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Research Methodology (EAS 304)

Semester III:

Research Methodology (Theory) (EAS-304)

Semester IV:

Research Project Writing – (Project Topics and Guidelines) (EP 404)

M.A. English (Part- II)

Research Methodology (Theory) (EAS- 304)

Objectives:

- To introduce the students to the concept of research and with the terminologies associated with research activity.
- To sensitise students to the requirements of cohesion and coherence in continuous competition.
- To highlight the significance of systematic planning and execution of research activity.
- To prepare the pupil to undertake the research.
- To give the students practice in the use of various tools and techniques of research.

Syllabus:

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1.2 Qualities of a good researcher

1.3 Key Terms In Research: Investigation, Exploration, Hypothesis, Data, Methods And Techniques, Results And Findings, Variables

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Preface

Dear Students,

We are happy about the fact that we have reached important milestone while handing over to you the study material of M.A. (English) Part II. Honestly speaking, it is a challenging task to prepare the study material for post graduation course.

From the set of objectives set for redesigning of the syllabus. The objectives will be achieved through the papers assigned for Part II are here under:

- To enable the student to understand the literature and develop interest in it.
- To enable the student to read and appreciate the literary text.
- To acquaint the student with major trends in English literature in English literature through a detailed study of specific literary texts.
- To enable the student to understand and appreciate the various forms of literature (i.e. Drama, Poetry, Fiction)
- To inculcate amongst the student the values of identity, self-esteem, liberty by introducing the most richest and prosperous literature.
- To explain the student the value of life, philosophy of life with the help of literature.
- To inculcate interest and vision amongst the student for research in order to understand the place of research in literature.
- To comprehend the directions in research in literature.
- To study research methodology in order to carry out research in systematic manner.

Keeping the above objectives in mind you have studied India's Struggle for Freedom, Political, Social and Economic Ethos in Modern India. You enjoyed and appreciated English Drama and Fiction. You have also studied linguistic analysis like phonology, morphology, syntax, semantics, pragmatics and stylistics in detail in the Structure of Modern English. Indian poets and their philosophy have been studied in Indian literature in English as per choice based credit system in the first year of M.A (I Semester & II Semester). In the second year of M.A (III & IV Semester) you will be studying Literary Criticism, steps and critical texts evaluation, in English Poetry (Semester III) you will be studying Traditional Poets and

in Semester IV Rebellious Poets will be studied. Indian Verses will be studied in Indian Literature in English (Semester III) and Indian Prose Works in (Semester IV). According to the rules of University Grant Commission with respect to choice based credit system for the third and fourth semester elective subjects have been introduced such as, Translation Study, Introduction to Journalism, English Language and Literature Teaching and Research Methodology. Out of these four a student has to select one subject and on the same subject a student has to write and submit a project in the IV Semester.

Dear students, marks are important, no doubt; but achieving the above stated objectives are much more important than marks.

We take this opportunity to express our sincere gratitude towards Hon. Vice Chancellor Dr. Deepak Tilak, then Hon. Dean –Faculty of Distance Education for their constant support and guidance in this regard.

We are much indebted to Prof. Ashwini Purude for developing the course material. We wish you all the best luck!

Head,

The Department of Distance Education

About the Subject

Dear Students,

Last year you have studied literature. This year, keeping in mind the need of research and according to UGC norms our university has included Research Methodology as an ability skill enhancement subject.

Research means exploration, investigation, inspection, discovering new facts about a particular thing. Following are the main objectives:

1. To develop interest in research amongst students in order to promote research in literature.
2. To enable the student to carry out research by studying research methodology in a proper way.

Research comprises "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications.

Students of M.A. part II will study basics of research. In the third semester students will be having examination and submission of home assignment. Students are asked to refer question bank for writing university examination paper. Studying research at M.A. level will be beneficial for your M.Phil and P.hD. The subject Research may sound little obscure but if studied properly it is the easiest one to understand.

Semester Four will be based on project that carries 100 marks. The questions are given in the book and out of 15 a student is supposed to select one question and prepare a research project. A research project should be of 50 to 70 pages, handwritten, spiral bound and to be submitted to the department.

Wish you all the very best luck!!!!

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Section I

Section II

Chapter – I

What is Research?

