MEA 205

Instructions for Writing a Summary and

Analysis of a Scientific Article

 With these assignments I want you to practice synthesizing scientific material and communicating the main points effectively.

**Reading the Article**

You should read the title, abstract and conclusion of the article first, then read the entire article. Look up any key terms or concepts that are new to you. You should be able to explain the article in plain language to someone not in the science field.

**Writing the Summary and Analysis**

Like an abstract in published research article, the purpose of an article summary is to give the reader a brief overview of the study. To write a good summary, identify what information is important and condense that information for your reader. The better you understand a subject, the easier it tis to explain it thoroughly and briefly.

**Write a first draft.** Use the same order as in the article itself. Adjust the length accordingly depending on the content of your particular article and how you will be using the summary.

* State the research question and explain why it is interesting
	+ What is the main question being asked by the research?
	+ How does that question fit into a larger context?
* Explain the key implications of the results. Avoid overstating the importance of the findings. The results, and the interpretation of the results, should relate directly to the hypotheses.
	+ Explain your interpretations, especially if those interpretations differ from the authors’ ideas.
	+ Discuss any connections to other topics addressed in your course.
	+ Suggest ways to improve or continue the research.
	+ Discuss any questions that this work raises for you.
* Complete reference of the article being summarized and any other work used to write the summary in MLA format.

For the first draft, focus on content, not length (it will probably be too long). Condense later as needed. The assignment is a minimum of 600 words and shouldn’t be longer than about two-and-a-half pages to text.

Do not ‘cut-and-paste’ from the article. When students do not really understand what they read, their writing is a jumble of statements nearly straight from the article with no interpretation of synthesis. This strategy is common among students who wait until the last minute to do their summaries. Such practices border on, or can actually be, plagiarism if the information is not cited correctly. Remember for your assignments you need less than a 25% similarity according to Turn-it-in.

***Edit for completeness and accuracy*.** Add information for completeness where necessary. More commonly, if you understand the article, you will need to cut redundant or less important information.

Stay focused on the research question, be concise, and avoid generalities.

***Edit for style.*** Write to an intelligent, interested, naïve, a slightly lazy audience (e.g., yourself, your classmates). Expect your readers to be interested, but don’t make them struggle to understand you. Include all the important details; don’t assume that they are already understood.

* **Eliminate wordiness,** including most adverbs (“very”, “clearly”). “The results clearly showed that there was no difference between the groups” can be shortened to “There was no significant difference between the groups”.
* **Use specific, concrete language.** Use precise language and cite specific examples to support assertions. Avoid pronouns and vague references (e.g. “this illustrates” should be “this result illustrates”).
* **Use scientifically accurate language.** For example, you cannot “prove” hypotheses (especially with just one study). You “support” or “fail to find support for” them.
* **Rely primarily on paraphrasing, not direct quotes.** Direct quotes are seldom used in scientific writhing. Instead, paraphrase what you have read. Rely on direct quotes only when dealing with data. Statistics, or very precise technically scientific language. To give due credit for information that you paraphrase, cite the lead author’s last name and the page number of the information according to the MLA style (Smith 19).
* **Re-read** what you have written. Ask others to read it to catch things that you’ve missed.

Adapted from:

Summarizing a Research Article 1997-2006, University of Washington

Summarizing a Scientific Article, Megan Hoffman

**Scientific Journal Article Checklist for the Student**

**The following checklist follows the format of most scientific journal articles. Hopefully, it will help you critically evaluate each section of the article you choose.**

**INTRODUCTION**

1. Did the authors tell why the study was performed?
2. Was enough background provided that you understood the goals of the study?

**LITERATURE CITED**

1. Did the authors document their comments with appropriate citations?
2. Did the authors cite their own or unpublished works excessively?

**ABSTRACT**

1. Is the abstract understandable?
2. Does the abstract include data not presented in the study?
3. Does the abstract include statements that are not documented?

