RESEARCH BOOKLET

BELVEDERE TECHNICAL TEACHERS COLLEGE

spreading the light

2019 2020

Foreword

The diploma in education conferred to the students at this level will not be complete without the completion of a curriculum depth study. A strong research capacity is a necessity to the nation and particularly to the education fraternity as the world is fast transforming into a global village. It is crucial that students take research seriously as it helps them solve teaching and learning problems as well as invent new educational ideas. An inquisitive mind comes up with novel solutions to educational dilemmas through research. With this in mind, it is crucial for students to clearly understand the key concepts in research. The research guide offers a simplified path towards the production of a curriculum depth study project. The booklet is also user friendly making it easy to consult at any given time in the field. I therefore wish to thank the Belvedere Technical Teachers' College team that put this booklet together. It is hoped that the booklet will go a long way in improving the quality of research at Belvedere Technical Teachers' College and beyond.

Mbofana J. R

PRINCIPAL

RESEARCH PROJECT PRELIMINARY PAGES

- The first pages of the book that appear before the text begins.
- Also referred to as prelims.

The title page

Belvedere Technical Teachers' College

Title of the Research Project

By

Name

Intake

Candidate Number

Research submitted to Belvedere Technical Teachers' College in partial fulfilment of the requirements of the Diploma in Education (Secondary) of the University of Zimbabwe.

Date

Supervisor (correct initials should be used)

DECLARATION AND RELEASE FORM

I declare that this research project titled:**...** hereby handed in for the qualification of the Diploma in Education (Secondary) at Belvedere Technical Teachers' College, is my own independent work and that I have not previously submitted the same work for a qualification at/in any other college.

I hereby cede copyright to Belvedere Technical Teachers' College.

W Chimuti   November 2016

Acknowledgements

The Dedication page

Abstract

Table of Contents

This should follow the order used to present the work in the research project;

Dedication, Acknowledgements, Abstract, Table of Contents, List of Tables, List of Figures, Appendices, References.

All the chapters should appear in the contents page.

NB. Preliminary pages to be numbered using lower case Roman numerals.

List of Tables

- tables should be listed with their numbers, titles, and page numbers
- each entry should have leader lines (dots) between entry and page number
- the list should start at the top of a new page

List of Figures

- should appear after the List of Tables
- figures should be listed with their numbers, titles, and page numbers
- each entry should have leader lines (dots) between entry and page number
- the list should start at the top of a new page

Lists of Appendices

- each list should start at the top of a new page

.

WHAT IS RESEARCH?

Creswell (2009) describes research as the systematic and objective analysis and recording of controlled observations that may lead to the development of generalizations, principles, or theories, resulting in prediction and possibly ultimate control of events.

Research is:

- ✓ A systematic process of collecting information;
- ✓ Meant to solve a problem;
- ✓ Involves collection of data;
- ✓ Involves analysing and interpreting data;
- ✓ Involves drawing conclusions;
- ✓ Involves development of new information;
- ✓ Involves gathering data or using existing data from primary sources for a new purpose;
- ✓ Requires accurate observation and description;
- ✓ Guided by patient and unhurried activity;
- ✓ Requires courage to the extent of following procedures that may not be popular;
- ✓ Must be carefully recorded and reported;
- ✓ Should be valid and reliable.

WHY CARRY OUT A RESEARCH PROJECT

Human beings conduct research every day in many different ways, settings and reasons. In education settings research is meant to:

- ✓ Improve school practices and at the same time to improve those individuals who strive to improve those practices;
- ✓ Fulfil the researchers' pedagogical responsibilities as they remain current in their field of teaching interest;
- ✓ Improve curriculum and instruction(teaching practices);
- ✓ Develop new understanding about teaching, learning, and educational administration;
- ✓ Develop knowledge that will lead to the improvement of educational practice;
- ✓ Improve policy makers' decision making;
- ✓ Improve the researcher's research skills.

