



In the name of God

Guilan University of Medical Sciences

Clinical Research Development Unit of Poursina Hospital

Title: Main notes in review articles

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All types of articles

➡ 1. Original research (Research paper, Full length, Regular paper):

These are detailed studies reporting original research and are classified as primary literature. They include hypothesis, background study, methods, results, interpretation of findings, and a discussion of possible implications. Original research articles are long, with the word limit ranging from 3000 to 6000, and can even go up to 12,000 words for some journals. These require a significant investment of time.



2. Case Studies:

These articles report specific instances of interesting phenomena. A goal of Case Studies is to make other researchers aware of the possibility that a specific phenomenon might occur.

→ **Clinical case study:**

Clinical case studies present the details of real patient cases from medical or clinical practice. The cases presented are usually those that contribute significantly to the existing knowledge on the field. The study is expected to discuss the signs, symptoms, diagnosis, and treatment of a disease. These are considered as primary literature and usually have a word count similar to that of an original article. Clinical case studies require a lot of practical experience and may not be a suitable publication format for early career researchers.

→ **3. Clinical trial:**

Once again, specific to the field of medicine, clinical trials describe the methodology, implementation, and results of controlled studies, usually undertaken with large patient groups. Clinical trial articles are also long, usually of about the same length as an original research article. Clinical trials also require practical work experience, as well as, high standards of ethics and reliability. So this format is more useful for experienced researchers.

➔ 4. Perspective, opinion, and commentary:

Perspective pieces are scholarly reviews of fundamental concepts or prevalent ideas in a field. These are usually essays that present a personal point of view critiquing widespread notions pertaining to a field. A perspective piece can be a review of a single concept or a few related concepts. These are considered as secondary literature and are usually **short articles, around 2000 words**.

Opinion articles present the author's viewpoint on the interpretation, analysis, or methods used in a particular study. It allows the author to comment on the strength and weakness of a theory or hypothesis. Opinion articles are usually based on constructive criticism and should be backed by evidence. Such articles promote discussion on current issues concerning science. These are also relatively short articles.

Commentaries are short articles usually around **1000-1,500 words long** that draw attention to or present a criticism of a previously published article, book, or report, explaining why it interested them and how it might be illuminating for readers.

➔ 5. Book review:

Book reviews are published in most academic journals. The aim of a book review is to provide insight and opinion on recently published scholarly books. They are also relatively short articles and less time-consuming. Book reviews are a good publication option for early career researchers as it allows the researcher to stay abreast of new literature in the field, while at the same time, adding to his publication list.

➔ 6. Short reports or Letters:

These papers communicate brief reports of data from original research that editors believe will be interesting to many researchers, and that will likely stimulate further research in the field. As they are relatively short the format is useful for scientists with results that are time sensitive (**for example, those in highly competitive or quickly-changing disciplines**). This format often has strict length limits, so some experimental details may not be published until the authors write a full *Original Research* manuscript. These papers are also sometimes called *Brief communications*.

➡ 7. Methodologies or Methods (Methods and Protocols)

These articles present a new experimental method, test or procedure. The method described may either be completely new, or may offer a better version of an existing method. The article should describe a demonstrable advance on what is currently available.

Methods and Protocols manuscripts (5,000 word limit) describe major technical and methodological developments in systems biology. These can be bioinformatic or laboratory techniques or any protocols that practically advance the field of biology systems.

➡ 8. Observations

Observations are short descriptions (maximum 1,200 words with a maximum of 2 figures and 25 references) of research results of exceptional importance and unusual interest, e.g., reports of a new type of organism, a new organelle, a new association of microbes and disease, etc.

As with Research Articles, authors should include an abstract of 250 words or fewer as well as an Importance section of 150 words or fewer, providing a nontechnical explanation of why the work was undertaken.

→ 9. Opinions and Hypotheses

Opinions and Hypotheses are short articles (**maximum 2,500 words with a maximum of 25 references**) that present original and well-developed insights without complete supporting data. Authors should provide an abstract of **150 words or fewer**

→ 10. Resource Reports

Resource Reports (5,000 word limit) describe major technical advances and/or major informational databases that would be of interest. The manuscripts should include detailed methods and illustration of proof-of-principle so that the new methodology can be replicated and/or utilized by others. Resource Reports follow the same formatting guidelines as Research Articles.

