WRITING RESEARCH REPORT

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CHAPTER – 13

WRITING RESEARCH REPORT

Topics Covered

13.1 DEFINITION OF RESEARCH REPORT

Research is the systematic investigations into study of a natural phenomena or materials or sources or existing condition of the society in order to identify facts or to get additional information and derive new conclusions. It is a production process, which needs a number of inputs to produce new knowledge and application of new and existing knowledge to generate technology that ultimately may generate economic prosperity of a nation. Simply, a research paper/report is a systematic write up on the findings of the study including methodologies, discussion, conclusions etc. following a definite style. The research report writers in making the report good qualitative should remember the saying 'Try to express, not to impress'. More elaborately and precisely, a report or systematic write up on the findings of a research study including an abstract/executive summary/summary, introduction (Background with literature review, justification, objectives etc.) methodology/materials and methods (including statistical design, if any), results and discussion, conclusions and recommendations, references etc. following a definite style or format may be called a Research Report.

13.2 TYPES OF REPORT

General types of reports are -

1. Informational
   - Inform or instruct – present information.
   - Reader sees the details of events, activities or conditions.
   - No analysis of the situation, no conclusion, no recommendations.
2. Analytical
   - Written to solve problems.
   - Information is analyzed.
   - Conclusions are drawn and recommendations are made.
3. Persuasive
   - An extension of analytical reports - main focus is to sell an idea, a service, or product.
   - Proposals are the most common type.

Reports usually have a more diverse audience, more than one purpose and more detailed information. Some other types of reports are –

- *Incident Report:* A report describing how close you are to completing something you planned.
- *Accident Report:* A report describing how many goods or services were sold, and the reasons for any differences from the plan.
- *Sales Report:* A report on what has happened in a place, and how close your organization is to finishing construction.
- *Progress Report:* An academic report on how and why something has changed over time.
- *Feasibility Study/Report:* A report describing something that has happened.
- *Recommendation Report:* A report on how practical a proposal is.
- *Site:* A report on what your organization should do.
- *Case Study:* A report describing how someone was hurt or something was damaged.
- *Periodic Operating Reports:* To monitor and control production, sales, shipping, service, etc.
- *Situational Report:* To describe one-time events, such as trips, conferences, and seminars.
- *Investigative/Informational:* To examine problems and supply facts – with little analysis.

- *Compliance:* To respond to government agencies and laws.
- *Justification/Recommendation:* To make recommendations to management and become tools to solve problems and make decisions.
- *Yardstick:* To establish criteria and evaluate alternatives by measuring against the 'yardstick' criteria.
- *Research Studies:* To study problems scientifically by analyzing a problem, developing hypotheses, collecting data, analyzing data, and drawing conclusions.

13.3 COMPONENTS OF A RESEARCH REPORT

Scientific research articles provide a method for scientists to communicate with other scientists about the results of their research. A standard format is used for these articles, in which the author presents the research in an orderly, logical manner. This doesn't necessarily reflect the order in which you did or thought about the work. The following is a general outline for a research report.

Beginning Material:	i.e. title page, abstract, key word list, table of contents, list of figures and tables, acknowledgements
Chapter 1:	Introduction – statement of the problem, hypotheses, why it is important, objectives of the work, scope of the work
Chapter 2:	Background and Literature Review – discuss related work and indicate how it relates to report
Chapter 3:	Procedure – describe the procedure used in project, data used, and how it was obtained
Chapter 4:	Results – indicate what happened and interpret what it means
Chapter 5:	Conclusions and Recommendations – summarize conclusions and what they mean (i.e., answer the question, "So what?"). What changes and further work do you recommend?

TITLE

- The title is centered at the top of the page and only important words are capitalized. It includes a very brief statement of the main variables (independent and dependent) in the study.
- Make the title specific enough to describe the contents of the paper, but not so technical that only specialists will understand. The title should be appropriate for the intended audience.
- The title usually describes the subject matter of the article. For example: Effect of Smoking on Academic Performance.
- Sometimes a title that summarizes the results is more effective. Example: Students Who Smoke Get Lower Grades.
- Titles with colons are currently in vogue but usually they are not as cute as you think they are when you first think of them.
- Notice that the title allows the reader the most succinct summary of the main 'players' in the experiment and the character of their relationship to each other.

AUTHORS

- The author's name is centered below the title along with the name of the university or research institution.
- The person who did the work and wrote the paper is generally listed as the first author of a research paper.
- For published articles, other people who made substantial contributions to the work are also listed as authors. Ask your mentor's permission before including his/her name as co-author.

ABSTRACT

- An abstract or summary is published together with a research article, giving the reader a 'preview' of what's to come. This is used by potential readers to determine whether or not the paper is interesting enough to read, so it should be clear, concise and complete.
- Abstract should be one paragraph of 100-250 words, which summarizes the purpose, methods, results and conclusions of the paper.
- It includes a statement of the manipulations of the independent variables and a précis of the results of the research. Do not include review of the literature or theoretical background, but leave these for the 'Introduction and Discussion'.
- It is easiest to write the abstract after the paper itself is written. A rough rule of thumb is to write an introductory sentence, then one sentence per chapter of your report and a few sentences summarizing your most important conclusions/recommendations.
- Don't use abbreviations or citations in the abstract. It should be able to stand alone without any footnotes.

Here is a summary of the content of the ABSTRACT and its order of presentation-

a. Identification the subject population,
b. Specification of the research design,
c. Apparatus and data gathering procedures,
d. Summary of the results including statistical significance levels,
e. Report on the inferences made or comparisons drawn from the results.

INTRODUCTION

- Centre the word 'INTRODUCTION' on the page. It begins on a new page which is numbered. Put down the title once again as on the face page, but do not repeat researcher's name.
- A reader of the introduction should be able to answer the following questions, although not in any depth.

a) What is the research about?
b) Why is it relevant or important?
c) What are the issues or problems?
d) What is the proposed solution or approach?
e)What can one expect in the rest of the research?

