# WRITING RESEARCH REPORT

Dr. G. Chelladurai

## Introduction

A research report is considered a major component of any research study as the research remains incomplete till the report has been presented or written. No matter how good a research study, and how meticulously the research study has been conducted, the findings of the research are of little value unless they are effectively documented and communicated to others. The research results must invariably enter the general store of knowledge. Writing a report is the last step in a research study and requires a set of skills somewhat different from those called for in actually conducting research (Figure.1).




**Figure 1: Types of research report**

## Technical language of the Report

**(i)** The methods employed;

**(ii)** The expectations made in the course of study

**(iii)** The detailed presentation of the findings from the data

## Parts of the Research Report

The first we have to make an outline for the report. This outline will contain a head, a body, and a tail. The head consists of a description of your problem within its context (the country and research area), the objectives of the study and the methodology followed. This part should not comprise more than one quarter of the report, otherwise it becomes top-heavy. The body will form the bigger part

of your report: it will contain the research findings. The tail, finally, consists of the discussion of your data, conclusions, and recommendations. Before, start writing, it is essential to group and review the data, have analysed by objective. Check whether all data has indeed been processed and analysed as planned in the research protocol/proposal which is duly approved. Draw major conclusions and relate these to the research literature. Again, may be inspired to go back to your raw data and refine your analysis, or to search for additional literature to answer questions that the analysis of the data may evoke (Figure.2). Compile the major conclusions and tables or quotes from qualitative data related to each specific objective.

**The broadly three parts of the report are**

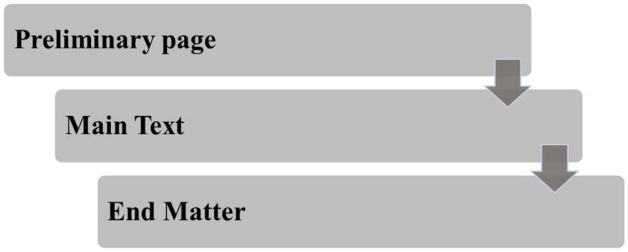


**Figure 2: Parts of research report**

**The Primary pages of Research Report**

- Title and cover page
- A foreword
- Preface
- Acknowledgements
- Table of contents
- List of tables
- List of figures
- List of appendices
- List of abbreviations

- Executive Summary

**i. Title and cover page:** The cover page should contain the title, the names of the authors with their designations, the institution that is publishing the report with its logo, (e.g., Department of Zoology, St. Joseph's College, Tiruchirappalli), the month, and the year of publication. The title could consist of a thought-provoking statement or question, followed by an informative subtitle covering the content of the study and indicating the area where the study was implemented. An example of a title of a research report is given in the box below.

| **Title of the research report** |
| --- |
| Isolation and characterization of the bioactive compounds from the fish bone |

**ii. A foreword:** A foreword is usually a short piece of writing found at the beginning of a book or literary work, before the introduction. This may or may not be written by the primary author of the work. A foreword to later editions of a work often explains how the new edition differs from previous ones. Unlike a preface, a foreword is always signed. An example of a foreword is given in the box below.

| **Foreword** |
| --- |
| This study focuses on the extraction and identification of bioactive compounds from fish bone, a valuable yet underutilized marine byproduct. Advanced analytical techniques are employed for compound isolation and structural characterization. The findings highlight potential applications in pharmaceuticals, nutraceuticals, and biomedical industries. |

**iii. Preface:** A preface, by contrast, is written by the author of the book. A preface generally covers the story of how the Book / other literary work came

into being, or how the idea for the book was developed; this is often followed by thanks and acknowledgments to people who were helpful to the author during the time of writing. A preface is an introduction to a book or other literary work written by the work's author. An example of preface is given in the box below.

**Preface**

Fish bones, often discarded as waste, are a rich source of valuable bioactive compounds with immense potential in the fields of medicine, nutrition, and biotechnology. This study explores the isolation and characterization of such compounds, aiming to unveil their structural properties and functional benefits.

**iv. Acknowledgements:** It is good practice to thank those who supported you technically or financially in the design and implementation of your study. You should not forget to thank your research guide and your employer, too, who has allowed you to invest time in the study; and, the respondents may be acknowledged. Acknowledgements are usually placed right after the title page or at the end of the report, before the references. An example of acknowledgement is given in the box below.

