MINISTRY OF HIGHER AND TERTIARY EDUCATION, INNOVATION, SCIENCE AND TECHNOLOGY DEVELOPMENT

MORGAN ZINTEC COLLEGE

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ZIMBABWE

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RESEARCH PROJECT HANDBOOK:
DIPLOMA IN EDUCATION PROGRAMME

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Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development
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The Research Project Handbook, is an off-shoot of the National Heritage-Based Education in which research is a cross-cutting issue and cornerstone to facilitating teaching and learning, innovation, industrialisation and community engagement.

Profound gratitude goes to the Minister of Higher and Tertiary Education, Innovation, Science and Technology Education; Honourable Amon Murwira, for his continuous encouragement to tertiary institutions to make research a reality, and pivotal towards achievement of National Development Strategy 1 and the country's blueprint, Vision 2030.

Special thanks also go to the College Principal, Dr T J. Zenda; Vice Principal, Mrs S. Kaseke for the provision of the resources for the production of this handbook. Morgan ZINTEC College is also greatly indebted to the College Research Unit for the sterling work towards production of this handbook, in particular Dr O.Matumbu and Mr W.Nyambodza who were co-coordinating the Research Unit.

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FOREWORD

One of the responsibilities of the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development (MHTEISTD) is strategic planning and development, implementation, monitoring and review of policies for the development of tertiary education towards realisation of our country's evolving development aspirations in line with the Government of Zimbabwe's National Development Strategy 1 (NDS1), Vision 2030 and Agenda 2063.

Research is a cornerstone for development, as well as a lifelong process starting from Early Childhood progressing through junior primary, secondary and tertiary levels of education. Capacity building in research skills of the students is enshrined in the MHTEISTD Strategic Plan 2023-2028; which is fundamental for sustainable development. Students in tertiary institutions are encouraged to embrace research as it goes a long way in fostering innovation, quality teaching and learning, as well transformative community engagement, towards production of goods and services. Morgan ZINTEC College, through investing and enhancing the research capacity of the students; complements the Ministry's efforts in ensuring Zimbabwe achieves a competitive edge in the 21st century and beyond.

The production of this Research Handbook by Morgan ZINTEC College, is a long-lasting investment in the human resource, which demonstrates commitment and determination to see the second Republic transform to prosperity, as rightly said, "Educate the teacher, you educate the nation".

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PREFACE

Research is one of the pillars of the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development (MHTEISTD) Heritage-based Education 5.0 and the Ministry of Primary and Secondary Education Heritage-Based Curriculum as well as critical skills towards realisation of the Republic of Zimbabwe National Development Strategy 1 and Vision 2030. This means, research is at the heart of any development and promotes quality education (SDG 4).

It is from this background that the Morgan ZINTEC College embarked on the production of this handbook, a reference document that would be used by student teachers to enhance research skills and to foster reliable data collection, data analysis and production of quality research reports. The methodology applied in the production of this handbook was two pronged. The first leg involved pairing writers who worked on …. sections. The second leg, involved a much larger team of college academic staff that was involved beefing up of the content and critical reading of the in the initial sections.

A peer review process also involved an exchange of the sections amongst the writers. After the review of each chapter, the original authors had to factor in the corrections before the full handbook was handed to the editors. The handbook is envisioned not only to benefit Morgan ZINTEC student teachers, but other students from tertiary institutions offering the Dilpoma in Education Programme as well as the world of research.

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Dr Matumbu
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LIST OF ACRONYMS

HBC: Competence-based Curriculum

CE: Community Engagement

ECD: Early Childhood Development

ESD: Education for Sustainable Development

FCDO: Foreign, Commonwealth & Development Office

FDGs: Focus Group Discussions

ICTs: Information and Communication Technologies

MMR: Mixed Methods Research

MHTEISTD: Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development

MoPSE: Ministry of Primary and Secondary Education

NDS 1: National Development Strategy 1

NGOs: Non-governmental Organisations

SDGs: Sustainable Development Goals

UNESCO: United Nations Educational, Scientific and Cultural Organisation

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SECTION 1: INTRODUCTION

1.0 RESEARCH: CONCEPTUALISATION

INTRODUCTION

MORGAN ZINTEC COLLEGE through the department of Research Technology and Innovation, along with the Academic Heads of Department (HODs), Lecturers in Charge (LICs) monitors the student teacher research program. The Student Research Program is undertaken by all the students at the college as part of their academic requirement. The student-researchers shall proceed with their research projects after a series of classroom lecture presentations and activities designed to equip them with the necessary theories, methods, and techniques in designing and conducting research. During the first year of study and first semester, the student-researchers shall be required to undergo the research proposal stage. During the second year they need to carry out a supervised research. In the final year research should pass the final oral defense and submit their research outputs as pre-requisite for their final grade. The research outputs shall be submitted to the student-researchers' respective departments they were supervised under. Both soft and hard copy shall be submitted to the departments for onward submission to the Research Technology and Innovation Department (RTID). The RTID facilitates in holding student research colloquia, software and project demonstrations, and prototype exhibits before the end of the third semester of the third year. The college promotes interdisciplinary and collaborative research. It encourages student-researchers to work together with fellow students, experts, and practitioners from other fields or disciplines in designing and conducting their research projects. In this manner, they will not only be able to develop their collaborative skills but also be able to integrate important ideas, methods, and techniques that will improve their research outputs and contribute better to knowledge production.

Objectives

1. To institutionalize the implementation of research activities in the entire college;

2. To upgrade the quality and relevance of student research by directing it toward the research agenda of the institution, and education 5.0; and

3. To guide all stakeholders involved in the research process.

Definition of Terms

1. **Final Oral Defense** is the presentation of final research outputs before a panel of evaluators.

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2. **Mock Defense** is a preparatory activity for the oral defense. This may be conducted prior to the proposal defense and final oral defense under the supervision of the research adviser.

3. **Monitoring System** is a mechanism of the department to supervise the implementation of the Student Research Program.

4. **Project/ /Software Demonstration** is an activity wherein selected student researchers demonstrate/present their research prototypes, soft wares as their research outputs to the community, other students, colleges and invited guests.

5. **Proposal Defense** is an activity wherein the student-researchers present their proposed research outputs before a panel of evaluators.

6. **Prototype Exhibit** is an activity wherein student-researchers showcase the research prototypes at the college innovation hub and local and international exhibitions.

7. **Research Adviser** is a lecturer/department member, employee of the college, or practitioner who, by reason of his/her specialization or expertise, contributes to the conceptualization and implementation of student research. Advisers shall guide and mentor the students all throughout the conduct of the research.

8. **Research Editor** is an English or Language department member of the college who assists student-researchers by means of thorough editing of manuscript in terms of grammar, structure, and coherence;

9. **Research Output** is the output required under the curriculum of the diploma program of the student-researchers. It may either be in the form of a project study, innovative business project, design project, or feasibility study.

10. **Research core team** member is a full time department member who is given the research teaching load and serves as the over-all coordinator for the whole research class during slots for lecturers and tutorials.

11. **Sanction** refers to penalty imposed to student-researchers for any act or omission in violation of the quality procedures set by the college, departments and the RTID.

12. **Student Research forms** part of the research supervision and quality control of the students' work.

13. **Student-Researcher** is any student at the college who is enrolled and undertakes research course and conducts a research project.

14. **Student Research Colloquium** is an activity wherein selected student-researchers present their research outputs publicly for a wider dissemination of significant research findings.

15. **Interdisciplinary** Research pertains to a research effort carried out by a group composed of researchers and experts or practitioners coming from different disciplines

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General Quality Procedures

1. A timetable of activities shall be drawn prior to the start of the academic year. This is to ensure that students will be able to complete the requirements of the research course within three years.

2. The students shall undertake a research module. They shall be given a series of classroom lecture presentations and activities designed to equip them with the necessary theories, methods, and techniques in conducting research and in producing their research outputs. The seminar-type lecture presentations and tutorials may be provided by selected departmental members, the research core-team, experts, practitioners, or by the research lecturer.

3. The RTID shall determine the format and contents of research outputs.

4. The research lecturer shall constantly monitor the research outputs of the students. Each research teacher shall handle a research course that requires a specific type of research output.

5. The student-researchers shall be allocated to research advisers by the RTID based on the research interest and suggestions forwarded to the RITD.

6. The research adviser shall help the students in designing and conducting the research projects based on the set timetable of activities.

7. The research adviser shall provide at least one (1) hour for consultation per week, face to face or virtual.

6. The student-researchers shall select their research editor from a list provided by the RTID based on the suggestions forwarded by the respective departments.

7. The editor shall assist the students in correcting the research manuscripts in so far as the grammar, structure, and coherence are concerned.

8. The research lecturer shall arrange the proposal defense based on the timetable of activities. Only students who have complied with the set requirements shall be allowed. A panel of three (3) evaluators shall examine the proposals submitted by the students. The students must successfully defend their research proposals before they can be allowed to proceed with their research projects. The research teacher shall facilitate, monitor, and evaluate the conduct of the proposal defense.

9. The RTID shall organize the panel of evaluators for the final oral defense. The panel during the final oral defense shall be composed of the same evaluators present during the proposal defense. In the absence of one panelist, the research lecturer shall sit in lieu and complete the panel.

10. The student-researchers must successfully defend their research outputs. They shall submit their research outputs as pre-requisite for their final grade.

11. Selected student-researchers shall present their research outputs in research colloquia, software and project demonstrations, and prototype exhibits.

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12. Sanctions may be imposed to student-researchers should they fail to abide by the quality procedures set by the RTID.

13. Interdisciplinary research is encouraged among all student-researchers enrolled across different curricular programs.

Research Groupings

1. Research projects may be undertaken individually or by group. Student researchers shall be allowed to choose their group mates, provided that the composition of the group shall not exceed five (5) members. In case where the number of members exceeds five (5), a letter must be submitted to the RTID, signed by the research advisor, LIC and HOD and the Dean, stating the reason/s for such occurrence.

2. Each group shall select a leader.

3. Re-grouping of the students may be allowed during the Prelim period. If regrouping is inevitable after the proposal defense, the request shall undergo scrutiny by the research advisor.

4. Problems or conflicts arising within the group (i.e., non-participation or non-cooperation of group member(s) in the preparation of the research outputs) shall be settled in the presence and guidance of the research adviser. If such are not resolved, the RTID HOD must be notified in writing noted by the research adviser. The HOD shall decide on the matter in accordance with pertinent rules and regulations of the College.

Topic Approval

1. The students shall submit at least three topics or titles to the research adviser/supervisor for approval.

2. Approved topics or titles shall be checked if:

a. they adhere to the institution's research agenda;

b. they are researchable, addressing a gap in knowledge or method; and

c. they are not a duplication or replication of existing topics or titles.

Submission of Final Research Outputs

1. One (1) printed and spiral-bound copy of the final research project will be submitted to the RTID through the advisor's department together with moderated researches and final marks for each research.

2. Two (2) soft copies in PDF format saved in CD of the final research paper, one (1) copy for the RTID and another one (1)for the Library .

3. Prototype project will be displayed in the college innovation hub.

4. Student Research Prototype acknowledgement form

Policy on Co-Authorship

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The research adviser is acknowledged for his/her intellectual contribution in the conduct and production of student research. In order to be formally considered as a co-author of the research paper, the research adviser and the student-researchers must sign the Declaration of Co-Authorship which certifies the substantial contribution of the adviser who, therefore, shall be given the credit as a co-author of the research paper. The research adviser may present the paper in local or international conferences, and publish it in local or international journals, subject to the following:

1. When published as a research work in a journal, the research adviser gets the credit of being a co-author of the student-researchers;

2. The principal authors are the student-researchers and the research adviser the secondary author; and

3. The research adviser may credit the published work to his/her name, meaning, he/she could declare it as his/her publication, provided, through close scrutiny, he/she has invested sufficient amount of time and technical support for the preparation of the said student research as evidenced by the evaluation of the students.

Quality control Forms

Form P1 Research Adviser/supervisor and Advisee progress consultation matrix form.

Form C2 Research audit Clearance form.

Form SR2 Scoring for Research Output - Proposal Defense.

Form SF1 Scoring for final Research Output - Final Oral Defense.

Form DC Declaration of Co-Authorship

To the student

During this course, you do a compulsory research component where you will submit a final research report at the end of the course. The term 'research' is applied in so many ways in our daily life, from our quest for relevant knowledge to writing degree-level research to explore a problem at work. Research is a systematic process of collecting, analysing, and interpreting information (data) to better understand a phenomenon about which we are interested or concerned. It is a lengthy process, focused, specific, intensive, accumulative, and educational, and is not mere information gathering, transportation of facts from one location to another, and rummaging for information. Research is not a long essay. The thrust of your research should be guided by the Education 5.0 mantra which has the following five pillars:

- Research;
- Innovation;

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- Teaching and Learning;
- Industrialisation; and
- Community engagement.

In your day-to-day experiences, you're furnished with different types of information. This information comes in different sources which include: own direct experiences, people's opinions, news, social media chats, academic presentations and documents. Many a time you're motivated to find out more about issues raised in the different sources of information. This motivation comes as a result of you having a different view, or you require a deeper understanding, or you share the same sentiments but you cannot confidently make conclusions; because nothing has been verified. This prompts you to carry out research. As such, research is a critical skill you require as a student (even when qualified as a teacher), for the purposes of planning, reliable data collection, production of quality reports and evaluation of policy and practice. Such research enables you to enrich existing knowledge and make evidence-based decisions.

Khadka (2015) considers research as a movement from known to unknown, a real voyage of discovery. Let's summarise what research entails by using Creswell's definition. Creswell (2014) asserts that research is a process of steps used to collect and analyse information to increase our understanding of a topic or issue. It consists of three steps as depicted in Figure 1.1.
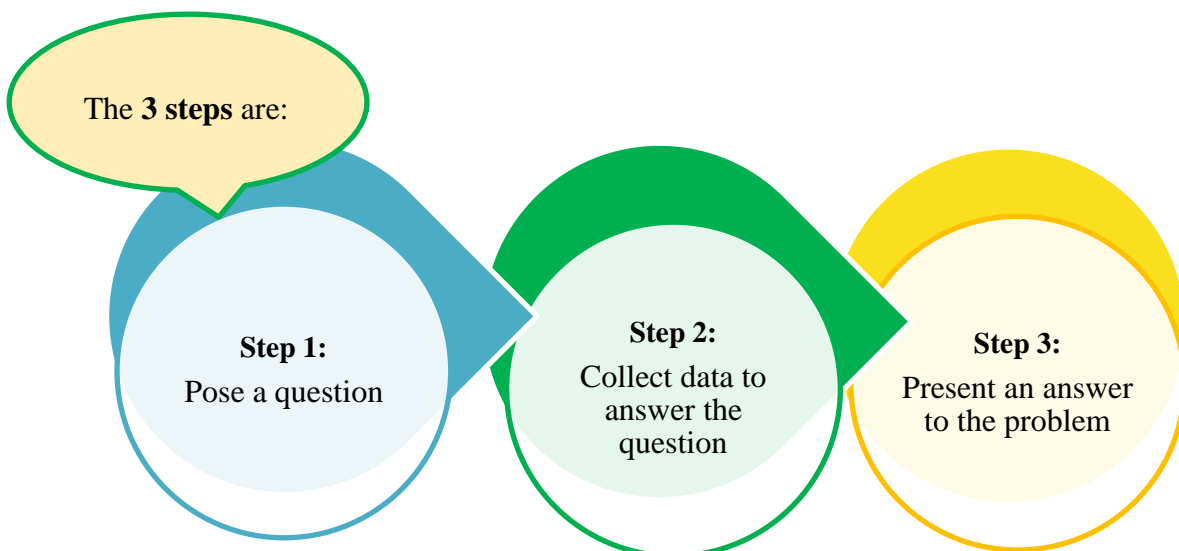
The **3 steps** are:

Step 1:
Pose a question

Step 2:
Collect data to answer the question

Step 3:
Present an answer to the problem

Figure 1.1: Research process steps

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At this level, we do academic research, whose scope is education issues. Academic research is defined as a *"Systematic investigation into a problem or situation, where the intention is to identify facts and/or opinions that will assist in solving the problem or dealing with the situation".*

- Academic research focuses on research goals/questions that arise from independent researchers or phenomenal study.
- It uses formal, scientific, and systematic procedures to discover answers.