- Tell the reader what the problem is, what question you will try to answer, and why it is important. It might be important for practical reasons or for theoretical (or methodological) reasons having to do with the development of a scholarly discipline. Don't neglect either type of reason.

If the problem is a very basic one, you may state the problem first and then review what has already been found out about it. If the problem is one that grows out of past literature, review the history of how it arose. But do not forget to mention the basic issues behind the research tradition in question, the practical or theoretical concerns that inspired it. (Sometimes there don't seem to be any. In this case, you have probably chosen the wrong topic.)

- The introduction should lead up to, and conclude with, a statement of how you intend to approach your question and why your approach is an improvement on past efforts (or why it is worth undertaking even if it isn't). This is essentially what is new about your approach, your particular contribution.
- You can think of the introduction as (i) a description of the psychological issues that you are going to investigate; (ii) a discussion of the research question(s) or hypothesis that you are examining; and (iii) a reference to other studies (in the same area) which have results which bear on your research project - whether they are in the same direction as your hypothesis or in the opposite direction. The final paragraph(s) should include a more specific definition of your variables (independent and dependent) and a clear statement of the predictions based on the background information that you have presented.
- The related work section (sometimes called *literature review*) is just that, a review of work related to the problem you are attempting to solve. It should identify and evaluate past approaches to the problem. It should also identify similar solutions to yours that have been applied to other problems not necessarily directly related to the one you're solving. Reviewing the successes or limitations of your proposed solution in other contexts provides important understanding that should result in avoiding past mistakes, taking advantage of previous successes, and most importantly, potentially improving your solution or the technique in general when applied in your context and others.

  In addition to the obvious purpose indicated, the related work section also can serve to –
  - justify that the problem exists by example and argument,
  - motivate interest in your work by demonstrating relevance and importance,
  - identify the important issues, and
  - provide background to your solution.

Any remaining doubts over the existence, justification, motivation, or relevance of your research topic or problem at the end of the introduction should be gone by the end of related work section.

Note that a literature review is just that, a review. It is not a list of papers and a description of their contents. A literature review should critique, categorize, evaluate, and summarize work related to your research. Related work is also not a brain dump of everything you know in the field. You are not writing a textbook; only include information directly related to your topic, problem, or solution. You should review only those points that are relevant to the arguments you will make. Do not say that 'X found Y' or 'demonstrated' if X's conclusions don't follow from X's results. You can use words like 'X claimed to show that Y' or 'suggested that' when you are not sure. If you see a flaw, you can add, 'However ...'. Try to avoid expressions like 'Unfortunately, Smith and Jones neglected to examine [precisely what you are examining]'. It might have been unfortunate for them or for the field, but it is fortunate for you, and everyone knows it.

- Avoid editorialization, personal opinion and judgmental statements. Stay close to the data, theory, design and hypotheses. Your hypotheses should never appear to come out of nowhere or to be derived from personal opinion and preference.
- *Hypotheses* are usually stated formally in the closing paragraph of the introduction. If you have more than one hypothesis, state them in a logical order using numbers. Although your experiment may contain more than one independent variable and dependent variable, each hypothesis can contain only one of each type of variable. You state them in conceptual terms rather than in terms of the specific procedures (operational definitions) used in your experiment.

To help formulate your hypotheses, ask yourself the following questions -

- What variables am I as the experimenter manipulating? (Independent variable)
- What results do I expect? (Dependent variable)
- Why do I expect these results? The rationale for these expectations should be made explicit in the light of your review of the research and statement of theory.

- Concepts and terms are to be defined clearly as soon as they are introduced and then used consistently thereafter. Make sure you do not include the term you are defining in the body of the definition (tautology).

METHOD

- This section can be thought of as the 'cookbook' section of the paper, by reading this section, could duplicate (or in research terms, replicate) your study. Therefore, it should be complete, detailed and clear enough to allow another investigator to understand how you ran your experiment.
- Centre the word 'METHOD' on the page. This section is written in past tense.
- The methods section is generally easy to write - you simply describe what you did, how you did it, and when you did it.

For example: Describe your participants how many? of what sex? mean (average) age? where did they come from? Response rate should be reported here. Reproduce the exact questions that you asked and don't forget to tell the reader the scale you used for participants' answers. For any scale that you construct, include the mean, standard deviation and Cronbach's alpha. If you 'threw out' that participant's data (e.g., you didn't include it in your study, then you mention this fact 'one participant was discarded from the sample because...') in the Participant section.

The method is divided into several subsection headings which you should use in the organization of your paper.

Subjects

(a) *Who are the subjects?* The 'Subjects' subsection specifies who participated in the study. The subjects are described according to age, gender and other relevant social or demographic considerations.

(b) *How many subjects are there?* State the total number of participants and the number assigned to each experimental condition. If any subjects did not complete the study, give the number and reason.

(c) *How the subjects are selected?* Report how the subjects were selected for the experiment and how the chosen subjects were assigned to groups. For example, was some sort of randomization technique used or was some other method necessary? Report such things as payments or promises made to subjects.

Apparatus

This subsection (if one is required) gives a brief description of the equipment or materials used in the study. Standard hardware such as stop watches need not be described in detail. Remember the description must be detailed enough so that the reader can replicate the study.

Procedure

Being a kind of recipe of each step in the execution of the experiment, these instructions to the subjects must be recorded verbatim. The formation of groups and the specific experimental manipulations performed on each group are included. Procedures such as randomization, counterbalancing and other control procedures are also detailed. To assist yourself in the clear execution of this section, keep in mind that one of the purposes of it is to allow another experimenter to replicate exactly what you have done. Do not put results in this section. You may, however, include preliminary results that were used to design the main experiment that you are

reporting on. Mention relevant ethical considerations. If you used human subjects, did they consent to participate? If you used animals, what measures did you take to minimize pain?