1.0 Objectives

Friends, this paper deals with Research Methodology and we are going to begin with basics of research. After studying this chapter you will be able to:

- Understand the meaning of research
- Essential qualities of a good researcher
- Key terms associated with research
- How to choose relevant research topic

1.1 Introduction

Friends, this chapter will introduce you to the basic elements of research like understanding the meaning and definition of research. It will provide you information about the key terms associated with research. Along with this, it will also elaborate the essential qualities of a good researcher. This chapter will also guide you about various research areas and how to choose a relevant research topic.

1.2 Definition of "Research"

Ans: Research is an ORGANIZED and SYSTEMATIC way of FINDING ANSWERS to QUESTIONS.

SYSTEMATIC because there is a definite set of procedures and steps which you will follow. There are certain things in the research process which are always done in order to get the most accurate results.

ORGANIZED in that there is a structure or method in going about doing research. It is a planned procedure, not a spontaneous one. It is focused and limited to a specific scope.

FINDING ANSWERS is the end of all research. Whether it is the answer to a hypothesis or even a simple question, research is successful when we find answers. Sometimes the answer is no, but it is still an answer.

QUESTIONS are central to research. If there is no question, then the answer is of no use. Research is focused on relevant, useful, and important questions. Without a question, research has no focus, drive, or purpose.

Systematic investigative process employed to increase or revise currentknowledge by discovering new facts. It is divided into two general categories: (1) Basic research is inquiry aimed at increasing scientific knowledge, and (2) Applied research is effort aimed at using basic research for solving problems or developing new processes, products, or techniques.

Research comprises "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications." It is used to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support theorems, or develop new theories. A research project may also be an expansion on past work in the field. To test the validity of instruments, procedures, or experiments, research may replicate elements of prior projects, or the project as a whole. The primary purposes of basic research (as opposed to applied research) are documentation, discovery, interpretation, or the research and development (R&D) of methods and systems for the advancement of human knowledge. Approaches to research depend on epistemologies, which vary considerably both within and between humanities and sciences. There are several forms of research: scientific, humanities, artistic, economic, social, business, marketing, practitioner research, etc.

Definitions

Research has been defined in a number of different ways.

A broad definition of research is given by Martyn Shuttleworth - "In the broadest sense of the word, the definition of research includes any gathering of data, information and facts for the advancement of knowledge."

Another definition of research is given by Creswell who states that - "Research is a process of steps used to collect and analyze information to increase our understanding of a topic or issue". It consists of three steps: Pose a question, collect data to answer the question, and present an answer to the question.

The Merriam Webster Online Dictionary defines research in more detail as "a studious inquiry or examination; especially investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws".

Steps in conducting research

Research is often conducted using the hourglass model structure of research. The hourglass model starts with a broad spectrum for research, focusing in on the required information through the method of the project (like the neck of the hourglass), then expands the research in the form of discussion and results. The major steps in conducting research are:

- Identification of research problem
- Literature review
- Specifying the purpose of research
- Determine specific research questions
- Specification of a Conceptual framework - Usually a set of hypotheses
- Choice of a methodology (for data collection)
- Data collection
- Analyzing and interpreting the data
- Reporting and evaluating research
- Communicating the research findings and, possibly, recommendations

The steps generally represent the overall process; however they should be viewed as an ever-changing iterative process rather than a fixed set of steps. Most research begins with a general statement of the problem, or rather, the purpose for engaging in the study. The literature review identifies flaws or holes in previous research which provides justification for the study. Often, a literature review is conducted in a given subject area before a research question is identified. A gap in the current literature, as identified by a researcher, then engenders a research question. The research question may be parallel to the hypothesis. The hypothesis is the supposition to be tested. The researcher(s) collects data to test the hypothesis. The researcher(s) then analyzes and interprets the data via a variety of statistical methods, engaging in what is known as Empirical research. The results of the data analysis in confirming or failing to reject the Null hypothesis are then reported and evaluated. At the end, the researcher may discuss avenues for further research. However, some researchers advocate for the flip approach: starting with articulating findings and discussion of them, moving "up" to identification research problem that emerging in the findings and literature review introducing the findings. The flip approach is justified by the transactional

nature of the research endeavor where research inquiry, research questions, research method, relevant research literature, and so on are not fully known until the findings fully emerged and interpreted.

Rudolph Rummel says, "... no researcher should accept any one or two tests as definitive. It is only when a range of tests are consistent over many kinds of data, researchers, and methods can one have confidence in the results."