→ 11. Editorials

Editorials (**maximum 500 words**) communicated by members of the *mSystems*[™] Board of Editors address issues of science, politics, or policy.

→ Editorials should include an abstract of **150 words or fewer**.

12. Letters to the Editor

Letters to the Editor are intended for comments on articles published in the journal and must cite published references to support the writer's argument. Letters may be no more than **500 words** long and must be typed double-spaced.

→ 13. Review article:

Review articles provide a critical and constructive analysis of existing published literature in a field, through summary, analysis, and comparison, often identifying specific gaps or problems and providing recommendations for future research. These are considered as secondary literature since they generally do not present new data from the author's experimental work. Review articles can be of three types, broadly speaking: literature reviews, systematic reviews, and meta-analyses. Review articles can be of varying lengths depending upon the journal and subject area. For narrative reviews or literature reviews, the length could range anywhere between 8000 to 40,000 words while systematic reviews are usually less than 10,000 words long. However, some journals also publish shorter reviews, around 3000-5000 words long.

→ 14. Minireviews

Minireviews are brief (maximum 3,000 words with a maximum of 2 figures or tables) summaries of important developments in research. They must be based on published articles and may address any subject within the scope of the journal.

Minireviews must have abstracts. Limit the abstract to 250 words or fewer.

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.

❖ Its purpose is to critically analyze previously published literature on a specific topic.

2. What is it based on?

❖ It is based on original research that has been conducted by the papers authors. This is known as primary literature.

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

3. How is it written?

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

- ❖ The research paper is written based on an analysis and interpretation of this data.

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

- ❖ This is done in an attempt to present an overview of the topic's current state of understanding.

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.

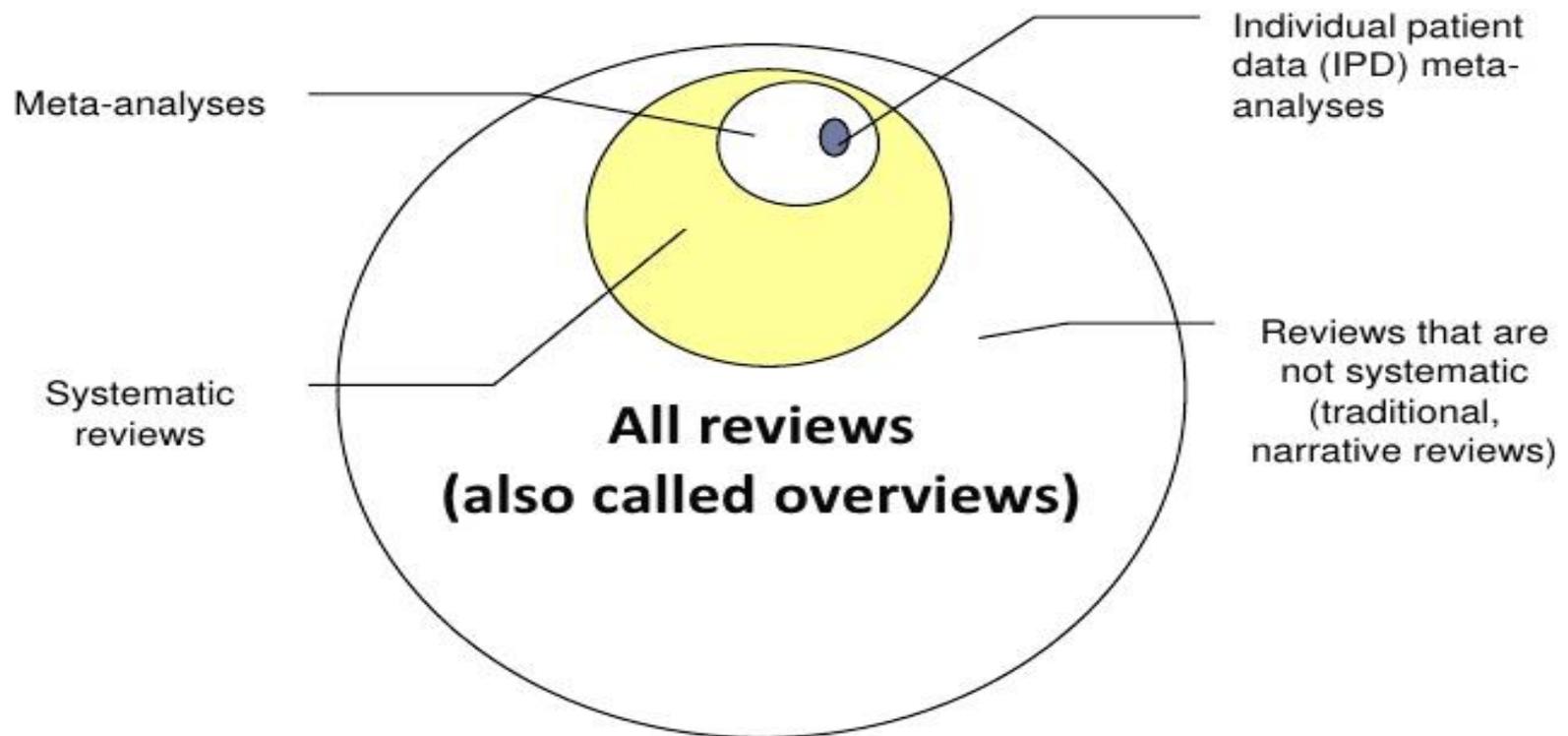
- ❖ With a balanced perspective, the authors analyze available information from published work and report any problems with or gaps within the existing literature.