RESULTS

- Centre the word 'RESULTS' on the page. Do not begin on a new page unless space considerations require it. This is (obviously) where you present the results of your experiment to the reader. The results section is also written in the past tense.
- The result section summarizes the data and the statistical treatment of them. If the data are relatively simple, they may be reported entirely in text without the use of TABLES or FIGURES.
- Summarize the main idea of your findings and report them whether or not your hypothesis(es) have been confirmed. Present the results in the same order as you have made your predictions (hypotheses) in the introduction and do so in simple sentences.
- Do not discuss the implications, interpretations, or theoretical significance of your results in the RESULTS section.
- Most professors (except nitpickers) prefer the tables and figures close to where they are needed.

Tables

- Tables placed in the results section of the paper are reserved for the most important data directly related to the experiment. Tables are economical in that they compress data and allow the reader to see relationships not otherwise discernible at a glance.
- A good table should not duplicate the text of the RESULTS but the text should highlight the data by referring to the table.
- The table should be self explanatory as well as related to the text.
- Always number the tables and refer to those numbers in the text - If tables are included in an APPENDIX, these are identified with capital letters (e.g., Table A).
- Tables always appear in the order in which they are mentioned in the text.
- Every table is given a brief explanatory title written in telegraphic style. It is placed below the table number and above the table.
- Enough space is used to render the table easily readable. Notes of sub-headings are employed to explain abbreviations, parentheses or units of measurement.

Figures

- What has been said of Tables applies generally to the figures of the results section as well.
- Figures are graphs, charts, and illustrations.
- The caption is placed *below* the figure instead of above. The word 'Figure 1' appears first followed by the caption. Only the first word of the caption is capitalized.
- If there is enough space, you may place it on the same page as text, but a separate page should otherwise be used, especially for publishing purposes.
- Remember to place the dependent variable on the vertical axis and to follow the rules for correct calibration of the data.
- Both axes should be clearly labeled, and the graph lines too when appropriate.

DISCUSSION

- The word 'DISCUSSION' is centered. Do not use a new page unless it is necessary.
- It is a good idea to begin the discussion with a summary of the results, for the benefit of the reader who wants to skip the results section (and to remind the reader who didn't skip it but got interrupted by a phone call and forgot it).
- The discussion section states the major results (what you have discovered), and tells the reader what you think they mean. There is no need in this section to restate the data - that is all in the results section.
- Your discussion section should refer back to those studies you mentioned in your introduction. Discuss how your results are similar to the findings (results) of these studies, or, if they are different, (don't panic), how they differ (and your ideas as to why they differ). Attempt to resolve and deal with these differences by suggesting reasons for why they might have occurred.
- Another good tactic is to suggest ideas for future research experiments in this area, ones that follow the study you have done, improve upon it, etc. For example, you could suggest how to further explore a finding you discovered, suggest how to discover why you got different results form other researchers, etc.
- If your discussion section is fairly long, it's nice to put a short summary paragraph (of the conclusion, interpretations, etc.) at the very end to help the reader remember your general conclusions.
- This is also a good preparation for writing the abstract. Remember, the discussion section will make or break your paper - put a lot of thought into it and try to draw sophisticated (and accurate) conclusions from your data.
- The discussion section will show your grasp of the inductive and deductive thinking routines involved in experimental work.

Here is the summary of what is expected in the DISCUSSION section.

a. Discuss the results in the context of the research and theory you already brought forward in the introduction. This will unify your work. Avoid personal opinion and irrelevant or undisciplined speculation.
b. Show awareness of the shortcomings and uncontrolled variables in your work and qualify your results accordingly, showing your ability to identify any other explanations for your data that may suggest themselves.
c. Specify what variables you would control or change in future research to correct for the problems in your present study.
d. Taking your results at face value, suggest other research avenues for the future. An experiment may answer questions, but it generally raises other questions that may not have been considered before.
e. Briefly draw out any practical implications of the study, if any.

REFERENCES

This is the last section and it should conform to APA style.

- Centre the word 'REFERENCES' at the top of the page, but do NOT underline it or place it in quotation marks.
- A reference list cites works that are publicly available.
- This section is always placed on a separate page, and the page number is omitted.
- Works cited in the text of your experiment must appear in the reference list and conversely each entry in the reference list must be cited in your text.
- Since reference lists are intended for the use of the reader, they must be accurate and complete.
- A reference consists of the following broad subsections - AUTHOR, DATE OF PUBLICATION, TITLE and PUBLICATION DATA.

Footnotes

Footnotes are rarely used in psychology. They may be used to acknowledge a research grant or assistance of others in preparation of a study. Avoid footnotes. Sometimes you want to say something that isn't quite necessary. This is the time to use a footnote. If you can get away without using them, it saves the reader's eyes. But sometimes it's hard to resist making rather extensive, but rather tangential remarks. These go in footnotes, not the text. The really eager reader will read them. Others will not.

13.4 COMMON SECTIONS OF A RESEARCH REPORT

Title: Be specific. Tell what, when, where, etc. In one main title and a subtitle, give a clear idea of what the paper investigated.

Acknowledgment: Include only if special help was received from an individual or group.

Abstract: Summarizes the report including the hypotheses, procedures, and major findings.

Introduction: Sections may be combined in short reports.

Definition of Terms: Define or clarify any term or concept that is used in the study in a non-traditional manner or in only one of many interpretations.

Review of Related Literature: Gives the reader the necessary background to understand the study by citing the investigations and findings of previous researchers and documents the researcher's knowledge and preparation to investigate the problem.

Statement of the Problem: This is a general introduction to the topic.