1.3 Qualities of a good researcher

Ans: A good researcher needs to have some specific core competencies like:

1. *An analytical mind*

A researcher must have an analytical mind. For example, as a market researcher you are constantly analysing a variety of factors. Why does the client ultimately want to do this research? What is the appropriate methodology? When should this research take place? What are the appropriate questions to ask and how? Why did the respondent say that? What are the findings telling us? Why are they telling us that? How do I best communicate the findings? etc. On a daily basis researchers must be able to take a step back and analyse the situation presented to them.

2. A people person

A researcher needs to be social. This is important for clients –buyers of research would rather work with professional and friendly consultants. Also for respondents – to get the best out of interview / focus group participants.

3. *The ability to stay calm*

It can be really stressful as a researcher sometimes, especially when you have pressing deadlines or are experiencing problems with a data set, for example. When these situations occur, you just have to keep focused and think logically – there will always be an end point, even if it doesn't feel like it!

4. *Intelligence*

Research requires critical analysis but most of all good common sense. A researcher essentially needs to be intelligent.Intelligence to express ideas is a quality that appears to reside in gifted individuals. But if you recognize your weakness in this realm, why not seek someone who can? After all, ideas are more important; but of course, better if you present them in such in a way that others understand well what you want to say.

5. *Curiosity*

You may have the necessary intelligence but if you are not curious enough then you won't be passionate about delving deeper to unearth more insight.

6. *Quick thinker*

Things don't always go to plan so you need to be able to think fast.

7. *Commitment*

It's a tough job – the hours can be long, the deadlines short.

8. *Excellent written and verbal communication skills*

So different audiences can clearly understand the findings of the research and what it means for them. A researcher must have excellent written communications and be fluent in the language of business.

9. *Sympathetic*

"Having a sympathetic ear when listening to some respondents' moans and groans is always a good skill to have!"

10. *Systematic*

Check, check and check again. It sounds simple but building in a proper amount of time for checking your work always pays dividends. This can be applied to all parts of the research process.Attention to detail –the researcher must have the ability to ensure that data is accurately presented and reported.There are innate qualities that researchers must possess to succeed in this challenging task that requires a lot of imagination and perseverance.

11. Thirst for new information

A good researcher shows an open mind about things. He does not just take things by themselves but explores new grounds. He adopts the philosophy of "thinking beyond the box", leaving out the conventional for something innovative. A good researcher treads the unknown frontier.

Pieces of evidence of this thirst for new information manifest in people who do not stop learning. Those persons who maintain an open mind for new possibilities to happen, even when everything appears to have been discovered or studied, or options exhausted.

Two hundred years ago, has anyone ever thought that man could go to the moon, or explore the depths of the sea? Or tap on the keys of the cell phone to communicate with another person so far away?

12. A keen sense of things around him

Keenness is a quality developed through an observant attitude. A good researcher sees something more out of a common occurrence around him. And he sees this quickly.

He can see a wiggling worm inside a flower, or the beautiful color combinations of a wild plant, or simply, notices the small fly in the burger.

13. Reflects or thinks about the things he encounters

Researchers who pause and reflect on the knowledge that they gained, either formally in school or through their experience, gain insights. Insights are creative thoughts that make one nod his head and say, "Aha, this is something I have been looking for!" An original idea was born.

14. Apply a systematic approach in assessing situations

Research requires systematic and objective thinking to arrive at something. Logical reasoning, therefore, is applied by a good researcher.

He can analyze things, meaning he can break down a complex situation into manageable bits that he can focus his attention into. Do you have these qualities? If not, then it's time for you to harness the hidden talents in you through training and continuous learning.

1.1 Check your progress

1. What is research?

2. What are the steps in conducting research?

3. What are the qualities of a good researcher?

1.4 Key terms in research: investigation, exploration, hypothesis, data, methods and techniques, results and findings, Variables

Investigation

What is a research investigation?
An investigation is an attempt to find, in a scientific way, the answer to an original question. The scientific way may involve careful recording of organised observations such as watching the behaviour of wild birds or the movement of planets. It may use an experimental procedure that involves designing an experiment, controlling variables, interpreting your data and making a conclusion. Investigations always look for reliable results that can be used to explain or predict events.

A research investigation involves:

- **Choosing and defining a topic:**Pick a topic that interests you.
- **Asking questions about your topic:**Why? What if…? How? It would be a good idea to do some reading about your selected topic. Libraries and the internet are a very useful resource. You could also discuss ideas with others familiar with your topic.

