

# Η δομή και η συγγραφή μιας επιστημονικής εργασίας

Ευριπίδης Χατζηκρανιώτης<sup>(1)</sup>, Μαρία Μητσιάκη<sup>(2)</sup>

<sup>(1)</sup> Τμήμα Φυσικής, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης

<sup>(2)</sup> Τμήμα Ελληνικής Φιλολογίας, Δημοκρίτειο Πανεπιστήμιο Θράκης

# Η ατζέντα του σεμιναρίου

- Εισαγωγή : οι τύποι των papers
- Η δομή ενός paper
- Η αναζήτηση papers
- ΠΩΣ διαβάζουμε ένα paper
- Η καταχώρηση (annotation) των papers & reporting
- ΠΩΣ γράφουμε ένα paper



# Οι τύποι των άρθρων

## Peer-Reviewed Articles

- Are written by scholars and researchers (look for a university or laboratory affiliation in the article)
- Include an abstract and a bibliography or cited list of references
- Have a specialized format (this will be discussed later under “Dissecting an Article”)
- Use discipline-specific language
- Many of the Library article databases allow you to limit your search to “peer reviewed” articles.

## Popular/News Articles

- Are written by journalists or writers who may or may not have expertise on the article's subject.
- Rarely have an abstract or bibliography
- Do not follow a specialized format
- Use language understandable by the general public
- Undergo a limited editorial review

- The research paper is **an essential part of scientific education**. From it, the student learn the basic research skills that will need for gathering information and writing papers in a variety of courses as well as methods used for life-long learning, on the job and off. **In nearly every job, you will be asked to write reports and document your work**. The research paper is an exercise that will help you develop these skills.
- There are two main types of *scientific* paper: a **research paper**, which will become part of the primary literature and a **review paper**, which will become part of the secondary literature.
- A scientific paper is a written report describing original research results. A well-written scientific paper explains
  - the scientist's motivation for doing an experiment,
  - the experimental design and execution, and
  - the meaning of the results.

## Types of journal articles

It is helpful to familiarize yourself with the different types of articles published by journals. Although it may appear there are a large number of types of articles published due to the wide variety of names they are published under, most articles published are one of the following types:

- Original Research,
- Review Articles,
- Short reports or Letters,
- Case Studies,
- Methodologies.

<https://www.springer.com/gp/authors-editors/authorandreviewertutorials/writing-a-journal-manuscript/types-of-journal-articles/10285504>