Significance of the Problem: Comment on why this question merits investigation.

Purpose: What is the goal to be gained from a better understanding of this question?

Statement of the Hypothesis: In one statement (not a question) declare the question which is investigated and the expected results. (For a null hypothesis, no difference is predicted.)

Assumptions: Explain everything that is assumed in order for the investigation to be undertaken.

Limitations: Explain the limitations that may invalidate the study or make it less than accurate.

Design of the Study: Gives the reader the information necessary to exactly replicate (repeat) the study with new data or if the same raw data were available, the reader should be able to duplicate the results. This is written in past tense but without reference to or inclusion of the results determined from the analysis.

Description of the Research Design and Procedures Used: Completely explain step-by-step what was done.

Sources of Data: Give complete information about who, what, when, where, and how the data was collected.

Sampling Procedures: Explain how the data was limited to the amount which was gathered. If all of the available data were not utilized, how was a representative sample achieved?

Methods and Instruments of Data Gathering: Explain the procedures for obtaining the data collected. Include the forms or manner by which it was recorded.

Statistical Treatment: Explain the complete mathematical procedures used in analyzing the data and determining the significance of the results.

Analysis of Data: Describe the patterns observed in the data. Use tables and figures to help clarify the material when possible.

Summary and Conclusions: This section condenses the previous sections, succinctly presents the results concerning the hypotheses, and suggests what else can be done.

Restatement of the Problem: This is a short reiteration of the problem.
Description of the Procedures: This is a brief reiteration of important elements of the design of the study.
Major Findings: The final results from the analysis are presented, the hypothesis stated, and the decision about the rejection or the failure to reject the hypothesis is given.
Conclusions: Comments about the implication of the findings are presented.
Recommendations for Further Investigation: From the knowledge and experienced gained in undertaking this particular study, how might the study have been improved or what other possible hypotheses might be investigated?

End Notes: These are like footnotes but are located at the back rather than the bottom of each page. These would include all of the references for all works cited in the Review of Related Literature or any other sections of the report as well as the references for quotations, either direct or indirect, taken from other sources, or any footnote comments that might have been included. These are listed in numeric order as presented in the text.

Bibliography or Literature Cited: These are the bibliographic reference for each of the works cited in the End Notes.

Appendix: Any tables, figures, forms, or other materials that are not totally central to the analysis but that need to be included are placed in the Appendix.

13.5 APA STYLE ESSENTIALS

The *Publication Manual of the American Psychological Association* (6th ed., 2014) and the APA Style web site (http://www.apastyle.org/) provide a comprehensive reference guide to writing using APA style, organization, and content. The purpose of this document is to provide a common core of elements of APA style that all members of an academic department can adopt as minimal standards for any assignment that specifies APA style.

I. General Document Guidelines

A. *Margins:* One inch on all sides (top, bottom, left, right).
B. *Font Size and Type:* 12-pt. Times New Roman font.
C. *Line Spacing:* Double-space throughout the paper, including the title page, abstract, body of the document, references, appendixes, footnotes, tables, and figures.
D. *Spacing after Punctuation:* Space *once* after commas, colons, and semicolons within sentences. Insert two spaces after punctuation marks that end sentences.
E. *Alignment:* Flush left (creating uneven right margin).
F. *Paragraph Indentation:* 5-7 spaces.
G. *Pagination:* The page number appears one inch from the right edge of the paper on the first line of every page.
H. *Running Head:* The running head is a short title that appears at the top of the pages of a paper or published article. The running head is typed flush left at the top of all pages. The running head should not exceed 50 characters, including punctuation and spacing. Using most word processors, the running head and page number can be inserted into a header, which then automatically appears on all pages.
I. *Active voice:* As a general rule, use the active voice rather than the passive voice. For example, use 'We predicted that …' rather than 'It was predicted that …'

Order of Pages: Title Page, Abstract, Body, References, Footnotes, Tables, Figures, Appendixes.

II. Title Page

A. *Pagination:* The Title Page is page 1.
B. Running Head: The running head is typed flush left (all uppercase) following 'Running head'.
C. *Key Elements:* Paper title, author(s), institutional affiliation(s), author note.
D. *Paper Title:* Uppercase and lowercase letters, centered on the page.
E. *Author(s):* Uppercase and lowercase letters, centered on the line following the title.
F. *Institutional affiliation:* Uppercase and lowercase letters, centered on the line following the author(s).
G. *Author Note:* Provide information about the author's departmental affiliation, acknowledgments of assistance or financial support, and a mailing address for correspondence.

III. Abstract

The abstract is a one-paragraph, self-contained summary of the most important elements of the paper.

A. *Pagination:* The abstract begins on a new page (page 2).
B. *Heading:* 'Abstract' (centered on the first line below the running head).
C. *Format:* The abstract (in block format) begins on the line following the Abstract heading. The abstract word limit is set by individual journals. Typically, the word limit is between 150 and 250 words. All numbers in the abstract (except those beginning a sentence) should be typed as digits rather than words.

IV. Body

A. *Pagination:* The body of the paper begins on a new page (page 3). Subsections of the body of the paper do *not* begin on new pages.
B. *Title:* The title of the paper (in uppercase and lowercase letters) is centered on the first line below the running head.
C. *Introduction:* The introduction (which is not labeled) begins on the line following the paper title.
D. *Headings:* Five levels of headings are available to be used to organize the paper and reflect the relative importance of sections. For example, many empirical research articles utilize two levels of headings: Main headings (such as Method, Results, Discussion, References) would use Level 1 (centered, boldface, uppercase and lowercase letters), and subheadings (such as Participants, Apparatus, and Procedure as subsections of the Method section) would use Level 2 (flush left, boldface, uppercase and lowercase letters).