**Research Paper Rubric Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Score\_\_\_\_\_\_\_\_**

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| **Category** | **Exceeds Standard** | **Meets Standard** | **Nearly Meets Standard** | **Does Not meet Standard** | **No Evidence** | **Score** |
| **Title Page** | TitleYour Name, Professor’s Name, Course PeriodDate, Neatly finished, no errors | Evidence of four | Evidence of 3 | Evidence of 2 or less | Absent |  |
| **Thesis Statement** | Clearly and concisely states the paper’s purpose in a single sentence, which is engaging, and though provoking | Clearly states the paper’s purpose in a single sentence | States the paper’s purpose in a single sentence | Incomplete and/or unfocused | Absent, no evidence |  |
| **Introduction** | The introduction is engaging, states the main topic and previews the structure of the paper | The introduction states the main topic and previews the structure of the paper | The introduction states the main topic but does not adequately preview the structure of the paper | There is no clear introduction or main topic and the structure of the paper is missing | Absent, no evidence  |  |
| **Body** | Each paragraph has thoughtful supporting detail sentences that develop the main idea | Each paragraph has sufficient supporting detail sentences that develop the main idea | Each paragraph lacks supporting detail sentences | Each paragraph fails to develop the main idea | Not applicable |  |
| **Organization-Structural Development of the Idea** | Writer demonstrates logical and subtle sequencing of ideas through well-developed paragraphs, transitions are used to enhance organization | Paragraph development present but not perfected | Logical organization, organization of ideas not fully developed | No evidence of structure or organization | Not applicable |  |
| **Conclusion** | The conclusion is engaging and restates the thesis | The conclusion restates the thesis | The conclusion does not adequately restate the thesis | Incomplete and /or unfocused | Absent |  |
| **Mechanics** | No errors in punctuation, capitalization and spelling | Almost no errors in punctuation, capitalization and spelling  | Many errors in sentence structure and word usage  | Numerous and distracting errors in sentence structure and work usage | Not applicable  |  |
| **Usage** | No errors sentence structure and word usage | Almost no errors in sentence structure and word usage  | Many errors in sentence structure and word usage | Numerous and distracting errors in sentence structure and word usage | Not applicable |  |
| **Citation** | All cited works, both text and visual, are done in the correct format with no errors | Some cited works, both text and visual, are done in the correct format. Inconsistencies evident | Few cited works, both text and visual, are done in the correct format | Absent | Not applicable |  |
| **Bibliography** | Done in the correct format with no errors, Includes more than 5 major references (e.g., science journal articles, books, but no more than two internet sites. Periodicals available on-line are not considered internet). | Done in the correct format with few errors. Includes 5 major references (e.g., science journal articles, books, but no more than two internet sites. Periodicals available on-line are not considered internet). | Done in the correct format with some errors. Includes 4 major references (e.g., science journal articles, books but no more than two internet sites. Periodicals available on-line are not considered internet). | Done in the correct format with many errors. Includes 3 major references (e.g., science journal articles, books but no more than two internet sites. Periodicals available on-line are not considered internet). | Absent or the only sites are internet sites |  |

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| Scores for each category to be weighted at the discretion of the individual instructor |