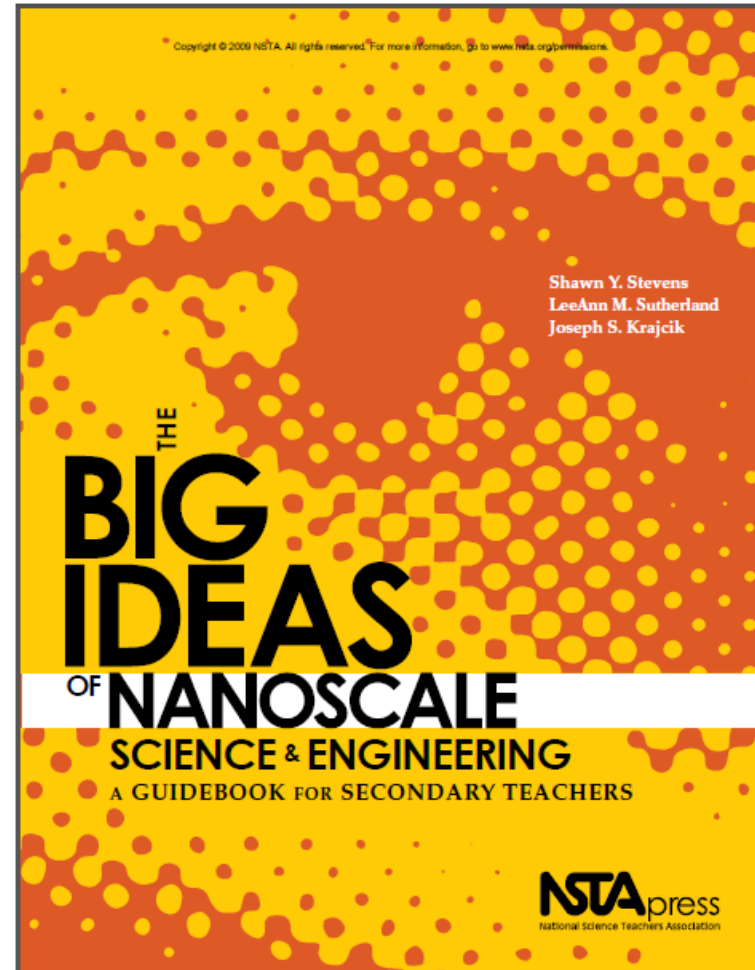


# Οι τύποι των papers

- Βιβλίο
- Book Chapter
- Special Issue
- Review
- paper σε περιοδικό
  - Διεθνές
  - Τοπικό
- paper σε συνέδριο
  - Διεθνές
  - Τοπικό
  - Νέων Ερευνητών

# Οι τύποι των papers: βιβλία

- Βιβλίο
- Book Chapter
- Special Issue



# Οι τύποι των papers: Book Chapters

- Βιβλίο
- **Book Chapter**
- Special Issue

<b>Introduction</b> .....	1
Dimitris Psillos and Petros Kariotoglou	
<b>Part I Theoretical Aspects</b>	
<b>Theoretical Issues Related to Designing and Developing Teaching-Learning Sequences</b> .....	11
Dimitris Psillos and Petros Kariotoglou	
<b>Pragmatic Design-Based Research – Designing as a Shared Activity of Teachers and Researches</b> .....	35
Kalle Juuti, Jari Lavonen, and Veijo Meisalo	
<b>Participatory Approaches to Curriculum Design From a Design Research Perspective</b> .....	47
Digna Couso	
<b>Part II Aspects of Materials Science and Their Educational Adaptation</b>	
<b>Materials Science: Trends, Material Properties and Educational Perspectives</b> .....	75
Euripides Hatzikraniotis and Theodora Kyratsi	
<b>Integrating Science and Technology in School Practice Through the Educational Reconstruction of Contents</b> .....	101
Italo Testa, Sara Lombardi, Gabriella Monroy, and Elena Sassi	



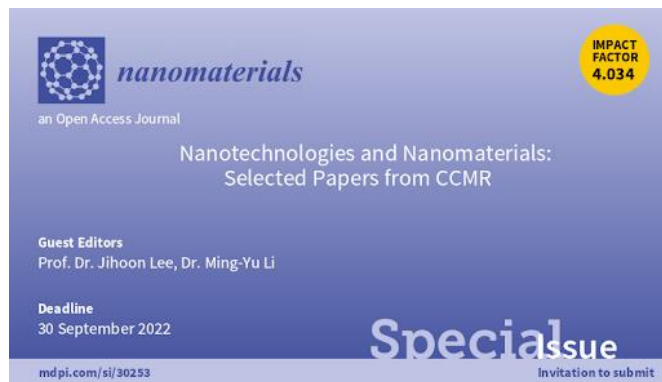


# Οι τύποι των papers: special issue

- Βιβλίο
- Book Chapter
- **Special Issue**

Different journals may put different meaning into "special issue" It could mean:

- papers have been invited around a certain theme,
- papers come from a workshop or symposia, or
- the journal have decided to gather papers around a specific topic.



**The point is that a special issue differs from a regular issue in that the papers constitute a collection around a theme or coming from a specific group of authors or event.**

# 5 Differences between a research paper and a review paper



## RESEARCH PAPER

### 1. What is its purpose?

- Its purpose is to conduct and report a detailed, original research study. It presents the authors' unique investigation of a specific research question.

### 2. What is it based on?

- It is based on original research that has been conducted by the paper's authors. This is known as primary literature.

### 3. How is it written?

- The authors formulate a research question, collect raw data and conduct an original study.



## REVIEW PAPER

- Its purpose is to critically analyse previously published literature on a specific topic.

- It is based on existing published articles; it does not report any original research. This is known as secondary literature.

- The authors select a specific topic and then summarize existing literature on that topic.