V. Text citations

Source material must be documented in the body of the paper by citing the author(s) and date(s) of the sources. The underlying principle is that ideas and words of others must be formally acknowledged. The reader can obtain the full source citation from the list of references that follows the body of the paper.

A. When the names of the authors of a source are part of the formal structure of the sentence, the year of publication appears in parentheses following the identification of the authors. Consider the following example - Wirth and Mitchell (1994) found that although there was a reduction in insulin dosage over a period of two weeks in the treatment condition compared to the control condition, the difference was not statistically significant. [Note: *and* is used when multiple authors are identified as part of the formal structure of the sentence.]
B. When the authors of a source are *not* part of the formal structure of the sentence, both the authors and year of publication appear in parentheses. Consider the following example-
   Reviews of research on religion and health have concluded that at least some types of religious behaviors are related to higher levels of physical and mental health (Gartner, Larson, & Allen,

1991; Koenig, 1990; Levin & Vanderpool, 1991; Maton & Pargament, 1987; Paloma & Pendleton, 1991; Payne, Bergin, Bielema, & Jenkins, 1991). [Note: *&* is used when multiple authors are identified in parenthetical material. Note also that when several sources are cited parenthetically, they are ordered alphabetically by first authors' surnames and separated by semicolons.]

C. When a source that has two authors is cited, both authors are included every time the source is cited.
D. When a source that has three, four, or five authors is cited, all authors are included the first time the source is cited. When that source is cited again, the first author's surname and 'et al.' are used. Consider the following example: Reviews of research on religion and health have concluded that at least some types of religious behaviors are related to higher levels of physical and mental health (Payne, Bergin, Bielema, & Jenkins, 1991). Payne et al. (1991) showed that …
E. When a source that has six or more authors is cited, the first author's surname and 'et al.' are used every time the source is cited (including the first time).
F. Every effort should be made to cite only sources that you have actually read. When it is necessary to cite a source that you have not read ('Grayson' in the following example) that is cited in a source that you have read ('Murzynski & Degelman' in the following example), use the following format for the text citation and list only the source you have read in the References list - Grayson (as cited in Murzynski & Degelman, 1996) identified four components of body language that were related to judgments of vulnerability.
G. To cite a personal communication (including letters, emails, and telephone interviews), include initials, surname, and as exact a date as possible. Because a personal communication is not 'recoverable' information, it is not included in the 'References' section. For the text citation, use the following format: B. F. Skinner (personal communication, February 12, 1978) claimed …
H. To cite a Web document, use the author-date format. If no author is identified, use the first few words of the title in place of the author. If no date is provided, use 'n.d.' in place of the date. Consider the following examples - Degelman (2009) summarizes guidelines for the use of APA writing style. Changes in Americans' views of gender status differences have been documented (*Gender and Society*, n.d.).
I. To cite the Bible, provide the book, chapter, and verse. The first time the Bible is cited in the text, identify the version used. Consider the following example - "You are forgiving and good, O Lord, abounding in love to all who call to you" (Psalm 86:5, New International Version). [Note: No entry in the References list is needed for the Bible.]

VI. Quotations

When a direct quotation is used, always include the author, year, and page number as part of the citation.

A. A quotation of fewer than 40 words should be enclosed in double quotation marks and should be incorporated into the formal structure of the sentence. Consider the following example - Patients receiving prayer had "less congestive heart failure, required less diuretic and antibiotic therapy, had fewer episodes of pneumonia, had fewer cardiac arrests, and were less frequently incubated and ventilated" (Byrd, 1988, p. 829).
B. A lengthier quotation of 40 or more words should appear (without quotation marks) apart from the surrounding text, in block format, with each line indented five spaces from the left margin.

VII. References

All sources included in the References section must be cited in the body of the paper (and all sources cited in the paper must be included in the References section).

A. *Pagination:* The References section begins on a new page.
B. *Heading:* 'References' (centered on the first line below the running head).
C. *Format:* The references (with hanging indent) begin on the line following the 'References' heading. Entries are organized alphabetically by surnames of first authors. Most reference entries have the following components -

i. Authors: Authors are listed in the same order as specified in the source, using surnames and initials. Commas separate all authors. When there are eight or more authors, list the first six authors followed by three ellipses (…) and then the final author. If no author is identified, the title of the document begins the reference.
ii. Year of Publication: In parentheses following authors, with a period following the closing parenthesis. If no publication date is identified, use 'n.d.' in parentheses following the authors.
iii. Source Reference: Includes title, journal, volume, pages (for journal article) or title, city of publication, publisher (for book). Italicize titles of books, titles of periodicals, and periodical volume numbers.
iv. Electronic Retrieval Information: Electronic retrieval information may include digital object identifiers (DOIs) or uniform resource locators (URLs). DOIs are unique alphanumeric identifiers that lead users to digital source material.

Examples of sources

1. **Journal article with DOI** Murzynski, J., & Degelman, D. (1996). Body language of women and judgments of vulnerability to sexual assault. *Journal of Applied Social Psychology, 26,* 1617-1626.
2. **Journal article without DOI, print version** Koenig, H. G. (1990). Research on religion and mental health in later life: A review and commentary. *Journal of Geriatric Psychiatry, 23,* 23-53.
3. **Journal article without DOI, retrieved online** [Note: For articles retrieved from databases, include the URL of the journal home page. Database information is not needed. Do not include the date of retrieval.] Aldridge, D. (1991). Spirituality, healing and medicine. *British Journal of General Practice, 41,* 425-427. Retrieved from http://www.rcgp.org.uk/publications/bjgp.aspx
4. **Book** Paloutzian, R. F. (1996). *Invitation to the psychology of religion* (2nd ed.). Boston, MA: Allyn and Bacon.
5. **Informally published Web document** Degelman, D. (2009). *APA style essentials.*
6. **Informally published Web document (no date)** Nielsen, M. E. (n.d.). *Notable people in psychology of religion.*Retrieved from http://www.psywww.com/psyrelig/psyrelpr.htm
7. **Informally published Web document (no author, no date)** *Gender and society*. (n.d.). Retrieved from http://www.trinity.edu/~mkearl/gender.html
8. **Abstract from secondary database** Garrity, K., & Degelman, D. (1990). Effect of server introduction on restaurant tipping. *Journal of Applied Social Psychology, 20,* 168-172. Abstract retrieved from Psyc INFO database.
9. **Article or chapter in an edited book** Shea, J. D. (1992). Religion and sexual adjustment. In J. F. Schumaker (Ed.), *Religion and mental health* (pp. 70-84). New York, NY: Oxford University Press.
10. **Diagnostic and Statistical Manual of Mental Disorders** American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