TOPIC FORMULATION

You can formulate a research question/topic in the following manner:

- ✓ Find an interest in a broad subject area;
- ✓ Narrow the area to a researchable topic;
- ✓ Question this topic from several viewpoints;
- ✓ Topic must be grounded in some already known information where inadequacy is found but it can also be a new area with little or no other researches done;
- ✓ Assess whether you possess the skills required and whether you have a capable supervisor;
- ✓ Assess whether the topic benefits stakeholders;
- ✓ If you have not yet studied any topics that really inspire you, then think about the topics and issues that distract you when you are supposed to be reading for an assignment, or

that engage you in conversations, discussions and debates with colleagues and peers – or perhaps your tutor;

- ✓ Check out any ideas you have with your supervisor as something in one of these areas may be appropriate to research;
- ✓ You may have encountered a specific problem or situation you feel is worthy of further investigation in your everyday experiences in which case a research project would perhaps be appropriate;
- ✓ If you have undertaken any relevant work experience then this too may be a useful source of ideas;
- ✓ A further possibility is that your research topic may come from 'suggestions for future work' listed at the end of a research paper you have found interesting; though in this case it is advisable to undertake some literature searching;
- ✓ Consider the reason you are writing the research paper. Stick to research topics that revolve around the lessons you are learning when the paper is for a specific class;
- ✓ Browse newspapers and the Internet for current events to research and write about;
- ✓ Search out current controversies and new studies making news that apply to the subject; Choosing a current event to write about ensures that your paper is fresh and original;
- ✓ Write a list of the top 10 topics you can think of and then do some brief research on the Internet. Nearly any topic can be the bases of a research project so do not be afraid to explore the ideas and issues you love;
- ✓ Pick a topic that you already need to know detailed information about to kill two birds with one stone.

INSTRUCTIONS TO STUDENTS

Complete your research project using the format outlined in this booklet;

- ⏶ Your typed report should be font size12;
- ⏶ Use Times New Roman;
- ⏶ Double space and justify the project document
- ⏶ Single space and italicise the abstract;
- ⏶ Your typed report should be a minimum of 30 pages exclusive of the preliminary pages;
- ⏶ Begin each chapter on a new page and centre the number and the title of each chapter;
- ⏶ Work closely with your supervisor;
- ⏶ Unsupervised work will not be accepted.

GUIDELINES FOR THE CONTENT OF EACH CHAPTER

CHAPTER ONE

THE PROBLEM AND ITS SETTING

1.1 Introduction

Locate the problem and give an overview of the whole chapter. The introduction provides the focus and the context of the problem.

1.2 Background to the study

In this section you are expected to describe the problem that needs to be solved or researched on. The whole idea is to establish whether a solution to the problem can be found. To interrogate the problem, there are certain pertinent issues you should make an effort to address. These are;

- ✓ What observations have you made to suggest to you that there is a problem?
- ✓ What are the manifestations of the problem?
- ✓ The researcher should show clearly the indicators of the problem, what has created the problem and what prompted him/ her to venture into the area?
- ✓ It must attempt to show a **GAP** between the real and the desired position/ scenario;
- ✓ It should attempt to demonstrate a fresh approach to the problem;
- ✓ It can be based on a historical narrative and unfold into the present scenario;
- ✓ Should demonstrate your experience, knowledge and passion for the subject;
- ✓ What views do you get from the literature about the problem?
- ✓ What is the problem?
- ✓ How does the problem manifest itself?
- ✓ How did it arise? (brief history);
- ✓ What has been done and is being done to address the problem?
- ✓ Why are these efforts limited and thus making your study necessary?

SCENARIO: Chimusoro was a young man who had been given everything a student teacher needs before going for Teaching Practice. Chimusoro was deployed at Chimuti High School in Mashonaland Central for Teaching Practice. He was an Agriculture teacher. Chimusoro was very excited that he was now going to teach and have a feel of it in front of the pupils. At Chimuti High School he was given Form 2A. Chimusoro was a hard working student teacher who always prepared his work as expected. When he was teaching his theory lessons the pupils were very participative. They could ask the teacher questions and Chimusoro gave answers to their satisfaction. Marks for tests and written exercises were quite pleasing. Practical lessons were not the same as theory. Chimusoro demonstrated practical tasks stage by stage and expected pupils to perform in the same way. The pupils were not completing their tasks on time and some never bothered to finish. In addition the practical marks were difficult to collect. However, a worried Chimusoro approached the H.O.D. about the issue. The HOD advised Chimusoro to resolve the issue since he had fresh ideas from the college. Furthermore, the HOD tasked Chimusoro to produce vegetables and rare chickens for supplying the school dining hall.