## ν papers

- **Review**
- **paper σε περιοδικό**
  - Διεθνές
  - Τοπικό
- **paper σε συνέδριο**
  - Διεθνές
  - Τοπικό
  - Νέων Ερευνητών



# Οι τύποι των papers

## 4. What does it report?

- It reports each step of the study in detail. This includes an abstract, the hypothesis, background study, methodology, results and an interpretation of the findings.
- It also includes a discussion of the possible implications of the results, of how the study contributes to existing literature and suggestions for further research.
- It identifies & reports commonalities between the results of the chosen studies. If there are discrepancies then the authors try to provide reasons for conflicting results.
- With a balanced perspective, the authors analyse available information from published work and report any problems with or gaps within the existing literature.

## 5. How long should it be?

- It depends on the word count specified by the journal but word limit usually ranges between 3000 to 6000 words. For some journals the word limit might even go up to 12,000.
- The word limit usually ranges between 3000 and 5000 words. In some cases, a longer or relatively short review paper might also be published, depending upon the journal.

- **Review**
- **paper σε περιοδικό**
  - Διεθνές
  - Τοπικό
- **paper σε συνέδριο**
  - Διεθνές
  - Τοπικό
  - Νέων Ερευνητών

Intro

Δομή

Αναζήτηση

Διάβασμα

Annotation

Συγγραφή

# Η δομή ενός paper

# Η δομή ενός paper

**Title: Fishing for readers**

**Abstract: The  
“Reader’s Digest”  
version**

**The body of the  
paper: The whole  
story**

**A scientific paper is  
really three (3)  
separate entities.**

**This fact is  
critically important  
when you set out to  
write a paper, or to  
read one.**

Title, Author,  
Abstract,  
Keywords

- Descriptive information that lets readers search for an article.

Introduction

- What is the context for this project?
- How does it fit in with other research on the topic?
- *What is the research question?*

WHY?

Methods

- What did the author(s) do to answer the research question?

HOW?

Results

- What was the answer to the question?
- This is often shown in tables and figures.

WHAT?

Discussion/  
Conclusion

- What is the significance of this project?
- How does it fit in with what else is known about the topic?

SO WHAT?

References

- Materials the author(s) cited when writing this paper.

# The body of a paper

- In a typical journal**
- Introduction
  - Materials and Methods (or “Experimental”)
  - Results
    - Text
    - Tables
    - Figures
  - Discussion
  - Conclusion
  - Acknowledgments
  - Appendices
  - Literature Cited

Ανάλυση της εργασίας που δόθηκε πριν από το συνέδριο

## Ανάλυση των εργασιών που δόθηκαν πριν από το συνέδριο

1. Να προσδιορίσετε ποια papers περιγράφουν έρευνα (research papers) και ποια αναφέρονται σε «καλές πρακτικές» (good practice papers).
2. Να προσδιορίσετε ποια papers έχουν τη δομή επιστημονικής εργασίας.
3. Να προσδιορίσετε Τι ερευνά κάθε paper και ΠΩΣ το ερευνά.
4. Να καταγράψετε τη δομή του κάθε paper.
5. Να προσδιορίσετε τον αριθμό των αναφορών σε κάθε μέρος του κάθε paper.

Intro

Δομή

Αναζήτηση

Διάβασμα

Annotation

Συγγραφή

# Η αναζήτηση της βιβλιογραφίας (ΠΩΣ ψάχνουμε papers)



Academic Search Engine	URL	Disciplines
Google Scholar	<a href="http://scholar.google.com">scholar.google.com</a>	All
ScienceDirect	<a href="http://www.sciencedirect.com/science/search">http://www.sciencedirect.com/science/search</a>	All
Pubmed	<a href="http://www.ncbi.nlm.nih.gov/pubmed">www.ncbi.nlm.nih.gov/pubmed</a>	Life sciences
IEEE Xplore	<a href="http://ieeexplore.ieee.org/Xplore/guesthome.jsp">ieeexplore.ieee.org/Xplore/guesthome.jsp</a>	Electronics, Electrical engineering, Computer science
National Agricultural Library (AGRICOLA)	<a href="http://agricola.nal.usda.gov">agricola.nal.usda.gov</a>	Agriculture
Education Resources Information Center (ERIC)	<a href="http://eric.ed.gov">eric.ed.gov</a>	Education

mobile learning - Αναζήτηση G x mobile learning review - Μελετ x +

google.com/search?q=mobile+learning&rlz=1C5CHFA\_enGR879GR880&oq=mobile+learning&aqs=chrome..69i57j0l7.5716j0j7&... ☆ Paused