On the other hand, professional research is defined as work performed to advance an individual's profession e.g. teaching.

- It is a form of communication produced professionally to facilitate work. Professional research focuses on research goals/questions that emerge from business- or work-related requirements.
- It may or may not use formal, scientific, and systematic procedures to discover answers.
- It is not grounded in theories and may not require a representative sample.

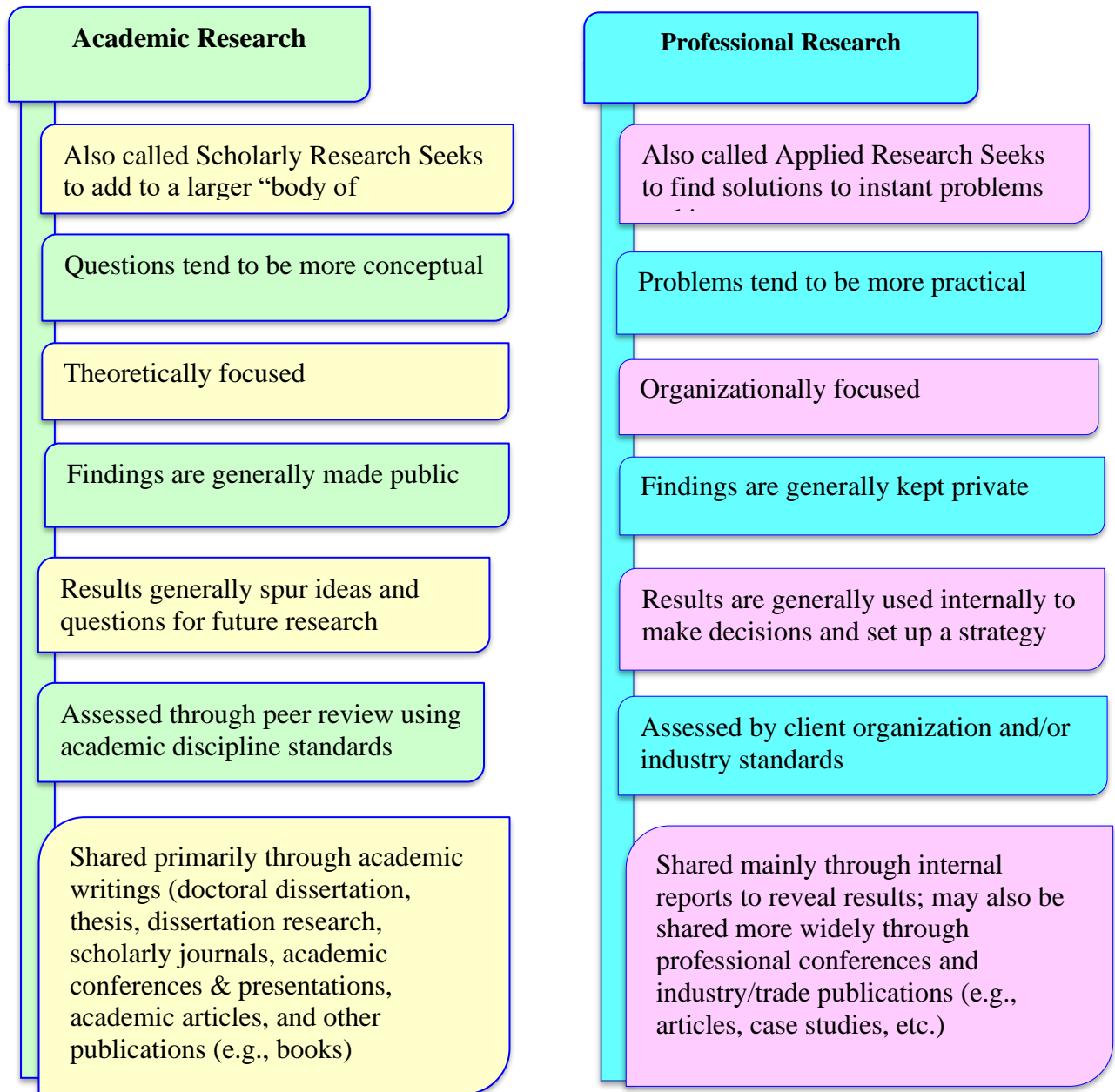## 1.2   ACADEMIC VS PROFESSIONAL RESEARCH

Academic Research	Professional Research
Also called Scholarly Research Seeks to add to a larger "body of	Also called Applied Research Seeks to find solutions to instant problems
Questions tend to be more conceptual	Problems tend to be more practical
Theoretically focused	Organizationally focused
Findings are generally made public	Findings are generally kept private
Results generally spur ideas and questions for future research	Results are generally used internally to make decisions and set up a strategy
Assessed through peer review using academic discipline standards	Assessed by client organization and/or industry standards
Shared primarily through academic writings (doctoral dissertation, thesis, dissertation research, scholarly journals, academic conferences & presentations, academic articles, and other publications (e.g., books)	Shared mainly through internal reports to reveal results; may also be shared more widely through professional conferences and industry/trade publications (e.g., articles, case studies, etc.)

Figure 1.1: Academic and professional research

Academic research and professional research also share the following common characteristics:
- Questions asked;
- Problems established;
- Phenomenon observed;
- Seeks to validate the field and profession;

- Draws upon a much larger research community;
- Results bring in new information/knowledge;
- Uses widely accepted research methods (i.e., scientific research methods); and

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- Adheres to ethical standards

1.3 ACADEMIC RESEARCH

Academic research falls into two categories. These two categories are:

- Research **ON** your field; and
- Research **FOR** your field.

1.3.1 Research ON your field

Research that is searching for best practices. It looks at how your academic area is practiced in the real world. A scholar will examine how well a theory is being applied or used in a real-world setting and make recommendations.

For example, in education, if a scholar researches on reading comprehension, they may want to determine what are some of the most appropriate strategies for teaching reading comprehension. The scholar will look at existing theories and such which one(s) are most appropriate for supporting students. Research **on** your field is focused on existing theories that are tested to develop recommendations for improving practice.

1.3.2 Research FOR your field

Research **FOR** your field is slightly different, this perspective seeks to expand theoretical knowledge about your field. In order, for the scholar develops new theories rather than assess the application of older ones.

An example of this in education would be developing a new theory in reading comprehension. By theory, it is meant explanation. Famous theories in education include Piaget's stages of development, Kohlberg's stages of moral development, and more. At their time each of these theories pushes the boundaries of our understanding of something. The main thing about academic research is that it leads to recommendations but not necessarily to answers that solve problems. Answering problems is something that is done with applied research.

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1.4 APPLIED RESEARCH

Applied research is also known as **research IN your field**. This type of research is often performed by practitioners in the field. There are several forms of **research IN your field** and they are as follows:

1.4.1 Formative;
1.4.2 Monitoring; and
1.4.3 Summative.

1.4.1 Formative research

Formative research is for identifying problems. For example, a teacher may notice that students are not performing well or doing their homework. Formative applied research is when the detective hat is put on and the teacher begins to search for the cause of this behavior.

The results of formative research lead to some sort of action plan to solve the problem. During the implementation of the solution, monitoring applied research is conducted.

1.4.2 Monitoring research

Monitoring research is conducted during the implementation of a solution to see how things are going. For example, if the teacher discovers that students are struggling with reading because they are struggling with phonological awareness. They may implement a review program of this skill for the students. Monitoring would involve assessing student performance in reading during the program.

1.4.3 Summative applied research

Summative applied research is conducted at the end of implementation to see if the objectives of the program were met. Returning to the reading example, if the teacher's objective was to improve reading comprehension scores by 10% the summative research would assess how well the students can now read and whether there was a 10% improvement.

In education, applied research is also known as Action Research. Research can serve many different purposes. Academics focus on recommendations, not action while practitioners want

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to solve problems and perhaps not recommend as much. The point is that understanding what type of research you are trying to conduct can help you in shaping the direction of your study.

1.5   THE SUPERVISOR-STUDENT RELATIONSHIP

1.5.1 The student' role

As an upcoming researcher:

Be willing to receive constructive feedback from your supervisor and incorporate the feedback into your research project

Put forth your best work every time. Submit work that is free of typos and grammatical errors

Reflect on feedback provided on earlier interaction of the document, and presents written logical, and carefully edited work

Submitting work that contains grammatical and format errors, or that does not address suggestions from the supervisor, can slow down your progress

Take personal responsibility of your Research Project and get the work done

Figure 1.2: Advice to the student

1.5.2 The research supervisor's role

Throughout the research process, the supervisor will encourage you and give you support. Specifically, the supervisor will:

1.5.2.1   Challenge your thinking and rationale for conducting the research project both during verbal and written communications. The supervisor will critically challenge your ideas, analysis, logic and arguments

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1.5.2.2   Evaluate and provide constructive written feedback as you move forward in completing the research project

1.5.2.3   Provide timely feedback to the student/supervisee

1.5.2.4   Maintain a professional and collaborative relationship with the student/supervisee

1.5.2.5   Monitor the student's progress towards completion of the research project.

1.5.2.6   Be your (the student's advocate)

1.5.2.7   Ensuring the research project quality

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SECTION 2: THE TOPIC FORMULATION

2.0   WHAT IS A TOPIC IN RESEARCH?

A research topic is a subject or issue that a researcher is interested in when conducting research. A well-defined research topic is the starting point of every successful research project. Choosing a topic is an ongoing process by which researchers explore, define, and refine their ideas.

Why do you choose a topic for research?

The research topic gives scope and limit to your research.

2.1   SELECTION OF A TOPIC

The research process is more relevant if you care about your topic. If your topic is too broad, you will find too much information and not be able to focus. Background reading from different sources e.g., books, journals, internet sources, etc.; can help you choose and limit the scope of your topic.

Choose a topic:

That interests you

You are curious about

That is manageable and and benefits stakeholders

That is challenging,
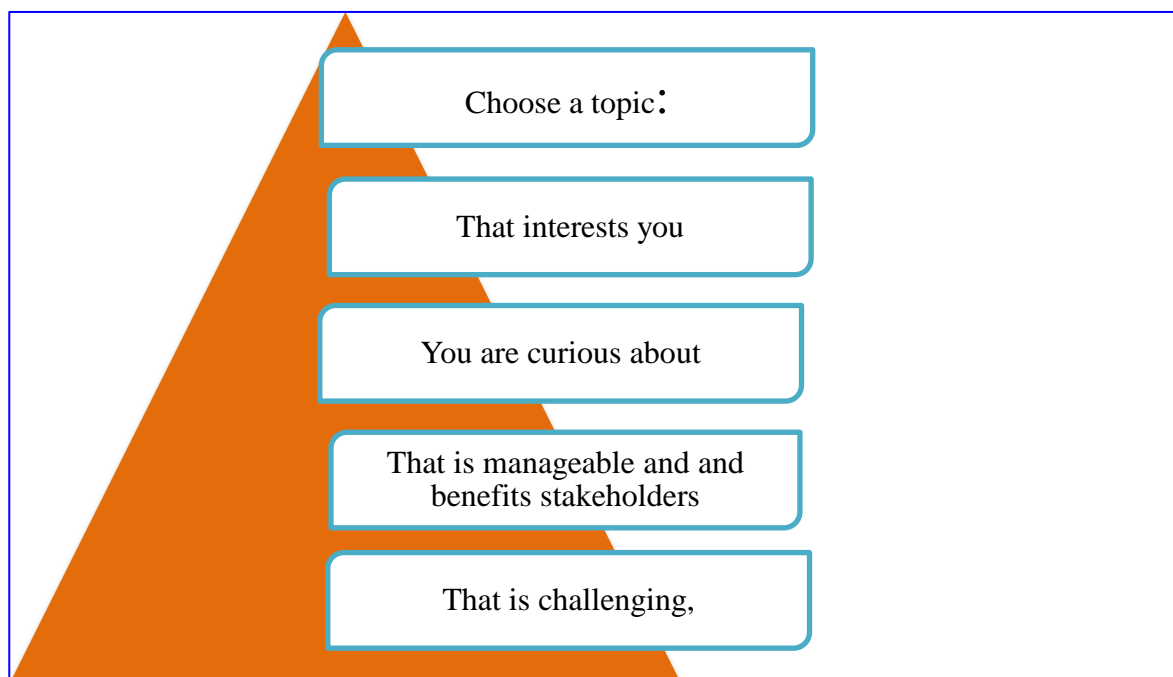
Figure 2.1: Pointers to choosing a topic

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2.1.1 Information that can further assist you I choosing a research topic

Consider:

- Topics or issues that engage you in discussions and debates with peers, or your college tutors;
- Specific situations you have encountered that you feel warrant further investigation as a research topic;
- Recommendations for future research listed at the end of a Research Article, though it is advisable to conduct literature searching;
- Reviewing newspapers and the internet for current issues to research on; and
- A topic you already need to know in more detail.

2.1.2 Characteristics of Good Research Topics

Effective titles in academic research have several characteristics. The titles:

- indicate accurately the subject and scope of the study;
- use words that create a positive impression and stimulate reader interest; and
- Use current vocabulary from the field of study

NB: Avoid using abbreviations.

2.1.3 Steps in Selecting a Research Topic

The ability to develop a good research topic is an important skill. The supervisor may assign you a specific topic, but most often supervisors require you to select your topic of interest. When deciding on a topic, there are a few things that you will need to do. These include:

- brainstorming ideas;
- choosing a topic that will enable you to read and understand the literature;
- ensuring that the topic is manageable and that material is available;
- making a list of key terms;
- being flexible;
- defining your topic as a focused research question; and
- researching and reading more about your topic.

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Be aware that selecting a good topic may not be easy. It must be narrow and focused enough to be interesting, yet broad enough to find adequate information. Before selecting your topic, make sure you know what your final project should look like.

Step 1: Brainstorm for ideas

Choose a topic that interests you. Use the following questions to help generate topic ideas.
- Do you have a strong opinion on a current social or political controversy
- Did you read or see a news story recently that has piqued your interest or made you angry or anxious?
- Do you have a personal issue, problem, or interest that you would like to know more about?
- Is there an aspect of a class that you are interested in learning more about?

Write down any keywords or concepts that may be of interest to you. Could these terms help be used to form a more focused research topic?

Be aware of overused ideas when deciding on a topic. You may wish to avoid certain topics unless you feel you have a unique approach to the topic. Ask the instructor for ideas if you feel you are stuck or need additional guidance.

Step 2: Read General Background Information

- Read general articles on the topics you are considering. Reading a broad summary enables you to get an overview of the topic and see how your idea relates to broader, narrower, and related issues. It also provides a great source for finding words commonly used to describe the topic. These keywords may be very useful to your later research.
- Use periodical indexes to scan current magazine, journal, or newspaper articles on your topic. Ask the librarian if they can help you to browse articles on your topics of interest.
- Use Web search engines. Google and Bing are currently considered to be two of the best search engines to find websites on the topic

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Step 3: Focus and scope of Your Topic

Keep it manageable. A topic will be very difficult to research if it is too broad or narrow. One way to narrow a broad topic is to limit your topic. Some common ways to limit a topic are:

By geographical area: Examples

The role of environmental issues in teaching and learning. A case of Risutu Primary School in Manicaland Province.

The influence of parental involvement in the teaching and learning of Family Religion and Moral Education to learners at Gokwe Primary school in Midlands Province

Corporal punishment, a cause of concern in disciplining primary school learners in Muzarabani'. An examination of the role of school heads in instituting corporal punishment

By culture: Examples

The position of the Tonga worldview in the teaching and learning of Heritage and Social Studies in Primary Schools in Zimbabwe. A case of Binga Primary School.

Parental involvement in the teaching and learning of primary school children among the Korekore of Mashonaland East Province.