1.3 Statement of the problem

- The statement of the problem should be: significant; genuine; specific; concise; clear; researchable; straightforward; relevant; well defined; real life related and relates to researcher's practice.
- The statement should lucidly highlight the problem which necessitates the research.
- It should clearly indicate why and how it is a problem.
- In attempting to address a gap, the researcher is expected to give a description of the issues that need to be addressed by the study.
- The statement of the problem plays a critical role in establishing the rationale of embarking on a research study.
- The following aspects ought to be captured in the statement of the problem;
  - ✓ The problem should be significant enough to contribute to the existing body of knowledge, thus stimulating more research.
  - ✓ The problem should be interesting to the researcher. Should be formulated in such a manner that it is not answering the question with a YES/ NO answer.
  - ✓ What do you wish to find out and why?
  - ✓ State the purpose of the study.

ACTIVITY

i) *Outline Chimusoro's problem.*
ii) *Describe how Chimusoro's problem is affecting his teaching and learning of pupils.*

1.4 Sub-problems/ research questions

- ✓ These are subsequent problems that are derived from the main problem;
- ✓ These bear a direct link to the main problem and are not independent issues being brought in by the researcher;
- ✓ These should be arranged in a logical manner;
- ✓ Should be formulated in the form of questions to be answered as the research unfolds (but not yes and no answers);
- ✓ Each sub-problem must attempt to answer a mutually exclusive dimension;
- ✓ Should be in line with research objectives;
- ✓ What are the specific goals /targets you want to achieve through the study?
- ✓ Which beacons do you follow in your study?

1.5 Research objectives
- ✓ The researcher outlines the intentions in undertaking the study and these are in line with the sub-problems already highlighted above;
- ✓ Should show the results sought by the researcher at the end of the study;
- ✓ Should closely relate to the statement of the problem;
- ✓ Might sometimes want to use them to test relationships between variables;
- ✓ Aim at obtaining answers to the research questions;
- ✓ They also help to keep the study focused;
- ✓ Which ideas/issues do you wish to address?

N.B You can use both or either research questions or research objectives to answer your main research question/topic.

1.6 Hypothesis/proposition (optional)
One important consideration in the formulation of a research problem in quantitative research is the construction of a hypothesis. Hypotheses bring clarity, specificity and focus to a research problem. In simple terms, a hypothesis is;
- ✓ A statement of expectation or prediction that will be tested by the research;
- ✓ It is an intelligent guess or proposition that attempts to explain a fact or facts of natural phenomenon;
- ✓ Usually used in the field of science.

1.7 Significance/ justification/importance of the study/rationale
In this section the researcher explains the importance of the study not only to other segments of the society or community but to him/her as well. The following aspects ought to be addressed;
- ✓ Write about why you are doing the research/study;
- ✓ Write about the effects of your study;
- ✓ How it will change things;
- ✓ The benefits it will bring;
- ✓ How it will be helpful and why?
- ✓ To whom will it be helpful and why?
- ✓ State the individuals/ groups of people who will benefit from the study- the learners, the student teachers, practicing teachers and so forth.

1.8 Assumptions of the study (optional)
- ✓ It is a belief that forms one of the bases of research which should not be tested or needs to be supported by empirical evidence/ data, for example, respondents' ability to read and write, the continued importance of the subject to the school curriculum.
- ✓ Should justify that each assumption is true, for example, assuming that all the respondents will answer all the questions in the questionnaire honestly.
- ✓ These can be three or four in number.

1.9 Scope/ Delimitations of the study

Scope or delimitations of the study are the boundaries set by the researcher to control the study they are doing. The researcher is in control of these, that is to say, the choice of the problem, the population, and the objectives of the study, the variables to be used / tests and so forth. The researcher also explains the criteria for participation, geographic area to be covered, organisations involved and other details. The purpose of the delimitation of the study is to make the researcher's objectives attainable. Furthermore, delimitations of the study helps to reduce time spent on unnecessary details.

1.10   Limitations of the study

The researcher explains';
- ✓ Any problems s/he might encounter during the research and offers possible solutions.
- ✓ Challenges which might be beyond the control of the researcher, for example, lack of resources or failure to respond to questionnaires by respondents are highlighted.
- ✓ However, the researcher needs to suggest ways of overcoming the limitations so that the study/findings are not affected.

1.11   Definition of Terms
- ✓ These are terms that will be used in the study which are peculiar to the study or subject
- ✓ The terms can be extracted from scholarly works but there is also a need for one to zero in on the contextual meanings of such terms.

N.B. Definition of all peculiar terms used in the study is cumulative.