Apps Λογαριασμός Go... Dropbox Google docs Doodle Gmail Impact Factor Se... SIS login.auth.gr iopscience.iop.or... Library Genesis P...

mobile learning X [Keyboard] [Microphone] [Search]

Όλα Εικόνες Ειδήσεις Βίντεο Βιβλία Περισσότερα Ρυθμίσεις Εργαλεία

Περίπου 2.480.000.000 αποτελέσματα (0,36 δευτερόλεπτα)

Διαφήμιση · www.talentlms.com/ ▾

### Learning Management System - Native Mobile Apps Included

A super-easy **mobile learning** management system to set up your training program in minutes. Build your training on the easiest-to-use platform. Go live at the speed of sound. Forever Free Account. 4.6 Stars on Capterra. Award Winning. No CC Required.

Create your Free account  
Forever free for up to 5 users.  
Build your first course now

Rated the Best LMS  
TalentLMS named #1 LMS for 2020  
by G2 & FinancesOnline

en.wikipedia.org › wiki ▾ Μετάφραση αυτής της σελίδας

### M-learning - Wikipedia

**M-learning** or **mobile learning** is "learning across multiple contexts, through social and content interactions, using personal electronic devices". :page 4 A form of ...

Background · Approaches · Mobile learning for refugees · Analysis

www.easy-lms.com › help ▾ Μετάφραση αυτής της σελίδας

### What is Mobile Learning (M-Learning)? | Easy LMS

17 Ιουλ 2020 - **Mobile learning**, also known as **M-learning**, is a new way to access learning content using mobile devices. It's possible to learn whenever and ...

Εργασία: αναζητήστε και προσανατολιστείτε στο θέμα m-Learning

Όποιαδήποτε στιγμή

Από το 2020

Από το 2019

Από το 2016

Προσαρμοσμένο εύρος...

Ταξινόμηση κατά συνάφεια

Ταξινόμηση κατά  
ημερομηνία

συμπερίληψη  
ευρεσιτεχνιών

να περιλαμβάνονται  
παραθέματα

Δημιουργία  
ειδοποίησης

**Mobile learning-review of the literature** [PDF] unitn.it

[A Trifonova](#) - 2003 - eprints.biblio.unitn.it

In this paper I do a **review** and try to make a classification of the existing ongoing work on **mobile learning** according their thematic span of the projects and to their research goals. This gives an overall view of the **m-learning** domain and shows that researchers are still ...

☆ 📄 Γίνεται αναφορά σε 206 Σχετικά άρθρα Όλες οι 8 εκδοχές 🔄

**Mobile apps for science learning: Review of research**

[JM Zydney, Z Warner](#) - Computers & Education, 2016 - Elsevier

This **review** examined articles on **mobile** apps for science **learning** published from 2007 to 2014. A qualitative content analysis was used to investigate the science **mobile** app research for its **mobile** app design, underlying theoretical foundations, and students' ...

☆ 📄 Γίνεται αναφορά σε 239 Σχετικά άρθρα Όλες οι 4 εκδοχές

**Mobile learning in review: Opportunities and challenges for learners, teachers and institutions** [PDF] qut.edu.au

[R Cobcroft, S Towers, J Smith...](#) - ... of the Online Learning ..., 2006 - eprints.qut.edu.au

Opportunities and challenges are emerging for learners, teachers and institutions from the increasing availability of low-cost **mobile** and wireless devices and associated infrastructure. In order to ascertain the current state of knowledge and research, an extensive **review** and ...

☆ 📄 Γίνεται αναφορά σε 369 Σχετικά άρθρα Όλες οι 11 εκδοχές 🔄

**Review of trends from mobile learning studies: A meta-analysis** [PDF] academia.edu

[WH Wu, YCJ Wu, CY Chen, HY Kao, CH Lin...](#) - Computers & ..., 2012 - Elsevier

Two previous literature **review**-based studies have provided important insights into **mobile learning**, but the issue still needs to be examined from other directions such as the distribution of research purposes. This study takes a meta-analysis approach to ...

