**Unit 5**

**Writing and Evaluation**

5.1. Research report – Formal composition, pagination, title page, chapterisation, style of writing, preparing tables for presentation of data, systems of indicating references, APA style, use of abbreviation, bibliography, appendices. 5.2. Characteristics of a good research report 5.3. Evaluation of a research report – criteria for evaluation- appropriateness of title and abstract, problem and hypothesis, review of related literature, methodology, results, discussion, reference, materials and overall writing. Check for plagiarism. 5.4. Ethical issues in educational research.

Educational research is shared and communicated to others for dissemination of knowledge. After completion of research activities, the researcher has to report the entire activities that are involved in research process systematically in writing. For clear and easy understanding of readers, writing a good research report require**s** knowledge of the types of research reporting, rules for writing and typing, format and style of research reporting and the body of the report. However, scholarship, precision of thought and originality of a researcher cannot be undermined in producing a good research report.

**Purposes of research report**

1. Dissemination of research outcomes/findings.
2. Used as reference material or for overview of related literature to get guidance and to record and utilize the findings for further work.
3. Utilization of the research recommendations for decision making.
4. Replication of research methods in different contexts.
5. A medium to share research experiences and results of research.

**TYPES OF RESEARCH REPORT**

Research reports mainly take the form of a thesis, dissertation, **j**ournal article and a paper to be prescribed at a professional meeting. Research reports vary in format and style. For example, there are difference found in a research report prepared as a thesis or dissertation and a research report prepared as a manuscript for publication. The dissertation and thesis are more elaborat**e** and comprehensive. While research papers prepared for journal articles and professional meeting are more precise and concise.

**Format**

Format refers to the general pattern of organization and arrangement of the report. It is an outline that includes sections and subsections or chapters and subchapters or headings and subheadings followed to write research report. All research reports follow a format that is parallel to the steps involved in conducting a study. The format of a research report is generally well spelled out in contents. Different universities, institutions and organizations publishing professional journals follow style manual prepared on their own. Some institutions follow by style manuals prepared by other professional bodies like the American Psychological Associations, the University of Chicago and the Harvard Law Review Association. The Publication Manual of the **American Psychological Association** (**APA**), the Chicago Manual of Style, and A Uniform System of Citation (USC) published by Harvard Review Association are some of the worth mentioning style manuals that are followed by researchersto follow format and style while writing research reports.

The **APA** format is widely followed because it eliminates formal footnotes. It provides detailed information about research format for all types of research reports on various behavioural and social science disciplines.

The common format used to write research report for a degree requirement is as follows.

**Preliminary pages**

1. Title Page
	1. Title b) Degree requirement c) University or institution’sname d) Author’s name(if desired, previous academic degrees may be listed after name) e) University Department f) Year
2. Acknowledgements: This include acknowledgements for those who gave the researcher substantial guidance or assistance in the conduct of the study.
3. Supervisor’s Certificate
4. Table of contents
5. List of Tables
6. List of Figures

**Main Body the Report**

1. **Chapter – I** : Introduction
2. Introduction (no heading)
3. Background of the problem
4. need and Significance of the study
5. Statement of the problem
6. Definitions of terms
7. Objectives
8. Hypothesis
9. Methodology in brief
10. Scope and Delimitations of the study
11. Significance of the study
12. Organization of the report: It includes **chapterization,** means organization of the research report into different chapters. The final section in Chapter 1 summarizes the contents of each of the chapters that will comprise the study. This permits readers to know what information will be found in each chapter and facilitates finding specific information without searching through the dissertation page by page to do so. This section also provides a logical transition into the next chapter of the dissertation.
13. **Chapter II** : Theoretical Overview and Review of Related Literature
14. **Chapter III** : Methodology
	1. Design and Research method
	2. Population and sample
	3. Tools and techniques of data collection
	4. Techniques of data analysis
15. **Chapter IV** : Analysis of data and interpretations
16. **Chapter V** : Findings, conclusions and suggestions

**Reference Section**

1. Bibliography
2. Appendices

**Chapterization**

Reporting of the entire research has to be divided into a number of charters. Chapterization helps to communicate your procedure and results clearly to the readers. The entire research work will run into six chapters. The first one on Introduction brings out the importance of the study, and states its objectives and hypotheses. It also includes methodology in brief and limitations. Chapter II includes theoretical overview related to the study and will contain previous reviews, history of the Problems. A Quick look on subjective well-being will also be carried out in chapter II. Chapter III will be a methodological part of the study. Analysis and Discussions is to be done in chapter IV. Findings, Conclusions and Suggestions for further Research will be presented in Chapter V followed by Bibliography and References.