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 12000.

❖ The word limit usually ranges between 8000 to 40,000 words . In some cases , a longer or relatively short review paper might also be published depending upon the journal.

Types of Review Articles



Pai M., et al. (2004). Systematic reviews and meta-analyses: An illustrated, step-by-step guide. *National Medical Journal of India*, 17(2), 86-95.



The three types of literature review designs

Narrative Review	<ul style="list-style-type: none">● Selective review of the literature that broadly covers a specific topic.● Does not follow strict systematic methods to locate and synthesize articles.
Systematic Review	<ul style="list-style-type: none">● Utilizes exacting search strategies to make certain that the maximum extent of relevant research has been considered.● Original articles are methodologically appraised and synthesized.
Meta-analysis	<ul style="list-style-type: none">● Quantitatively combines the results of studies that are the result of a systematic literature review.● Capable of performing a statistical analysis of the pooled results of relevant studies.

COMPARISON OF ARTICLE TYPES

Type of article	Coverage	Authorship	Article ITSELF is peer reviewed	Article type appears in peer reviewed journals
Case study	Describes one individual patient	Authors are reporting on their own case	Sometimes, depends on the journal	Yes
Primary research	Describes one study	Authors are reporting on their own study	Yes	Yes
Review	Summaries many studies	Authors are reporting on the research of others	Usually	Yes

Types of Reviews:

