SRA Report Guidelines

1. **Clear Title**
   
   All papers should include an original title before the initial submission that clearly describes the specific project.

2. **Abstract**
   
   The abstract functions as a brief summary that will aid readers in understanding the article’s purpose. It should include:

   - The research focus (statement of problem being addressed through the project)
   - The research methods (Examples: experimental laboratory work, case studies, field studies, surveys, questionnaires)
   - A brief description of the results found through the stated research method
   - Main conclusions based on the results

   It should not include:

   - Descriptions/explanations of key concepts which belong in the Introduction
   - Images/tables/figures specific to the project
   - Abbreviations that readers would not have previous knowledge about
   - Lengthy background information of the project which also may belong in the Introduction

   The length should be 200-500 words. Keep in mind that the abstract will be the most portable section of your report, thus one should take special effort to keep it concise and clear. Abstracts are often used as the first way to summarize the content of a paper.

   *The remainder of the document are guidelines to possible sections to include in your research report. While your specific report can include all of these sections, and even add additional sections if deemed necessary, it is not required that these specific types are used. However, it is important that you have well organized sections that somehow fulfill most of the goals describes below, and provide a clear overview of your research endeavor and the contributions you have made in your chosen field of study.*

3. **Motivation/Introduction/Background**
   
   The Introduction is intended to present to the reader information and critical concepts for the report. In general, it should address:

   - Background information about the broader context of the research in the larger world with substantiated references to outside sources that include proper citations
   - Explanation of the problem or challenge being addressed through the research and the motivation for the project itself, as well as explanations of key concepts and abbreviations for which the reader would be unaware
   - Hypothesis about the results of the study

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4. Description/Methodology

This category contains a description of the procedure, techniques, or implementation of ideas followed by the researcher, although the level of detail will vary. It is important to describe this material in sufficient detail to allow the reader a critical examination of the research project.

This section can include, depending on the particular project:

- Description of relevant detector or hardware used in the project
- Performance or field techniques used
- Software algorithms or mathematical ideas and techniques used in the project
- Materials required for the project
- Necessary analysis of data
- Other information deemed relevant by the author

5. Results

This section should contain information about what the results of the research. It should make clear:

- An explanation of the unique contribution arising from the specific research project done by the student researcher and any new information that was discovered as a result of the research performed

Depending on the specific report, it can:

- Address the hypothesis given in the Introduction/Background
- Include additional figures/tables/images with proper labels and numbering

6. Discussion/Reflective Comments

This section should conclude your article in a meaningful way. It should include:

- What was learned through the experience, specifically as it relates to the research question that has been posed?
- What are the implications of the research result?
- How could the project be improved in the future? Specifically, what future research efforts could be undertaken to better address the research problem?
- Reflective component: Did your experience influence your vocational and career plans? If so, how?

7. References/Citations/Bibliography

This section should come at the end of the paper and include any citations to outside sources of information referenced in the report. These citations should be numbered in such a way that corresponds with the numbering within the report. Outside sources must be cited within the paper even when not directly a quote.
8. **General Comments**

- Relevant images with proper labels and numbering
- Data from a specific graphic that is referenced in the text of the paper should be properly attributed
- Tables
- Figures
- Equations

9. **Language Used in Academic Papers/Reports**

The SRA reports are intended to reflect a high level of academic rigor and professionalism. As such, the following are some requirements regarding language used in any section of a report:

- Avoid the use of subjective or emotional language within the report that would influence the reader to view a topic in a certain light. These are words for which it would be difficult to accurately quantify within the context of the research study:
  - Quotes obtained from the gathering of data for the research project can be used that contain this language, but it should be made clear that the words are not those of the author, but instead an outside source. As well, an explanation of the phrase should follow that explains the intent behind it to the reader.
  - Examples of emotional/subjective language: crazy, repulsive, ecstatic, lucky

- Avoid using personal language within the paper and endeavor to be as objective as possible:
  - Examples of personal language to avoid: ‘In my personal opinion’ …, ‘I believe/feel/think’ …, ‘it is my belief that’ …
  - Examples of possible alternative phrases: ‘In light of evidence’ …, ‘from examining the findings’ …, ‘some theorists argue’ …
  - A personal anecdote can be used if it is critical to the context of the report or establishes credibility about the topic

- In general, imprecise language only clouds the clear message of the research and can result in erroneous evaluation of the effort -- sometimes in ways unintended and unforeseen by the author.