1.12 Summary

- ✓ Give a summary of the chapter/section
- ✓ Highlight the ideas discussed and give a brief description of the focus and content of the subsequent chapter.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

A brief statement linking the current chapter with the previous one is crucial. The review of related literature is an integral part of the research process and makes a valuable contribution to almost every operational step. In the initial stages of research it helps you to clarify your ideas, establish the theoretical roots of your study and develop your research methodology. Before undertaking the review of related literature, one must understand that literature means writings or any written discourse. A body of literature refers to all the published writings in a particular study on a particular subject.

2.2 What Is Review of Related Literature?

✓ A description of your topic area, supported by references;
✓ It is a critical description of the literature relevant to a particular research;
✓ A summary, discussion and critical analysis of academic work related to your research question- it should never be just a list of previous work;
✓ It is a careful examination of a body of literature pointing towards the answer to one's research question/ sub-problems or objectives;
✓ It attempts to establish knowledge gaps and aims to close them;
✓ Review of other studies outlining important research trends;
✓ The process of assessing the strengths and weaknesses of existing research;
✓ Its entails identifying potential gaps in knowledge;
✓ Consists establishing a need for current and/or future research projects.

2.3 Types of Literature Review sources

✓ **Journal articles:** (surveys and research papers). Provide technical up-to-date information (last 2 years) about a research topic.
✓ **Books:** Recent research monographs can be useful in your literature review
✓ **Conference proceedings:** They provide information about the latest/unpublished research. In general, they are less reliable than a journal paper.
✓ **Government or corporate reports:** Depending on your field of study, these can be a useful source of information. They may outline general research lines a particular organisation is interested in funding.
✓ **Theses and dissertations:** Can be useful sources of information. However, they can be difficult to obtain.
✓ **Specialised magazines:** Sometimes these are considered as reputable as a journal. Other types of magazines can provide a good starting point to find more reputable work.
✓ **Other sources:** include newspapers and the Internet. These can point you to the more reputed sources; in general avoid citing them directly in your LR. Whilst the use of the Internet is encouraged, it should be used in a scholarly way. Researchers should avoid the use of Wikipedia, they should instead use Google scholar. If using Google, then the source should be authentic, that is, it should have the publication date or authority.

2.4 Why Review of Related Literature?

- ✓ The main purpose of reviewing related literature is that it tests one's research question against what is already known about the research under study.
- ✓ It seeks to discover whether the research question has already been answered by someone else and if so, how far and what gaps were left out in relation to the research question.
- ✓ If researcher finds out that the research question has already been answered by someone else, then one must change modify the question.
- ✓ As the review describes and summarises existing research on the topic one has, it helps researcher to evaluate existing research as to how it applies to their own research.

2.5 Tips on Getting Started

The researcher:

- ✓ May use one's sub-problems to note down the initial thoughts on the topic.
- ✓ Can use a spider-gram, brainstorm or a list of related topics to help in identifying the areas one needs to investigate on.

NB. It is important to do this before reading so that you do not waste time on irrelevant reading.

2.5.1 Example

For instance, writing a research on Economic Empowerment of Women through ICT in Tertiary Institutions, one would draw such sub-topics as:

- ✓ What is ICT?
- ✓ What is economic empowerment?
- ✓ What is the current policy on women and empowerment through ICT in tertiary institutions?
- ✓ International conventions and women empowerment, among others.
- ✓ A review may have headings and sub-headings depending on the research question.
- ✓ Generally one should start broad and become more specific at the end.
- ✓ The researcher needs to employ the skill of summarizing and paraphrasing.

2.6 In a nutshell:

- ✓ Review of related literature is simply being able to hone from any research which is directly related to one's specific investigation;
- ✓ The number of sub-topics is dependent on the research sub- problems and any material that surrounds the investigation or study;
- ✓ The related literature reviewed will start from the broad to the more specific as the researcher discusses the issue under study;
- ✓ For example, in the above example the researcher may discuss learning theories in broad terms then later focus more on how ICT impacts on teaching/learning;
- ✓ Further review of related literature will illuminate grey areas or gaps about the study. The researcher decides to choose those gaps s/he wishes to cover through the study;
- ✓ ***Researcher should be consistent in the use of a citation style that is the APA.***

2.7 Verbs to Use in Citations

It is usually a sign of weak academic rigour when every paragraph of the review begins with the names of researchers such as, Chikutuma (2016) said "…", Nyawaranda (2007) opines "…" etc. Instead, one has to use different ways of reporting information so that the literature review does not read like a shopping list.

The following terms are usually used in literature review:

Posit	claim	suggests	propose	postulates	contends	argues
Insists	asserts	affirms	points out	concurs	etc.	