VIII. Footnotes

Content footnotes are occasionally used to support substantive information in the text. A content footnote may be placed at the bottom of the page on which it is discussed or on a separate page following the References.

A. *Pagination:* Footnotes begin on a separate page.
B. *Heading:* 'Footnotes' is centered on the first line below the running head.
C. *Format:* Indent the first line of each footnote 5-7 spaces and number the footnotes (slightly above the line) as they are identified in the text.

IX. Tables

A common use of tables is to present quantitative data or the results of statistical analyses (such as ANOVA). Tables must be mentioned in the text.

A. *Pagination:* Each Table begins on a separate page.
B. *Heading:* 'Table 1' (or 2 or 3, etc.) is typed flush left on the first line below the running head. Double-space and type the table title flush left (italicized in uppercase and lowercase letters).

X. Figures

A common use of Figures is to present graphs, photographs, or other illustrations (other than tables).

A. *Pagination*: Figures begin on a separate page.
B. *Figure Caption*: '*Figure 1.*' (or 2 or 3, etc.) is typed flush left and italicized on the first line below the figure, immediately followed on the same line by the caption (which should be a brief descriptive phrase).

XI. Appendixes

A common use of appendixes is to present unpublished tests or to describe complex equipment or stimulus materials.

A. *Pagination:* Each Appendix begins on a separate page.
B. *Heading:* If there is only one appendix, 'Appendix' is centered on the first line below the manuscript page header. If there is more than one appendix, use Appendix A (or B or C, etc.). Double-space and type the appendix title (centered in uppercase and lowercase letters).
C. *Format:* Indent the first line 5-7 spaces.

13.6 CITING AND REFERENCING SOURCES

Authors support their arguments by citing previously published material. Readers may want to refer to those publications, to get information for their own purposes or to check the author's use of the cited material. To serve the reader, citations and references must be clear and accurate. They are easier to use if they are consistent in style as well. Most publications and most editors have definite preferences in the way they cite references in the text and list references at the end of articles.

Citations

Three main systems of citation are used in scientific publication today. Within these systems there may be many variations. The main systems are-

- name and year (also called author-date)
- number
- number, with references in alphabetical order.

Name and Year: In the first system, the name(s) of the author(s) and the year of publication are fitted into the text. Both may be in parentheses, or only the date may be in parentheses, depending on the sentence structure. Examples -

A recent study suggests that the refereeing system works effectively (Lock and Smith 1986). Lock and Smith (1986) support the view that the refereeing system works effectively. Papers published in the BMJ had significantly more citations in the years up to 1984 than either of the groups of rejected papers (Lock and Smith 1986, p. 312).

If there is more than one reference with the same author(s) and year of publication, a lowercase letter is added to the date. (Lock and Smith 1986a), (Lock and Smith 1986b). etc. At the end of the paper, all references that have been cited are given in full. They are listed in alphabetical order according to the last name of the author. If there is more than one author, alphabetical order is decided by the name of the first author in the reference. If there are two or more items by the same author(s), they are arranged chronologically.

Number: In the second system, references are numbered in the order they are mentioned in the text. In some journals, the names(s) of the author(s) may be given as well. Examples-

Scientific papers are not designed to be read; they are designed to transmit information. Any real deviation from the standard mold will be likely to inhibit easy grasp of the information by the reader (2). The work referred to keeps that number every time it is cited throughout the text, even if it is cited several times at widely separated points. At the end of the paper, all references that have been cited are listed in numerical order.

Number with Alphabetical References: The third system combines the advantages of both previous systems. All references are first placed in alphabetical order according to author. They are numbered in that order. These numbers are used for citations in the text.

References

Each reference must be described in detail at the end of the article. The list is usually headed 'Literature Cited', or 'References Cited', or simply 'References'. Delete any references that are not cited.

Articles: Reference to an article should contain -

- names and initials of all authors (although, if there are many authors, some journals will list only the senior author et al)
- title and subtitle

- name of the journal (usually abbreviated)
- volume number
- first and last page number
- year of publication
- months or number of issue, if pages are not numbered consecutively through a volume.

Example: Lock, S., and J. Smith. 1986. Peer review at work. *Scholarly Publishing 17:* 303- 16.

Books: A reference to a book should contain -

- names and initials of all authors
- title and subtitle
- number of edition, if there is more than one
- name and initials of editor or translator, if any
- place of publication
- name of publisher
- year of publication
- volume number, if more than one
- page numbers, if any need to be cited specifically.

Example: Stainton, E.M. 1982. *Author and editor at work*. Toronto: University of Toronto Press.p.l7

Proceedings: For the proceedings of symposia, conferences, and workshops, references should include-

- names and initials of authors
- title of paper
- names and initials of the volume editors
- title of symposium or conference
- date and place of meeting
- place of publication
- name of publisher
- year of publication
- numbers of specific pages.

