

## SCIENTIFIC ARTICLE (PUBLICATION)

### I. Objectives and characteristic of articles

The writing of a scientific article for a peer-reviewed journal is characterized by:

- Its conciseness in terms of form,
- Its originality in terms of content,
- Originality results at global level.
- Originality of techniques and methods
- The results must be a direct and significant contribution to the advancement of science.
- The modification or development of a technique or method is considered to allow for a significant advance in science.

### II. Definition of article:

A scientific article is an article written by one or more scientists (professors, researchers,..) and which has resulted in a publication in a scientific journal.

A scientific article generally reports on a research work: the authors report on their working method, give the results of their research (s), and discuss the results.

The scientific article is the preferred communication medium in scientific fields because it quickly communicates the results of research, thus offering recent, update information.

The student or research is a scientist in training. They must acquire training in scientific reading in order to increase their knowledge and improve their critical thinking. In the end, he must be able to judge what he brings from reading a scientific article in terms of knowledge and

practice. This requires the student to know how a scientific article is constructed and to know how to quickly search for the data he will need to answer the questions and build his abstract.

### **III. STRUCTURE OF A SCIENTIFIC ARTICLE:**

Scientific knowledge is produced in the form of scientific articles ranging from 2 or 3 pages for the shortest to about fifty or even more for the longest. They are presented in printed form (paper format) or electronically (on CD-ROM or in E-reviews on the Internet).

The manuscript should be carefully prepared according to the following scheme:

- 1. Cover page (title, authors, laboratory, university, department, e-mail, )**
- 2. Abstract and key words**
- 3. Introduction**
- 4. Material and methods**
  - a. Description of the equipment and products used**
  - b. Description of the experiments carried out**
  - c. Statistical evaluation methods**
- 5. Results**
- 6. Discussion**
- 7. References**

## **1. Title:**

The title is the first indicator of the content of an article. The norms would like it to be possible to understand the problem of the article or report from the simple reading of the title. Usually, the author writes the title last, because then he has the synthesis of his work in mind. A good headline makes the article more likely to be read more.

## **2. Abstract:**

Articles and reports also have an abstract of no more than 200 or 250 words. It summarizes the objective of the study, the methodology used, the results and even the authors' conclusions. A reading of the abstract is supposed to allow the reader to form an idea of the content of the article and thus give him enough elements before embarking on reading the body of the article.

## **Keywords:**

These are the most significant words of the student's work, are given at the bottom of the abstract. They are selected from the latter (6 to 9 words) so that their search is easy in a database

## **3. Object and introduction**

**The object** presents the report and indicates in a few lines precisely what the problem is, the objective, what motivated it. It allows the uninformed reader to understand why the report was written. If the subject can fit in a few lines in a small report, it becomes a more extensive introduction in an important piece of writing such as a publication

**Introduction:** It generally consists of three parts: Part One: General Aspect of the Topic Part Two: Specific Aspect of the Problem Part Three: Purpose of the Work This third part is a key phase. It asks a question that needs to be answered.

## **4. Methods:**

This part is indeed very precise insofar as the results of a study must be "replicable" when the same conditions are met, i.e. it must allow the same experiment to be reproduced and,

normally, to observe the same results.

5. **Results:** This chapter should contain all the results and nothing but the results. The results obtained are systematically represented in the form of tables or figures.
6. **The discussion:** Its construction must allow it to meet several objectives: . The first objective is to answer the question posed. . The second objective is to judge the quality of the work and the validity of the results. . The third objective is to compare the results obtained.

The authors summarize the main results of their analysis and then discuss the associated hypotheses. The data are then interpreted in the light of the theory announced in the introduction. The last paragraph of the article will often suggest future studies to continue the investigation of the theory developed.

7. **References:** The role of the bibliographic reference list is to allow the reader to find the sources cited in the text

#### **IV. Types of scientific articles:**

**The original article:** a publication in which the author publishes new results. These should allow for the proposal of a clear and precise mechanism to be accepted for publication in a journal of a good international level.

**A Review:** an article that summarizes a bibliography of the same subject during which the author notes the opinions of each other on the subject and gives his opinion at the end of his analysis. These are very good articles written by seasoned researchers who are experts in their fields.

#### **V. How to read a scientific article?**

Read smart; it is possible to read a scientific article using several strategies. Among the strategies available, it is possible not to read the entire article. Also, make sure you understand the summary before embarking on reading the full article. This may seem obvious, but a general understanding of the article should make it easier for you to understand the details.

Feel free to re-read an article that you didn't understand in its entirety on a first reading. If you have enough time, give yourself a few days and then start reading the article again from début. It is essential to understand the article in order to accurately convey the authors' ideas.

After reading a large number of articles, it is common to forget the source. To overcome this problem, it is strongly recommended to write a summary of the articles read. It is possible to summarize each paragraph in one or two sentences.

## **VI. Where can I find scientific articles?**

These articles are published in specialized journals visible in academic libraries but rarely available elsewhere. The best-known scientific journals are Nature and Science. To find an article, you need to know the author of the article, the title of the article, the year of publication and the title of the periodical in which the article appeared.

The following are not scientific articles:

- Press articles, Articles in the specialized press (science and life, etc.). Dissertations (not published in a scientific journal). Proceedings of colloquiums (which have not been published)
- These articles cannot be considered as a scientific reference because: These articles are written by authors who only report the results of studies carried out by others. A detailed description of the experimental methodology is often missing.
- Scientific content is rarely evaluated by subject matter experts.

## **VII. Who produces the scientific article?**

The scientific article is mainly produced by researchers (private or public laboratories), teacher-researchers, doctoral students and/or more Master's students. However, no particular degree is required to submit an article to a scientific journal, it is the content of what is presented that counts above all. When the article is written by several authors, the first two or three cited are those who contributed most to its writing. The last mentioned is often the head of the research team.

Publications are published in 'peer-reviewed' journals. Before being published in these journals, the article is submitted to a panel of experts in the field who evaluate and critique the article. Following this step, the article can be accepted for publication, but it can also be accepted subject to revisions or simply refused. This peer-reviewed review of the article is a guarantee of seriousness and quality for the articles published.