all primary research must be preceded by a systematic review (Xu, Kang, & Son, 2015).
- Systematic reviews are scientific research that the unit of analysis is the primary original studies from which it is intended to answer a research question clearly formulated through a systematic and explicit process (Ferreira González, Urrútia, & Alonso-Coello, 2011).

The systematic review in LIS

- Medical librarians have adopted and implemented very quickly this methodology (Brette, 2003). Later, it has spread to other nonmedical areas, such as scholarly, software engineering (Kitchenham & Charters, 2007, 2009) or LIS education programs (Grant & Booth, 2009).
- The systematic review must meet at least three conditions:
 1. use of academic databases as a primary source;
 2. indicate the inclusion criteria (and if applicable, exclusion) to select the works to be part of the corpus of analysis;
 3. and provide data to replicate the study review.
- In most cases, the lack of systematic reviews in the area of LIS is due to the limited amount of methodological details and lack of rigorous processes, explicit and replicable review (Koufogiannakis, D. and Crumley, E. 2006).

The systematic review process: method or protocol

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The systematic review process: method or protocol

1. Defining the question. Types of questions

- Specifying clearly the questions that the review aims to answer.
- Systematic reviews often aim to find answers to individual questions, or test a single hypothesis, sometimes the field can be expanded and it is necessary to identify the question or key questions that must be answered.
- The question can be translated to PICO(C) format (population, intervention, comparison, outcomes).

The systematic review process: method or protocol

P <i>Population</i>	I <i>Intervention</i>	C <i>Comparison</i>	O <i>Outcomes</i>	C <i>Context</i>
Scientific grey literature (PhD theses)	Diffusion of PhD theses through the Open Access institutional repositories	PhD theses that are not Open Access	Increased visibility and impact of Open Access PhD theses	University of Salamanca. 2006-2010
Scientific grey literature (PhD theses)	Open Access mandate at the institutions as from a date	PhD theses that are not subject to mandate in the same institutions	Increased visibility and impact of PhD theses in Open Access by institutional mandate	University of Salamanca. 2008-2010
Institutional Repositories	Implementation of tools in repositories to achieve interoperability	Comparison between multiple repositories measuring the ratio and degree of visibility interoperability	The most interoperable repositories increase visibility	At international level

The systematic review process: method or protocol

2. Establishing inclusion and exclusion criteria

- Inclusion criteria:
 - Studies on the topics proposed in the research questions that indicate state of the question, results and conclusions
 - Knowledge areas: Sciences Information and Documentation, Libraries, Information and Communication.
 - Types of studies that it requires to locate to answer the questions.
 - Articles.
 - Books and book chapters.
 - Theses and Dissertations.
 - Congresses and conferences.
 - Reviews.
 - Bibliographies.
 - Language of the works.
 - Time limits more appropriate on the topic of study.
- Exclusion criteria:
 - Contents that deviate from the topics of the posed questions.

The systematic review process: method or protocol

- Terminology and formulation of the search strategy: an effective equation of search would be formed by descriptors and their respective **qualifiers or descriptors and keywords** combined together by the most appropriate Boolean operators.
- The use of descriptors is an option to locate the work related to a topic of interest to facilitate their recovery and to give visibility to scientific articles.
- The descriptors are not only useful to perform a literature search, but also they serve to analyze the work areas of knowledge (Wandenberghe & Sanz-Valero, 2014)

The systematic review process: method or protocol

("Open Access" OR "Acceso abierto") AND (visibili* OR impact* OR cita*) ; ("literatura gris" OR "grey literature" OR "gray literature" OR "littérature grise" OR e-theses OR theses OR dissertations OR tesis OR "tesis electrónicas") AND ((dissemination OR diffusion OR difusión OR diseminación) OR (citation OR citación)) ; Repositor* AND Interoperabili*) AND (visibili* OR impact*) ; ("Open Access" OR "Acceso abierto") AND (mandat* OR poli*) AND (visibili* OR impact*) ; ("Open Access" OR "acceso abierto") AND (bibliometric* OR almetric* OR informetric* OR scientometric* OR webometrics) ; ("open access" AND impact) AND (bibliometric* OR almetric* OR informetric* OR scientometric* OR webometrics)

The systematic review process: method or protocol

3. Carrying out the search of literature. Search strategy for identification of literature

- Search of electronic databases: Web of Science (WOS), Library and Information Science Abstracts (LISA), Library, Information Science and Technology Abstracts (LISTA), Scopus, DOAJ, BASE, TDR, DART-Europe, SciELO, etc.
- Type of information:
 - Published journal papers.
 - Other published and unpublished reports of studies.
 - Conference papers, theses and abstracts and other gray literature.
 - Book chapters, especially in LIS.
 - And "by hand" primary studies.