**APA Style**

APA (American Psychological Association) Style originated in 1929, when a group of psychologists, anthropologists, and business managers convened and sought to establish a simple set of procedures, or style rules, that would codify the many components of scientific writing to increase the ease of reading comprehension.

As with other editorial styles, APA Style consists of rules or guidelines that a publisher observes to ensure clear and consistent presentation of written material. It concerns uniform use of such elements as selection of headings, tone, and length, punctuation and abbreviations, presentation of numbers and statistics, construction of tables and figures, citation of references, and many other elements that are a part of a manuscript. (Source: Official APA website)

**Style of Writing**

Style refers to the rules of spelling, capitalization, punctuations and typing followed in preparing the report. A researcher has to follow some general rules for writing and typing a research report. APA style is used for report writing. The rules that are applicable both for quantitative and qualitative research report are as follows:

1. The research report should be presented in a creative, clear, concise and comprehensive style. Literary style of writing is to be replaced by scientific and scholarly style reflecting precise thinking. Descriptions should be free from bias, ambiguity and vagueness. Ideas need to be presented logically and sequentially so that the reader finds no difficulty in reading.
2. The research report should be written in a clear, simple, dignified and straight forward style, sentences should be grammatically correct. Colloquial expressions, such as **‘**write up**’** for report and **‘**put in**’** for insert should be avoided. Even great ideas are sometimes best explained in simple, short and coherent sentences. Slang, flippant phrases and folksy style should be avoided.
3. Research report is a scientific document but not a novel or treatise. It should not contain any subjective and emotional statements. Instead, it should contain factual and objective statements.
4. Personal pronouns such as I and me, and active voice should be avoided as far as possible. For example, instead of writing I randomly selected 30 subjects**,** it is advisable to write thirty subjects were selected randomly by the investigator.
5. Sexist language should be replaced by non-sexist language while writing research report. Male or female nouns and pronouns (he and she) should be avoided by using plurals. For example, write children and their parents have been interviewed rather than child and his parents were interviewed.
6. Instead of using titles and first names of the cited authors, last name is needed. For example, instead of writing Professor John Dewey, write Dewey.
7. Constructed forms of modal auxiliaries and abbreviations should be avoided. For example, shouldn’t, can’t, couldn’t should not be used. However, abbreviations can be used to avoid repetition if the same has been spelled out with the abbreviation in parentheses. For example, researcher can write NCERT if he/she has used NCERT in parenthesis in his/her earlier sentences like National, Council of Educational Research and Training (NCERT).There are few exceptions to this rule for well-known abbreviations such as IQ.
8. Use of tense plays an important role in writing a research report. Past tense or present perfect tense is used for review of related literature and description of methodology, procedure results and findings the study, Present tense is appropriate for discussing results and presenting research conclusions and interpretations. Future tense, except in research proposals, is rarely used.
9. Economy of expression is important for writing a research report. Long sentences and long paragraphs should be avoided**.** Short, simple words are better than long words. It is important that thought units and concepts are ordered coherently to provide a reasonable progression from paragraph to paragraph smoothly.
10. Fractions and numbers which are less than ten should be expressed in words For example, six schools were selected or fifty percent of students were selected.
11. Neither standard statistical formula not computations is given in the research report.
12. Research report should not be written hurriedly. It should be revised many times before publication. Even typed manuscripts require to be thoroughly proofread before final typing.
13. Typing is very important while preparing research report. Use of computer and word processing programme has made the work easy. However, following rules of typography require to be followed.
14. A good quality of hand paper, by 11 in size and 13 to 16 pound in weight should be used.
15. Only one side of the sheet is used in typing.
16. The left margin should be 1$^{1}/\_{2}$inches. All other margins i.e. the top, the bottom and the right should be 1 inch.
17. All material should be double spaced.
18. Times New Roman with 12 size front can be used for typing words in English and book titles can be italicized.
19. Direct quotations not over three typewritten lines in length are included in the text and enclosed in quotation marks. Quotations of more than three lines are set off from the text in a double – spaced paragraph and indented five spaces from the left margin without quotation marks. However, original paragraph indentations are retained. Page numbers are given in parentheses at the end of a direct quotation.
20. **Pagination**: Page numbers are assigned to each page of the paper or report. The title page does not have a page number typed on it, but a number is allowed for it in the series. Page numbers are placed in the upper right hand corner, one inch below the top of the page and aligned with the right margin. Pages are numbered consecutively from the title page, through the abstract, main body of the paper, and references and appendices the numbering of pages continuing in this order. In addition , each page except the title page has a short title(the running head) typed above the page number(often first two or three words of the whole title). This is done so that if the pages are separated, they can be identified with the appropriate manuscript.
21. Paragraphs should be indented 5-7spaces or 1/2 inch.