⇔ Varied and effective use of these verbs helps one to develop a coherent literature review.

2.8 Checklist for a Literature Review

✓ Does the literature relate to the research question (*relevance*). In fact try to use your sub-research questions or objectives as guidelines for reviewing related literature.
✓ Does it start at a general level and narrow down?
✓ Does it cover key theories?
✓ Are the sources used varied?
✓ Is the relationship inherent in the literature shown (*similarities, differences, and trends)*?

N.B At least Fifteen (15) sources is the minimum recommended at this level.

2.9 Summary

Wrap up the chapter and give a projection to the next chapter.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

A brief statement linking this chapter to the previous one should be written. The researcher should give a brief overview of the research design to be used and the rationale for choosing it. Refer to p10. **For example:** *This research has realised a gap in ICT implementation despite that most scholars lay bare the importance in education.*

3.2 Research Design

This section is based directly on the research questions/objectives and is the "how to" section. This section must include the design of the research as guided by the following approaches: Qualitative/ Quantitative and/ or Mixed methods. Examples of research designs include: descriptive survey, experimental, case study or quasi-experimental. It must include how the data will be collected based on research questions which guide the research. It should be written in a step by step fashion so that any other researcher should be able to replicate it without asking questions.

3.3 Population

✓ These are the people who respond or take part in the research;
✓ The population relies much on the study area and sampling procedures;
✓ The researcher should specify the target population and the sample that will be selected;
✓ This should include demographic information, for example, age, gender, and ethnicity of the sample.

ACTIVITY

Using the example of Chimusoro's scenario from chapter one define the population.

3.4 Sample and Sampling Procedure

A sample is a small proportion of a population selected for observation and analysis. It is assumed that by observing the characteristics of a sample one can make some inferences on the population from which the sample was drawn. The researcher should outline procedures for selecting the sample (sampling procedures) including the justification for the sampling method. Examples of sampling procedures include: systematic, random, purposive and so on. The sampling procedure is determined by your research design.

3.5 Data Collection Instruments

This section should include all the instruments to be used to collect data as per your sub-research questions/objectives and research approach/paradigm. Research instruments that can be used include: observations, interviews, questionnaires, document analysis, focus group discussion, tests and so on. The instruments could be structured, semi-structured or open ended depending on the type of data to be collected and the approach that is guiding the research.

The researcher may need to include:
- ✓ The source or developers of the instruments;
- ✓ Validity and reliability/trustworthiness of the information about each tool to be used;
- ✓ The use of at least two instruments to collect the same data will help in triangulation of data.

3.6 Data Presentation, Analysis and Interpretation (Discussion of Findings)

You need to describe how you are going to present, interpret and analyse data. The analysis could be statistical or descriptive or both depending on the nature of the research design and approach. These processes are very important and they should:

- ✓ Be based on the research questions/objectives/themes and the design selected for the study;
- ✓ Briefly describe the presentation technique that will be used, for example, narrative and or verbatim presentations, histograms, scatter-plots, bar graphs, pie-charts and so on;
- ✓ Specify the procedures for reducing and coding data;
- ✓ Should include summary of narrations, descriptive statistics and inferential statistical tests, for example, the mean, standard deviation, correlation.

3.7 Ethical Considerations

These entail the respect of the research participants/ respondents; that include;

- ✓ Confidentiality;
- ✓ The informed consent;
- ✓ Anonymity;
- ✓ Privacy;
- ✓ Prevention of Physical/Psychological Harm, etc.

NB. The research design and methodology section should not be a mere review of literature but linked with your current study.

3.8 Summary

This part should give a summary of the chapter and provide a brief link to the next chapter.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS ANDINTERPRETATION

(DISCUSSION OF FINDINGS)

4.0 Organisation of the chapter

This should highlight the main points of the chapter, that is, introduction, data presentation, analysis and interpretation. At the end of **data** collection exercise, a vast array of data in both **numerical** (quantitative) and verbal (qualitative) forms usually emerge. Ordinarily the data in this form are not easily comprehended and need to be processed or re-arranged in such a way that one can easily make meaning out of them. It therefore calls for this data to be organised, summarised, presented, analysed and interpreted.

4.1 Introduction

A brief statement linking this chapter to the previous one should be written. It should summarise the sub-headings that will be used for data presentation, analysis and interpretation. It highlights what the chapter involves. It should also be brief and specific. There are no quotations here.

