



Faculty of Agriculture, Cairo University



## Scientific Thinking and Writing (201 AGR)

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## Scientific Thinking and Writing

Monday	Lecturer	Lecture Title
3/10/2016	Prof. Hosam Safaa	Introduction
10/10/2016	Dr. Fatma Mohamed	Interview and discussion skills
17/10/2016	Prof. Hosam Safaa	Thinking and Scientific Thinking
24/10/2016	Prof. Hosam Safaa	Communication: Theory and Application
31/10/2016	Dr. Fatma Mohamed	Time management
7/11/2016	Dr. Fatma Mohamed	Team management
14/11/2016	Dr. Osama Galal	Midterm exam
21/11/2016	Dr. Osama Galal	CV writing
28/11/2016	Dr. Osama Galal	Presentation skills
5/12/2016	Dr. Osama Galal	Poster preparation
12/12/2016	Prof. Hosam Safaa	Scientific Writing
19/12/2016	Prof. Hosam Safaa	Types and Evaluation of Scientific Writing

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## Why do We Write?

- ✓ To remember
- ✓ To Reserve Rights
- ✓ To Document information and data
- ✓ To present and organize our ideas
- ✓ To communicate (links among generations)

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## AIMRAD

- A: Abstract** المستخلص / الموجز
- I: Introduction** المقدمة
- M: Materials & Methods** المواد والطرق
- R: Results** النتائج
- D: Discussion** المناقشة

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## Forms of Writing

- Research Paper
- Reports
- Thesis (MSc. & PhD.) or dissertations
- Brochures vs. Pamphlets
- Newsletters vs. Newspapers
- Magazines
- Correspondence (Letters, emails, Fax...)
- Books and review books

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## Types of Journals

- General Knowledge
- Specialized magazines (Major)
- Part of specialty (Minor)

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### Scientific Journals includes:

- |                         |               |
|-------------------------|---------------|
| 1. Papers               | أوراق بحثية   |
| 2. Articles             | مقالات        |
| 3. Review Articles      | مقالات مرجعية |
| 4. Supplements          | ملاحق         |
| 5. Short Communications | أوراق قصيرة   |

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### International Standard Serial Number

- An **International Standard Serial Number (ISSN)** is a unique eight-digit number used to identify a [periodical publication](#) at a specific [media type](#).
- It is internationally accepted as a fundamental identifier for distinguishing between identical serial titles and facilitating checking and ordering procedures, collection management, legal deposit, interlibrary loans etc.
- When a periodical is published, with the same [content](#), in two or more different [media](#), a different ISSN is assigned to each media type – in particular the [print](#) and [electronic media](#) types, named **print ISSN (p-ISSN)** and **electronic ISSN (e-ISSN or eISSN)**.

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### International Standard Serial Number

- If a periodical/journal has been assigned with ISSN it does not mean it is an International publication. ISSN is a number that identifies periodicals worldwide, whether in printed form or other media (including online). It does not denote the level of coverage, connectivity and circulation of the journal.
- A list of major international journals around the world is available on E-journals.org.
- E-Journal.org is the most honored and trusted source which dates back to [Tim Berners-Lee](#) (inventor of the World Wide Web).
- The ISSN system was first drafted as an ISO [international standard](#) in 1971 and published as ISO 3297 in 1975.
- The ISO subcommittee [TC 46/SC 9](#) is responsible for the standard. To assign a [unique identifier](#) to [the serial as content](#), linking among the different media, "linking ISSN (ISSN-L)" must be used, as defined by *ISO 3297:2007*.

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## Rules of Writing

- Your **main goal should be to make a reader comfortable** in understanding the information presented.
- Write simply, **clearly**, and without confusion.
- Assume that the reader is NOT an expert in the presented subject/topic.

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## Rules of Writing

- **Words:** must be chosen and arranged so that their meaning is clear (are precise, simple, and necessary).
- **Sentences:** should address one idea (simple and direct).
- **Paragraphs:** should be treated as a single topic with a clear message

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## Rules of Writing

- **Flow:** Make logical connections/transitions between end of each sentence, paragraph, or section and the next.
- **General approach:** overview first, then details (from general to specific → Deduction).

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## The C<sub>3</sub> Principle

Good writing contains of the following:

- Clarity الوضوح
- Conciseness الإيجاز
- Correctness (accuracy) الدقة

The key is to be as **brief** and **specific** as possible without omitting essential details

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## Scientific writing properties and conditions

- 1) Neatness الإتقان
- 2) Word choice اختيار الكلمات
- 3) Zest الاستمتاع بالكتابة
- 4) Honesty الأمانة
- 5) Brevity الإيجاز
- 6) Emphasis التوكيد
- 7) Division التجزئة

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## Scientific writing properties and conditions

- 8) Straight sentences الجمل المستقيمة
- 9) Planning التخطيط
- 10) Confidence الثقة
- 11) Accuracy الدقة
- 12) Illustrations الرسومات التوضيحية
- 13) Tables & Figures الجداول والأشكال البيانية
- 14) Thoroughness الشمولية

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### Scientific writing properties and conditions

15) Revision	المراجعة
16) Logic	المنطق
17) Objectivity	الموضوعية
18) Point of view	وجهة النظر
19) Unity	الوحدة في الكتابة
20) Clarity	الوضوح
21) Language	اللغة

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### Effective Word Usage in Scientific Writing

#### Don't use

based on the fact that  
for the purpose of  
fact  
prove  
plays an important role  
decreased number of  
time period  
longer time period  
brown in color  
round in shape  
a number of  
has been shown to be