- **Forming a hypothesis:**This is an educated "guess" as to what you think will happen in a certain set of circumstances or conditions.
- **Investigating your hypothesis:**To do this properly you will need to design and carry out experiments in a safe manner.
- **Carefully recording the results of the experiments:**A survey, if it is used to collect data as part of an investigation, is regarded by STS as an experiment.
- **Analysing results:**What do your results mean?
- **Working logically through your results so as to support or disprove your hypothesis.**
- **Writing a report to tell others what you did and what you found, based on experiments you carried out.**The experimental report is NOT a research assignment.

Exploration

Investigation into a problem or situation which providesinsights to the researcher. The research is meant to provide details where a small amount of information exists. It may use a variety of methods such as trialstudies, interviews, group discussions, experiments, or other tactics for the purpose of gaining information. This is known as exploration in research.

Hypothesis

A **hypothesis** is a specific, testable prediction. It describes in concrete terms what you expect will happen in a certain circumstance.

The Purpose of a Hypothesis

A hypothesis is used in an experiment to define the relationship between two **variables**. The purpose of a hypothesis is to find the answer to a question. A formalized hypothesis will force us to think about what results we should look for in an experiment. The first variable is called the **independent variable**. This is the part of the experiment that can be changed and tested. The independent variable happens first and can be considered the cause of any changes in the outcome. The outcome is called the **dependent variable**. The independent variable in our previous example is not studying for a test. The dependent variable that you are using to measure outcome is your test score.

A hypothesis should always:

- Explain what you expect to happen
- Be clear and understandable
- Be testable
- Be measurable
- And contain an independent and dependent variable

How to Develop a Hypothesis

Another important aspect of a hypothesis is that it should be based on research. Remember that the purpose of a hypothesis is to find the answer to a question. The first thing you should do if

you want to answer a question is to find as much information on the topic as you can. Before you come up with a specific hypothesis, spend some time doing research. Then, start thinking of questions you still have. After thoroughly researching your question, you should have an educated guess about how things work. This guess about the answer to your question is where your hypothesis comes from.

How to Write a Hypothesis

Let's learn how to properly write a hypothesis using the previous example of tomorrow's test. Examine the differences in the following hypotheses:

Not studying may cause a lower grade on my test.

This statement is not clear enough to be useful. Your hypothesis should be as specific as possible. If the hypothesis is vague, it's unclear how to find the answer to your question.

If I do not study, then I will make a low grade on the test.

This statement makes a common mistake. You have written a simple cause and effect prediction that is based on an unstated assumption. You are assuming that not studying lowers test performance. A hypothesis is clearer if you state a proposed relationship before making the prediction.

If not studying lowers test performance and I do not study, then I will get a lower grade on the test.

A research hypothesis is the statement created by researchers when they speculate upon the outcome of a research or experiment.

Data

Meaning of Data

Data can be defined as a collection of facts, figures or any other related material, which has the ability to serve as the information for the basic study and the analysis. It must be kept in mind that data can be either old in nature or it may be the current one.

For getting answers to any of the queries that are made data related to the questions or the queries is very much needed. Data acts as the back bone for the analysis, so it can be said that no question can be answered without the data.

Analyzation of the data often leads to some of the inferences which are very commonly called as the information. The inference which is based on the guess work or on the opinions can never ever make a place in the research but the factors which play a critical role in the research generally include accuracy, suitability, reliability etc.

What is Data Collection and Measurement?

After the selection of a proper research design, a research problem is selected followed by a finalized plan of action. After all these steps, comes the stage involving the collection of the data this data is required during the various phases of study. So now we will study about the details of the sources of the data collection, importance of the data collection and also about the various methods that can be used for performing this purpose of the data collection.

Sources of Data

The basic data has a direct effect on the answers to the various questions and hence the source of the data is very much important as it provides the necessary information. The various sources of the data can be summarized as follows –

1. Primary sources – These types of the sources refer to the first hand sources or the original sources at the hands of a researcher, which is not collected in the past. Collection of the primary data can be done with the help of the principle sources of the observation and also the surveys. Primary data in very simple and general language can be defined as the first hand information relating to any type of the research that has been gathered or collected by the researcher or by any of his assistant or an agent.

This type of the data helps in the original investigations and observations, which automatically further leads to the achievement of the various useful and meaningful results. A very important point to be kept in mind about these types of results obtained, which are based on the primary data are bound to be empirical in nature and also play a very critical and defining role in the research methodology.

If the primary data that has been collected and compiled is not bias in the nature acts as a tool of great utility value as then this type of the data becomes very much reliable, accurate and dependable in nature that ultimately helps a great deal in carrying out the various specified investigations.