☆ 📄 Γίνεται αναφορά σε 925 Σχετικά άρθρα Όλες οι 13 εκδοχές

Αρχικά αναζητούμε review papers (βιβλιογραφικής επισκόπησης)  
αλλά ΔΕΝ διαβάζουμε ολόκληρο το paper που μόλις εντοπίσαμε.



Here are a few hints to improve literature searches:

- Do the literature search before performing the research, and certainly before writing the paper.
- The next most promising papers to read are often those referenced in the relevant papers you have already found.
- Look in fields outside your discipline (this often means looking for different search keywords, which one recursively discovers when reading the literature outside of one's discipline).
- While your memory of which previous papers are worth citing is a good start, no one ever knows the full scope of the literature in even the smallest of niche fields. Do not rely on your memory alone.
- When finishing up the manuscript, look for recent publications on the subject. Often, other researchers are working on similar topics and may have published papers that should be read to ensure that your manuscript captures the latest communal knowledge in the field.



Intro

Δομή

Αναζήτηση

Διάβασμα

Annotation

Συγγραφή

# ΠΩΣ διαβάζουμε ένα paper (HOW to read a paper)

**Η γλώσσα ?**

## Most of us never read a paper from start to finish:

Read the **title** first,  
then the **abstract**,  
then the **last paragraph of the Introduction (In this work...)**,  
then the **conclusions**,  
look at the **figures and tables**.

THEN READ THE WHOLE PAPER

## 2. THE THREE-PASS APPROACH

The key idea is that you should read the paper in up to three passes, instead of starting at the beginning and plowing your way to the end. Each pass accomplishes specific goals and builds upon the previous pass: The *first* pass gives you a general idea about the paper. The *second* pass lets you grasp the paper's content, but not its details. The *third* pass helps you understand the paper in depth.





## 2.1 The first pass

The first pass is a quick scan to get a bird's-eye view of the paper. You can also decide whether you need to do any more passes. This pass should take about five to ten minutes

## 2.2 The second pass

In the second pass, read the paper with greater care, but ignore details such as proofs. It helps to jot down the key points, or to make comments in the margins, as you read.

## 2.3 The third pass

To fully understand a paper, particularly if you are reviewer, requires a third pass. The key to the third pass is to attempt to *virtually re-implement* the paper: that is, making the same assumptions as the authors, re-create the work. By comparing this re-creation with the actual paper, you can easily identify not only a paper's innovations, but also its hidden failings and assumptions.

Εργασία: (1<sup>st</sup> pass) προσδιορίστε στο paper “Teaching Science Pulleys”  
ΠΟΙΟ είναι το αντικείμενο της έρευνας και περιγράψτε-το με 2-3  
προτάσεις.