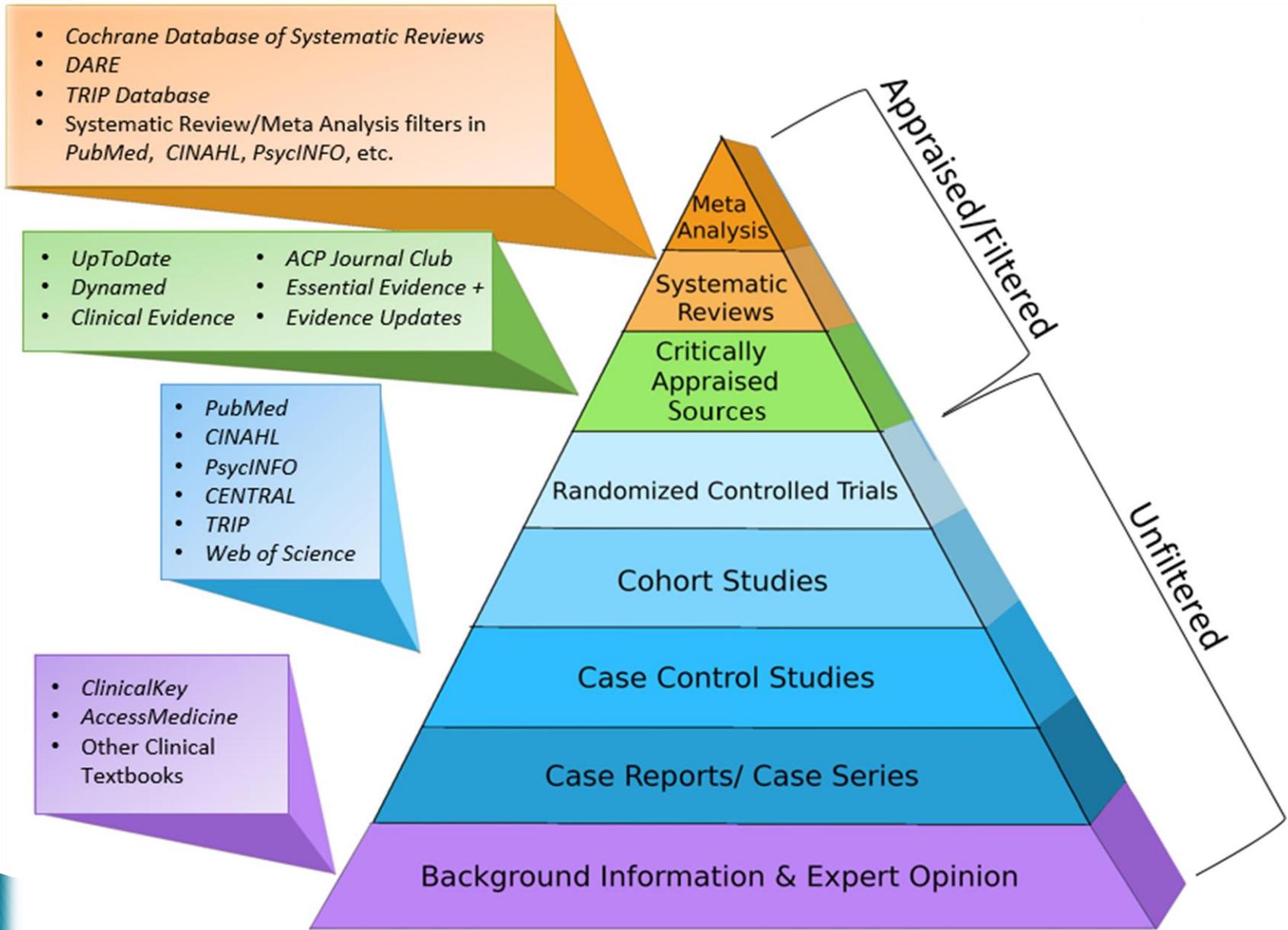
Narrative or literature Review: Critical research summary on a topic of interest, often to put a research problem into context. Captures a “snapshot” of the clinical problem or issue.

Meta-analysis: a quantitative statistical analysis of several separate but similar experiments or studies in order to test the pooled data for statistical significance.

Systematic Review: Comprehensive search strategies and rigorous research appraisal methods surrounding a clinical issue or question. Evidence is primarily based upon RCTs. Used to summarize, appraise, & communicate contradictory results or unmanageable amounts of research. **The best type :Systematic Quantitative Literature Review.**

Critically Appraised Topic (CATs): A critically appraised topic (or CAT) is a short summary of evidence on a topic of interest, usually focused around a clinical question. A CAT is like a shorter and less rigorous version of a systematic review, summarizing the best available research evidence on a topic.

Integrative Review: A review via a systematic approach that uses a detailed search strategy to find relevant evidence to answer a targeted clinical question. Evidence can come from RCTs, observational studies, qualitative research, clinical experts, and other types of evidence. Does not use summary statistics.



- *Cochrane Database of Systematic Reviews*
- *DARE*
- *TRIP Database*
- *Systematic Review/Meta Analysis filters in PubMed, CINAHL, PsycINFO, etc.*

- *UpToDate*
- *ACP Journal Club*
- *Dynamed*
- *Essential Evidence +*
- *Clinical Evidence*
- *Evidence Updates*

- *PubMed*
- *CINAHL*
- *PsycINFO*
- *CENTRAL*
- *TRIP*
- *Web of Science*

- *ClinicalKey*
- *AccessMedicine*
- *Other Clinical Textbooks*

Appraised/Filtered

Unfiltered

Meta Analysis

Systematic Reviews

Critically Appraised Sources

Randomized Controlled Trials

Cohort Studies

Case Control Studies

Case Reports/ Case Series

Background Information & Expert Opinion

Cochrane Reviews

Cochrane Reviews

Cochrane Reviews are systematic reviews primary research in human health care and health policy, and are internationally recognized as the highest standard in evidence-based health care. They investigate the effects of interventions for prevention, treatment and rehabilitation. They also assess the accuracy of a diagnostic test for a given condition in a specific patient group and setting.