Once this primary data is used the original features or the characteristics of these data diminish resulting in the formation of the secondary data.

Hence it can be said that the data which acts as primary data at one point of time is bound to become secondary data at some stage or time in the future.

Methods of the collection of the primary data can be categorized as –

a. Observation

In general terms observation can be defined as the process involving the collection of the data by either viewing or listening or both. The best method in this category is to directly and personally observe something to get meaningful data this method is also called as the Direct Personal Observation. In this type of the observation the situation is observed by the researcher in order to

collect data relevant to the research. If the observation is without any bias the data that is collected with the help of this type of method acts as the most reliable information.

Observation is also a very cheap method and then also is very effective in its nature of working this method is a very old one data collected in the past about the human race, the environment etc used this method only.

But a major drawback of this type of method is that with the help of observation one is not able to quantify the data and also one cannot reach to some concrete solutions on the basis of the data collected by this method. So it can be said that observation method should generally be used for carrying out hypothesis testing.

b. Questionnaire and Schedule

With the help of this type of method, data is collected by getting questionnaires completed by the various respondents. This method of questionnaire and schedule is generally employed in order to collect the primary data in a very systematic manner. A questionnaire can be defined as a schedule having a number of coherent questions related to the topic which is being studied. A questionnaire acts as a formulated series of the questions and helps in the collection of the information directly by the investigator himself. A schedule can be defined as the collection of the details in a tabulated form and can be sometimes identical to the questionnaire.

Types of Questionnaire –

1. Structured questionnaire –
• Consists of definite, concrete and pre ordinate questions.
• Has some additional questions as well, limited to those necessary for the classification of the inadequate answers.
• Is segmented in nature.
• Provides information under given titles and the sub titles.
• Helps in getting accurate response and apt information.
• Saves time and also the energy.

2. Non Structured questionnaire –
• Is very simple in nature.
• Is non segmented.
• Has no sub division.
• Can be used for very simple types of studies.

3. Codified questionnaire –
• Expected answers are given in the code numbers.
• Very easy for carrying out the processing.
• Very suitable and also very convenient for the informant.

4. Uncodified questionnaire –
• Very simple in nature.

• Consist of no codification.
• Codification may be sometimes made at the time of compilation but only if it is necessary.

c. Experimentation

Forms a very commonly used and very popular ingredient of the research process, being used in the physical sciences for a long time. An experiment is the process of studying the various aspects of the relationships between the independent and the dependent variables in a controlled situation. It acts as a test or a trial method in order to test a hypothesis in a laboratory.

d. Stimulation

Stimulation can be defined as the technique used for performing the various sampling experiments on the model of the systems. According to Abelson, stimulation is "the exercise of a flexible imitation of processes and outcomes for the purpose of clearing or explaining the underlying mechanisms involved."

Stimulation is the form of observational method acting as the theoretical model of the elements, relations and the processes.This method is very widely used in the war strategies and the tact business problems etc.. It is also used in the various economical problems, political problems, and behavioral problems and also in the social problems.

e. Interview method

This method acts as a very important and a critical way to collect data involving a very planned and a very systematic conversation that takes place between the interviewer/ investigator and the respondent. By this one is able to get very suitable information related to a specific research problem.
By this method of data collection one can get a very suitable range of data having both demographic as well as the social characteristics or any one of them.

In today's world, most people like to talk rather than to write so this method is very much preferred compared to other methods of the data collection. By this method one can get a very deep and in depth view of the problem, hence helps in probing into the problem efficiently.

f. Projective Techniques

The various direct methods are generally based on some assumptions, for e.g. the direct methods like the personal interview, telephone interview etc pre suppose about a person that he is willing to provide some important information about his own behavior, beliefs, feelings etc.. But this is not the case in all the aspects.
There may be some persons who may not give any type of information about themselves or may not give their opinion in a true sense.
In such cases these techniques play a very vital role as these are not dependent on the subject's self insight.

2. Secondary sources – Data can be referred to be secondary in nature if the information provided by the data is not related to the purpose of the research project work i.e. secondary data accounts to the information for the various other purposes and not the purpose involved in the given research work. Secondary data is readily available and the researcher himself has no control over the shape of the data as it is given shape by the others. This type of data is based on the second – hand information i.e. the data that has been collected, compiled and presented in the past by some other company or group and is now being used in the various investigation procedures, this type of data is referred to as the secondary data.