4.2 Data Presentation, Analysis and Interpretation (Discussion of Findings)

4.2.1 Data Presentation

Presentation: refers to the putting across of collected data. This could also be considered as the painting of a picture of what happened. As such data can be presented in the form of a narration/description, pie-charts, graphs, tables and so forth.

Data can be organised and presented in many ways. However, care should be taken to;
- ✓ Organise data in a clear and concise manner;
- ✓ Organise data in a way or format that it can easily be understood and utilized;
- ✓ Present data in the most convincing manner;
- ✓ Keep the language as simple as the subject permits;
- ✓ Arrange the ideas in a logical order;
- ✓ Ensure that the data presented addresses all the research questions/objectives;
- ✓ Present data as per each sub-research question /objective or theme, pattern, trend that emerges from the finding;
- ✓ The presentation should cover all the instruments used and data should be presented in the order they were collected;
- ✓ In the presentation of data, repetition should be avoided;
- ✓ There is also need to vary the presentation methods;
- ✓ After presenting data in either form; table/figure, a clear interpretation should be made.

In research, one or more of the following aspects become apparent.

i. **Theme**: It is a subject of focus; an idea that recurs; the main idea of discussion.

ii. **Pattern**: It is a regular arrangement/occurrence of something; it is a system, form method, sequence, format, and so on; it is something that repeats over and over again.

iii. **Trend**: It is a general direction in which something is developing or changing e.g. there is a general upward/downward movement in prices; sales; etc.

4.2.1.1 Tabulation/Tables and Figures

This deals with presentation of data in figures or tabular form. Tabulation condenses a large mass of data. It enables comparisons to be made easily among the classes of data. A table should therefore, have the following;

a) Tables and figures should be titled and presented in a logical sequence.

b) The title should come above the table, at the top describing the content.

c) The tables/ figuresshould be clearly and chronologically numbered, preceded with the chapter number; e.g. the first table /figure should be labeled, '**Table 4.1**.' or '**Fig 4.1**'.

d) The captions – column headings should be labelled.

e) The stubs - row headings should be labelled.

f) The source comes below the table or graph.

g) After each table, a clear interpretation/ discussion should be made.

NB: Choice of the graphical method of presentation is dependent on the use of the data.

✓ For **distribution**- Histograms, Frequency distribution curves.

✓ For **composition**- Pie-charts.

✓ For **comparison**- Pie-charts, multiple bar charts.

✓ To **show relationships**- bar graphs, line graphs.

✓ For **continuous data**- Bar graphs, histograms.

4.2.1.2 Gender and Age Profiles for the Mentors

Table 4.1: Mentors Profile by Gender and Age. (N= 58).

Gender Range	Age									
	26-30		31-35		36-40		41+		Total	
	N	%	N	%	N	%	N	%	N	%
Male	6	17.6	3	8.8	9	26.5	16	47	34	58.6
Female	0	0	5	20.8	6	25	13	53	24	41.4
total	6	17.6	8	29.6	15	51.5	29		58	100

Table 1 above shows that the majority of the males (47.1%) and female mentors (54.2%) were 41 years of age and above. The data also indicated that there were more male mentors (58.6%) than female mentors (41.4%). A sizeable number of the female mentors (20.8%) were in the 31 to 35 years age range. None of the female mentors was in the 26 to 30 years age range.

4.3.2 Analysis and Interpretation (Discussion of Findings)

4.3.2 a) Analysis

It is the process of developing answers to the questions through the examination and presentation of data.

The following observations are useful;
- ✓ What is the significance of what happened?
- ✓ Check the relationship to the pattern, trend or theme coming out the data;
- ✓ What does the data mean?

4.3.2 b) Interpretation/ discussion of findings

Focus is on the results obtained together with the findings.
- ✓ Why did certain things/ trends within the data happen?
- ✓ How do you account for what happened?
- ✓ You check on the causes of the anomalies, patterns, trends, etc.
- ✓ The researcher should present the meanings after consolidating the information from the data presented in relation to the objectives/research questions, literature review and research topic.
- ✓ In essence, it is the process of assigning meaning to the collected information and determining the conclusion, significance and implications of the findings.

NB The researcher should draw relationships and differences in the findings presented as per each sub-research question/objective. The researcher should present the meanings after consolidating the information from the data presented in relation to the objectives/research questions, literature review and topic under study. Other research studies reviewed in chapter two should be quoted to support similarities and differences of the current findings.