#### Better

because  
for / to  
evidence  
support  
is important because  
fewer  
time  
longer  
brown  
round  
some  
is

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### Effective Word Usage in Scientific Writing

#### Don't use

by means of  
it is possible that  
in order to  
during the course of  
a majority of  
a great number of times  
in other words  
despite the fact that  
first of all

#### Better

by  
may  
to  
during  
most  
often  
thus / hence / therefore  
although  
first

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## Stages of Scientific Writing

Preparation أولاً: الإعداد



Writing ثانياً: الكتابة

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# الإعداد

## Preparation

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1- Collect Data and information  
& piolt or preliminary studies



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## 2- Reading all the available information (trusted references)



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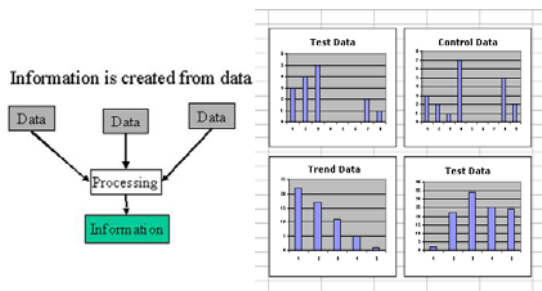
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## 3- Organization and manipulation



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## 4- Quantitative and qualitative analyses



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**5- Mental image of the scientific writing (report, paper, ...etc)**



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**الكتابة**  
**Writing**

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**1. Contents** كتابة محتويات البحث



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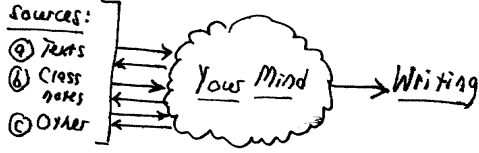
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## 2. Rough Draft كتابة مسودة البحث

ROUGH DRAFT



*Strip your mind at your own peril!*

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## 3. Final Draft الكتابة الفعلية للبحث



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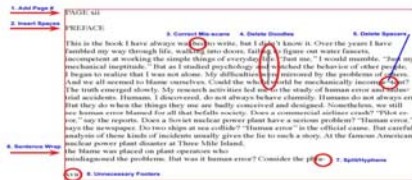
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## 4. Linguistic and Editing Errors Revision المراجعة اللغوية والأخطاء المطبعية



- Editing Procedure
1. Add "PAGE #"
  2. Provide space between all headers, titles, footnotes and paragraphs.
  3. Correct mis-spelled words.
  4. Delete doodles (unnecessary graphics and garbled text)
  5. Delete spaces.
  6. Move sentences so that they are continuous on a line.
  7. Words that are split across a page, move entirely onto the starting page.
  8. Delete unnecessary footers.

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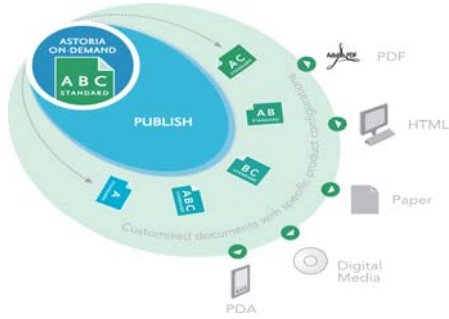
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### 5. Publication or Presentation

#### النشر العلمي أو تقديم البحث



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### Digital object identifier (DOI)

• A **digital object identifier (DOI)** is a [character string](#) (a "digital identifier") used to uniquely identify an object such as an [electronic document](#). [Metadata](#) about the object is stored in association with the DOI name and this metadata may include a location, such as a [URL](#), where the object can be found.

• The DOI for a document remains fixed over the lifetime of the document, whereas its location and other metadata may change. Referring to an online document by its DOI provides more stable linking than simply referring to it by its URL, because if its URL changes, the publisher need only update the metadata for the DOI to link to the new URL.

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### Digital object identifier (DOI)

• A DOI name differs from standard identifier registries such as the ISBN and ISRC. The purpose of an identifier registry is to manage a given collection of identifiers, whereas the primary purpose of the DOI system is to make a collection of identifiers actionable and interoperable.

• Organizations that meet the contractual obligations of the DOI system and are willing to pay to become a member of the system can assign DOIs.

• The DOI system is implemented through a federation of registration agencies coordinated by the International DOI Foundation, which developed and controls the system. The DOI system has been developed and implemented in a range of publishing applications since 2000; by late April 2011 more than 50 million DOI names had been assigned by some 4,000 organizations.

• By April 2013 this number had grown to 85 million DOI names assigned through 9,500 organizations. The DOI system uses, but is not formally part of, the [Handle System](#).

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## Know The Enemies

Good writing **Avoids** the following:

- **Repetition**
- **Redundancy**
- **Confusion**
- **Overstatement**

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## Plagiarism

- **Plagiarism** is the "**wrongful appropriation**" and "**stealing and publication**" of another author's "language, thoughts, ideas, or expressions" and the representation of them as one's own original work.
- Do not use **the exact wording** (or phrasing) from another paper or report - even when you cite the source.
- Put all papers **far away** when you write.
- Insufficient acknowledgement of ideas or work is a form of plagiarism.

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## Writing Style (Types of Writing)

1. **Cause/effect essay:** Writing about relationships between events and their results.
2. **Comparison/contrast essay:** When you write about similarities and differences.
3. **Definition essay:** Writing that tells what something means.
4. **Description essay:** you are "painting a picture" with words.
5. **Narrative essay:** telling a story.
6. **Persuasive essay:** you are writing to convince others by presenting solid, supported arguments.
7. **Analysis essay:** write to explain how to do something or how something works.

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