**Heading**

To separate the parts within the body of your paper, APA has five different levels of headings.
Here are the five levels and how they should be formatted:

1. Centered, Boldface, Uppercase and Lowercase Heading

2. Left-aligned, Boldface, Uppercase and Lowercase Heading

3. Indented five spaces, boldface, lowercase heading with a period. Begin the text of your first sentence after the period.

4.*Indented, boldface, italicized, lowercase heading with a period.* Begin the text of your first sentence after the period.

5. *Indented, italicized, lowercase heading with a period.* Begin the text of your first sentence after the period.

**Title page**

The title should be typed in capital letters beginning six spaces from the top of the pages. If the title is too long to be centered on one line, an inverted pyramid style should be followed, without splitting words or phrases. It is not a good practice to underline titles and include them within inverted commas. Below the title, other items may be centered or balanced against the left and right margins of the page. Other items are not typed in the capital letters, but usually only the initials of the principal words are capitalized.

**Preparing Tables for Presentation of Data**

1. Use tables for the purpose of simplifying text.
2. A table with 2 or fewer columns and rows should be presented in text format instead of a table.
3. Tell the reader what to look for, but only mention the major points of the table.
4. Number tables in the order they are first mentioned in text.
5. Do not write “the table above” or “the table below.”
6. Be consistent in the formatting and vocabulary of all tables when writing a paper. Double-space the entire table.
7. Ensure that your table title is brief but explanatory.
8. Italicize the table title.
9. Do not italicize the table number.
10. Standard abbreviations and symbols, such as % or no. may be used in headings without further explanation.
11. Ensure each column has a heading Capitalize only the first letter of the first word of all headings.
12. If a word is a proper noun, however, be sure to capitalize the first letter anyway.
13. Notes are placed below the table.
14. If the table is from another source, include a note below the table specifying whether it is from another source or adapted from another source.

e.g. “Note. From….” OR “Note. Adapted from…” OR “Note. The data in column 1 are from…”

**Example**

See Table 1 as a guide to the formatting of a table. This table is an example from the Publication Manual of the American Psychological Association (APA, 2001, p. 149). The fictitious general note has been included as an example.

Table 1

*Error Rates of Older and Younger Groups*

|  |  |  |  |
| --- | --- | --- | --- |
| Level of | Mean error rate | Standard deviation | Sample size |
| difficulty | Younger | Older | Younger | Older | Younger | Older |
| Low | .05 | .14 | .08 | .15 | 12 | 18 |
| Moderate | .05 | .17 | .07 | .15 | 15 | 12 |
| High | .11  | .26 | .10 | .21 | 16 | 14 |

Note. From “Generations,” by L.G. Elias and C.C. Bent, 2002, Journal of Geriatric Care, 5, p. 22.