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|  | **The A paper** | **The B paper** | **The C paper** | **The D paper** | **The F paper** |
| **Ideas** | **Excels in responding to assignment. Interesting, demonstrates sophistication of thought. Central idea/thesis is clearly communicated, worth developing; limited enough to be manageable. Paper recognizes some complexity of its theses: may acknowledge its contradictions, qualifications, or limits and follow out their logical implications. Understands and critically evaluates its sources, appropriately limits and defines terms** | **A soled paper, responding appropriately to assignment. Clearly states a thesis/central idea, but may have minor lapses in development. Begins to acknowledge the complexity of central idea and the possibility of other points of view. Shows careful reading of sources but may not evaluate them critically. Attempts to define terms, not always successful** | **Adequate by weaker and less effective, possible responding less well to assignment. Presents central idea in general terms, often depending on platitudes or clichés. Usually does not acknowledge other views. Shows basic comprehension of sources, perhaps with lapses in understanding. If it defines terms, often depends on dictionary definition** | **Does not have a clear central idea or does not respond appropriately to the assignment. Thesis may be too vague or obvious to be developed effectively. Paper may misunderstand sources** | **Does not respond to the assignment, lacks a theses or central idea, and may neglect to use sources where necessary.** |
| **Organization & coherence** | **Uses a logical structure appropriate to paper’s subject, purpose, audience, thesis and disciplinary field. Sophisticated transitional sentences often develop one idea from the previous one or identify their logical relations. T guides the reader through the chain of reasoning or progression of ideas.** | **Shows a logical progression of ideas and used fairly sophisticated transitional devices; e.g., may move from least to more important idea. Some logical links may be faulty, but each paragraph clearly relates to paper’s central idea.** | **May list ideas or arrange them randomly rather than using any evident logical structure. May use transitions, but they are likely to be sequential (first, second, third) rather than logic-based. While each paragraph may relate to central idea, logic is not always clear. Paragraphs have topic sentences but may be overly general, and arrangement of sentences within paragraphs may lack coherence.** | **May have random organization, lacking internal paragraph coherence and using few or inappropriate transitions. Paragraphs may lack topic sentences or main ideas, or may be too general or too specific to be effective. Paragraphs may not all relate to papers theses.** | **No appreciable organization; lacks transitions and coherence.** |
| **Support** | **Uses evidence appropriately and effectively, providing sufficient evidence and explanation to convince.** | **Begins to offer reasons to support its points, perhaps using varied kinds of evidence. Begins to interpret the evidence and explain connections between evidence and main ideas. Its examples bear some relevance.** | **Often uses generalizations to support its points. May use examples, but they may be obvious or not relevant. Often depends on unsupported opinion or personal experience or assumes that evidence speaks for itself and needs no application to the point being discussed. Often has lapses in logic.** | **Depends on clichés or overgeneralizations for support, or offers little evidence of any kind. May be personal narrative rather than essay, or summary rather than analysis.** | **Uses irrelevant details or lacks supporting evidence entirely. May be unduly brief.** |
| **Style** | **Choses words for their precise meaning and uses an appropriate level of specificity. Sentences style fits paper’s audience and purpose. Sentences are varied yet clearly structured and carefully focused, not long and rambling.** | **Generally uses words accurately and effectively, but may sometimes be too general. Sentences generally clear, well structured, and focused, though some may be awkward or ineffective.** | **Uses relatively vague and general words, may use some inappropriate language. Sentence structure generally correct, but sentences may be wordy, unfocused, repetitive, or confusing.** | **May be too vague and abstract, or very personal and specific. Usually contains several awkward or ungrammatical sentences; sentence structure is simple or monotonous.** | **Usually contain many awkward sentences, misuses words, and employs inappropriate language.** |
| **Mechanics** | **Almost entirely free of spelling, punctuation, and grammatical errors.** | **May contain a few errors, which may annoy the reader but not impede understanding.** | **Usually contains several mechanical errors, which may temporally confuse the reader but not impede the overall understanding.**  | **Usually contain either many mechanical errors or a few important errors that block the reader’s understanding and ability to see connections between thoughts.** | **Usually contain so many mechanical errors that it is impossible for the reader to follow the thinking from sentence to sentence.** |

**Modeled after rubric used in the UC Davis English Department Composition Program**

**Instructions for this 120 point written paper.**

1. Your Research Paper will be 3-5 pages, double spaced and a 12 font Calibri (Body) or Times New Roman.
2. Must use 4 resources (your text book can be one of them)
3. Use APA format. Google APA format if you are not familiar with it. There are several resources online that will guide you.
4. Paper is due Sunday April 30, 2017. No papers will be accepted after this date.