By Time Frame: Examples

Kukosha kwerurimi rwaamai mukudzidziswa kwavana vePrimary ruzivo rwekugadzira midziyo yamaoko mukati memakore makumi matatu apfuura Zimbabwe yawana kuzvitonga kuzere.

Mathematics and science as pillars of innovation in primary schools in Zimbabwe. The influence of the revised education curriculum on learners in the past 2 years.

By Discipline

Family childcare and the development of phonic sounds in pre-reading of learners at Early Childhood Development. An evaluation of the role of ECD facilitators at Braeside primary school in Harare

Interreligious dialogue and conflict management in the education system. The role of Family Religion and Moral Education in promoting peace and tolerance in Zimbabwean primary schools in Chipinge district.

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ISSUES TO TAKE NOTE

Remember that a topic may be too difficult to research if it is too:

Locally confined: Topics that are too specific may be difficult to research

Examples:
a) The effects of sewage disposal on grade 3 learners at Hartley 1 Primary School in Chegutu.
b) The role of female teachers in teaching the ball pass- skill in physical education at the grade 3 level at the Braeside Primary School.

Too recent

If a topic is quite recent, books or journal articles may not be available, but newspaper or magazine articles may. Also, Web sites related to the topic may or may not be available.

Broadly interdisciplinary: You could be overwhelmed with superficial information.

Example:
The role of National and Strategic Studies in the culture, politics, society, and education of pupils in primary schools in the Matabeleland province of Zimbabwe

Popular

You will only find very popular articles about some topics such as sports figures and high-profile celebrities and musicians.

NB: If you have any difficulties or questions with focusing your topic, discuss the topic with your supervisor.

Step 4: Make a List of Useful Keywords

Keep track of the words that are used to describe your topic.

- Look for words that best describe your topic
- Look for them when reading articles, background, and general information
- Find broader and narrower terms, synonyms, and key concepts for keywords to widen your search capabilities.
- Make note of these words and use them later when searching databases and catalogues

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Step 5: Be Flexible

- It is common to modify your topic during the research process. You can never be sure of what you may find. You may find too much and need to narrow your focus, or too little and need to broaden your focus. This is a normal part of the research process. When researching, you may not wish to change your topic, but you may decide that some other aspect of the topic is more interesting or manageable.

- Keep in mind the assigned length of the research, project, reference, or another research assignment. Be aware of the depth of coverage needed and the due date for final submissions of the research project to the research section.

Research Topics: Some interesting Clues

- One thing that works when finding the right research topics is to think of several subjects that interest you.
- Try writing down these subjects on a sheet of paper.
- Choose the one that interests you the most and then break down the general subject into smaller chunks of topics that are related to it.
- Narrow down your topics to the most interesting ones.
- If it is a controversial topic, choose a particular perspective that you will develop in your research. Read different points of view related to your topic as this expands your knowledge and makes writing your paper easier.

NB. The research area must be of strong interest and practical concern to you.

A problem:
- does not necessarily mean that something is seriously wrong with the current situation, which needs to be rectified immediately;
- could simply indicate an interest in an issue where finding the right answers might help improve an existing good situation; and
- should emanate from the researcher's practice and should not be imaginary. It should trigger the need for research.

You're advised to seek advice early to ensure that the area of inquiry is suitable the research area must be relevant to the field of education as indicated above in the introductory remarks.

SECTION 3

THE RESEARCH PROJECT FORMAT

3.0   Features of the Preliminary Pages

In the preliminary pages of the research project, you should present the following items in the given order:

- The title page
- Table of contents
- Abstract
- Acknowledgments
- List of tables
- List of Figures

3.1   The title page

This is the cover page and should not be numbered. The title page shows:

- Institution granting the diploma
- Title of the project Name of the writer
- Name of the supervision Year of award

Insert picture of complete Title Page

3.2   Table of contents

This shows a contents list of the:

3.2.1   Preliminary pages
- Declaration,
- Dedication,
- Acknowledgements,
- Abstract
- List of Abbreviations/Acronyms
- List of tables (on separate page). Indicate the:
  - table number,
  - title, and
  - reference page.
- List of Figures (on separate page). Show the:
  - figure number,
  - title, and
  - reference page

3.2.2   Main body of the Research Project
This includes the chapters as follows:

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- ▪ Chapter One: The Problem and its Setting
- ▪ Chapter Two: Review of Related Literature
- ▪ Chapter Three: Research Methodology
- ▪ Chapter Four: Data presentation, Analysis and Interpretation
- ▪ Chapter Five: Summary, Conclusions, and Recommendations

3.2.3 Appendices

Appendices include:
- ▪ Research clearance letter;
- ▪ Research Instruments

It is important to shade some light on the contents of some preliminary pages which students normally have a mix-up. These are the Dedication, Acknowledgements and Abstract.

3.3 Dedication

A dedication is a message from the author prefixed to a work in tribute to a person, group, or cause. Most dedications are short statements of tribute beginning with "To…" such as "To my family"

3.4 Acknowledgements

In this section, you thank the people who gave you guidance and assistance during the research, throughout its successful completion. These must be on a separate page and should not exceed one page in length. Acknowledgments should be in good taste.

3.5 Abstract

This is a summary of the project. It should contain the topic, the problem, the methodology, and the results. Also include the recommendations. This section is presented in single spacing. An abstract is a stand-alone document and therefore, should not include citations because it would then need references. The abstract should not be more than three hundred and fifty words in length and should not exceed two pages in length. This is window shopping where one's interest is captured whether to read or not read the research.

The following sections focus on what is expected of you under the different chapters of your Research Project. Let's start with Chapter One.

CHAPTER ONE: THE PROBLEM AND ITS SETTING

4.0   THE PROBLEM AND ITS SETTING

The first chapter is the initial clarification of the topic and should say how the topic was arrived at and why you think it should be tackled now. Figure 4.1 shows the sub-topics found in Chapter 1 of your research project.
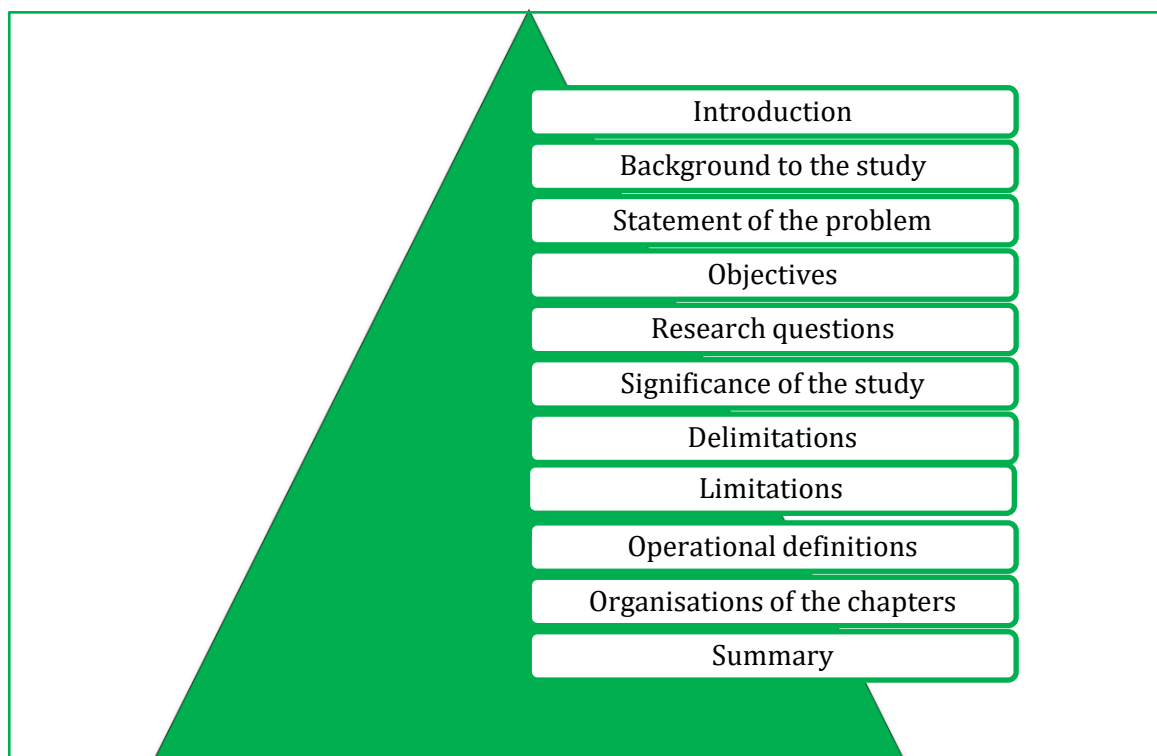
Introduction

Background to the study

Statement of the problem

Objectives

Research questions

Significance of the study

Delimitations

Limitations

Operational definitions

Organisations of the chapters

Summary

Figure 4.1: Chapter 1 sub-topics

4.1   INTRODUCTION

In this section you place the research into some intelligent context, bringing in related issues to the problem in question, and also outline the main aspects to be covered in the chapter.

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4.2   BACKGROUND OF THE STUDY

This sub-heading focuses on:

- What you (as a researcher) have experienced or observed with an increased degree of frequency, e.g., learners who do not finish assigned work or a very low pass rate
- Situational analysis, e.g., short exercises, large classes over 60
- What other researchers have said and done about the identified problem
- The researcher's critical analysis of earlier researchers' work, not just a pile of quotations, e.g. an earlier researcher may have noted that large classes impact negatively on the learners' opportunity to learn but the new researcher may be saying it depends on the teacher's/facilitator's maturity, methodology, and creativity.
- The researcher should be clear about the identified gap, e.g. you may have noticed that previous research was done in the first world but, yours is situated in the rural area of a developing country where no meals are provided at school and where learners wake up early every day to walk long distances to school.
- Clarity is needed on what the research proposes to accomplish.
- As you build up your case, ensure that there is fluency and consistency in the various aspects of the background of the study. That will help to build a coherent argument.
- In this section, you place the research into a context that is analyzing issues that are central to the problem. You may ask yourself the following questions.
- What led you to get to the source of this particular problem?
- Does literature also reflect such problems in other areas e.g., is reading also a major problem in other schools? (Cite source)
- What could be the major causes of the identified problem?
- Why is the problem a major area of concern (cite examples e.g., reading affects all subject areas)?
- Relevant literature must be cited to authenticate your study. The whole idea of the background of the study is to show the gravity of the problem.

Figure 4.2 provides a suggested approach to attacking the background of the study.

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The background to the study should adopt a funnel approach, i.e., it should:

Globalise the problem

Regionalise the problem

Nationalise it

Localise it
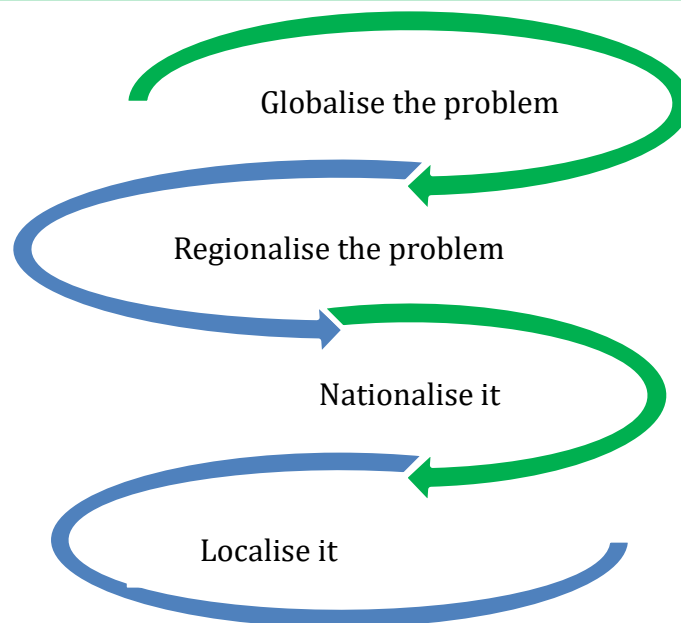
One may also proceed from the past to the present, i.e. historical to current

Figure 4.2: Approach to the Background to the study

4.3 STATEMENT OF THE PROBLEM

- This should define the extent of the problem including its distribution, quantity
- What is the current problem of opportunity which indicates the necessity for the research?
- What is the gap in knowledge?
- A research problem is an information-gathering issue on which the research is based on (Magwa and Magwa, 2015).
- It is an issue or problem that leads to a need for a study (Creswell, 2014).
- It is the heart of research as we cannot proceed with the research if we do not have a problem (Chiromo, 2006).

4.3.1 Sources of Research Problems

- Question in your mind and you are eager to investigate it and come up with a solution. It can be personal or professional experience, a theory, the media, or from research studies by others;

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- Extensive debate in the literature whereby a gap that needs to be addressed may be identified or from alternative views that should be resolved;
- Policy debates in government or among top executives;
- Experiences from the classroom, the school, or the local community;
- Your everyday personal or professional experience that you might research to come up with a solution;
- Observation and your experiences in using existing teaching methods;
- Other people's research as you validate their assertions; and
- Recommendations from other researchers

4.3.2 How to write a statement of the problem

Dr. Olanike Busari said "If you don't state what your problem is, the doctor cannot know what to treat". The problem statement is very important in research and many students lack the basic knowledge of how to present their research problems. I want to share this costly academic knowledge here hoping it helps someone. Remember, your problem statement does not necessarily have to be lengthy. If you are telling a doctor about the symptoms of your sickness and you are beating about the bush, the doctor may get furious with you. That is what often happens with the examiners of research works. Let's use the analogy of sickness to explain the simple steps in the problem statement in research.

Step 1: State the ideal situation - I am supposed to be healthy to live a fulfilled life.

Step 2: State the current situation – however, I am not well at all.

Step 3: State measures that have been put in place over time to solve the problem - I have taken different medications including......, I have even tried herbal medicines and prayer houses, etc

Step 4: State the persistence of the problem – yet, I have not felt any better, instead it is increasing.

Step 5: State the effects of the problem – I can't concentrate, I can't eat very well, I can't sleep very well (these are effects on the person), effects on others may include: my sickness constrains my family members, etc…

Step 6: State the reason for the research – I feel that this sickness may be severe or even kill me if I don't find a lasting solution to it. And I feel that a way of finding a lasting solution it is by consulting a specialist about my_sickness.

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Step 7: State the knowledge gap – although people have similar cases to my own they have often used different methods to treat their weaknesses, I feel that using this method will make a more significant difference from the methods previously used by others.

Step 8: Conclude your statement – it is because of all I have said that I came to you for a solution to my problem. Simple and short. Hope this will help some people".

(https://shegnetkonsulting.wordpress.com)

Overall, the statement of the problem contains a brief and clear statement of the problem to be solved. This should be answered through the collection and analysis of data. It must be very clear and be resolved through research. Follow the statement of the problem with a well-supported discussion of its scope and nature. From the case given above by Dr. Olanike, the discussion of the problem should include: what is the ideal situation, what the problem is, why it is a problem, how was it solved, were the efforts successful, how the problem evolved or developed, what could be the effects if the problem is not solved, and how do you think you may want to solve the problem differently.

4.4   OBJECTIVES

Research objectives describe what you intend your research project to accomplish. They summarise the approach and purpose of the project and help to focus your research.

You can choose one general objective and a few other specific, narrow objectives. In the general objective, a state in a broad sense what you aim to achieve through your research. Then, use the specific objectives to describe how you can achieve your general goal. For example, your general objective could be:

Determine how school environment affects learner performance

In this case, your specific objectives might be:

a)   Determine whether sunlight improves performance; and

b)   Measure how performance changes when the work environment changes.

The following are tips for writing your research objectives:

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4.4.1 Write your Research Objectives in the Smart Format

Using this format can make your objectives clearer and easier to understand, which can make you more likely to achieve them. Make sure your objectives meet these criteria:

Specific: Be specific about your desired outcomes. Your objectives should be written and leave no room for confusion. This can help you keep them narrow and focused.