Methods of the collection of the secondary data can be categorized as

a. Internal
• Involves data that a company is already having.
• This type of data is collected by the company in routine.
• This data is used by the company itself.
• Data collected by such method is always in tune and regard with the research operation's purpose.

b. External
• Involves data collected by the individuals.
• Data collected acts as a very useful and a meaningful tool for the researcher in carrying out the various research operations.
• Further are of two types – personal sources and the public sources.

i. **Personal Sources** – These type of sources for the collection of the secondary data generally involve –
(a) Autobiographies
(b) Diaries
(c) Letters
(d) Memoirs

ii. **Public Sources** – These are further of two types –
A. Unpublished – Due to various reasons sometimes the data is not at all published and some examples of such sources can be reports of inquiry commissions, report of special inquiry etc.
B. Published – Such sources include the following –
(a) Books
(b) Journals
(c) Newspapers
(d) Reports of the government departments
(e) Reports of the autonomous institutes

Thus data collection is one of the most important stage in conducting a research. You can have the best research design in theworld but if you cannot collect the required data you will be not be able to complete your project. Data collection is a very demanding job which needs thorough planning, hard work, patience, perseverance and more to be able to complete the task successfully.

Methods and Techniques

A research method is a systematic plan for doing research. Let's take a look at the four most common research methods.

Definition

A research method is a systematic plan for conducting research. Sociologists draw on a variety of both qualitative and quantitative research methods, including the experiments, survey research, participant observation, and secondary data. Quantitative methods aim to classify features, count them, and create statistical models to test hypotheses and explain observations. Qualitative methods aim for a complete, detailed description of observations, including the context of events and circumstances.

Approaches and Techniques

Four commonly-used methods of sociological investigation include the experiment, surveys, participant observation, and the use of existing (secondary) data.

The Experiment

An **experiment** is a research method for investigating cause and effect under highly controlled conditions. When conducting an experiment, researchers will test a hypothesis. A **hypothesis** is a statement of how two or more variables are related. For example, let's say we wanted to examine whether studying affects a person's GPA. Our hypothesis might be: The more a person studies, the higher a person's GPA will be. In this example, studying would be the **independent variable** (the cause), while a person's GPA would be the **dependent variable** (the effect).

If we wanted to test this hypothesis, we would randomly assign subjects into two groups. The **experimental group** is a group of individuals that are exposed to the independent variable. The **control group**, on the other hand, is not exposed to the independent variable. We would require that the control group doesn't study at all, but that experimental group has to study at least 10 hours a week. After one semester, we would then determine which group has the higher GPA.

If the experimental group has a statistically higher GPA, we can assume our hypothesis is correct. It is important to note that sometimes a change in the dependent variable could be the result of something entirely different than that being studied (maybe, for example, those chosen for the experimental group were simply more intelligent than those in the control group). When two variables change together but neither one causes the other, we call this a **spurious correlation**.

Survey Research

A **survey** is a research method in which subjects respond to a series of statements or questions in a questionnaire or an interview. Surveys target some **population**, which are the people who are the focus of research. Because populations are usually quite large, the researcher will target a **sample**, which is a part of a population that represents the whole.

Once our sample is selected, we need a plan for asking questions and recording answers. The most common types of surveys are questionnaires and interviews. A **questionnaire** is series of written statements or questions. With an **interview**, the researcher personally asks subjects a series of questions, and gives participants the freedom to respond as they wish. Both questionnaires and interviews can include **open-ended questions** (allowing the subjects to respond freely), or **close-ended questions** (including a selection of fixed responses).

Participant Observation

The most widely used strategy for collecting qualitative data is **participant observation**. Participant observation is a research method in which investigators systematically observe people while joining them in their routine activities. Fieldwork makes most participant observation exploratory and descriptive, and has very few hard and fast rules. Unlike other research methods, participant observation can be a lengthy process. In fact, it may require that the researcher stay in the field for weeks or even months.

Results and Findings

A Strategy for Writing up Research Results

Get Organized: **Lists, Outlines, Notecards, etc.** Before starting to write the paper, take the time to think about and develop a list of points to be made in the paper. As you progress, use whichever strategy works for you to begin to order and to organize those points and ideas into sections.

A. Balanced Review of the Primary Research Literature: Do an in-depth, balanced review of the primary research literature relevant to your study questions prior to designing and carrying out the experiments. This review will help you learn what is known about the topic you are investigating and may let you avoid unnecessarily repeating work done by others. This literature will form the basis of your Introduction and Discussion.