4.4 Summary

This is a brief outline of the main issues raised / discussed in the presentation and linking it with the next chapter.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Organisation of the chapter

This is the final chapter in the whole research project. It comprises the summary, conclusions and recommendations drawn from the whole study.

5.1 Introduction

It gives the focus of the chapter, stating the areas to be discussed, such as the summary, conclusions as well as the recommendations.

5.2 Summary of Findings

The purpose is to summarise the research study that was conducted. (Look at all the chapters summarising the main points).

This can be done by:

✓ Stating the problem to be solved, the issue at stake, that is, the main research question. What problems did the researcher encounter and how did the researcher go about to minimise the problems?

✓ Mentioning the main ideas coming out from literature related to the problem. What are the major findings and gaps in knowledge that motivated the study? Cite critical studies that have been conducted briefly.

✓ Making a brief description of methods used, this should include the design, target population, sample and sampling procedures. What instruments were used? What data procedures were used? What ethical procedures were taken into account?

✓ What were the major findings?

N.B The write up should be as brief as possible, consistent with clear presentation of all important information concerning the problem, method and findings.

5.3 Conclusions

It is sometimes called the "looking back" stage and it gives a final comment or judgement on the issue under study based on the findings. It highlights the key points as per research questions/objectives/themes, concentrating on the following:

✓ *Content* – this paper has examined…

✓ *Aims*- the study set out to…

✓ *Findings*- the study has shown that…

✓ *Implications*- the evidence from the study suggests that……

✓ *Research contributions*- the present study makes several contributions…..

✓ *Significance*- although the current study is based on…. The findings suggest that…….

✓ *Limitations*- a number of limitations need to be noted ……

N.B The above must be discussed with your subject and topic in mind.

Basically, the researcher attempts to restate what was said in the opening paragraph and ties together all the informational threads that have been woven into a project.

5.4 Recommendations

- ✓ Recommendations are based on findings in chapter 4 and methodological problems encountered.
- ✓ The recommendations are suggestions or strategies that maybe put in place in order to deal with the problem that was started off with/methodology.
- ✓ Recommendations should stipulate who takes what action(s) and with what urgency depending on the seriousness or the magnitude of the research discoveries.
- ✓ State a finding from chapter 4 and make a recommendation related to the finding to include focus for future research.
- ✓ What problems were met and what do you recommend.
- ✓ Make recommendations that are practical.
- ✓ The recommendations should be linked to the significance of the study. The recommendations should not outweigh the strengths of the problem.
- ✓ Recommendations must focus on various stakeholders linked to your research.
- ✓ Avoid use of authoritative terms, for example, "must"; rather use terms like "encourage", "urge", and so on.

REFERENCES

References and citations should be done consistently throughout the document as per college requirements. For example the Harvard style is used for academic referencing at Belvedere Technical Teachers' college, while other institutions can opt for APA, Turabian and so on. Only sources cited in the document should appear on the reference list.

Anderson, L.W. (2002). Theory into Practice, Curricular Alignment: *A Re-Examination. Vol. 41(4), 2002, p 255–260.*

Chawla, D. & Sondhi, N. (2014) *Research Methodology: Concepts and Cases*. Delhi: Vikas Publishing House.

Creswell J. W. (2009). Research Design. Qualitative, Quantitative and Mixed Methods Approaches. California: Sage Publications.

Knight, P. T. (2002). *Small-scale research*. Thousand Oaks, CA: Sage Publications.

Luker, K. (2010) *Salsa dancing into the social sciences*. Cambridge, MA: Harvard University Press.

Matthews, B. & Ross, L. (2010). *Research Methods: A Practical Guide For The Social Sciences.* London: Pearson Publishing Company.

Ruparanganda, F. (2012). The Extent of the Application of the Constructivist Perspective in the Teaching and Learning of Biology At O' Level. *Zimbabwe Journal of Educational Research. Vol. 24(3), 265-277.*

Scott, J. L. & Teale, W. H. (2010). The Reading Teacher: *Redesigning Teacher Education Programs: How High Can We Fly? Vol. 64(4), 291- 293.*

Shaun, B. (2012). *Understanding and Doing Successful Research: Data Collection and Analysis for the Social Sciences*. London: Pearson Publishers.

Silverman, D. (2010). *Doing Qualitative Research: A Practical Handbook*. Third Edition, London: Sage Publications.

Trochim, W. K. (2009). *Research Methods*. Delhi: Biztandra.