Measurable: Making your objectives measurable is essential to achieving them. You can create metrics to measure your progress toward achieving your objectives.

Achievable: Be sure to create objectives that you can realistically achieve to help you avoid getting overwhelmed by unrealistic expectations. Make sure you have the resources and budget to accomplish your objectives.

Relevant: Make your objectives relevant to your research and your overall goals. This can help you stay motivated and on track throughout your research project.

Time-based: You can establish deadlines to help you keep your research process on track. You can set a major deadline for your entire project as well as smaller deadlines for each objective.

4.4.2 Be concise

One tip for writing strong research objectives is to write your objectives as concisely as you can. Try to remove unnecessary words and fillers to make your objectives as easy to understand as possible. If possible, try to keep each objective to only one sentence. This can make it easier to use your objectives to guide your research process.

4.4.3 Keep your number of objectives limited

It's also important to write only a few specific research objectives. Try to limit your number of objectives to five or fewer to help you avoid getting overwhelmed by trying to accomplish a long list of objectives. You can also choose one general objective and a few other specific, pointed objectives.

4.4.4 Use action verbs

Using action verbs is another way you can strengthen your research objectives. Using action verbs can help you measure whether you've accomplished your research objective, and it can

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also make your objectives feel more actionable and engaging. Some action verbs you could consider using are:
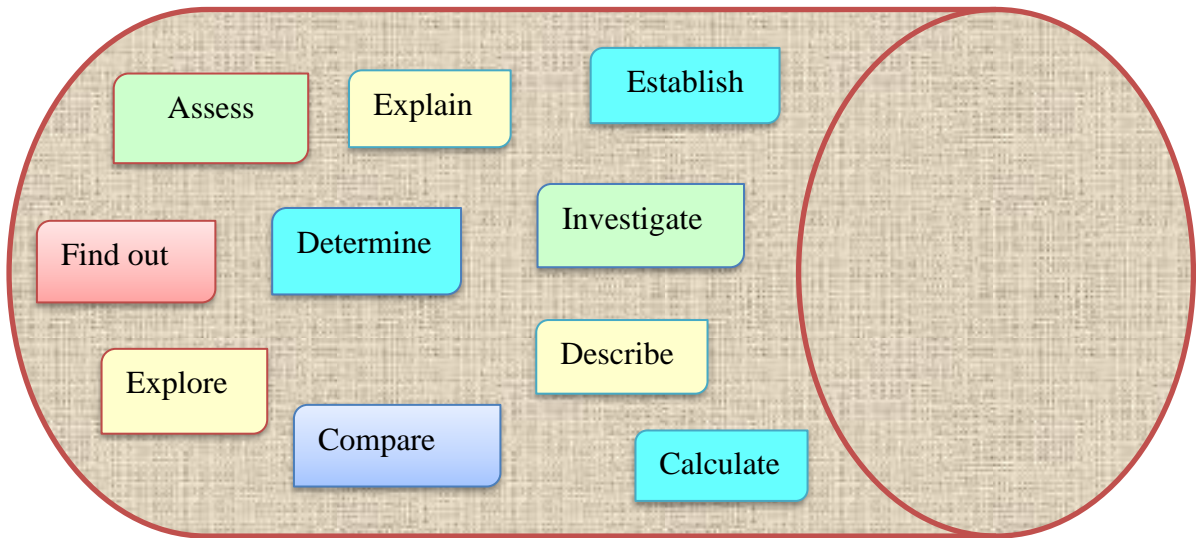

Figure 4.3: Verbs to use in crafting Research Objectives

4.5   RESEARCH QUESTIONS

These are developed from the research problem. They are developed to guide you through the literature for a given problem area. They should be written in question using words such as how? what? Can? In other words, the problem statement and objectives or research questions must be interrelated. The questions must have answers but not in the form of yes or no. The questions must be researchable. Three to five open-ended questions are usually adequate. e.g. from the following Research topic:

An analysis of the role of school heads in instituting corporal punishment in Muzarabani District primary schools.

SAMPLE OBJECTIVE: To find out the extent to which corporal punishment is used in schools.

SAMPLE RESEARCH QUESTION: what is the magnitude of using corporal punishment schools?

4.6   SIGNIFICANCE OF THE STUDY

The importance of the study is explained in terms of stakeholders. It will benefit the researchers, other teachers, children, parents, school heads, and others. Point out how the solution will be of benefit to educational theory and practice e.g benefit you, other teachers, children, etc. In other words, you should point out how the solution to the problem can influence educational theory and practice.

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4.7   DELIMITATIONS

These are the boundaries of your study, what is the study concerned about, and how wide the field from which it will source its data. These should be content, geographical, and methodological parameters.

These are boundaries that govern the study and they include:

- Physical boundary- where was the study carried out?
- Conceptual boundary- What is the concept under study? e.g. **Parental involvement**, **Inclusive education.**
- Methodological boundary-this is concerned with the research approach, design, population, and sampling procedure. For example, the study was guided by a qualitative approach, cases study research design, and purposive sampling techniques. The study population of the study comprised ECD teachers and ECD learners.
- Theoretical boundary- which theory was guiding the study?

4.8   LIMITATIONS

Explain any challenges you experienced in carrying out the research project. There is a need to diarize them as you carry out the research.

- Limitations are constraints or shortcomings which may affect the generalization of results.
- The nature of the study/topic can present limitations. e.g., gender issues have related stereotypes; inclusive education is a stigma issue which may affect the findings.
- Limitations of the study are those characteristics of design or methodology that may impact or influence the research findings. For example, the use of a qualitative research approach may have limitations such as bias resulting from data interpretation.
- Another example, is the use of purposive sampling in the study may limit the generalization of findings to other settings or populations. Other methodological limitations can relate to the research design you are using, the sample size, the research instruments, and the data analysis procedure.
- They may be challenges encountered during the study which may affect the results.
- For example, the COVID-19 pandemic may affect the data collection process due to restrictive measures such as social distancing.
- It is important to identify the limitation and then show how it was solved or how the effects were mitigated

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4.9 OPERATIONAL DEFINITIONS

- Sometimes a researcher decides to use several words in special ways. The researcher defines the question words operationally. In other words, he/she explains how the words are used in that research. The terms to be defined may emanate from the topic or recur as you do your research.

- Key terms are identified from the topic first. For example, my topic is "parental involvement at the ECD level at Moffat Primary school".

- My key terms would be <u>parental involvement, ECD level, and Primary school</u>. Then one can have other terms that can be defined as one conducting the study.

- It is good to define terms using sources and then give your definition. Then give a working definition or operational definition of the terms, that is; how they are being used in the study.

4.10 ORGANISATION OF THE CHAPTERS

Here you inform the reader on the chapters in the order they appear in your Research Project [RE: Figure 4.4.
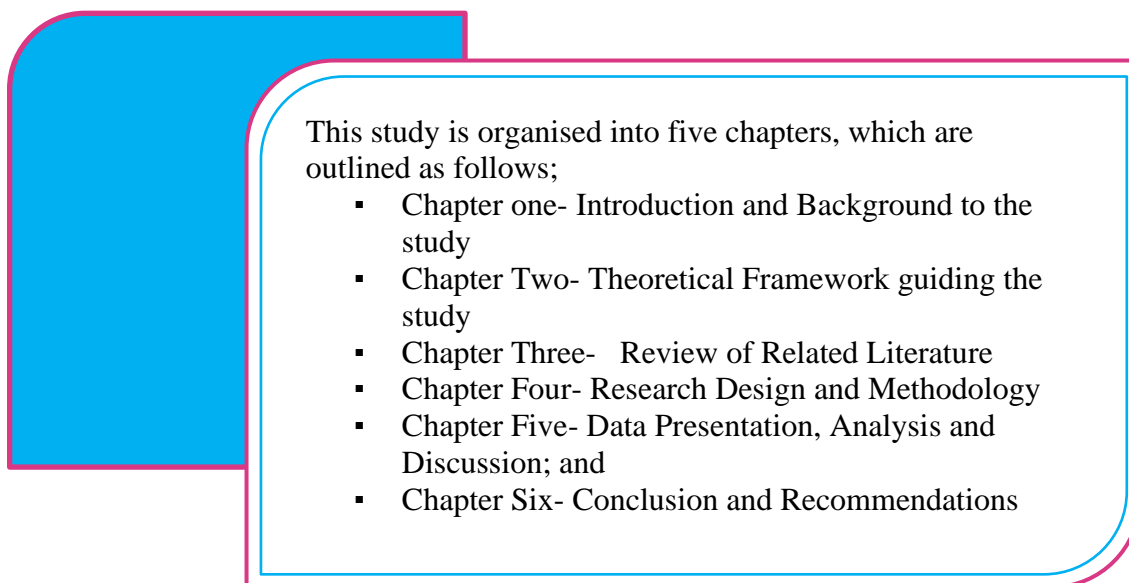
This study is organised into five chapters, which are outlined as follows;
- Chapter one- Introduction and Background to the study
- Chapter Two- Theoretical Framework guiding the study
- Chapter Three- Review of Related Literature
- Chapter Four- Research Design and Methodology
- Chapter Five- Data Presentation, Analysis and Discussion; and
- Chapter Six- Conclusion and Recommendations

Figure 4.4: Sample Organisation of Chapters

4.11 SUMMARY

Write a statement highlighting the main ideas discussed and then a brief description of the focus and content of the subsequent chapters of the research project.

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CHAPTER TWO: REVIEW OF RELATED LITERATURE

5.0   REVIEW OF RELATED LITERATURE

This chapter shows a now formed and comprehensive review and critique of the subject, with all the main theories and counter theories. It should include a clarification of the key objectives- they should have become precise enough to formulate questions for the actual investigation. Read widely some books, magazines, journals, and any other literature that is published or not published. Use as many sub-headings as are related to the study. It is also important to write a summary of the arguments presented based on the findings you have found during the review of the literature process.

5.1   WHAT LITERATURE REVIEW ENTAILS

- It is a **comprehensive overview** of **prior research** regarding a **specific topic**… it shows the reader **what is known** about a topic, and **what is not known**, thereby setting up the rationale or need for a new investigation (Denney & Tewksbury 2013 p. 218).

- It involves **evaluating** a **body of literature** by identifying **relations, contradictions, gaps,** and **inconsistencies** in the literature and by suggesting the next step needed to solve the research problem (APA 2010).

- Reviewing the literature is the **process of searching**, **systematically compiling, assessing,** and **scholarly interrogating previous literature** to inform or demonstrate its relationship with any current research. Such a systematic or conceptual review is a critical analysis or summary of research on the topic of interest (Cronin, Ryan & Coughlin 2008).

- Therefore, it entails putting the research problem into **context** or to identify **gaps** and **weaknesses** in studies that were carried out before yours. This enables you to take and make an informed academic stand after identifying **a gap** (to be filled) **situating the study** (Chenail, Cooper & Desir 2010).

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- Being "systematic" implies that you have defined the research question as clearly as possible and have made a concerted effort to ensure that you have found all evidence relevant to that question.
- Therefore, by the time you complete the section on review of related literature, you should have justified the need for a new investigation and shown the relationship between the work that has been done and what you are doing now (Chireshe & Makura 2013).

5.2   STRUCTURE OF A REVIEW OF RELATED LITERATURE

The structure of a review of related literature consists of the following concepts:

5.2.1 Introduction

- This should be a concise definition of the topic under study as well as the scope of the related literature being investigated.
- You are expected to state the general findings of the review (what most of the sources conclude) and comment on the availability of sources in the subject area.

5.2.2 Main body

- You can use chronological or thematic approaches.
- Each work should be critically summarized and evaluated for its premise, methodology, and conclusion.
- It is important to address inconsistencies, omissions, and errors and also to identify accuracy, depth, and relevance.

5.2.3 Summary

- This summarizes the key findings of the review in general terms. Notable commonalities between works, whether favorable or not, may be included here.
- Also justify the research proposal. Ideas should be restated and supported according to the findings of the review.

5.2.4 References

- A literature review must contain complete and correct and accurate citations for every source.

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- It is included in all stages of the research process more specifically the idea generation and problem definition stages but also influences the research design, implementation, and reporting stages.
- All empirical studies- qualitative, quantitative, or mixed methods – must be connected to literature or concepts that support the need for study, be related to the study's purpose statement, and situate the study in terms of previous work (Rocco & Plakhotnik 2008 p. 120).
- It is the beginning of the research process for idea generation.

5.3   WHAT SHOULD A LITERATURE REVIEW DO?
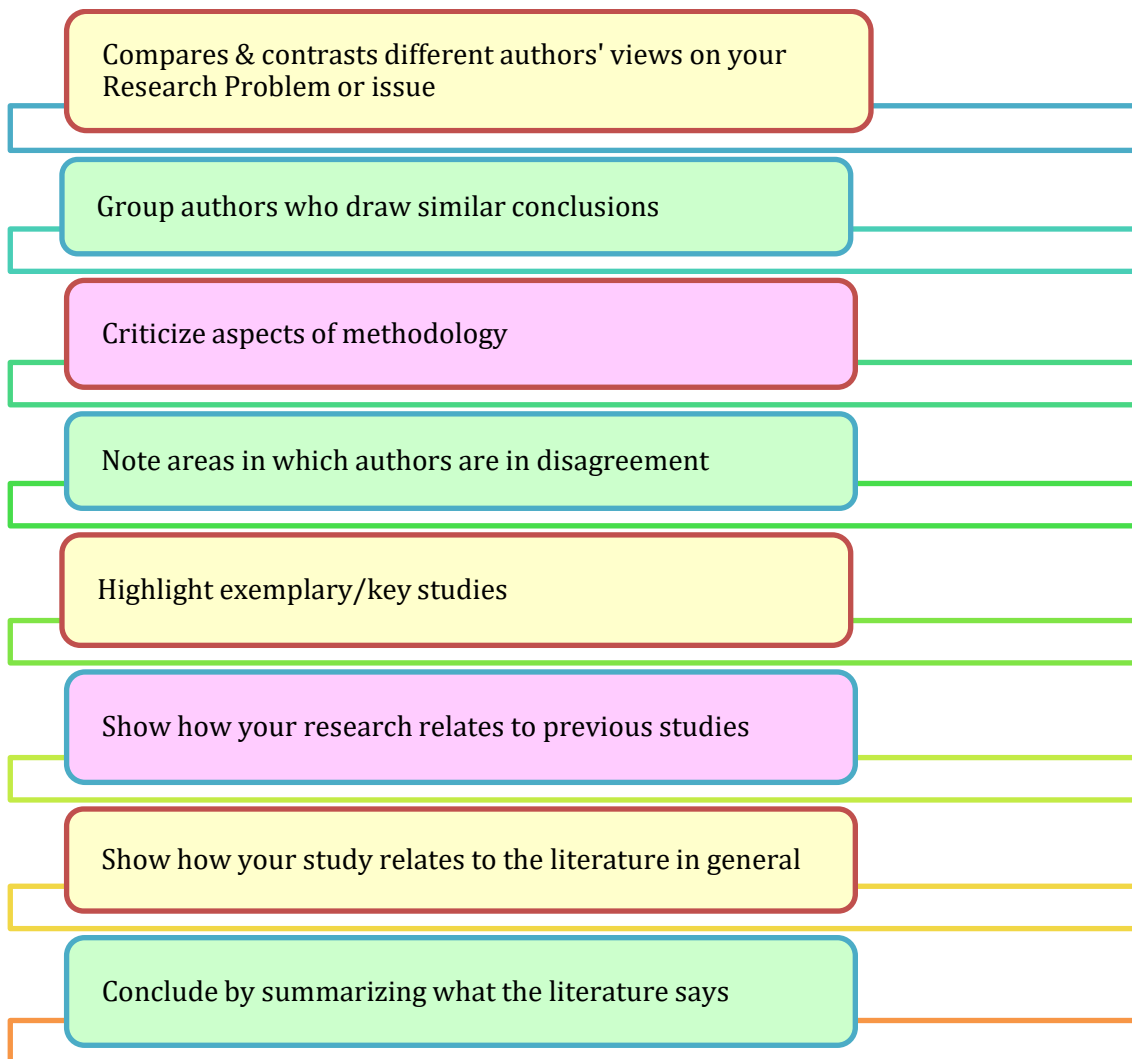
Literature review does the following:

Compares & contrasts different authors' views on your Research Problem or issue

Group authors who draw similar conclusions

Criticize aspects of methodology

Note areas in which authors are in disagreement

Highlight exemplary/key studies

Show how your research relates to previous studies

Show how your study relates to the literature in general

Conclude by summarizing what the literature says

Figure 5.1: Attributes of Literature Review

5.4 THE PURPOSE OF THE REVIEW

The review of related literature:

- Allows the you to show what research has already been done on the topic under study
- Places your study in its historical perspective
- Ensures that as a researcher, you do not duplicate work that has already been done.
- Shows the originality and relevance of your research problem- specifically, it shows how your research is different from others in the same area (subject).
- Justifies your proposed methodology.
- Serves you in educating yourself in the topic area and understanding the literature before shaping an argument or justification.
- Helps you as the researcher to build knowledge in your field.
- Helps you gain insight into how researchers apply the concepts you are learning in your reading to real-world problems.
- Provides the reader a better understanding of how research findings are presented and discussed in your discipline.
- Helps you determine where there are problems or flaws in existing research.
- Enables you to develop a conceptual or theoretical framework for your study
- Helps you relate your findings to preview knowledge and suggest further research. (Chireshe & Makura 2013).