Intro

Δομή

Αναζήτηση

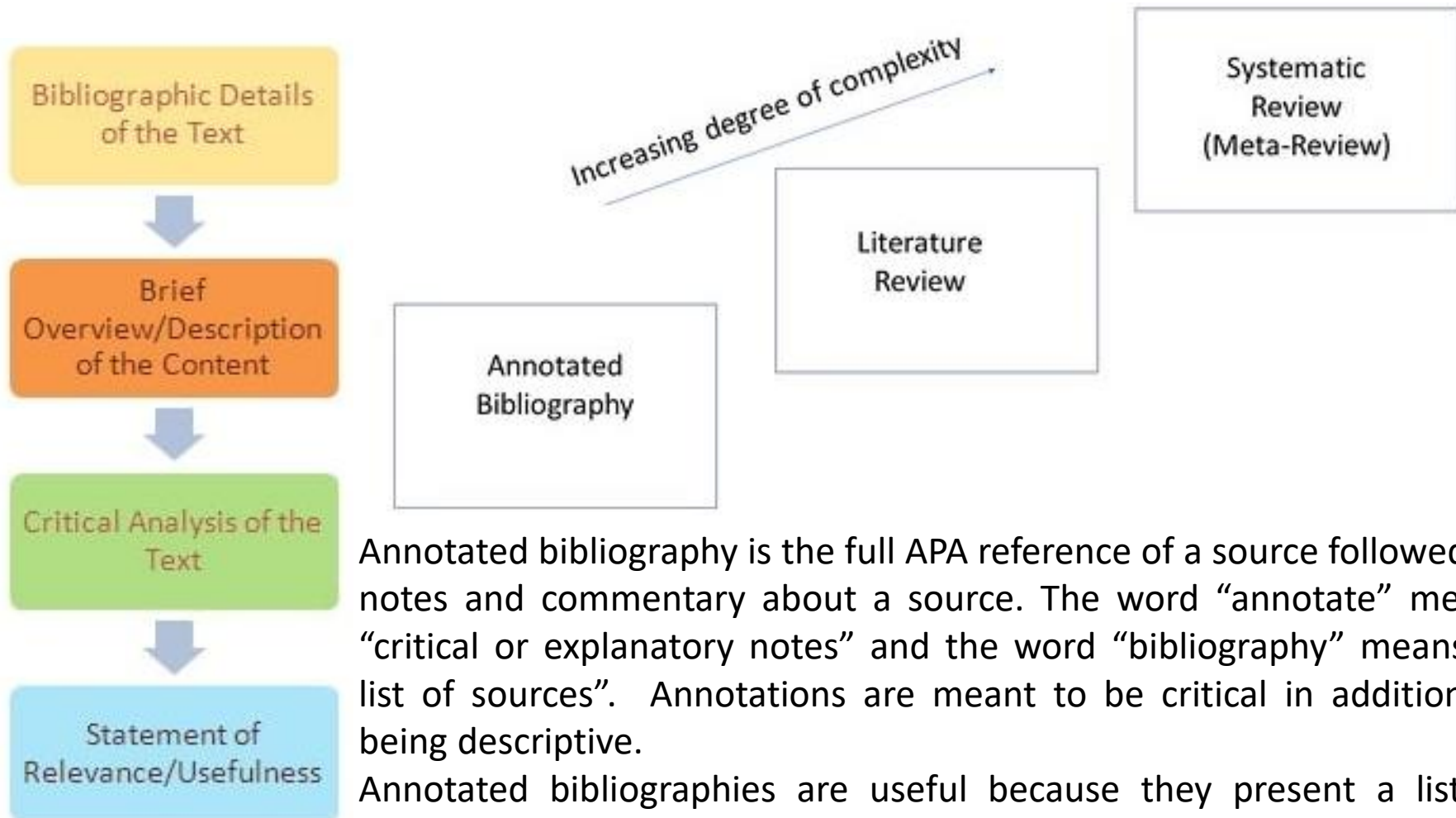
Διάβασμα

Annotation

Συγγραφή

# Η καταχώρηση (annotation) των papers

# How to annotate a paper



Annotated bibliography is the full APA reference of a source followed by notes and commentary about a source. The word “annotate” means “critical or explanatory notes” and the word “bibliography” means “a list of sources”. Annotations are meant to be critical in addition to being descriptive.

Annotated bibliographies are useful because they present a list of resources that others can use for research, and each resource has information that describes what is in it and that evaluates it (describes what makes it unique, useful, or helpful).

# How to annotate a paper

## Steps for Writing an Annotated Bibliography

Writing an annotated bibliography can be tedious, but it doesn't have to be painful! As you begin your assignment, use these guidelines to help make the process easier.

- Begin by formatting your citation. Pick a format and cite the source.
- Next, begin the annotation part by briefly explaining what the resources is about. For example, what is the article about? Keep it to 2-4 sentences.
- Now is the tricky part. You need to assess and reflect upon the resource. This will be the longest part of your annotation. Focus on answering these questions in your write up:
  - What information does this source contribute to your research question?
  - How does the source relate to other sources in your bibliography?
  - If it's an article, what are the strengths and weaknesses of the article?
  - How does the source fit into your research paper? Is it useful? Why is it useful?

Bibliographic Details  
of the Text



Brief  
Overview/Description  
of the Content



Critical Analysis of the  
Text



Statement of  
Relevance/Usefulness



# Παράδειγμα annotation ενός paper



## 1. Reference

The citation information in the same format as it would be in the Reference List.

McFarlane, J.K. (1973). Standards of care - what do we mean by care? *Nursing Mirror*. 143 (23), 40-42

## 2. Describe

A short summary of the theory, research findings or argument.

The article examines the meaning of the word 'care' within a nursing context. The responsibility of nurses to provide care legitimised in numerous documents, and the author goes on to identify key concepts related to nursing care.

A short statement of the author's viewpoint.