Day, R. A. Writing in the basic sciences. In Scott, J.T.; Heumann, K.F.; Langlois, E.G., eds. Scholarly communication around the world: proceedings of a joint global conference sponsored by the Council of Biology Editors, International Federation of Scientific Editors' Associations, Society for Scholarly Publishing: 15-20 May 1983: Philadelphia. Washington, DC: Society for Scholarly Publishing: 1983: 33-4.

- Some publications print the titles of books and journals in italic. In some, the date is put immediately after the author(s), as in the first two examples above.
- Many publications list the names of all authors if there are no more than two or three. If there are more than those, they list only the senior author et al.
- Some journals, particularly in the health sciences, have reduced punctuation to a minimum. They have dropped the periods after initials in authors' names, and have even removed the space between initials (thus Smith, J.L. becomes Smith JL).
- Some publications give the first and last page numbers of articles. This helps the reader order copies through a library service. It also tells the reader how long the article is.

13.7 FOOTNOTES

Footnotes (notes at the bottom of the page) should be avoided in general. They break the reader's flow of thought, and they add to the cost of printing. Some journals give references in footnotes. This practice has almost disappeared in the sciences, however, and seems to be growing less in other disciplines. When notes are used to cite references, it is usually more economical to group them at the end of an article or a book than to insert them separately, one or two at a time, at the bottom of each page. Footnotes are more often used to provide information the author feels is important but would interrupt the flow of discussion. An editor can often find ways to insert such notes into the body of the text, often by putting them in parentheses. If a statement is worth making, it is usually worth making in the text. Footnotes are indicated in the text by a superior number (^{1,2}), a superior letter (^{a,b}), or a symbol (*,†). Footnotes should be typed on separate sheets of paper, not at the bottom of manuscript pages. They will likely be typeset separately from the main text, and if they are grouped together in this way they can be set more economically. They should be double-spaced so they will be easier to edit and set. Footnotes may be used for some essential information like the address(es) of the author(s).

13.8 SUGGESTIONS FOR WRITING REPORT

Important Reminder

- It is important that both proposal and final report satisfy English criteria: must use technically correct English, and must have appropriate citations to the reference materials were used.
- The sooner starts final research/project write-up, the easier it is to write. A common problem is leaving the write-up until the very end, at which point will very likely have forgotten many of the details of work and will end up effectively doing project twice.

General advice

- Academic writing may seem pompous and convoluted. A lot of it is, but the best is not. Do not use words just because they sound academic (especially when you aren't sure what they really mean).
- The major rule of syntax is this: write so that a reader could parse sentences - that is, figure out what modifies what, what is the object of what, and so on - without understanding what they mean.
- The syntax should help the reader figure out the meaning; the reader should not need the meaning to decipher the syntax.
- When read, pay attention to the different ways that people indicate the relationship of their work to the truth. Words such as indicate, demonstrate, prove (not used outside of mathematics), test (a hypothesis), hypothesize, suggest, assert, question, claim, conclude, argue, discover, define, and assume do have very specific meanings in academic discourse.

Good Scientific Writing

1. *Vacant Lead Sentences.* The first sentences of each section and the first sentences of each paragraph as well, are the most important sentences. They should state, in plain English, your main points. Then the details can follow.

Right: Results. Cognitive therapy prevented relapse better than drug therapy. Drug therapy did better than no therapy at all. Analysis of covariance...

Wrong: Results. We performed four analyses of covariance on our data, first transforming them to z scores. We then did paired comparisons using a Bonferroni correction...

2. *Qualifiers and Caveats.* Don't squander the opportunity to write forcefully by beginning with secondary points and caveats. They belong in the body of the paragraph or section, but not as openers.
3. *Distinguish between strong and weak statements.* Good scientific writing uses qualifiers and caveats sparingly. Qualifiers apply to marginal results, arguable statements, speculations, and potential artifacts. They do not apply to strong findings, well-confirmed statements, or bedrock theory. Seem, appear, indicate, may, suggest and the like are meaningful verbs. They are not to be used reflexively.
Right: Because volume was barely significant, water-deprivation may lower hunger. Electric shock, however, increased hunger two-fold.
Wrong: Our findings suggest that electric shock may increase hunger. It also appears that water-deprivation seems to lower hunger.
4. *Big words and long sentences.* Most readers are busy. Many readers are lazy. Many readers just scan. Help these readers by using short sentences and plain words. Whenever a big word tempts you, look hard for a plain word. Whenever a long sentence tempts you, find a way to break it up. The big word and the long sentence must increase accuracy a lot to make up for impeding reading.
Right: Richer people have less depression. So we biased against our hypothesis by putting more of them in the wait-list control.
Wrong: Thus, by assigning this group to the wait-list condition, treatment effects would not be artificially inflated by including the higher income group with a better prognosis in the initial treatment phase.
5. *Overwriting.* Omit words and ideas that the reader already knows. Overwriting slows the reader down and does not increase accuracy at all.
Right: Psychotherapy and drugs did better than attention alone and much better than no treatment.
Wrong: The wait list control group, when compared to the attention control group, the drug treatment group and the psychotherapy treatment group did worse than the attention control group, and much worse than the experimental drug treatment group and the psychotherapy treatment group.
6. *The Royal 'We' and the Passive Voice.* Poor writers turn to the awkward passive voice to avoid saying 'I did such and such'. The first person, used sparingly, is fine. Write forcefully and use the active voice whenever you can.
Right: I propose that animals can learn about non-contingency and, when they do, they become helpless.
Wrong: It is suggested that animals can learn about non-contingency. When non-contingency is learned by an animal, helplessness results.
7. *Citations in the middle.* Don't break up sentences with citations. This small increase in accuracy slows the reader to a crawl. If you can manage it, group all your citations at the end of the paragraph.
8. *Direction of statistical effects.* Always state the direction along with its significance.
Right: Small doses of the drug put small rats to sleep right away, while big rats stayed awake even with very large doses (F weight X dose (2, 31) = 14.56, $p < .001$).
Wrong: The interaction between drug and weight was highly significant (F (2, 31) = 14.56, $p < .001$).