5.5 WRITING THE REVIEW

You first need to decide what you need to read. In many cases, you will be given a booklist or directed towards areas of useful published work by your supervisor or librarian. Make sure you use this help. Before you start reading it may be useful to compile a list of the main areas and questions involved, and then read to find out more about or answer these. Unless something comes up which is particularly important, stick to this list, as is very easy to get sidetracked, particularly on the internet.

5.6 SOURCE OF LITERATURE USED IN A REVIEW

Both primary and secondary sources should be used.

5.6.1 Primary sources

These include diaries, memos, letters, speeches, Scholarly, journal articles (research-based), reports, conference papers, original artwork, and personal narratives.

5.6.2 Secondary sources

These include textbooks, edited works, books, and articles that interpret and review research works, biographies, political analyses, commentaries, newspapers, encyclopedias, etc.

5.7 SUMMARY

Write a statement highlighting the main ideas discussed and then a brief description of the focus and content of the subsequent chapter of the research project.

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CHAPTER THREE: RESEARCH METHODOLOGY

6.0   RESEARCH METHODOLOGY

A Research Methodology is a way of (plan for) carrying out research and helps to keep you on track by limiting the scope of the research. Your research methodology **discusses** and **explains** the data collection and analysis methods you used in your research. A key part of your methodology chapter explains:

- what you did;
- how you did it
- allows your readers to evaluate the credibility/trustworthiness of your research.

The research methodology chapter should generally be written in the past tense and includes [RE: Figure 6.1]:
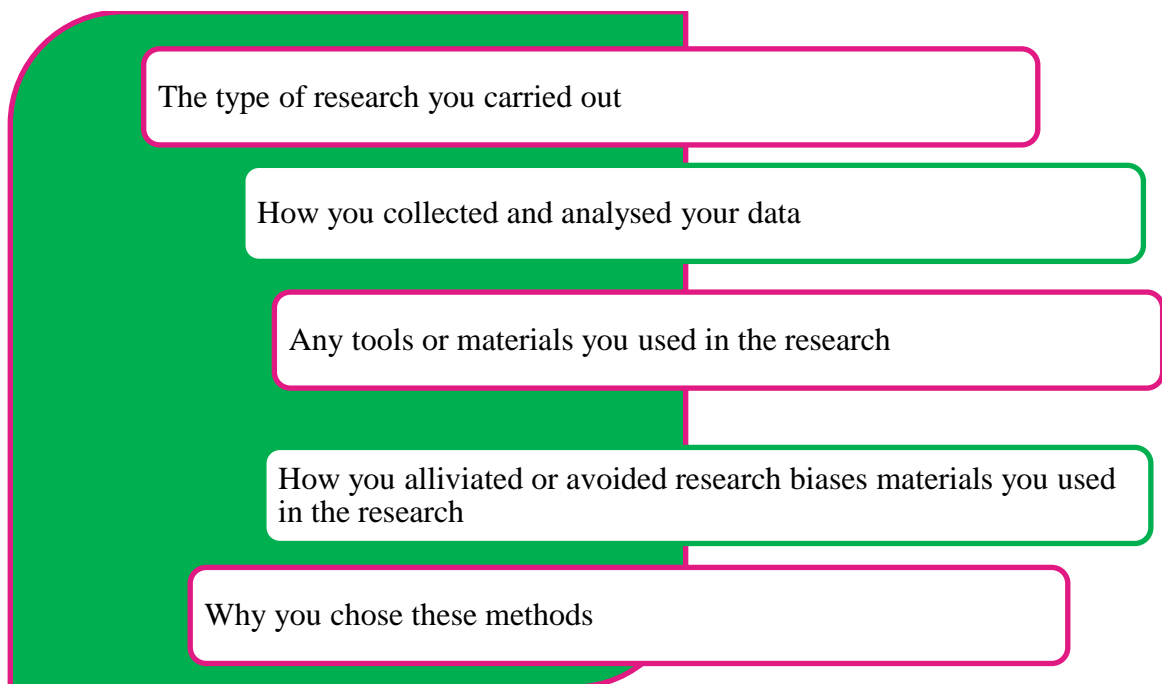
The type of research you carried out

How you collected and analysed your data

Any tools or materials you used in the research

How you alliviated or avoided research biases materials you used in the research

Why you chose these methods

Figure 6.1: What to include in your Research Methodology

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There are different types of methodologies/ways/approaches to examine and explain a **research study** and its findings based on using numbers as a measure, a descriptive style, or a mixture of both. These three research methodologies are:

- Quantitative,
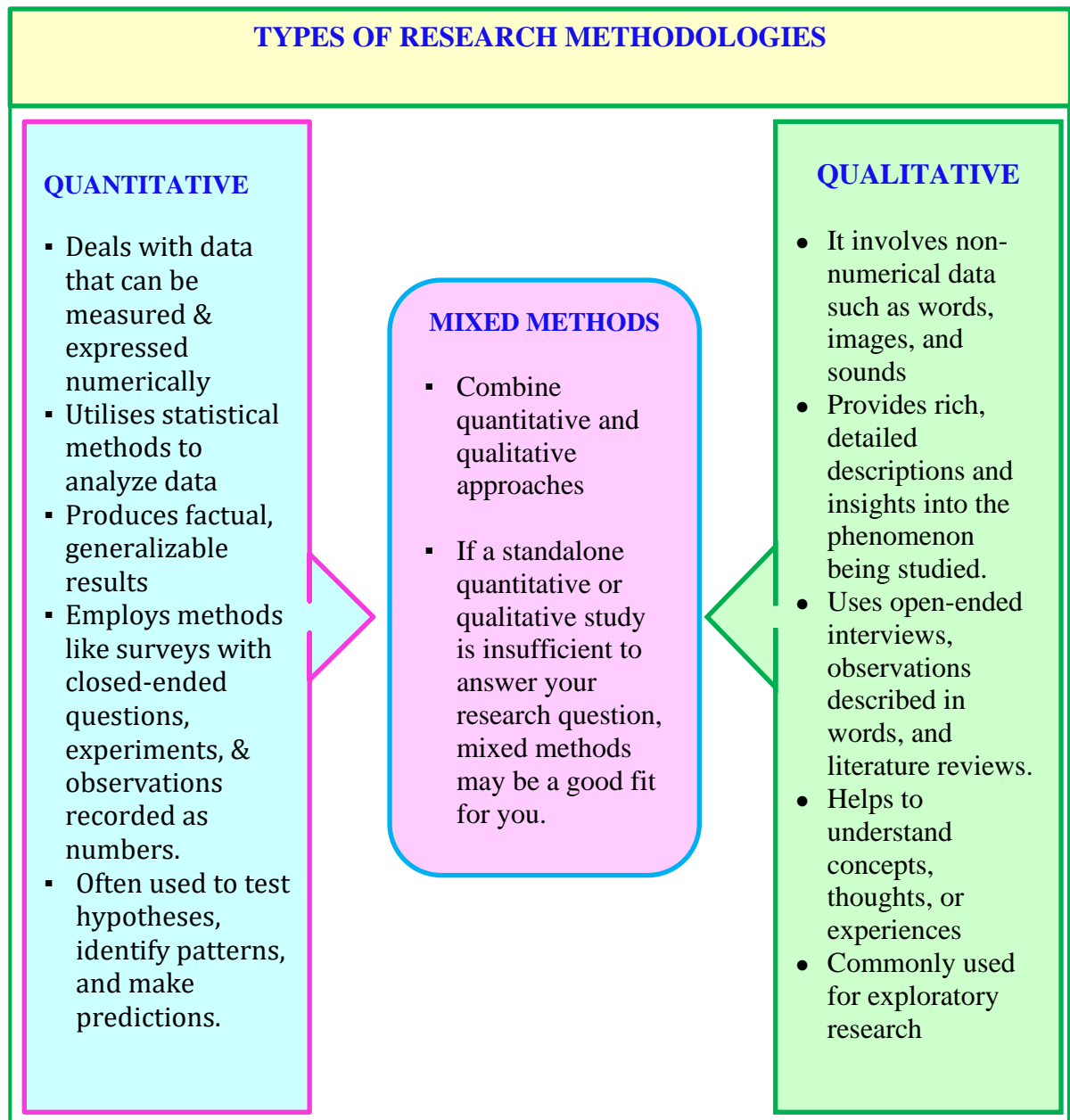- Qualitative, and
- Mixed methods.

TYPES OF RESEARCH METHODOLOGIES

QUANTITATIVE

- Deals with data that can be measured & expressed numerically
- Utilises statistical methods to analyze data
- Produces factual, generalizable results
- Employs methods like surveys with closed-ended questions, experiments, & observations recorded as numbers.
- Often used to test hypotheses, identify patterns, and make predictions.

MIXED METHODS

- Combine quantitative and qualitative approaches
- If a standalone quantitative or qualitative study is insufficient to answer your research question, mixed methods may be a good fit for you.

QUALITATIVE

- It involves non-numerical data such as words, images, and sounds
- Provides rich, detailed descriptions and insights into the phenomenon being studied.
- Uses open-ended interviews, observations described in words, and literature reviews.
- Helps to understand concepts, thoughts, or experiences
- Commonly used for exploratory research

Figure 6.2: Research methodologies

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6.2   COMMONLY CONFUSED TERMS

Research methodology, research design and research methods are three terms that are often confused and erroneously used interchangeably. Figure 6.3 shows the differences and relationship among the three (3) terms.
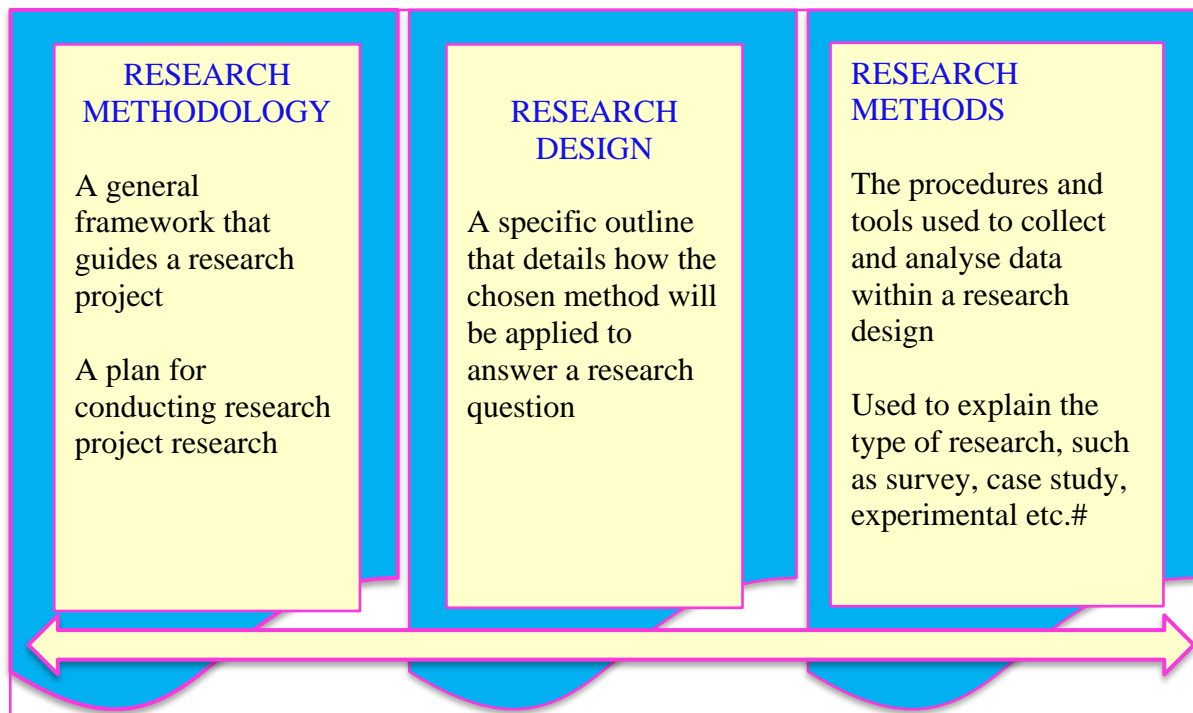

Figure 6.3: Research methodologies

The following subheadings should form the basis of how your Research Methodology (Chapter Three) should look like.

6.1   INTRODUCTION

Spell out, in brief, the main concerns and focus of the chapter

6.2   RESEARCH APPROACH

Select the Research Approach, either, quantitative, qualitative or mixed methods. Ensure that the approach you choose addresses your research problem.

6.2.1 Qualitative Approach

- ▪ Normally used to inform the design process of what works, what doesn't work, and more importantly **why** and **how** it worked or didn't work.
- ▪ Qualitative data is non-numerical data, such as text, video, photographs, or audio recordings, quotes from participants, etc.
- ▪ The analysis of qualitative data is often affected by the facilitator or analyst's prior knowledge of the topic, experience, etc.