B. Write the Introduction: Once your hypothesis has been refined for testing, you will draft the Introduction to your paper.

C. Design and Conduct the Experiment: Keep careful notes on procedures used during the experiment. You should write the Materials and Methods section upon completion of the experiment.

D. Analyze and Interpret the Results: Once the data are collected, you must analyze and interpret the results. Analysis will include data summaries (e.g., calculating means and variances) and statistical tests to verify conclusions. Most scientists lay out their Tables and Figures upon completion of the data analysis before writing the Results section. Write the Table and Figure legends. It is good practice to note the one or two key results that each Table or Figure conveys and use this information as a basis for writing the Results section. Sequence and number the Tables and Figures in the order which best enables the reader to reach your conclusions.

E. Write the Results Section: Remember that the Results section has both text and illustrative materials (Tables and Figures). Use the text component to guide the reader through your key results, i.e., those results which answer the question(s) you investigated. Each Table and Figure must be referenced in the text portion of the results, and you must tell the reader what the key result(s) is that each Table or Figure conveys.

F. Write the Discussion: Interpretation of your results includes discussing how your results modify and fit in with what we previously understood about the problem. Review the literature again at this time. After completing the experiments you will have much greater insight into the subject, and by going through some of the literature again, information that seemed trivial before, or was overlooked, may tie something together and therefore prove very important to your own interpretation. Be sure to cite the works that you refer to.

G. Write the Abstract and Title: The Abstract is always the last section written because it is a concise summary of the entire paper and should include a clear statement of your aims, a brief description of the methods, the key findings, and your interpretation of the key results. The Title will probably be written earlier, but is often modified once the final form of the paper clearly known.

H. Self-Revise Your Paper: Most authors revise their papers *at least* 2-3x before giving it out for peer review. Go back over your paper now and read it carefully; **read it aloud**. Does it say what you wanted it to say? Do any ideas, experiments, or interpretations need to be moved around within the text to enhance the logical flow of your arguments? Can you shorten long sentences to clarify them?

Can you change passive verbs to active forms? Do the Tables and Figures have sufficient information to stand alone outside the context of the paper? Use your dictionary to correct spelling and your spell checker to catch typos.

I. Peer Review: Have knowledgeable colleagues critique your paper. Use their comments to revise your paper yet again.

J. Prepare the Final Draft: Carefully proof-read your final draft to make sure its as well done as possible. Double check that you've properly cited all your sources in the text and in theLiterature Cited. Check the formatting one last time.

Variables

Very simply, a **VARIABLE** is a measurable characteristic that varies. It may change from group

to group, person to person, or even within one person over time. There are six common variable types:

DEPENDENT VARIABLES:

Dependent variables show the effect of manipulating or introducing the independent variables. For example, if the independent variable is the use or non-use of a new language teaching procedure, then the dependent variable might be students' scores on a test of the content taught using that procedure. In other words, the variation in the dependent variable depends on the variation in the independent variable.

INDEPENDENT VARIABLES

Independent variables are those that the researcher has control over. This "control" may involve manipulating existing variables (e.g., modifying existing methods of instruction) or introducing new variables (e.g., adopting a totally new method for some sections of a class) in the research setting. Whatever the case may be, the researcher expects that the independent variable(s) will have some effect on (or relationship with) the dependent variables.

INTERVENING VARIABLES

Intervening variables refer to abstract processes that are not directly observable but that link the independent and dependent variables. In language learning and teaching, they are usually inside the subjects' heads, including various language learning processes which the researcher cannot observe. For example, if the use of a particular teaching technique is the independent variable and mastery of the objectives is the dependent variable, then the language learning processes used by the subjects are the intervening variables.

MODERATOR VARIABLES

Moderator variables affect the relationship between the independent and dependent variables by modifying the effect of the intervening variable(s). Unlike extraneous variables, moderator variables are measured and taken into consideration. Typical moderator variables in TESL and language acquisition research (when they are not the major focus of the study) include the sex, age, culture, or language proficiency of the subjects.

CONTROL VARIABLES

Language learning and teaching are very complex processes. It is not possible to

consider every variable in a single study. Therefore, the variables that are not measured in a particular study must be held constant, neutralized/balanced, or eliminated, so they will not have a biasing effect on the other variables. Variables that have been controlled in this way are called control variables.

EXTRANEOUS VARIABLES

Extraneous variables are those factors in the research environment which may have an effect on the dependent variable(s) but which are not controlled. Extraneous variables are dangerous. They may damage a study's validity, making it impossible to know whether the effects were caused by the independent and moderator variables or some extraneous factor. If they cannot be controlled, extraneous variables must at least be taken into consideration when interpreting results.