Scoping Reviews

A scoping review is quite similar to a Systematic literature review. The key difference being that there are no restrictions on the materials resourced. The purpose of the scoping review is to find ALL the materials on the topic. When undertaking a scoping review it is important to systematize your search strategies to ensure you can replicate your searches and to attend to any gaps that appear in results.

When reading and sorting the results, again apply some of the measures used in a systematic review so that your search results are sorted by key themes and well organized.

Narrative or Traditional literature reviews

Narrative or Traditional literature reviews critique and summarize a body of literature about the thesis topic.

The literature is researched from the relevant databases and is generally very selective in the material used. The criteria for literature selection for a narrative review is not always made open to the reader. These reviews are very useful in gathering and synthesizing the literature located. The principle purpose of a narrative review is to give the author and reader a comprehensive overview of the topic and to highlight significant areas of research, narrative reviews can help to identify gaps in the research and help to refine and define research questions. Where a narrative approach differs from a systematic approach is in the notation of search methods criteria for selection, this can leave narrative reviews open to suggestions of bias.

- **A research paper is based on original research. The kind of research may vary depending on your field or the topic (experiments, survey, interview, questionnaire, etc.), but authors need to collect and analyze raw data and conduct an original study. The research paper will be based on the analysis and interpretation of this data.**
- **A review article or review paper is based on other published articles. It does not report original research. Review articles generally summarize the existing literature on a topic in an attempt to explain the current state of understanding on the topic. Review articles can be of three kinds:**
- **A narrative review explains the existing knowledge on a topic based on all the published research available on the topic.**
- **A systematic review searches for the answer to a particular question in the existing scientific literature on a topic.**
- **A meta-analysis compares and combines the findings of previously published studies, usually to assess the effectiveness of an intervention or mode of treatment.**
- **Review papers form valuable scientific literature as they summarize the findings of existing literature. So readers can form an idea about the existing knowledge on a topic without having to read all the published works in the field. Well-written review articles are popular, particularly in the field of medicine and healthcare. Most reputed journals publish review articles. However, you should check the website of the journal you wish to get published in to see if they accept such articles. If published in a good peer-reviewed journal, review articles often have a high impact and receive a lot of citations.**





Guidelines For Writing A Literature Review

Conduct a thorough Literature Survey Before you Start

Ensure To Present the Research Problem Clearly

compare and contrast the different views in the sources

A Literature Review Should Include Title, Abstract, Index, Introduction, Corpus, Bibliography and Appendices

Mention the paper's methodology, Analysis, Instruments, Equipments, Used in the Study

Remember to Cite Properly

Limit the BIAS

Summarize the Strengths & Weakness of the Study

WHY CONDUCT A LITERATURE REVIEW?

"The purpose of a literature review is to tell the story of what is known about the topic and identify the strengths and weaknesses of that knowledge, including gaps in our understanding."

—Rachel Boba Santos, *Radford University*

"A literature review lets the world know you have a clue on what you are talking about. It also provides the means to 'sell' the research proposed. It offers an opportunity to make the argument as to why the research I want to do is important."

—Carlos Cuevas, *Northeastern University*

"A literature review situates the current study into the broader body of scholarship. It provides an understanding of related research that has been done, the populations research has focused on, and the context of prior studies. This highlights the contribution of the proposed study."

—Rod Brunson, *Rutgers University*

HOW TO CONDUCT A LITERATURE REVIEW

1 Develop Search Terms

2 Search using terms, Boolean operators, and filters; iterative process

3 Identify initial primary sources on the topic

4 Read abstracts (and possibly additional sections of the article) to narrow sources if needed

5 Summarize in paragraph form important information from each source; include citations

6 Create a thematically focused table of summarized information

7 Prepare for the first draft by identifying an organizational approach and writing strategically

8 Write the first draft

9 Edit, proof, and polish (repeatedly)

Why is Literature Review Important to Scientific Research?