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6.2.2 Quantitative Approach

- Produces objective data that can be clearly communicated through statistics and numbers about **who**, **what**, **where** and **how**
- Objective and relies on concrete numbers and fewer variables, which can help to remove biases from the research and make the findings more accurate
- Often easier to obtain large sample sizes
- Data collection and analysis are often quicker

6.2.3 Mixed methods

- Involve the use of both qualitative and quantitative approaches in collecting, presenting, analyzing and interpreting data
- Involves EITHER following the quantitative with qualitative data collection and analysis OR vice versa
- The qualitative results are used to substantiate the initial quantitative results OR vice versa
- This approach gives you the benefits of both worlds, by having **qualitative insights** to support your **quantitative** data OR vice versa.
- It means that you can have quotes and observations supporting your numbers OR the reverse
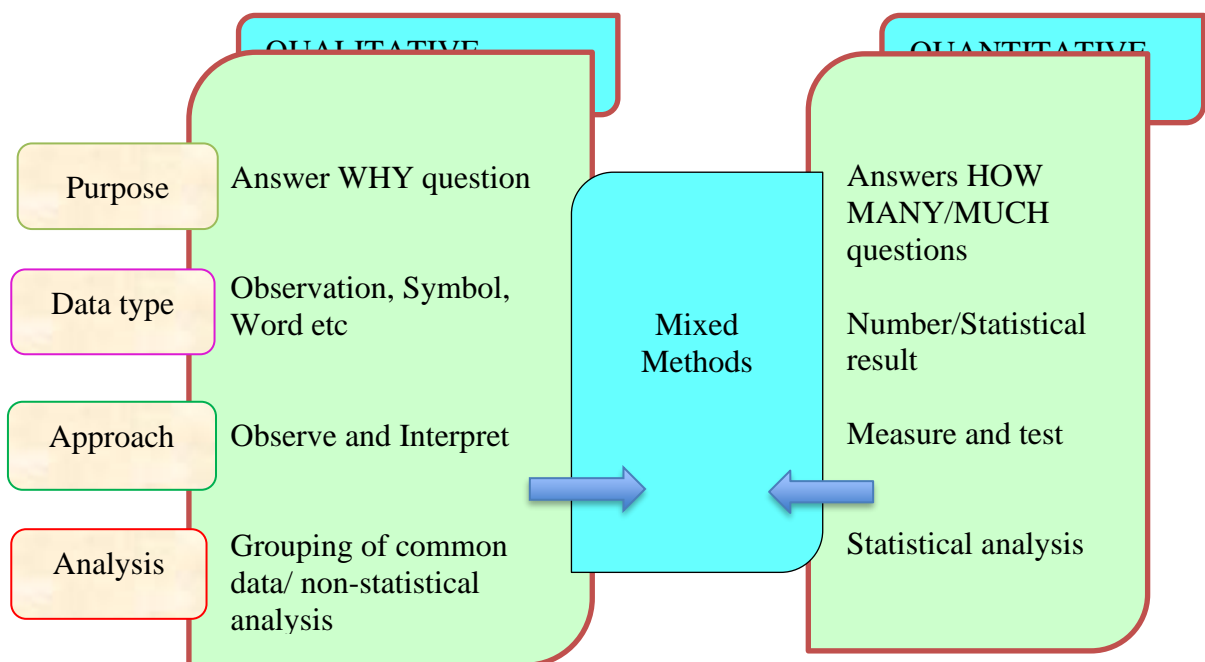
Figure 6.5: Types of Research Design

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6.3   RESEARCH DESIGN

A research design is the plan that shows how the study will be done. This plan covers everything from how data will be collected to how it will be analysed.

Think of it as your roadmap, ensuring you don't end up lost in a 'jungle' of confusing data

A good research design has a clear question to answer, a detailed plan for gathering information, and a way to make sense of the findings. A good research design has three key ingredients [RE: Figure 6.4]:
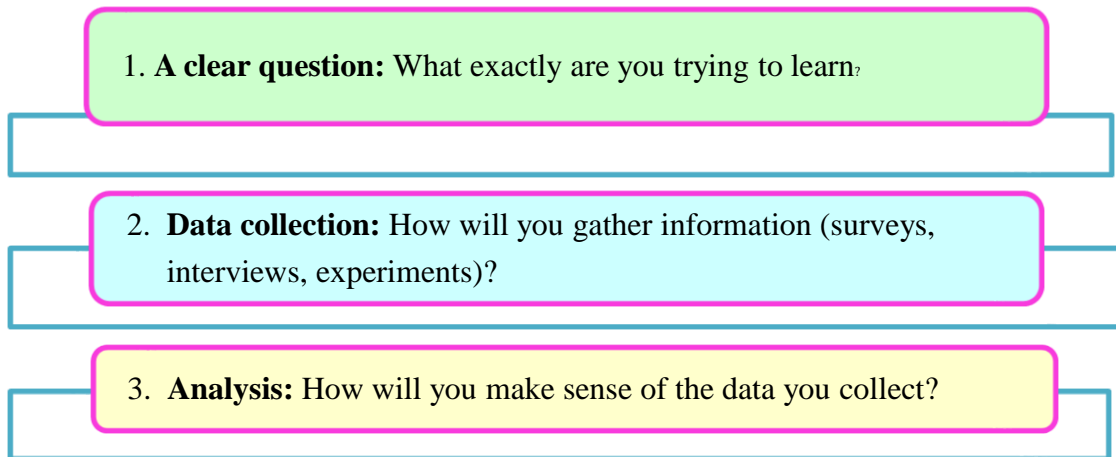
1. **A clear question:** What exactly are you trying to learn?

2. **Data collection:** How will you gather information (surveys, interviews, experiments)?

3. **Analysis:** How will you make sense of the data you collect?

Figure 6.4: Research Design

The Process of Research Design is as follows:

Step 1:
Establish Priorities for Research Design

Step 2:
Choose your Data Type you Need for Research: Quantitative, Qualitative OR Mixed Methods Research

Step 3:
Decide your Data Collection Techniques: Survey, Observation, Interviews etc

Step 4:
Sort Out your Data Analysis Sampling Procedures
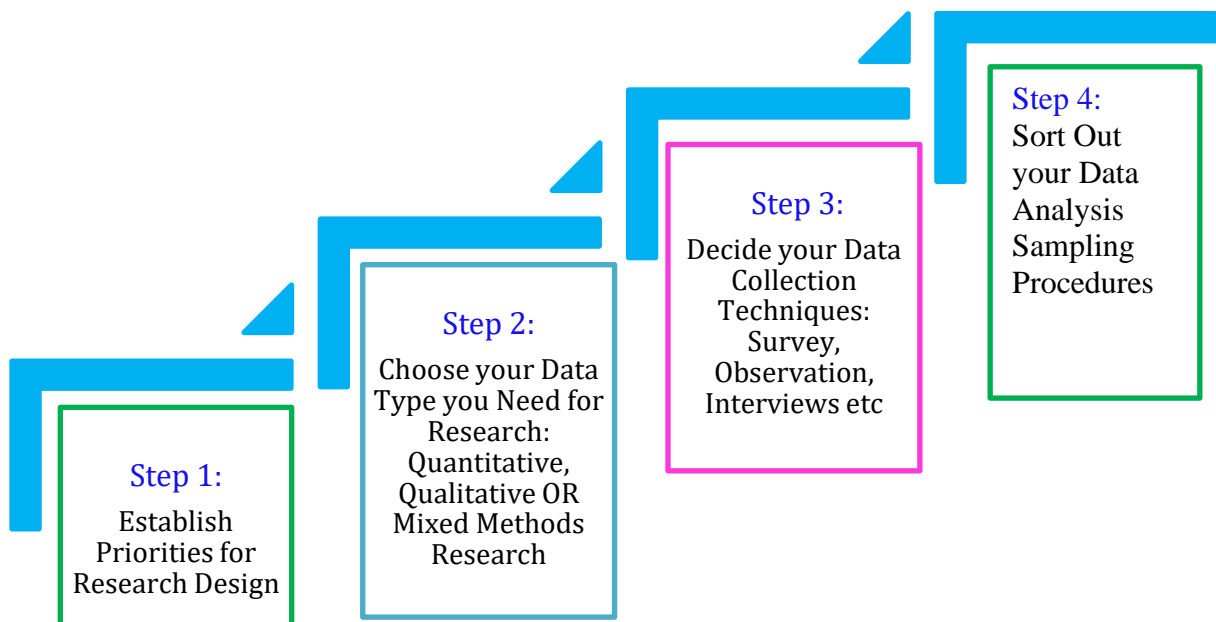
Figure 6.4: Research Design Process

Make sure that you identify the design e.g. descriptive survey, experimental design, correlation research design, historical research design, case study etc. Also discuss the strengths and weaknesses of the design here. Justify the adoption of the research design in your research.

6.4   THE CONCEPT POPULATION IN RESEARCH

- Gibson et al (2001) define a population as the group of interest to the researcher, a group of which the results of the study are to be generalized. It is the entire group of persons or sets of objects and events the researcher wants to study.
- A population is a set of people with a specified set of characteristics
- A population is a large collection of individuals or objects that is the main focus of a scientific inquiry
- A research population is also known as a well-defined collection of individuals or objects known to have similar characteristics.

Population Example

The population in this study constituted all parents with children at Baines Primary School/ Primary School facilitators in Mbare. Hatfield district/learners with disabilities at Mount Melleray Primary School in Nyanga district

6.4.1 Composition of a Population

A population is composed of two groups; the Target population and the Accessible study population.

6.4.2 Target Population

It often cannot be studied i.e. it is not always accessible and only part of it that is available can be studied. For example,

- All people with AIDS
- All pregnant teenagers
- All school-age learners with asthma
- All facilities facing challenges in implementing the revised curriculum in Zimbabwean schools
- All learners with disciplinary problems
- All facilitators facing challenges in implementing the revised curriculum

6.4.3   Study Population

It is a subset of the target population that can be studied. It is the group of individuals to which researchers have access and can legitimately apply their conclusions. The study population may be limited to a region, city,d institutional /s for example,

- All people with aids in the Midlands region

- All pregnant teenagers in the Mbare district
- All learners with disciplinary problems at Moffat Primary School
- All Grade 4 yellow learners exhibiting violent tendencies at Epworth Primary school

6.5 SAMPLE AND SAMPLING PROCEDURE / TECHNIQUES

Define and describe the sample and sample procedure/technique used. Justify choice for sampling procedure.

6.5.1 Definition and description of sample and sampling procedure/technique

Chiromo (2006, p. 62) says, A sample is a proportion of the population, a slice of it, or a part of it.
It is the selected element (people, objects) chosen for participation in a study or simply put, a subset of the population being studied.
Simply put it is a research technique used to gather information about a population without having to measure/access the entire population.

6.5.2 Rationale for Sampling

- It reduces investment in time and money
- It makes the organization of data collection more manageable (through the use of a sample as fewer people are involved)
- It ensures accuracy as collecting data from fewer cases means information is more detailed and statistical manipulations are much easier with smaller data sets
- Sampling affords researchers a lot more control over the objects

6.5.3 Sampling / Procedures /Techniques

- There are two categories of sampling techniques. These are the probability and non – probability sampling techniques

6.5.3.1 Probability Sampling

- This is where every member of the population has an equal chance of being sampled or selected as part of the sample. It is also known as scientific sampling for it is drawn according to mathematical guidelines

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- This is where every member of the population does not have an equal chance of being selected as part of the sample. The sampling is judgemental or purposeful. The researcher deliberately identifies information-rich cases. For example, learners with special issues (cases of indiscipline, learners with disabilities, etc).

6.6 When do we use probability sampling and when do we use non-probability sampling?

- When doing research where the findings are not intended to be generalized to a population, a non –probability sample could be used, for example, if the number of participants is very small (below the 10% threshold). However, you can only get insight from that study.
- On the other hand, if we want to generalize to the entire population, then we use probability sampling.

Table 6.1: Probability and Non-probability Sampling

BASIS FOR COMPARISON	PROBABILITY SAMPLING	NON-PROBABILITY SAMPLING
MEANING	Probability sampling is a sampling technique, in which the subjects of the population get an equal opportunity to be selected as a representative sample.	Nonprobability sampling is a method of sampling wherein, it is not known that which individual from the population will be selected as a sample.
ALTERNATELY KNOWN AS:	Random sampling	Non-random sampling
BASIS OF SELECTION:	Randomly Helps to reduce the possibility of bias	Arbitrarily
OPPORTUNITY OF SELECTION:	Fixed and known	Not specified and unknown
RESEARCH:	Conclusive	Exploratory
RESULTS OBTAINED	Can be generalized to the target population	

6.7 PROBABILITY SAMPLING

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Methods of probability sampling include:

- Simple Random Sampling

- Stratified Sampling

- Cluster Sampling

- Systematic Sampling

Example 1: Simple random sampling

A simple random sampling of the probability sampling design was used for the selection of parents to participate in the study. B rick (1996, p136) says Random samples are most likely to yield a sample that truly represents the population as each subject has an equal and independent chance of being selected.

The research thus used the list of parents' contact details provided by the school to identify parents with children at the school. The fish bowl technique was then used to select parents to participate in the study. Consent to participate in the study was then sought from the sampled parents

Example 2: Systematic Sampling

With this sampling technique, a particular pattern is used in selecting/coming up with a sample. Every member is listed with a number, but instead of randomly generating numbers, individuals are chosen at regular intervals.

For example, where the population is 50 and you require a sample threshold of 10%, you can list the subjects that can be allocated numbers e.g.,2,3,4,5, 6…50. Every multiple of 10 in the series is then selected to be in the sample. In this instance, the sample will have five members (10%).

6.8   NON-PROBABILITY SAMPLING

This sampling techniques target specific individuals. It is a process that does not give all individuals in the population an equal chance of being selected. Castillo (2009) points out that non-probability sampling is used when randomization is impossible like when the population is almost limitless. The methods of non-probability sampling include:

- Convenience Sampling
- Quota Sampling
- Judgment or Purposive Sampling
- Snowball Sampling

Example 1: Convenience Sampling

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This study used a convenience sampling method of the non - probability sampling design to select facilitators to be used as participants in the study. The use of the convenience sampling technique enabled the researcher to work with participants (school facilitators) within a radius of about 5km from where she/he was teaching thereby cutting down on transport costs. In other words, convenience sampling was used as it provided the researcher with easy access to the participants.

People are sampled because they are a convenient source of data for the researcher. For example, with a study that seeks to interrogate challenges faced by Primary school teachers in the teaching of Heritage – Social Studies The researcher can then opt to do the study with teachers at the school where they are teaching.

Example 2: Purposive Sampling

This is where you select your sample based on the availability of the participants.

The researcher may also use his/her judgment to come up with a sample.

Issues of convenience can also be considered e.g. costs and time of availability.

The researcher should ensure that the sample is trustworthy (dependable, credible, transferable, and confirmable).

6.9   DATA COLLECTION INSTRUMENTS/TOOLS

- These are various kinds of data collection instruments you are going to use in your research e.g tests, document analysis guides, checklists, Interviews guides, questionnaire guides, observations, etc.
- The researcher uses these instruments to establish what is on the ground. They are the sources of information to be analyzed by the researcher
- The instruments should be clearly explained to bring out their strengths and weaknesses as a way of justifying their selection and suitability to the research.
- The researcher should make sure there is consistency in the approach, the design, and the tools being used
- Choosing the right research instrument is essential as it can reduce data collection time and provide more accurate results for the research purpose.
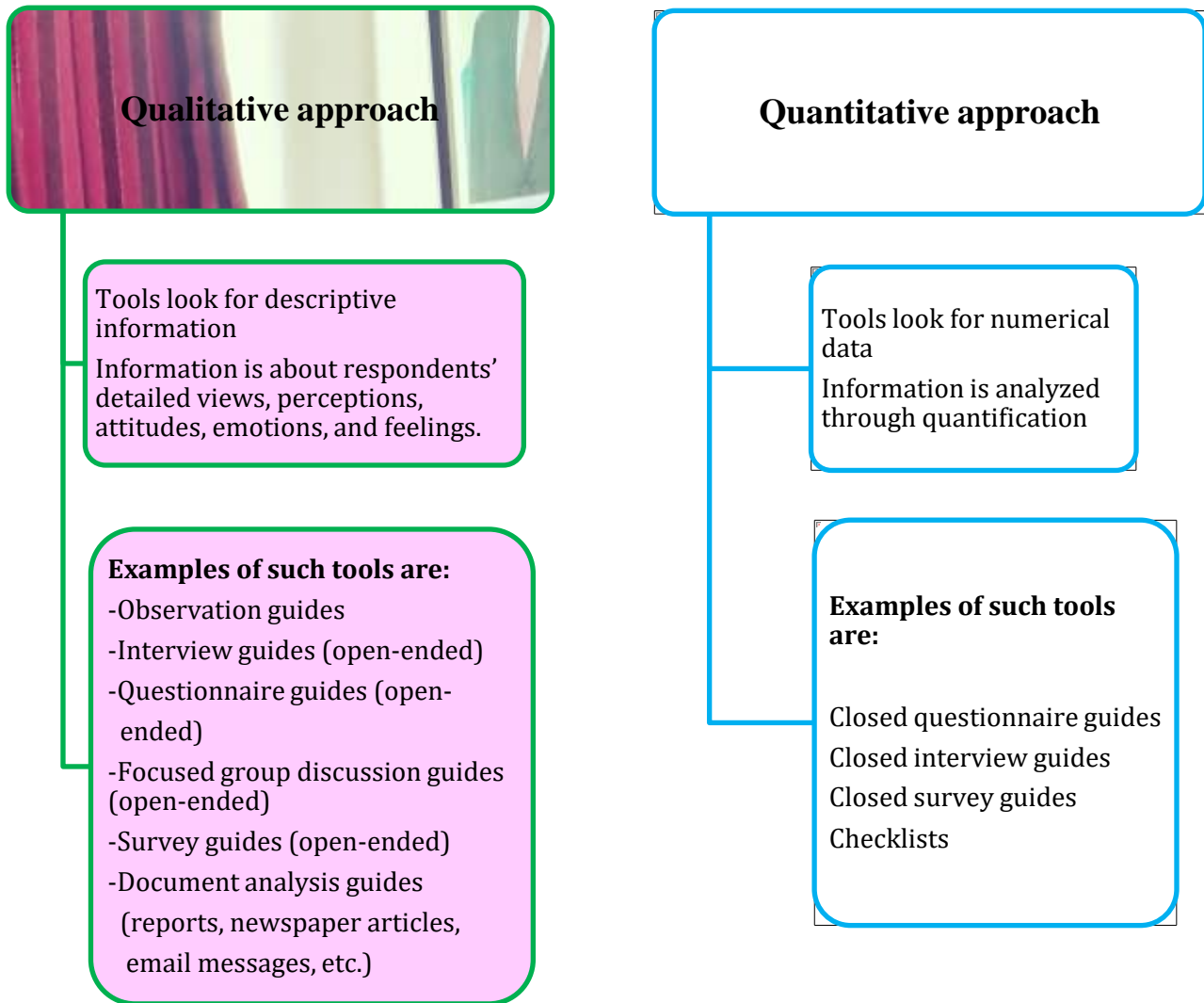
6.9.1 Research approaches and related tools

Qualitative approach

Tools look for descriptive information

Information is about respondents' detailed views, perceptions, attitudes, emotions, and feelings.