The systematic review process: method or protocol

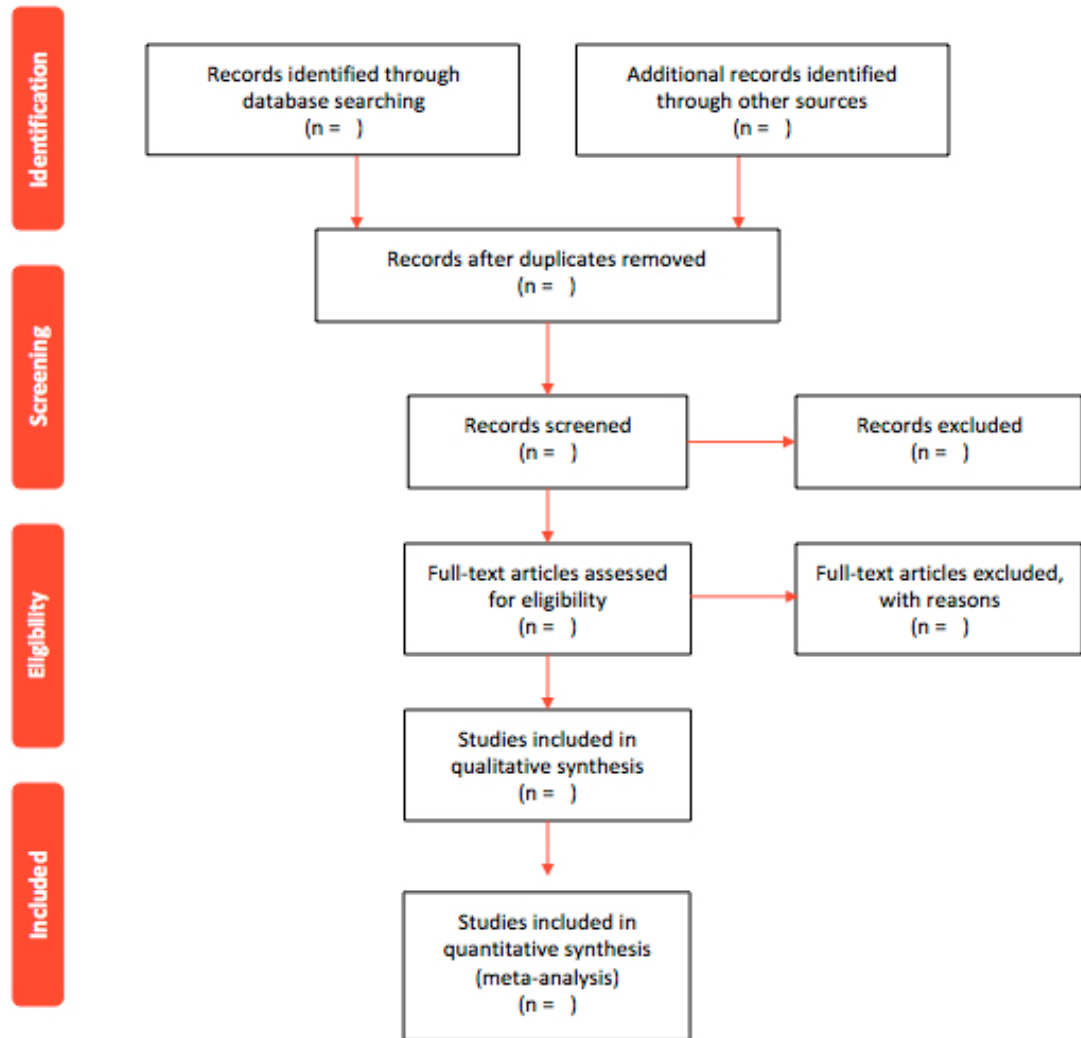
4. Reviewing the process and evaluating the studies

- After the search of the relevant literature, it must evaluate the results.
- It is advisable to make a first selection through the titles and abstracts retrieved.
- To manage the results obtained in the various used databases it is useful the references managers like EndNote, Mendeley, etc.
- The search process and the selection must be detailed by a flow diagram that specifies clearly all stages of the process.

The systematic review process: method or protocol

Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G., and the PRISMA Group. 2009. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med.* 6,7, e1000097.

<http://dx.doi.org/10.7326/0003-4819-151-4-200908180-00135>



The systematic review process: method or protocol

5. Extracting data

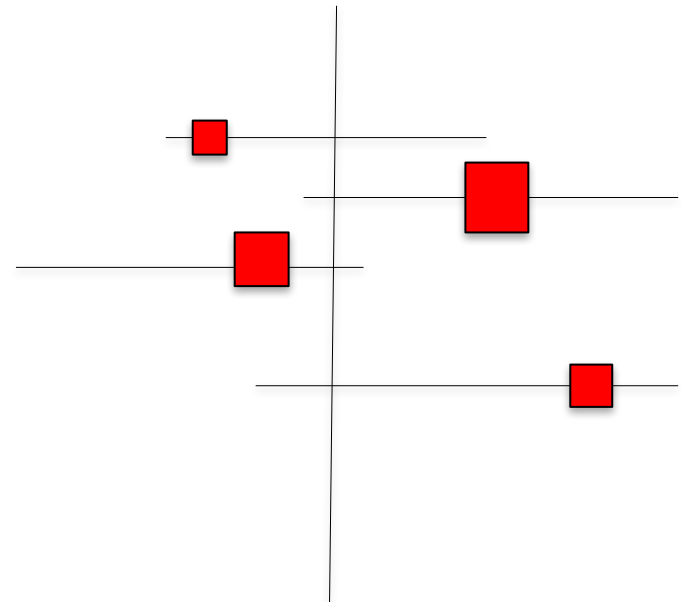
- Systematic reviews adopt a formal and systematic approach to extract relevant information from primary studies, which often involves the development of a data extraction form that the reviewer will complete for each of the studies in the review.



The systematic review process: method or protocol

6. Synthesizing, analyzing and presenting data

- Data synthesis involves collecting and summarizing the results of the primary studies. The included studies can be integrated quantitatively using statistical methods (meta-analysis) and / or qualitatively systematically describing, tabulating and integrating the results.



Conclusions

- Although in our field research the systematic review is still a relatively unknown method and we don't found the bibliographic corpus resulting from a systematic review of the literature, we believe that are useful in assessing research needs and can be the starting point for further research.
- An important element in the systematic review process should be the detailed documentation of the processes of search and selection of articles and documents located in order to make it reproducible.
- Systematic reviews provide methodological quality of the research, which are of great interest in the research work of doctoral programs and particularly in those with a clear interdisciplinary approach, as in the case of the research work of Education in the Knowledge Society PhD Programme of the University of Salamanca.

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