7

The literature review offers an insight into the author's depth of knowledge in their field.

6

The identified gaps are investigated to establish new facts and add value to the field.

5

This helps in establishing the limits of the available information and identifying gaps in knowledge.

4

The review traces the progress of knowledge and the relation between various thoughts.

1

Research is carried out primarily to improve the knowledge or establish a theory in a field.

2

All research builds on existing established knowledge in the field.

3

A literature review helps in familiarizing the extent of knowledge in the field.



Example synthesis of literature review abstract

Introducing a reoccurring theme

The impact of social media on the academic performance of tertiary students has been well researched. Although some research findings outline social and emotional benefits of using

social media for learning (e.g., [Kabilan et al., 2010](#); [McCarthy, 2013](#)), a number of studies demonstrate a correlation between student use of social media and poor academic

achievement. For example, a study of both undergraduate and graduate students found that

social media users had a lower Grade Point Average (GPA) ([Kirschner & Karpinski, 2010](#)). These findings were also mirrored in an extensive study of nearly two thousand undergraduate

students ([Junco, 2012](#)). However, researchers also argue that the use of social media is, in itself, not necessarily a negative predictor of GPA. Instead, negative impact relates to *how* students use

social media. In one large-scale study, for instance, students who attempted to multi-task, by using social media at the same time as studying, were not only less efficient and less productive,

but also had lower GPAs than students who studied without using social media ([Karpinski, Kirschner, Ozer, Mellot, & Ochwo, 2013](#)). Similarly, [Lau \(2017\)](#) concluded that it was the

simultaneous use of social media for non-academic purposes that had a negative correlation

with academic performance. These recent studies have begun to provide insight into how social media use may negatively affect the academic performance of tertiary students.

Positioning research findings (*different points of view*)

Elaborating on research findings (*that align with your point of view*)

Stating the significance of research findings

Differences between narrative and systematic reviews

<i>Feature</i>	<i>Narrative Review</i>	<i>Systematic Review</i>
Topic	Typically broad-scoped	Focused research question
Data sources and search strategy	The search strategy and databases that were used may not be provided	The search strategy is explicit and comprehensive with a list of all databases that were utilized
Authorship	A recognized expert(s) on the topic	A team of experts having methodologic and clinical expertise
Article selection criteria	Typically not specified	Consistently applied inclusion and exclusion criteria
Searching	May be extensive, intended to locate literature on the topic area in question	Extensive, intended to locate all primary studies on a particular research question
Appraisal of included articles	Indefinite, may be variable	Critical appraisal is meticulous, typically involving the use of data extraction forms
Synthesis	A qualitative summary is usually provided	A qualitative summary is provided, quantitative when the data can be pooled
Inferences	Sometimes evidence-based	Usually evidence-based

NARRATIVE VS. DESCRIPTIVE ESSAY



DIFFERENCES

NARRATIVE ESSAY

- ✓ Narrative essays are built on suspense and as such don't really reveal what to expect in the paper.
- ✓ Narrative essays are written in the first person.
- ✓ Narratives can have two one sentence paragraphs.
- ✓ The concluding part in a narrative can be as short as a sentence and mainly mentions a lesson learnt.
- ✓ Narrative essay is factual and need no wide explanation.

DESCRIPTIVE ESSAY

- ✓ Descriptive paper introductions touch directly on what the subject to be discussed in the whole paper.
- ✓ Descriptive ones are written in the third person as they involve the writer describing another person, place or object.
- ✓ Descriptive papers have longer paragraphs with each containing a unique description of the character.
- ✓ Descriptive essay conclusions are quite long and most of the time echo the impact of the described person to the writer.
- ✓ Descriptive essays are presented in a chronological manner so that there is a consistent sensible flow of events.



SIMILARITIES

- ✓ Both follow essay format with an introductory paragraph, body paragraphs and a concluding paragraph.
- ✓ At the end of the introduction there's a thesis, a sentence that explains the overall purpose of your paper.
- ✓ A reason for your narration or description in that thesis, explaining why this event, person, place or thing is important.
- ✓ Include specific details in the body paragraphs to support the idea.

**Thank you very
much indeed**

