

## WRITING CENTER

### Style: Scientific Writing

Scientific writing is research-based writing. In other words, it is the written account of an event or experiment that is observable, repeatable, and alterable. It is commonly used in psychiatric and scientific disciplines. Depending on the discipline, one of four documentation styles may be used: American Psychology Association (APA), Council of Science Editors (CSE), Council of Biology Editors (CBE), and American Institute of Physics (AIP). You should ask your professor if you are unsure which documentation style you should use.

An academic science paper consists of an abstract, a four-part body paper (introduction, methods, results, and discussion/conclusion), and a reference page. Key words, acknowledgements, table of contents, and an appendix are usually used when a paper is intended for publication. You should ask your professor if you are unsure which parts of the paper are required for the assignment.

**ABSTRACT:** an abstract is an overview or summary of the major sections of the paper, written **after** the entire paper is completed. It is one, concise paragraph that mentions only the major points of the paper, and is usually around 250 words.

- The abstract should be a mini-essay, highlighting the main points of the paper.
- Include only information that appears in your paper.
- Communicate a crucial piece of information in every sentence.
- Use active voice as much as possible.
- Omit repetition of results and discussion.

**INTRODUCTION:** contains only relevant background information presented in the present tense. When referring to your work use the past tense; for example, “The objectives for this experiment were....”

- Describe the research question and why it is relevant to the scientific community.
- Do not report the results or discussion in this section.
- State your thesis, hypothesis, and/or objectives towards the end of the introduction.

**METHODS:** contains information necessary to reproduce the experiment and is presented in the past tense.

- Walk the audience through the procedure rhetorically, not with bullet points.
- Mention materials as they were used during the procedure.
- Avoid compacting materials into noun strings and bulleted lists.
- Use full, official names of equipment, chemicals, and compounds when first mentioned.

- Use abbreviated names only after the first, full mention of the official name.
- Avoid mention of the results, conclusions, or speculations for future research.

**RESULTS:** contains only relevant data reported clearly and concisely.

- Use only one to represent a set of data: map, table, figure, graph, etc.
- Rhetorically reference any map, table, figure, graph, etc., according to documentation style.
- Number all figures and tables sequentially.
- Avoid page breaks in the middle of map, table, figure, graph, etc.
- Do not include discussion/extrapolation of the results.

**DISCUSSION/CONCLUSION:** contains only information based on the explanation and interpretation of the data. It is not the same as the introduction.

- Discuss the implications of the results; do not simply repeat the results.
- Only reference maps, tables, figures, graphs, etc. from the Results section if necessary; do not reuse them.
- Include any errors that may have skewed the results.
- Indicate if the experiment needs further research to provide more significant information.
- Indicate if the results point to future research that expands on your thesis.

**REFERENCE PAGE:** should contain original sources written by experts in the field and published in scientific journals, authoritative magazines, and books. It should be documented in the appropriate documentation style designated by your professor or profession.

### **VERB TENSE:**

- Your results are written in the past tense because they have not been accepted as proven fact.
- Results from previously published papers, articles, books are written in the present tense because they are regarded as proven fact.
- Mention of future experiments is written in the future tense.

### **POINT OF VIEW:**

- First person can be used, but sparingly, and only for work you, or your group, completed yourself.
- Most text is written in the third person; however, it is best to avoid the impersonal “one”. “One” sentence constructions can be awkward and stilted, interfering with the smooth flow of the discourse. It is best, when possible to substitute the third person pronoun “it”.

Downey, B. (2015). *Scientific Writing*. PowerPoint, UHCL Writing Center, UHCL, Clear Lake, Texas.

Seahorn, Dr. C. (2015). *Scientific Writing*. Lecture, School of Human Sciences and Humanities, UHCL, Clear Lake, Texas.