CDS RESEARCH PROJECT MARKING GUIDE

Candidate: ……………………... Section: ………………….Cand. No………

SECTION	DESCRIPTIONS	MARK	COMMENTS
LAYOUT Presentation Preliminary Pages	Is the project well organised and smartly presented (including being bound, language use, spacing) Are the cover, Table of contents and other pages done correctly?	**5**	
CHAPTER 1 Description of the study	Is the title concise, self-explanatory and exact in describing the problem under study? Are the problems, purposes and expectations clearly stated? Does the study provide a clear theoretical background? Has a strong case been made for the significance of the topic? Have the important terms been clearly defined?	**20**	
CHAPTER 2 Review of related Literature	Has the latest literature in the field been reviewed? Is the review comprehensive and precise? Is the literature used to link important issues related to the topic and show students' thinking?	**20**	
CHAPTER 3 Research Methodology	Are the research methodologies and tools used appropriate to the problem under investigation? Have provisions been made to ensure reliability and validity? i.e. using a variety of research tools.	**15**	
CHAPTER4 Data presentation, analysis, and interpretation (discussion of findings)	Have appropriate techniques of analysis been used? Have tables and figures been appropriately titled, referenced, placed and properly interpreted? Does the student give a complete description of what was occurring? Are the analysis and interpretations compelling, convincing and related to previous chapters?	**25**	
CHAPTER 5 Summary, conclusions and recommendations	Has a precise overview of the report been provided? Are the findings supported by evidence through the data? Are the recommendations applicable and appropriate? Are the ideas introduced in prior chapters connected in this chapter?	**10**	
REFERENCES	Does the references section contain all the sources cited (at least 15) in text as per college requirement? E.g. Harvard, APA and so on… Have the citations been arranged alphabetically? Do the appendices record all the documents used in the study?	**5**	

Additional Comments:

………
………
…………………………………………..………………
………

Supervisor: ……………….. Signature: ……………….. Date: …………….. Mark [   ]

Moderator ………………… Signature: ……………….. Date: …………….. Mark [   ]

Assessor: ………………… Signature: ……………….. Date: …………….. Mark [   ]

CDS RESEARCH PROPOSAL MARKING GUIDE

Candidate:……………….............................. Section:…………………..Cand.No……………………

SECTION	DESCRIPTION	MARK	COMMENTS
Research Title	Is the title: ✓ Concise, ✓ self-explanatory, ✓ & exact in describing the problem under study?	5	
Background to the study.	Does the section provide: ✓ A clear theoretical background? ✓ Realistic pointers to the problem?	10	
Statement of the problem.	Is the problem suggested explicitly and clearly stated	5	
Purpose/Aim of the study	✓ Is the purpose/ aim clearly Stated?	4	
Objectives of the Study	✓ Do the objectives bear a direct link to the main problem? ✓ Are they arranged in a logical manner? NB. Should be formulated in the form of objectives	3	
Research Questions	✓ Do the questions bear a direct link to the main problem? ✓ Are they arranged in a logical manner? NB. Should be formulated in the form of questions	3	
Significance of the Study.	✓ Has a strong case been launched for the significance of the topic?	5	
Assumptions of the study as applicable.	✓ Is the assumptions applicable?	5	
Delimitation of the study.	✓ Is the projected delimitation manageable?	5	

Limitations of the study.	✓ Are the limitations realistic? ✓ Are the suggestions on how to deal with limitations realistic?	5	
Brief Review of Related Literature	✓ Has the latest literature in the field been reviewed? ✓ Is the review comprehensive and precise? ✓ Is the literature used to link important issues related to the topic and show students' thinking?	15	
Brief reference to the research methodology and design to be used, as applicable.	✓ Are the research methodologies and tools used appropriate to the problem under investigation? ✓ Have provisions been made to ensure reliability and validity? I.e. using a variety of research tools.	15	
Ethical considerations.	✓ Are proper ethical considerations been made?	6	
Definition of key terms.	Have key concepts been identified and clearly defined?	6	
Conclusion	Has a precise overview been provided?	5	
References	Does the references section contain all the sources cited (at least 15) in text as per college requirement (APA) Are the citations alphabetically arranged?	5	

Additional Comments:

……
……
……………………………………………………..………………
……

Supervisor: ……………….. Signature: ……………….. Date: ……………... Mark [   ]

Moderator ………………… Signature: ……………….. Date: ……………... Mark [   ]

Assessor: ………………… Signature: ……………….. Date: ……………... Mark [   ]