**Acknowledgements**

I take this opportunity to thank the Collee management and funding agency for providing funds and facilities for the project. I offer my sincere thanks to the Colleagues and friends for his encouragement and support for pursuing this study.

**v. Table of contents:** A table of contents is essential. It provides the reader a quick overview of the chapters with major sections and sub sections of your

report, and page references, so that the reader can go through the report in a different order, or skip certain sections. An example given below.

| S.No | Content | Pages |
|---|---|---|
| 1 | Introduction | |
| 2 | Review of Literature | |
| 3 | Methodology | |

**vi. List of Tables:** If many tables or figures, it is essential to list these also in a table of contents with formatted with page numbers. The initial letters of the key words in the title are capitalized and no terminal punctuation is used. An example is given below.

| List of Tables | | |
|---|---|---|
| **S.No** | **Name of the Table** | **Pages** |
| 1 | Nutritional parameters of the fish bone | |
| 2 | Minerals composition of the fish bone | |
| 3 | FTIR-composition of the fish bone | |

**vii. List of Figures:** The list of figures appears in the same format as the list of tables, titled list of figures. An example of a list of figures follows.

| List of figures | | |
|---|---|---|
| **S.No** | **Name of the Figure** | **Pages** |
| 1 | Study area | |
| 2 | Microscopic view of fish bone | |
| 3 | UV spectrum analysis of fish bone | |

### 6. List of Appendices

The appendices will contain any additional information that the researcher have collected while carrying out the study. It may be a questionnaire, a letter of

appreciation, a government notification, etc. An example of a list of appendices follows.

| List of Appendices | | |
|---|---|---|
| **S.No** | **Description** | **Pages** |
| 1 | Chapter -1 | |
| 2 | Chapter -2 | |
| 3 | Chapter -3 | |

**7. List of Abbreviations**

If abbreviations or acronyms are used in the report, these should be stated in full in the text the first time that they are mentioned. If there are many, they should be listed in alphabetical order as well. The list can be placed before the first chapter of the report. An example of a list of Abbreviations follows.

| S.No | Description |
|---|---|
| 1 | UV-Ultra violate |
| 2 | FTIR- Fourier Transform Infrared Spectroscopy |
| 3 | DPPH - 2,2-Diphenyl-1-Picrylhydrazyl, |

**8. Executive Summary**

The summary should be written only after the first or even the second draft of the report has been completed. It should contain.

- A very brief description of the problem
- Objectives
- The place of study
- The type of study and methods used
- The major findings and conclusions
- The major (or all) recommendations

**The Main components Report**

**Basic Elements of Research Methods**

- Introduction
- Review of Literature
- Methodology
- Research Findings
- Discussion
- Conclusion and Recommendations
- Summary

i. **Introduction:** The introduction is a relatively easy part of the report that can best be written after a first draft of the findings has been made. It should certainly contain some relevant (environmental/ administrative/ economic/ social) background data and information about the topic on which you are carrying out research for example if you are doing research on primary education, then a brief about the status of primary education, such as their number, state-wise break up, expenditure on primary education, etc.,

The general and specific objectives should also be included in this chapter. If necessary, you can adjust them slightly for style and sequence. However, you should not change their basic nature.

ii. **Review of Literature:** The Literature reviews are secondary sources, and do not report any new or original experimental work. Its ultimate goal is to bring the reader up to date with current literature on a topic, and forms the basis for another goal, such as future research that may be needed in the area.

A well-structured literature review is characterized by a logical flow of ideas; current and relevant references with consistent, appropriate referencing style; proper use of terminology; and an unbiased and comprehensive view of the previous research on the topic. An example of a review of literature follows.

| Review of Literature |
|---|
| Dellarco et al., 2006 has reported there are several important physiological and biochemical differences between rats and humans related to thyroid function since rats have a smaller reserve capacity of thyroid hormones and shorter T4 half-life as compared with humans (12 h in rat's versus5-9 days in humans. |

**iii. Methodology:** The scientific reader would like to know about the basic design of the study, the methods of data collection, information regarding the sample used in the study, the statistical analysis adopted and the factors limiting the study.