In particular, these concepts include assisting, helping and giving a service; offering this service to people who need help with daily living activities and to others who are affected by health deviations or illness of some kind. Moreover, the nurse's caring role is legitimised by the patients. Finally, the article concludes by relating how these concepts are put into operation by using the steps of the nursing process - assessing, planning, implementing and evaluating the patient's need for nursing care.

## 3. Evaluate

Comments on the usefulness and/or limitations of the text for your research.

The main limitation of the article is that the research was only conducted in large city hospitals.

## 4. Link

A final comment on the work, taking into account how this work will fit into your research on a topic.

Therefore, while the article is useful for an analysis of nursing care, the limitations of its research base will require some adaptation to meet the needs of this assignment that requires a commentary on services in both city and country area hospitals.

# How to index a paper

## Mendeley Desktop

### [Introduction](#)

01. Desktop interface
  02. Adding documents
  03. Organizing documents
  04. Read, highlight & annotate
  05. Find & import new content
  06. Writing & citing
  07. How sync works
- [Next steps](#)



[↑ Back to top](#)

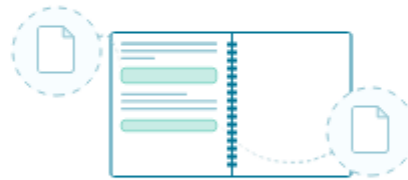
## Your new reference manager

The new Mendeley Reference Manager has been built using researchers' feedback to give you what you need to manage your references even more quickly and effectively.



### Store all your references in one place

Build your personal Mendeley library to organize, search and read all your references



### Keep all your thoughts together

Mendeley Notebook helps you collate all your highlights and notes from multiple PDFs



### Cite seamlessly

Also available: Mendeley Cite, the new citation add-in for Microsoft® Word, takes the time out of referencing  
[Get Mendeley Cite from Microsoft AppSource](#)

Intro

Δομή

Αναζήτηση

Διάβασμα

Annotation

Συγγραφή

# Η συγγραφή ενός paper (HOW to write a paper)

**Η γλώσσα ?**

# The Process of Paper Writing

- Create an outline first
- Plan on multiple drafts:
  - Filename with dates
  - One filename written over with new draft
- Tables/figures early: prompt more analysis
- Deadlines for you and coauthors



# Recommended strategy is to write your manuscript

Following this order will help you write a logical and consistent manuscript:

1. Materials and Methods
2. Results

These can be written first, even as you are doing your experiments and collecting the results.

3. Introduction
4. Discussion
5. Conclusion

Write these sections next, once you have had a chance to analyze your results, have a sense of their impact and have decided on the journal you think best suits the work

6. Title
7. Abstract

Write your Title and Abstract last as these are based on all the other sections.

# Answering Questions

- This order is really quite logical and could apply to almost any report you might write. An effective way to proceed is to answer these four questions, in order:
- **1. What was the problem?** *Your answer is the Introduction.*
- **2. How did you study the problem?** *Your answer is the Materials and Methods.*
- **3. What you found?** *Your answer is the Results.*
- **4. What do these findings mean?** *Your answer is the Discussion.*



Intro

Δομή

Αναζήτηση

Διάβασμα

Annotation

Συγγραφή

# Σκέψεις για τη συγγραφή των εργασιών του Συνεδρίου



## Οι τύποι των papers σε ένα τυπικό συνέδριο

A regular **full paper** is your basic standard peer-reviewed paper (~ 8 pages).