**Placement of Tables and Figures**

 According to the APA (2002), the “typesetter lays out tables and figures closest to where they are first mentioned” (p. 155). However, check with your teacher concerning requirements about table and figure placement. Tables and figures are sometimes placed in text close to where they are mentioned and sometimes placed at the end of the paper.

**Figures**

1. A figure is any type of illustration other than a table (chart, graph, photograph, or drawing).
2. Use figures to complement information in text or to simplify text.
3. Number figures in the order they are first mentioned in text. Do not write “the figure above” or “the figure below.”
4. Figures should be large enough to read easily (between 8 point and 14 point font with sans serif typeface) and convey only essential information.
5. The preferred typeface in figures is 12-pt Courier.
6. Ensure that figures are simple, clear and consistent in presentation and vocabulary.
7. Ensure data are plotted accurately and the grid scale is proportioned.
8. Place labels close to the identified item.
9. Axis labels on graphs should be parallel to their axes.
10. Captions include the figure title and a brief, but descriptive, explanation of the figure.
11. Double-space the caption and place it below the figure.
12. The figure legend should be positioned within the borders of the figure.

**Example**

*Figure 5.8* Pie diagram of Percentage analysis of the academic achievement among higher secondary school students.

**Use of Abbreviation**

An abbreviation is a shortened form of a name or term (e.g., kg for kilogram). An acronymis an abbreviation formed from the initial letters of a term (e.g., FBI for Federal Bureau of Investigation). All acronyms are abbreviations, but not all abbreviations are acronyms. Since the mid-20th century, acronyms have generally formed pronounceable words (e.g., laser, from light amplification by stimulated emission of radiation); however, the rage for acronyms has outstripped the bounds of pronunciation, and this is no longer a requirement.

Saving space is not a sufficient reason to abbreviate; the abbreviation must also help the reader to comprehend your point. Here are some questions that can help you decide whether a particular term should be abbreviated in your writing.

Does using the abbreviation provide an advantage over not using it? Abbreviating lengthy or complex, frequently repeated terms can speed reading comprehension. For example, a review of a test instrument (e.g., the Wechsler Adult Intelligence Scale) might involve numerous references to the name; using its abbreviation (WAIS) would be likely to help the reader.  However, a multitude of unfamiliar abbreviations can reduce rather than enhance the clarity of your writing. Even a quite intelligent reader might have trouble deciphering “limited value due to SSS” and prefer the concept to be expressed as “small sample size” instead. In general, it’s best to limit the use of abbreviations to cases where the abbreviation is familiar to the reader and saves space and time.

How many times does the term appear? In APA Style, a term should not be abbreviated unless it appears three or more times after its first mention in a paper (APA Publication Manual, 4.22, p. 107); once a term is abbreviated, the abbreviation must be used consistently thereafter. Note also that there is no rule requiring you to abbreviate a term that appears three or more times.

Does the abbreviation carry an unintended meaning? In one memorable article, subjects who participated in the follow-up study were designated “the FU group.” This particular abbreviation never made it into print, thanks to an alert copy editor. However, the Wisconsin Tourism Foundation was not so fortunate; it had to change its name and logo when it became aware of the popular meaning of WTF. Moral: Before you create an abbreviation, look twice (or three times) to make sure it can’t be interpreted in a way that would detract from your meaning.

Avoid the use of abbreviations in the title of your paper. It’s fine to use them in headings if they’ve already been introduced, but don’t introduce them for the first time there. In general, abbreviations should also be avoided at the beginning of a sentence, unless this would produce an awkward construction. Once you’ve decided that an abbreviation is called for, find the first use of the term in the text and explain the abbreviation there. Remember to use the abbreviation consistently thereafter.

Group or institutional authors often have lengthy names that profit from abbreviation in text citations. Use the full name at the first citation, with the abbreviation; thereafter, use the abbreviation alone.

First use: (American Psychological Association [APA], 2009) or American Psychological Association (APA; 2009)

Subsequent use: (APA, 2009)

The corresponding reference list entry should contain the author’s full name, not the abbreviation.

A number of other abbreviations appear in research reports. While writing a research report, abbreviations, may be used to condense space in references or footnotes.

