WRITING RESEARCH (LAB) REPORTS APA STYLE

The goal of scientific writing is effective communication. An experimental report is precise and to the point: it states the question to which the experiment is addressed, the method employed, the results obtained and the relation of these results to other scientific knowledge. In addition, the usual requirements of English expository prose – such as complete sentences, accurate spelling and current grammar – apply to every research project. The following outline, based on the recommendations of the American Psychological Association*, may be used as a guide to organizing and preparing lab reports.

These are eight parts to most published research reports. They are, in order: (1) a title; (2) the author's name and institutional affiliation; (3) an abstract; (4) an introduction; (5) a method's section; (6) a result's section; (7) a discussion section; and (8) a list of references.

1) TITLE. The title should summarize the main idea of the paper simply. It should be a concise statement of the main topic and should refer to the major variables you have investigated. Do not use abbreviations in the title. The recommended length for the title is 10-12 words, although shorter or longer titles are permissible.

2) AUTHOR'S NAME AND INSTITUTIONAL AFFILIATION. The author's name should appear as it is customarily written; that is, an author should not use initials on one manuscript and full name on a later one. Be consistent. Give your institutional affiliation as of the time the research was conducted.

3) ABSTRACT. An abstract is a brief summary of the contents and purpose of the article. In APA journals the abstract is used in place of a concluding summary. The abstract should not exceed approximately 120 words (short but informative). It should contain statements of (a) the problem, (b) the method, (c) the results, and (d) the findings and conclusions. Results are most important, and every abstract should at least contain the trend of the results. It is also highly desirable to state the kind and number of subjects, and the research design.

4). INTRODUCTION. The main body of the paper opens with the introduction. Because the function of the introduction is obvious, it is not labeled. Its purpose is to inform the reader of the specific problem under study and the research strategy. In writing the introduction, consider: What is the point of the study? What is the rationale or logical link between the problem and the research design? What are the theoretical implications of the study and its relationship to previous work in the area? A good introduction answers questions in a paragraph or two and gives the reader a sense of what you are doing and why. Discuss the pertinent

literature, but do not include an exhaustive historical review. Assume that the reader is a professional person generally familiar with the field and does not require a complete digest with each new paper. Cite only these selected studies that are pertinent to the specific issue; avoid references with ??? or general significance to the problem. In summarizing earlier works, avoid nonessential details; instead, emphasize major conclusions, findings and relevant methodological issues.

5). METHOD. The method section should tell your reader how the study was conducted. The method should be described in enough detail to permit an experienced investigator to replicate the study if he/she so desires. It is conventional to divide the method section into three labeled subsections: (a) Participants, (b) Apparatus (or Materials), and (c) Design and Procedures.

Participants. This subsection contains the number, kind, and relevant characteristics of the subjects employed. Three main questions are addressed: (1) Who (What) participated in the study? (2) How many participants were there? (3) How were the participants selected? Also, give major demographic characteristics, such as age and sex. When animals are used, give the number of animals used and their sex, age, and physiological condition. In addiction, specify all details of their treatment and handling essential to the successful replication of the investigation. (for instance, hours of food deprivation, percent of ad libitum body weight, etc.).

Apparatus. This subsection should include a brief description of the apparatus or materials used and their function in the experiment. Standard laboratory equipment, such as furniture, stopwatches, etc. can usually be mentioned without detail. Specialized equipment obtained from a commercial establishment should be identified with the firm's name and model number. In the case of complex or custom made equipment, a drawing or photograph may be useful.

Design and Procedure. The procedure subsection should be a summary of each step in the execution of the research. It should include a description of any pre-experimental treatment of the subject (e.g. food deprivation), operations performed during the experiment, stimulus materials presented, and techniques of data collection. Remember that the method section should tell your reader what you did and how you did it.

6). RESULTS. In this section, the experimenter presents results in quantitative form and supports them in greater detail in figures (graphs) and/or tables. The results should summarize the collected data and your statistical treatment of them. First, briefly state the main idea of your results or findings. Then, report the data in sufficient detail to justify your

subsequent conclusions. Note all the relevant results, including those that run counter to your hypotheses. It is not appropriate to discuss the implications of the results in this subsection (save the implications for your DISCUSSION section). In addiction to summarizing the main findings in the narrative form, you should present detailed summaries of your results in tables or figures. Do not repeat the same data in several places, and do not include tables with data that can be presented as well in a few sentences in the text. Use as few tables or figures as possible without hindering communication of your findings. Refer to all graphs, pictures or drawings as "figures" and to all tables as "tables." Figures and tables supplement the text; do not expect them to do the entire communication job. Always refer the reader to the figures and tables with sufficient explanation to make them readily intelligible. In reporting tests of significance (t,f, etc), include information concerning the obtained magnitude or value of the test, the degrees of freedom, the probability level and the direction of the effect. Assume that your reader has professional knowledge of statistics. Basic assumptions, such as rejecting the null hypothesis should not be reviewed. Caution: Do not infer trends from data that fail by a small margin to meet the usual levels of significance.

7). DISCUSSION. Here the experimenter relates the findings of the experiment to findings reported by other investigators. Furthermore, the discussion points out the limitations of the conclusions, notes, correspondences or differences between the findings and widely-accepted points of view, and briefly gives the implications of the findings. The experimenter may draw inferences from the results of the experiment and give alternative ingterpretations, but the bases these firmly on his research findings. Open the discussion with a clear statement on the support of nonsupport of your original hypothesis (hypotheses). In general, be guided by the following questions: (1) What have I contributed here? (2) How was my study helped to resolve the original problem? (3) What conclusions and theoretical implications can I draw from my study? These questions are the core of your study, and readers have a right to clear, unambiguous and direct answers.

8). References. Every article concludes with a list of all references cited in the text. These reference citations document statements made about the literature. Choose references judiciously and cite them accurately.

Although rarely submitted to an APA journal, an APPENDIX is appropriate in a laboratory report. Inclusion of an appendix will help your instructor evaluate your paper. Some examples that may be included in the appendix are: (1) Raw scores and computations used in statistical analyses; (2) a new computer program specifically designed for your research and unavailable elsewhere.

*Publication Manual (Washington, D.C.: American Psychological Association, 1994).