Examples of such tools are:

-Observation guides

-Interview guides (open-ended)

-Questionnaire guides (open-ended)

-Focused group discussion guides (open-ended)

-Survey guides (open-ended)

-Document analysis guides (reports, newspaper articles, email messages, etc.)

Quantitative approach

Tools look for numerical data

Information is analyzed through quantification

Examples of such tools are:

Closed questionnaire guides

Closed interview guides

Closed survey guides

Checklists

Figure 6.5: Research Approaches Respective Tools

6.9.2 The Interview

The interview is a tool that is used to collects data by asking questions. It includes three main types: structured, unstructured, and semi-structured interviews.

Structured interviews include an ordered list of questions. These questions are often closed-ended and draw a yes, no, or a short answer from the respondents. Structured interviews are easy to execute but leave little room for spontaneity.

Unstructured interviews are the opposite of structured interviews. Questions are mostly open-ended and are not arranged in order. The participants can express themselves more freely and elaborate on their answers.

Semi-structured interviews are a blend of structured and unstructured interviews. They are more organized than unstructured interviews, though not as rigid as structured interviews.

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Compared to other research instruments, interviews provide more reliable results and allow the interviewers to engage and connect with the participants. However, it requires experienced interviewers to drive the best response from the interviewees.

6.9.3 Tools used in interviews may include:

- Audio recorder (face-to-face interview)
- Cam recorder & video conferencing tools (online interview)
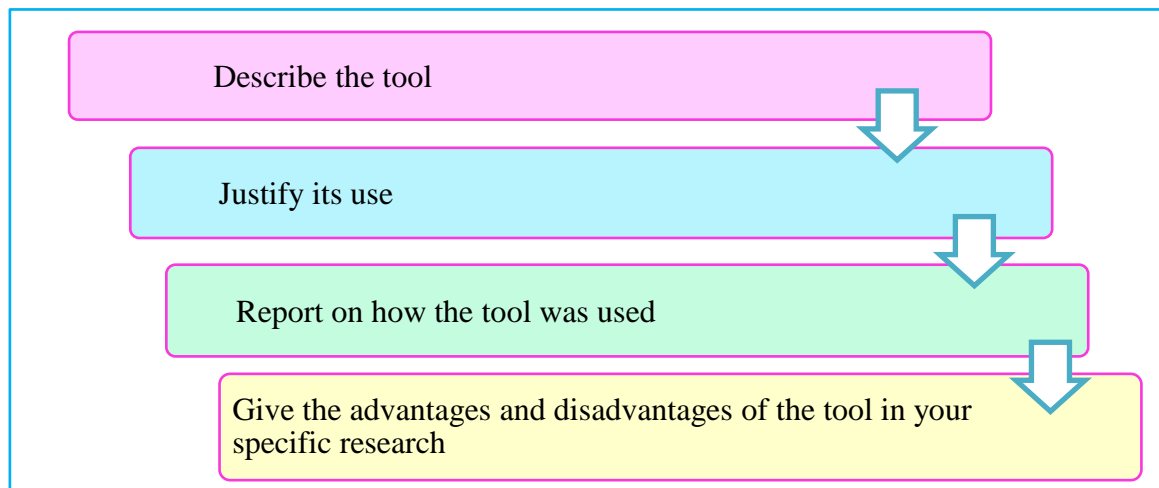
6.10 PRESENTATION OF RESEARCH TOOLS IN THE RESEARCH

> Describe the tool
>
> Justify its use
>
> Report on how the tool was used
>
> Give the advantages and disadvantages of the tool in your specific research

Figure 6.6: Presentation of Research Tools

6.11 DATA COLLECTION PROCEDURES

Data collection **refers to the general gathering of information**
The data collection procedure is about the steps that the researcher took to collect data/ how the data was gathered i.e. decisions and actions that were taken to collect data. These are steps taken in administering instruments and collection of data, e.g the making of appointments with research subjects, how were the interviews conducted, and the distribution of the instruments.

- It spells out the duration of the data collection process (how long was the data collected e.g. data was gathered over a period of four months (authenticity)
- Outline how one exactly collected data.
- Outline the general plan for collecting data ie which instrument was administered first and why
- Candidate to spell out his/her initial step in the process of data collection e.g.

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- o getting an introductory letter from the college
- o getting permission from responsible authorities
- o Self-introduction
- o specify which instrument was administered, to whom and why
- o familiarization with questions on the guides…WHY?
- Candidate to spell out how he/she addressed logistical challenges eg resources, time, participants, venues, etc.
- There is a need to design a communication and consultation strategy that will encourage the highest possible participation rate (e.g. safe space for participants to share experiences)
- Candidate to consider ethical issues e.g. privacy of personal information, data storage, and minimization of the impact of inconveniences for participants.
- allow a pilot phase (to improve and modify instruments).

6.11.1   Data collection procedures: Qualitative Approach

- Direct observations. Include information gathered through the senses
  How many lesson observations were done, and how were they scheduled
- Open-ended Interview schedules. How many interview sessions were carried out?
- Open-ended surveys
- Open-ended questionnaires
- Focus Groups Discussions. How many focus groups? How was the researcher facilitating?
- One-on-one interviews (face-to-face). Was data recorded through written notes, audio recording, or video recording?
- Documents analysis
- Diary accounts

6.11.2   Data collection procedures: Quantitative Approach
- Closed questionnaires
- Closed interview schedules
- Tests (multiple choice)
- Closed surveys:
  - o Postal
  - o Face-to-face
  - o Telephone
  - o Email

6.11.3   Data collection procedures: Mixed Methods Approach

- Pick from each of the two approaches viz qualitative and quantitative

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▪ Justify your choice

6.12` DATA PRESENTATION AND ANALYSIS PROCEDURES

Explain how the data collected are to be presented, e.g. tables, graphs and/or diagrams, verbatim etc. Justify the chosen procedures.

6.12.1 QUANTITATIVE DATA PRESENTATION AND ANALYSIS PROCEDURES

Quantitative data analysis methods typically work with mathematical analysis tools, and software to gain insights from the data, answering questions such as how many, how often, and how much

Steps to prepare a data before quantitative research analysis:

Step 1: Data Collection

Before the analysis process, you need data, collected through methods such as interviews, focus groups, surveys, and questionnaires.
Where: That is your sample. This comes from a larger population
How: This is your sampling method. Is it random or non-random? Most statistical testing assumes data has been sampled randomly. As for a questionnaire, you should also consider how to maximize your response rate in order to reduce bias.
How much: You should collect as much data as possible. It should also be of good quality.

Step 2: Data Cleaning

▪ Once the data is collected, begin the data cleaning process by scanning through the entire data for duplicates, errors, and omissions.
▪ Keep a close eye for outliers (data points that are significantly different from the most of the dataset) because they can twist (skew) your analysis results if they are not removed.
▪ Data-cleaning ensures data accuracy, consistency and relevancy before analysis.

Step 3: Data Analysis and Interpretation

Now that you have cleaned your data, you can now carry out the analysis. There are two methods of quantitative data analysis:
These are:
-Descriptive Statistics
-Inferential Statistics

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- You've finished carrying out your analyses.
- You have your insights, but this should seek to answer your research questions/objectives
- Report on your analysis (results)

Descriptive statistics

Descriptive statistics as the name implies is used to describe a dataset. It helps understand the details of your data by summarizing it and finding patterns from the specific data sample. They provide absolute numbers obtained from a sample but do not necessarily explain the rationale behind the numbers

The methods used in descriptive statistics include:

Mean: This calculates the numerical average of a set of values.

Median: This is used to get the midpoint of a set of values when the numbers are arranged in numerical order.

Mode: This is used to find the most commonly occurring value in a dataset.

Percentage: This is used to express how a value or group of respondents within the data relates to a larger group of respondents.

Frequency: This indicates the number of times a value is found.

Range: This shows the highest and lowest values in a dataset.

Standard Deviation: This is used to indicate how dispersed a range of numbers is, meaning, it shows how close all the numbers are to the mean.

Inferential Statistics

Descriptive statistics is all about explaining details of a specific dataset using numbers, but it does not explain the motives behind the numbers; hence, a need for further analysis using inferential statistics.

Inferential statistics aim to make predictions or highlight possible outcomes from the analysed data obtained from descriptive statistics. They are used to:
- generalize results and make predictions between groups,
- show relationships that exist between multiple variables, and
- used for hypothesis testing that predicts changes or differences.

There are various statistical analysis methods used within inferential statistics. Some common ones include:
- Cross-tabulation
- Factor analysis
- Regression analysis

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- Analysis of Variance (ANOVA)

6.12.2   QUALITATIVE DATA ANALYSIS

Qualitative research is endlessly creative and interpretive. The researcher does not just leave the field with mountains of empirical data and then easily write up his or her findings.

Note that QUALITATIVE INTERPRETATIONS are constructed, and there are various techniques used to make sense of the data, which include:
- content analysis;
- grounded theory;
- thematic analysis; and
- discourse analysis.

Let's illustrate how data can be analysed through the qualitative approach, using thematic analysis. Thematic Analysis is a qualitative approach that involves identifying implicit or explicit ideas within the data. Themes often emerge once the data has been coded.

Phases of Thematic Analysis

Phase 1: Familiarising yourself with data

Transcribing data
Re-reading the data and noting down initial ideas

Phase 2: Generating initial codes

Coding interesting features of the data set in a systematic fashion
Collating data relevant to each code

Phase 3: Searching for emerging themes

1.   Collating codes into potential themes
2.   Grouping data relevant to each potential theme

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Phase 4: Reviewing themes

1. Checking if themes work in relation to the coded extracts
2. Checking if themes work in relation to the entire data set
3. Reviewing data to check if there are additional themes

Phase 5: Defining & naming themes

1. On-going analysis to refine the specifics of each theme and overall story the analysis tells
2. Generating clear labels for each theme

Phase 6: Producing the report

1. Selection of vivid, compelling extract examples
2. Final analysis of selected extracts
3. Relating the analysis back to the Research Questions, Objectives & previous literature reviewed

Key Attributes of Qualitative Data

- Events can be understood adequately only if they are seen in context. As such, a you must immerse yourself in the field, in natural surroundings. The contexts of inquiry are not contrived; they are natural. Nothing is predefined or taken for granted.

- Participants must speak for themselves, provide their perspectives in words and other actions. Therefore, qualitative research is an interactive process in which the participants explain their experiences to the researcher

- As a researcher, you are an integral part of the data; without your active participation, no data exists.

- The study's design evolves during the research and can be adjusted or changed as it progresses. For you as the researcher, there is no single reality. It is subjective and exists only in reference to you, the observer.

- The theory is data-driven and emerges as part of the research process, evolving from the data as they are collected.

6.13 SUMMARY

A clear and brief description of the main aspects discussed in the chapter.

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CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

7.0   DATA PRESENTATION, ANALYSIS AND INTERPRETATION

In this chapter there is an analysis of the results of the investigation, for example, questionnaire returns or interviews or analysis of ideas and arguments, for example, the critique of a piece of educational legislation. There might be quotations in such a chapter and frequent references to the appendices where some of the original data may be located. The following sub-headings are to appear in this chapter.

Data analysis is the process of extracting insights through analysis of raw data using various methods and techniques; The insights help to answer different questions, such as why, what, how, and what if, and to support decision making and problem solving.

There are mainly two types: Quantitative Data Analysis and Qualitative Data Analysis. Quantitative data analysis revolves around numerical data and statistics, which are suitable for functions that can be counted or measured. In contrast, qualitative data analysis includes description and subjective information – for things that can be observed but not measured. When you adopt the Mixed Method Approach, the data analysis should combine both quantitative and qualitative data analysis methods.

7.1 INTRODUCTION

Describe briefly how the chapter will unfold.

7.2 DATA PRESENTATION PROCESS

This process is determined by the research approach used. The qualitative approach requires rich descriptions while the qualitative approach requires skittish presentations such as graphs, and data

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presentation should address each of the research questions. Make sure the data is complete, accurate, consistent, and relevant, and also watch out for trends that are likely to emerge, as these would help you in making meaningful arguments or conclusions. Know how to summarize large amounts of data. The quantitative approach requires statistical presentation such as tables and graphs; data presentation should address each of the research questions.

7.2.1 Presentation of qualitative data

- qualitative data can be presented by using illustrative quotes

- quotes are raw data and should be compiled and analysed not just listed There should be an explanation of how the quotes were chosen and how they were labelled i.e.

a) Interpret responses (audio, visual, non-visual)

b) Make thick descriptions- there should be emergent new knowledge leading to the establishment of themes, trends, postulates, axions, truths, or patterns----i.e., thematic analysis of e.g. interview scripts

7.2.2 Presentation of quantitative data

- quantitative data is about numeric variable s(how many, how much, or how often)

- record the responses from e.g closed questionnaires or closed interview schedules ---- numerical responses

- use percentages

- tabulate the responses

- Present on graphs- bars, pie charts, jagged line graphs, etc

7.2.3 Presentation of mixed data

- Use the triangulation method

- Richardson (2020) prefers crystallization, i.e. use of triangulation used to test validity through the convergence of information from different services. i.e Use of more than one source or instruments

7.3 INTERPRETATION/DISCUSSION

This should focus on the results obtained. Tie together findings about theory and review of the literature. Indicate whether results support or contradict previous research or literature on the topic and an explanation should be given if the results differ from previous findings.

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7.4 SUMMARY

A clear and brief description of the main aspects discussed in the chapter.,

SECTION 8

THE RESEARCH PROJECT FORMAT continued

CHAPTER FIVE: SUMMARY, CONCLUSION, AND RECOMMENDATIONS

8.0   SUMMARY, CONCLUSION, AND RECOMMENDATIONS

This final chapter sums up what has been achieved. It should bind the research project together by reviewing the process and restating objectives. It should comment on the implications of what has been found out, including possible areas of application or routes for further inquiry. It should also contain a critical evaluation of the work undertaken. The following sub-headings make up this chapter.

8.1   INTRODUCTION

Introduce the items to be discussed i.e summary of the findings, conclusions recommendations, and suggestions for further studies

8.2   SUMMARY OF FINDINGS

This section gives a summary of the research findings. Conclusions are drawn from the summary.