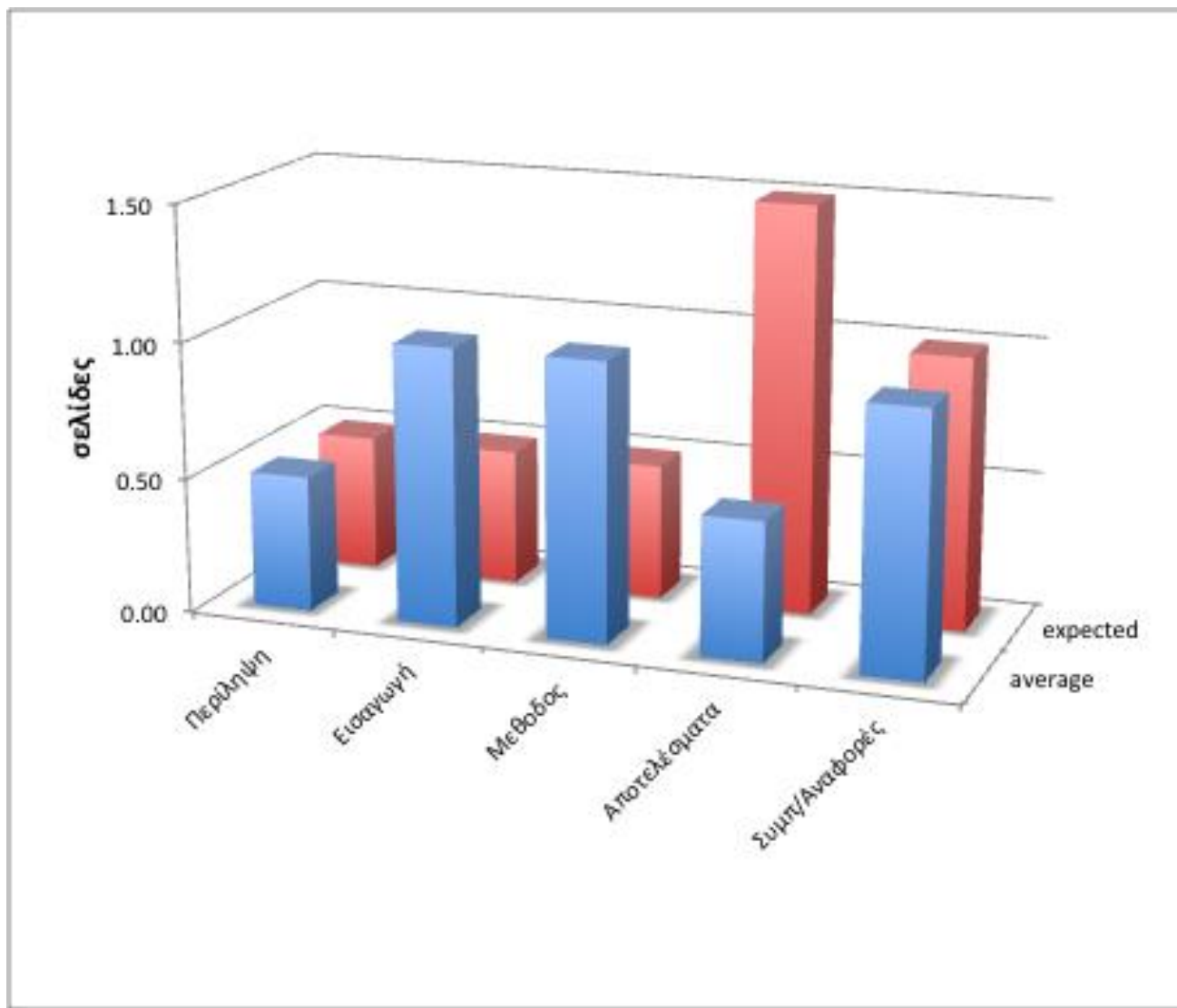
A **short paper** is for work that is worth publishing, but doesn't rise to the level of quality or significance of a full paper. It has the structure of a full paper, with a combined Results and Discussion section (~4 pages).

A **position paper** is for ideas that don't have and results, per se, but are worth communicating to the community, or for announcing a result that has been published with another community (~ 2 pages).

Short papers are generally significantly less respected than full papers, but may be worth it anyway: a short paper in a high-profile conference is often better than a full paper in a less significant conference. Position papers are in a different category: they aren't attempting to be the same as a full paper, and are typically judged more by a standard of "interesting to discuss."



# Κατανομή του περιεχομένου στα άρθρα του Συνεδρίου



# Παράδειγμα αποτελεσμάτων

**Αποτελέσματα:** Η παρούσα μελέτη βρίσκεται σε αρχικό στάδιο και με ιδιαίτερο ενδιαφέρον αναμένονται τα πρώτα αποτελέσματά της από την πιλοτική εφαρμογή της.

ΤΙΤΛΟΣ της εργασίας ?

ΕΡΕΥΝΗΤΙΚΑ ΕΡΩΤΗΜΑΤΑ ?

Ευχαριστώ  
για την προσοχή σας