A. *Write accurately*

- Scientific writing must be accurate. Make sure you say what you mean.
  Instead of: The rats were injected with the drug. *Write* - I injected the drug into the rat.

- Be careful with commonly confused words - Less food (can't count numbers of food). Fewer animals (can count numbers of animals). A large amount of food (can't count them). A large number of animals (can count them).

B. *Write clearly*

- Write at a level that's appropriate for audience.
- Avoid dangling participles.

C. *Write succinctly*

- Use verbs instead of abstract nouns.

Instead of: take into consideration. Write: consider

- Use strong verbs instead of 'to be'.

Instead of: The enzyme was found to be the active agent in catalyzing.... Write: The enzyme catalyzed...

- Use short words.

Instead of:	possess	sufficient	utilize	demonstrate	assistance	terminate
Write:	have	enough	use	show	help	end

- Use concise terms.

Instead of:	prior to	due to the fact that	in a considerable number of cases	the vast majority of	During the time that	in close proximity to
Write:	before	because	often	most	when	near

- Use short sentences. A sentence made of more than 40 words should probably be rewritten as two sentences.

D. *Check your grammar, spelling and punctuation*

- Use a spellchecker, but be aware that they don't catch all mistakes.
- Spellchecker may not recognize scientific terms. For the correct spelling, try one of the technical dictionaries on the reference shelf in the Biology or Health Sciences libraries.
- Don't use unnecessary commas.
- Proofread carefully to see if any words out.

References

Kabir, S.M.S. (2016). *Basic Guidelines for Research: An Introductory Approach for All Disciplines.* Book Zone Publication, ISBN: 978-984-33-9565-8, Chittagong-4203, Bangladesh.

Kabir, S.M.S. (2017). *Essentials of Counseling.* Abosar Prokashana Sangstha, ISBN: 978-984-8798-22-5, Banglabazar, Dhaka-1100.

Kabir, S.M.S., Mostafa, M.R., Chowdhury, A.H., & Salim, M.A.A. (2016). *Bangladesher Samajtattwa (Sociology of Bangladesh).* Protik Publisher, ISBN: 978-984-8794-69-2, Dhaka-1100.

Kabir, S.M.S. (2018). Psychological health challenges of the hill-tracts region for climate change in Bangladesh. *Asian Journal of Psychiatry, Elsevier,34,* 74–77.

Kabir, S.M.S., Aziz, M.A., & Jahan, A.K.M.S. (2018). Women Empowerment and Governance in Bangladesh. *ANTYAJAA: Indian journal of Women and Social Change,* SAGE Publications India Pvt. Ltd, 3(1), 1-12.

Alam, S.S. & **Kabir, S.M.S.** (2015). Classroom Management in Secondary Level: Bangladesh Context. *International Journal of Scientific and Research Publications, 5(8),* 1-4, ISSN 2250-3153, www.ijsrp.org.

Alam, S.S., **Kabir, S.M.S.,** & Aktar, R. (2015). General Observation, Cognition, Emotion, Social, Communication, Sensory Deficiency of Autistic Children. *Indian Journal of Health and Wellbeing, 6(7),* 663-666, ISSN-p-2229-5356,e-2321-3698.

Kabir, S.M.S. (2013). Positive Attitude Can Change Life. *Journal of Chittagong University Teachers' Association*, *7,* 55-63.

Kabir, S.M.S. & Mahtab, N. (2013). Gender, Poverty and Governance Nexus: Challenges and Strategies in Bangladesh. *Empowerment a Journal of Women for Women, Vol. 20, 1-12*.

Kabir, S.M.S. & Jahan, A.K.M.S. (2013). Household Decision Making Process of Rural Women in Bangladesh. *IOSR Journal of Humanities and Social Science (IOSR-JHSS), ISSN: 2279-0845,Vol,10, Issue 6 (May. - Jun. 2013), 69-78*. *ISSN* (Online)*: 2279-0837.*

Jahan, A.K.M.S., Mannan, S.M., & **Kabir, S.M.S.** (2013). Designing a Plan for Resource Sharing among the Selected Special Libraries in Bangladesh, *International Journal of Library Science and Research (IJLSR)*, ISSN 2250-2351, *Vol. 3, Issue 3, Aug 2013, 1-20*, ISSN: 2321-0079.

Kabir, S.M.S. & Jahan, I. (2009). Anxiety Level between Mothers of Premature Born Babies and Those of Normal Born Babies. *The Chittagong University Journal of Biological Science, 4(1&2), 131-140*.

Kabir, S.M.S., Amanullah, A.S.M., & Karim, S.F. (2008). Self-esteem and Life Satisfaction of Public and Private Bank Managers. *The Dhaka University Journal of Psychology, 32, 9-20*.

Kabir, S.M.S., Amanullah, A.S.M., Karim, S.F., & Shafiqul, I. (2008). Mental Health and Self-esteem: Public Vs. Private University Students in Bangladesh. *Journal of Business and Technology, 3*, *96-108*.

Kabir, S.M.S., Shahid, S.F.B., & Karim, S.F. (2007). Personality between Housewives and Working Women in Bangladesh. *The Dhaka University Journal of Psychology, 31*, *73-84*.

Kabir, S.M.S. & Karim, S.F. (2005). Influence of Type of Bank and Sex on Self-esteem, Life Satisfaction and Job Satisfaction. *The Dhaka University Journal of Psychology*, *29*, 41-52.

Kabir, S.M.S. & Rashid, U.K. (2017). Interpersonal Values, Inferiority Complex, and Psychological Well-Being of Teenage Students. *Jagannath University Journal of Life and Earth Sciences, 3(1&2),*127-135.