Eg: Editor, Editors ed., eds.

 No date given n.d.

 Volume vol.

 Page, pages p., ps. Etc.

**Bibliography**

The bibliography is a record of those sources and materials that have been used for the study. A reference section should not be confused with a bibliography: a bibliography contains everything in the reference section plus other useful publications not cited in the manuscript. Bibliographies are not generally provided for research reports; only references are usually included. References consist of all documents including journal articles, books chapters, technical reports, computer programmes, and unpublished works mentioned in the text.

If the number of references is large, the researcher may divide the bibliography into various sections, one for books, one for periodicals and journals, and possibly one for reports and special documents. The format of writing references are:

1. Always start your reference list on a new page.
2. **Page title -** The word References/ Bibliography should appear centered at the top of the page. If you have only 1 citation the title should be Reference.
3. **Line Spacing** - Double space between each line.
4. **Alignment -** The first line of each entry should align with the left margin. All subsequent lines should be indented 5 spaces or set a hanging indent at 1/2 inch.
5. **Order of entries** - Alphabetical order by author. If there is no author, use the title of the document. If you have more than one entry by the same author, then arrange by year beginning with the earliest publication.

**Parenthetical documentation or in-text citations with APA**

The APA style calls for three kinds of information to be included in in-text citations. The **author's last name** and the work's**date of publication** must always appear, and these items must match exactly the corresponding entry in the references list. The third kind of information, the page number, appears only in a citation to a direct quotation.

....(Crockatt, 1995).

If your quote is longer than **forty words**, set it off in a**block text** by beginning a new line, indenting one inch, and do not add quotation marks.  At the end of the quote put the period after the last word of the sentence followed by the parentheses.

**Eg: Direct quote from the text**

"The potentially contradictory nature of Moscow's priorities surfaced first in its policies towards East Germany and Yugoslavia," (Crockatt, 1995, p. 1).

Parenthetical documentation or in-text citations tells the reader where you got any and all information that did not come from inside your own head.  This is more obvious when you are directly quoting from a source, but it is also needed when you have summarized or paraphrased from a source and even if you got an idea from somewhere else. In order to avoid plagiarism, it is extremely important that you cite all words and ideas that you got from somewhere else.

**systems of indicating references : refer PDF file of APA style guide 7**

**Appendices**

An appendix is useful in providing detailed information that seems inappropriate or too long for the main body of the paper. An appendix follows the bibliography. Each appendix begins on a new page with the label Appendix and its identifying letter, centered( Eg: Appendix I). Following this label is the centered title of the appendix and then the material. All the relevant supporting unwieldy materials, that are important but not essential to the understanding of report, are presented in the appendix. These materials include draft and final copies of tools used, copies of covering letters used, evaluation sheets, documents used and raw data.

**Characteristics of a Good Research Report**

1. Clarity of thought

2. Conceptual clarity

3. Explicit statement of research problem

4. Simple and appropriate language

5. Detailed and orderly presentation

6. Size

7. Chapterization

8. Quotations and footnotes

9. Summary

10. limitations

11. acknowledgement

**Evaluation of a research report**

Evaluation of a research report is essential to find out major problems and shortcomings. Through a critical analysis, the student may gain some ideas into the nature of research problem, methodology for conducting research, the process by which data are analysed and conclusions are drawn, format of writing research report, style of writing etc. In examining a report of research with a view toward evaluating how well the research was done, need to consider the following questions:

criteria for evaluation are:

1. Appropriateness of title and abstract
2. Are they clear and concise?
3. Do they promise no more than the study can provide?
4. Problem and hypothesis
5. Is the problem clearly stated?
6. Is the problem properly delimited?
7. Is the need and significance of the problem recognized?
8. Are the hypotheses clearly stated and testable?
9. Are assumptions, limitations, and delimitations stated?
10. Are important terms defined?
11. Review of related literature
12. Is it adequately covered?
13. Are important findings noted?
14. Is it well organized?
15. Is an effective summary provided?
16. Is the cited literature directly relevant to the problem and hypotheses?
17. Methodology Section
18. Is the research design described in detail?
19. Is it adequate?
20. Are the samples described in detail?
21. Are relevant variables recognized?
22. Are appropriate controls provided to establish experimental validity?
23. Are data-gathering instruments appropriate?
24. Are validity and reliability of the instruments established?
25. Can the sample and procedure be replicated based on the information and references given?
26. Results Section
27. Is the statistical treatment appropriate?
28. Is appropriate use made of tables and figures?
29. Is the analysis of data relationships logical, perceptive, and objective?
30. Discussion Section
31. Is the discussion clear and concise?
32. Is the problem/hypotheses restated appropriately?
33. Is the analysis objective?
34. Are the findings and conclusions justified by the data presented and analyzed?
35. Did the author(s) generalize appropriately or too much?
36. Reference
37. Is it following approved style format?
38. Materials
39. Are there proper appendices?
40. Overall writing
41. Is it clear, concise, and objective?
42. Are the parts of the paper properly related to each other?

**Check for plagiarism**

Many people think of plagiarism as copying another’s work, or borrowing someone else’s original ideas. But terms like “copying” and “borrowing” can disguise the seriousness of the offense:

According to the Merriam-Webster Online Dictionary, to “plagiarize” means

* 1. to steal and pass off (the ideas or words of another) as one's own
	2. to use (another's production) without crediting the source
	3. to commit literary theft
	4. to present as new and original an idea or product derived from an existing source.

In other words, plagiarism is an act of fraud. It involves both stealing someone else’s work and lying about it afterward.

Changing the words of an original source is not sufficient to prevent plagiarism. If you have retained the essential idea of an original source, and have not cited it, then no matter how drastically you may have altered its context or presentation, you have still plagiarized.

Most cases of plagiarism can be avoided, however, by citing sources. Simply acknowledging that certain material has been borrowed, and providing your audience with the information necessary to find that source, is usually enough to prevent plagiarism.

**Ethical Considerations/ Issues of Educational** **Research**

Research exerts a significant influence over educational systems. Hence a researcher needs to stay to an ethical code of conduct. These ethical considerations are as follows:

1. While a researcher may have some obligations to his / her client in case of sponsored research where the sponsoring agency has given him / her financial aid for conducting the research, he / she has obligations to the users, the larger society, the subjects (sample / respondents) and professional colleagues. He / she should not discard data that can lead to unfavourable conclusions and interpretations for the sponsoring agency.
2. The researcher should maintain strict confidentiality about the information obtained from the respondents. No information about the personal details of the respondents should be revealed in any of the records, reports or to other individuals without the respondents‘permission.
3. The researcher should not make use of hidden cameras, microphones, tape-recorders or observers without the respondents‘permission. Similarly, private correspondence should not be used without the concerned respondent‘s permission.
4. In an experimental study, when volunteers are used as subjects, the researcher should explain the procedures completely (eg. the experiment will go on for six months) along with the risks involved and the demands that he / she would make upon the participants of the study (such as the subjects will be required to stay back for one hour after school hours etc.). If possible, the subjects should be informed about the purpose of the experiment / research. While dealing with school children (minors) or mentally challenged students, parents‘or guardians‘consent should be obtained. This phenomenon is known as ‗informed consent‘.
5. The researcher should accept the fact that the subjects have the freedom to decline to participate or to withdraw from the experiment.
6. In order to ensure the subjects‘inclusion and continuation in the experiment, the researcher should never try to make undue efforts giving favorable treatment after the experiment, more (additional marks) in a school subject, money and so on.
7. In an experimental research which may have a temporary or permanent effect on the subjects, the researcher must take all precautions to protect the subjects from mental and physical harm, danger and stress.
8. The researcher should make his / her data available to peers for scrutiny.
9. The respondents / subjects / participants should be provided with the reasons for the experimental procedures as well as the findings of the study if they so demand.
10. The researcher should give due credit to all those who have helped him / her in the research procedure, tool construction, data collection, data analysis or preparation of the research report.
11. If at all the researcher has made some promise to the participants, it must be honored and fulfilled.

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