- The study type and theme
- Data collection techniques used for the different study area
- Time of data collection
- How the data was collected and by whom
- Procedures used for data analysis, including statistical tests (if applicable)
- Constraints and its management
- Limitations of the study

**iv. Research Findings:** A detailed presentation of the findings of the study with supporting data in the form of tables and charts, together with a validation of the results is the next step in writing the main text of the report. The result section of the study should contain the statistical summaries and reductions of data, rather than raw data. All the results should be presented in a logical sequence and split into readily identifiable sections. An example of a research finding as follows.

| Mineral composition of the Fish bone | | |
|---|---|---|
| **S.No** | **Content** | **Percentage (%)** |
| **1** | **Zinc** | **0.2** |
| **2** | **Copper** | **0.8** |
| **3** | **Iron** | **0.4** |

v. **Discussion:** The findings can now be discussed by objective or by cluster of related variables or themes, which should lead to conclusions and possible recommendations. The discussion may also include findings from other related studies that support or contradict your own. For easy understanding, an example of a discussion follows.

| **Discussion** |
| --- |
| Similarly, to reports by Cheesbrough, 2002. In addition, oral microbes such as *Streptococcus*, *Staphylococcus, and Lactobacilli* can be identified by gram-staining techniques. The growth of unidentified microorganisms around and over the samples of toothpaste in our study indicates the possibility of that product being contaminated. Also, one needs to recognize the potential dangers associated with toothpaste, for which there are no defined legal requirements or regulations |

VII. **Conclusions and Recommendations:** The conclusions and recommendations should follow logically from the discussion of the findings. As the discussion will follow the sequence in which the findings have been presented (which in turn depends on your objectives) the conclusions should logically follow the same order. The conclusions should be followed by suggestions or recommendations. While making recommendations, use not only the findings of your study, but also supportive information from other sources. The recommendations should be generated from the findings and conclusions.

**References:**

This is the list of books/articles in some way pertinent to the research which was followed while conducting research. It should contain all those works which the researcher has consulted.

**The references should be given in the following order.**

- Name of the author, last name first.
- Title, underlined to indicate italics.
- Place, publisher and date of publication.
- Number of volumes.

An example of a references follows.

**Style and Layout of the research Report**

The style of writing and layout of writing are two important components of report writing. However, revising and finalizing the text may also be considered as another important aspect in same line.

**For Style of the research Report**

- It is short of time
- It has many other urgent matters demanding his or her interest and attention
- It is probably not knowledgeable concerning 'research jargon'.
- Use short sentences
- Use adverbs and adjectives infrequently
- Be consistent in the use of past and present tenses
- Avoid the passive voice, if possible, as it creates vagueness (e.g., 'patients
- Were interviewed' leaves uncertainty as to who interviewed them) and repeated use makes dull reading

**For Layout of the research Report**

- Make a good initial impression
- Encourage the readers
- An attractive layout for the title page and a clear table of contents

- Consistency in margins and spacing.

**References**


1. Jahnke, G.D., et al., 2004. Thyroid toxicants: assessing reproductive health effects. Environ. Health Perspect. 112, 363-368. https://doi.org/10.1289/ehp.6637 .
2. Kantrowitz, L.B., Mark, E.P., Meli´an, C., Nichols, R., 2001. Serum total thyroxine, total triiodothyronine, free thyroxine, and thyrotropin concentrations in dogs with non thyroidal disease.
3. 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
4. Basic principles of referencing. Lincon University 2013. https://library2.lincoln.ac.nz/documents/ReferencingWhyWhenHowpdf
5. Bhakar SS, S. Tarika. (2014)"A Handbook for writing research paper"Bharti publication, Delhi (India) 1st edition, 1-178.
6. Choi, K. (2002) *How to publish in top journals*. Available online at: http://www.roie.org/how.htm
7. Hoogenboom BJ, Manske RC. (2012). How to write a scientific article? International Journal of Sports Physical Therapy.7(5):512.
8. 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(3):1-20,
9. 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.

10. Lester JD, Lester JD. (2012). Writing research papers: A complete guide. Pearson;
11. Michael Derntl (2014) Basics of research paper writing and publishing, *Int. J.* Technology Enhanced Learning, Vol. 6 (2): 1-19.
12. Neville C. (2012). Referencing: principles, practice and problems. RGUHS. J Pharm Sci.2 (2):1-8.
13. Neville C. (2010). The complete guide to referencing and avoiding plagiarism. McGraw-Hill Education (UK); 2010 Feb.
14. Procter, M. (2002) *the abstract*. Available online at: http://www.writing.utoronto.ca/advice/ specific-types-of-writing/abstract.
15. Yuksel, A. (2003) 'Writing publishable papers', *Tourism Management*, Vol. 24, No. 4, pp.437-446.