This chapter sums up what has been achieved

- It should bind the research project together by reviewing the process and restating objectives/questions
- The research findings may be lumped up together but, clarify the demands that each specific question/ objective under the research questions/objectives must be written first to be followed by the findings.
- The findings should be a textual generalization that is a summary of the important data consisting of text and numbers
- It should avoid summarising individual chapters

Example:

How qualified are the primary school teachers implementing inclusive Education in primary schools of Guruve District?

The Summary of Findings is drawn from Data Presentation and Analysis. This process is determined by the research approach used. The qualitative approach draws from rich descriptions while the qualitative approach draws from skittish presentations such as graphs, tables and charts. The Summary of Findings must address each of the Research Questions. In your Chapter Four (Data Presentation and Analysis), you must ensure that the data is complete, accurate, consistent, and relevant. Trends that emerge help you in making meaningful Conclusions. You should acquaint yourself with summarising large amounts of data e.g. under the Quantitative Approach you may have an ANLYSIS as follows:

Of the 60 primary school teachers, 45 (75 percent) were college graduates with Diploma in Primary Education. The remaining 15 (25 percent) were university graduates with a Bachelor of Education degree specialising in different subject areas.

NOTE THAT:
- Only the important findings, the highlights of the data, should be included in the summary.
- Findings are not explained nor elaborated upon anymore.
- No new data should be introduced in the summary of findings

8.3   CONCLUSIONS

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In this section indicate what you conclude from the findings. Inferences, deductions, abstractions, implications, interpretations, general statements, and/or generalizations based on findings. **They should not contain numerals.**

The conclusions of the study should be based on the analysis performed and the results achieved. Indicate by the evidence the extent to which the specified objectives have been accomplished. Alternative explanations for the findings must be discussed. Delimitations strengths weaknesses and limitations of the study.

Example 1

How qualified are the primary school teachers implementing inclusive Education in primary schools of Guruve District?

Conclusion

All the primary school teachers were qualified to teach in the primary school but not qualified to handle an inclusive class.

The conclusion should appropriately answer the specific questions raised at the beginning of the research in the order they are given under Objectives / Research Objectives.

Example 2

How conducive are the facilities to the implementation of Inclusive Education?

Conclusion

There are no facilities to ensure the effective implementation of Inclusive Education.

NOTE THAT:

- Conclusions should point out what was factually learned from the research.
- No conclusion should be drawn from the implied or indirect effects of the findings
- The conclusion should be based on the responses to the question
- Conclusions should be formulated concisely, that is, brief and short
- Without any strong evidence to the contrary, conclusions should be stated categorically
- Conclusions should refer only to the population, area, or subject of the study
- Conclusions should not be repetitions of any statements anywhere in the research report

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8.4 RECOMMENDATIONS

- These are described as the added **suggestions** that you want people to follow when performing future studies.
- They help **passive consumers** e.g non-researchers to make use of the found knowledge to solve real-life challenges
- Research recommendations are based on what you have found or what you might be interested in doing at some point in the future.
- It, therefore, implies that recommendations are drawn from the **summary of findings** and **conclusions.**
- These should not be generalized but must be drawn from the conclusions. They must be directed at specific stakeholders depending on what the study was about. Present recommendations for future research or changes in research methods or theoretical concepts.
- Where appropriate, present recommendations for changes in academic practice, professional practice, or organizational procedures, practices, and behaviour.

8.4.1 Reasons for drawing-up recommendations in Research

Recommendations are meant to:

- call for action or solutions to the problems you have investigated in your research paper;
- Highlight specific solutions and measures to be implemented based on the findings of your research;
- address limitations and suggest how they might be overcome in future work;
- create new knowledge and generate theories usable in real life;
- provide solutions to existing challenges as means of enriching long-life knowledge systems to bring about innovation; and
- respond to the research questions and objectives.

8.4.2 What should not be included

Recommendations should not focus on what is not in the research outcomes, which include:

- the summary of the findings, and
- the conclusions

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8.4.3 Beneficiaries of research recommendations

- The targeted sector i.e. education sector.
- Other students;
- Teachers/lecturers;
- Other researchers;
- Policy makers e.g. curriculum development and technical services, government and
- Policy implementers, etc.

When writing your recommendations:

a) You can talk about the steps that should be followed in future studies. These include:
  - Steps that are needed to implement particular policies or actions that you want to follow
  - Any resources that would be required in the process should be explained as well

b) You must be specific when talking about what you might be interested in doing in the future about making any potential studies stand out and work in your favour.

c) Explain the Benefits
  - You can always mention the benefits of further studies in your field
  - Talk about how future studies could be used to correct problems with the current research you have completed
  - You can also explain a need to fill in certain gaps that you might not be able to get covered right now for any reason
  - You can always use a timeline to help readers understand when potential developments could come about over time

8.5 GUIDELINES IN DRAWING UP RECOMMENDATIONS

6.5.1 How Feasible Is a Study?

- Next, you should talk about how feasible certain points in your study might be.
- This includes understanding whether certain ideas should be explored in further detail later on.
- This works well if you are trying to talk about certain points that might be worthwhile.

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- You could even talk about potential new developments in your field and whether your study is relevant to them or if additional developments have to be incorporated into your work.

8.5.2 What Additional Research Is Needed?

- There is often when added research would be required to make it easier for a study to go forward. Your research plans could include an analysis of the methods of study that could work in the future and what points about a topic could be reviewed in such studies

- The recommendations that are incorporated into your paper can certainly be important to your work

- Be certain when writing your paper that you have clear recommendations that are easy to follow and can be utilized right and are not overly complicated or tough to use in some

- As you write these recommendations, you will have to look at what you have gotten out of your paper while also thinking about any possible ideas you might have for later research studies. This can help with producing a strong paper that will inspire people to think differently about whatever it is you have written and could especially inspire new research to come about over time

8.6 SUGGESTIONS FOR FURTHER STUDIES

Give suggestions for further studies.

8.7 REFERENCES

- All sources that have been referred to in the research must be captured alphabetically in the style recommended in our case it's the American Psychological Association (APA)

- Note that the references section should immediately follow the final chapter

- The reference should be a formal detail of all documents to which have been referred in the writing.

- The references can be served to other scholars, enabling them alphabetically by surname of the author in the following manner.

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8.8.1 References and citations

One of the most important tasks in writing a research project report is to correctly and truthfully acknowledge other works and sources consulted in the process. Failure to provide a reference citation, where appropriate is plagiarism. You are required to adhere to the latest edition of the American Psychological Association (APA) guidelines in referencing. There are two types of citations expected in your research report namely **in-text** and the **reference list**.

In-text citations

Reference citations in the text should use the author-date method. There are two popular options for **in-text citations**: idea-focused and researcher-focused.

a) Idea focused

This entails that the idea from the acknowledged authors has been paraphrased and is given more prominence than the authors themselves. In this case, both the author (s) and the date form the last part of the sentence containing the acknowledged idea.

Single author
Novice researchers often lack an understanding of and appreciation for the role of theory in conducting research (Mpondi, 2019).

Two authors
Researchers have noted that most student-teachers omit a theoretical framework in their research projects (Hungwe & Ndlovu, 2020).

Three to five authors
The first citation is at end of the sentence where brackets are used the theoretical framework is the glue that links all of the individual parts together to explain what you are looking at in your research (Chiyangwa, Gwata, Leonard& Zhuga,2018) Subsequent citations at the end of the sentence where brackets are used as well.
Research should be grounded on an appropriate theoretical framework if it is to be taken seriously (Chiyangwa et al., 2018).

b) Researcher focused

This type of citation places the author(s) names at the beginning of the sentence with the following in brackets. The idea has also been paraphrased by the writer.

Single author
Dzumbunu (2017) argues that all students are capable of achieving their best in research conditions and that they receive appropriate support from their supervisors.

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Two authors
Dumba and Tatira (2019) note that most student-teachers omit a theoretical framework research project.

Three to five authors
The first citation at the beginning of the sentence
Chikohomero, Marara, and Nyamukachi (2015) bemoan the lack of a reading spirit in third-year students at Morgan Zintec College. Subsequent citations are at the beginning of the sentence.
Chikohomero et al., (2015) stress that facilitators frown at students who base their research on Wikipedia.

A source with 6 or more authors

The first author's surname followed by et al can be used with all citations, including the first instance.

Direct Quote

A direct quote is used when citing exactly what the source says. Quotation marks should be used to indicate that the words come from an outside source. The citation should also include the page number of the quote:
According to Matumbu and Hapanyengwi (2021, p.14) "…there is no one tried and true way of finding a theoretical framework." OR
"There is no one tried and true way of finding a theoretical framework" (Zenda & Kaseke, 2022, p. 14).

Citing two or more authors within the same bracket at the end of the sentence. Order the citations of two or more works in the same bracket alphabetically (including citations shortened to, et al.)

(i) Two or more works by the same author

There is a tendency of student-teacher research to shy away from the talk of "theory" (Makuwaza, 2010, 2011, 2014).

Tinto's model has been used extensively in studying college student drop-out problems (Nyambodza, 2014a, 2014b).

(ii) Two or more works by two or more different authors
Researchers agree that any research problem may be approached from more than one theoretical perspective (Bunu, 2003; Gonese, 2017; Musesengwe, 2009; Ziso, 2013).

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A source with no author

Such sources are normally discouraged as some of them are less authentic However, there are situations where you fail to avoid them. If there is no author (or no company or organisation to count as the author), use the first few words of the title. If the title is from a chapter or article in a journal, place the title in quotation marks; place the title in italics if it is a self-contained item.

Theoretical frameworks are also useful in building arguments for various studies Discovering Theoretical Frameworks," 2009).
It is difficult to imagine your Paradigms, 2017)

8.8.2   The reference list section

- All reference citations made in the text must be listed alphabetically in the references section at the end of the document following the APA format
- Alphabetise the reference list using the surname of the author (first author for
- each reference should be single-spaced with a double space in each entry), the ampersand (A) between two authors.
- Separate the two or more y commas; separate the last author with an ampersand Italicize titles of journals or books.

Books

Docking, J. (2015) Managing behavior in the primary school, London: David Fulton Mc Auley, H & Jackson, P. (1992) Educating young children: a structural approach London David Fulton,

Journals

Nebtely, D. (2014) Courting the positive virtues: A case for feminist science international Journal of science education Vol 5 (6) pp 207-249

Articles in Newspapers

Jongwe (2016 June 19) "Don't for five years' Herald 317.93

Electronic Books

Nebtey, D. (2014) Courting the positive virtues. Retrieved from http//.

Online documents

Ogier, M.F. (2009) Title of web page. Retrieved from http://........
- Boote, D.N. & Beile, P. (2005). Scholars before reseacers:07 centrality of the dissertation literature review research preparation. Educational Researcher, 34(6); 3-15.
- Denney, A.S. & Tweksburg, R. (2013). How to write a literature review. Journal of Criminal Justice Education. 24(2); 218-234.

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- Chireshe, R. and Makura, A.H. (2013). Review of related literature. In S.M. Tichapondwa (ed.) preparing your dissertation at a distance: A Research guide. Vancouver. Virtual university for small states of the Commonwealth.
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. Journal of Business Research, 104: 333-339

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SECTION 9
TYPING AND PRESENTATION SPECIFICATIONS

9.0 TYPING AND PRESENTATION SPECIFICATIONS

There are several typing and presentation specifications you must keep in mind as you write your Research Report.

9.1 MARGINS

The research report text must be both left and night-aligned (used).

And half spacing is required for most of the text in documents. However, the abstract acknowledgment and dedication must be single-spaced. Single spacing is required for tables and headings

9.2 PARAGRAPH SPACING

The spacing between paragraphs should be double. Strictly adhere to the block-spacing method between paragraphs. Chapters must begin on new pages

9.3 PAGE NUMBERING

Page numbers for the front matter, starting with the abstract, should be lowercase roman numerals, centered at the bottom of the page. All pages following the front matter should have page numbers in Arabic numerals centered at the bottom of the page as well. The page order and numbering for the front matter are:

9.3.1 Title page/cover page (not be numbered)

9.3.2 The following are numbered in Roman Numerals as follows:

    i.   Abstract

    ii. Acknowledgements.

    iii. Dedications

    iv. Table of Contents

    v. A list of Tables (only present if the document contains tables) is given the next number in sequence.

    vi. List of Figures (only present if the document contains tables) is given the next number in sequence printed bottom centre.

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9.4   TYPESTYLE

For body text, you should use 12-point Times New Roman Text for the cover page may be larger but should not exceed 16- font size. The text for the chapter title should be 14-font. Be consistent with your use of typefaces throughout the document

Chapter, Title Heading, Subheadings, and Sub-Subheadings.

All headings should have only the first letter of each word capitalized except the non-major words shorter than four letters have no capital letters. Instructions for heading levels follow:

9.5   CHAPTER TITLE HEADING

It is centered on the top of the page. It is set in a 14-point type. The first line contains the chapter number (e.g., Chapter 4). The second line is blank. The third line displays the chapter title, is centered on the page, and is set in 14-point type.

9.6   SUBHEADING

All subheadings should start at the left margin of the page.

Addendum to the Research Project Guide

9.7   RESEARCH ETHICS

- ▪ Rules for distinguishing what is good and what is wrong in research
- ▪ Norms of conduct that distinguish between acceptable and unacceptable behaviour in research moral principles or standards that act as guidelines when carrying out research
- ▪ Note that supervisors should ensure that supervisees observe the following rules/principles/standards

9.7.1   Honesty
- ▪ Honestly report data, results, methods, and procedures. Do not fabricate, falsify, or misrepresent data or their findings.
- ▪ Do not deceive their colleagues, supervisors, or the public.

9.7.2   Human subject protection
- ▪ Ensure that their participants have the right to be in a safe environment during research
- ▪ Respect human dignity, privacy, and autonomy.

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9.7.3   Informed consent

Ensure that your students realize that when carrying out their research they should ensure that their participants understand:
- the process they would be engaged in
- why their participation is required, and who will use their research findings?
- that he has the right to choose whether to participate in the research or not.
- that they have the right to withdraw from the research at any point they may so wish

9.7.4   Transparency
Disclose methods, research tools, assumptions, analyses, and all other information needed to evaluate their research.

9.7.4   Non-Discrimination
Make your students appreciate the need to avoid discrimination against colleagues or students/learners based on sex, race, ethnicity, or other factors when carrying out research

9.7.6   Legality
- Know and obey relevant laws and institutional and governmental policies.
- Never use research for fraudulent or illegal purposes

9.7.7   Responsible Supervision
- Help them to realize that you are there to educate, mentor, and advise them
- Make them realize that you are there to promote their welfare and allow them to make their own decisions.

9.7.8   Confidentiality
Protect confidential communications, such as personnel information /records, trade or ministry, institutional secrets, and learner records.

9.7.9   Intellectual Property
- Stress to your students the need to honor patents, copyrights, and other forms of intellectual property.
- Do not use unpublished data, methods, or results without permission. They should be able to give proper acknowledgment or credit for all research contributions. **Never plagiarize**

9.7.10 Objectivity
- Emphasise to students the need to avoid bias in their data analysis and data interpretation and in other aspects of research where objectivity is expected or required.
- They should never falsify evidence or findings
- Disclose personal or financial interests that may affect your research

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9.7.11 Integrity

Keep their promises and agreements; act with sincerity; strive for consistency of thought and action.

9.7.12 Accountability

Take responsibility for their research part and be prepared to give an account (i.e. an explanation or justification) of what they did on a research project.

9.7.13 Openness

Share data, results, ideas, tools, and resources. Be open to criticism and new ideas.

9.7.14 Carefulness

Avoid careless errors and negligence; carefully and critically examine your work and the work of your peers. Keep good records of all your research activities, such as data collection, research design, and correspondence with your stakeholders in the research

N.B.: Research ethics are a crucial aspect of any research process. It is therefore critical that as supervisors of students doing research, we take our time to ensure that they (the students) embrace them as central in any valid educational research process

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Khadka, I. (2015). Software Piracy: A Study of Causes, Effects and Preventive Measures. Helsinki:
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