

Chapter 05: Reading Comprehension

Scientific Articles

What makes a piece of writing scientific?

- ✓ the topic,
- ✓ the method for gathering information,
- ✓ the writing style,
- ✓ the organization of the manuscript,
- ✓ or the **peer-reviewing*** process?
- ✓ Can be related to the type of publication?

There are a wide variety of articles that fall under the scientific category.

- ❑ Before beginning the writing process, authors should have a thorough understanding of the many types of scientific articles and their subtleties.
- ❑ To maximize the reception of their research and increase their chances of publication, authors should ideally adapt their writing to the most suitable article category.

***Peer review** is the evaluation of work by one or more people with similar competencies as the producers of the work (peers).

Different categories of articles

- Original article
- General review and updates
- Clinical facts, case reports
- Technical notes
- Editorials

Instructions for how to publish?

- **Scientific rules:** presented by 1 to n author(s); present a search result; present a new fact/information; original
- **Editorial Rules:** Standard Structure established by the guidelines to authors
 - Abstract and article length (number of words **or** characters) In-text citations Reference Style Permitted Abbreviations
 - ...

General review “updates”

- A review article surveys and summarizes priority published papers, No reporting of new facts or investigation by primary data or empirical study.
- Fixes the state of the art on a subject but should ideally suggest new directions
- Review articles are, sometimes, called **survey** or **overview** articles published in **survey journals**
- The central and fundamental reason to writing a review item is to build a readable synthesis of the best resources available in the literature
- Gathers critical arguments published in the literature, discusses their relevance and adds comments suggested by one's own experience. Requires significant experience on the subject
- Good survey techniques are critical because they provide an **unbiased** point of view

Overview · to take a general or comprehensive view of or appraise, as a situation, area of study

Bias: is a tendency to prefer one person or thing to another, and to favour that person or thing.

- Review articles are divided into two categories as **narrative**, and **systematic** reviews.

A narrative review

- Its purpose is to identify a few studies that describe a problem of interest.
- They have no predetermined research question or specified search strategy, only a topic of interest.
- They are not systematic which means they follow no specified protocol.
- Analyze or synthesize a number of existing research studies.
- overview 30-40 papers
- 5,000 to 8,000 words are enough narrative

A Systematic review

- The main objective of a systematic review is to formulate a well-defined research question and use qualitative and quantitative methods to analyze all the available evidence attempting to answer the question.
- Systematic paper explores new scientific findings with accuracy, developing a new conceptual or theoretical or methodological approach.
- Systematic reviews are considered as gold standard articles as they contain lesser engagement of author's bias.
- Needs up to 150 articles
- 6,000 to 12,000 words are good for systematic article

Original Article

- Main objective: to report a new fact, not yet published, or to shed new light.
- It is referred as scientific research papers or as **empirical** research
- **Empirical research** project is based on: observation or experience research capable of being examined or disproved by observation or experiment.
- In an original article the published data can derive from laboratory experiment or field interview with **interview schedule** or **survey questionnaire**.
- Such type of article can be conducted in quantitative, qualitative, or mixed method approach.

- **An interview schedule** is basically a list containing a set of structured questions that have been prepared, to serve as a guide for interviewers, researchers and investigators in collecting information or data about a specific topic or issue.
- **Survey** is the process of collecting, analyzing and interpreting data from many individuals.

- Quantitative work done by numeric data collected using lab experiment or questionnaire survey and results would also be numeric.
- qualitative work can be text data gathered from the field using interviews, observation, and group discussion.
- **Empirical research** project is based on: observation or experience research capable of being examined or disproved by observation or experiment.
- A theory-based article is the representation of a qualitative paper. Here the results will be produced in textual format producing a theory or concepts.
- On the other hand, model, simulation, method, and methodological approach can be explored in the numeric article
- An original article is less long than a review one (generally, it consists of 5,000 to 10,000 words)
- In this type of paper the work aims to test hypothesis by using a methodological approach as significant or not.

Original article

Basic plan

- The title, the authors
- Summary and key words
- The introduction
- Material and method
- Results
- Discussion
- Conclusion
- Bibliographic references
- Tables
- Figures