1.2 Check your progress

1. What is research investigation?

2. What are the steps in research investigation?

3. What is hypothesis?

4. Define data.

5. Define primary source of data.

6. What are the methods of collecting primary data?

7. What are the types of interview methods?

8. What is secondary data?

9. What are the methods of secondary data collection?

10. What is survey?

11. What is participant observation?

12. What is dependent variable?

13. What is independent variable?

14. What is intervening variables?

15. What is extraneous variable?

1.5 Research Area and Research Topic

Selecting a Topic

The ability to develop a good research topic is an important skill. When deciding on a topic, there are a few things that you will need to do:

- brainstorm for ideas
- choose a topic that will enable you to read and understand the literature
- ensure that the topic is manageable and that material is available
- make a list of key words
- be flexible
- define your topic as a focused research question
- research and read more about your topic
- formulate a thesis statement

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.

Use the steps below to guide you through the process of selecting a research topic.

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?
- Do you have a research paper due for a class this semester?
- Is there an aspect of a class that you are interested in learning more about?

Be aware of overused ideas when deciding a topic.

Step 2: Read General Background Information

- Read a general encyclopedia article on the top two or three 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.
- Use periodical indexes to scan current magazine, journal or newspaper articles on your topic.
- Use Web search engines. Google and Bing are currently considered to be two of the best search engines to find web sites on the topic.

Step 3: Focus on 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 such as "the environment" is to limit your topic. Some common ways to limit a topic are:

- by geographical area

  Example: What environmental issues are most important in the Southwestern United States

- by culture

  Example: How does the environment fit into the Navajo world view?

- by time frame:

  Example: What are the most prominent environmental issues of the last 10 years?

- by discipline

  Example: How does environmental awareness effect business practices today?

- by population group

  Example: What are the effects of air pollution on senior citizens?

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

- Locally confined - Topics this specific may only be covered in these (local) newspapers, if at all.

  Example: What sources of pollution affect the Genesee County water supply?

- 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: How can the environment contribute to the culture, politics and society of the Western states?

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

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 in when reading encyclopedia articles and background and general information.
- Find broader and narrower terms, synonyms, key concepts for key words to widen your search capabilities.
- Make note of these words and use them later when searching databases and catalogs.

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 paper, project, bibliography or other research assignment. Be aware of the depth of coverage needed and the due date. These important factors may help you decide how much and when you will modify your topic.

Step 6: Define Your Topic as a Focused Research Question

You will often begin with a word, develop a more focused interest in an aspect of something relating to that word, and then begin to have questions about the topic.

For example:

Ideas = Frank Lloyd Wright or modern architecture
Research Question = How has Frank Lloyd Wright influenced modern architecture?
Focused Research Question = What design principles used by Frank Lloyd Wright are common in contemporary homes?

Step 7: Research and Read More About Your Topic

Use the key words you have gathered to research in the catalog, article databases, and Internet search engines. Find more information to help you answer your research question. You will need to do some research and reading before you select your final topic. Can you find enough information to answer your research question? Remember, selecting a topic is an important and complex part of the research process.

Step 8: Formulate a Thesis Statement

Write your topic as a thesis statement. This may be the answer to your research question and/or a way to clearly state the purpose of your research. Your thesis statement will usually be one or two sentences that states precisely what is to be answered, proven, or what you will inform your audience about your topic.The development of a thesis assumes there is sufficient evidence to support the thesis statement.

For example, a thesis statement could be: Frank Lloyd Wright's design principles, including his use of ornamental detail and his sense of space and texture opened a new era of American architecture. His work has influenced contemporary residential design.

The title of your paper may not be exactly the same as your research question or your thesis statement, but the title should clearly convey the focus, purpose and meaning of your research.

For example, a title could be: Frank Lloyd Wright: Key Principles of Design For the Modern Home.

1.3 Check your progress

1. What things need to be considered while selecting a topic?

1.1 Answers to check your progress

1. **Research** comprises "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications."

2. The major steps in conducting research are:

- Identification of research problem
- Literature review
- Specifying the purpose of research
- Determine specific research questions
- Specification of a Conceptual framework - Usually a set of hypotheses
- Choice of a methodology (for data collection)

- Data collection
- Analyzing and interpreting the data
- Reporting and evaluating research
- Communicating the research findings and, possibly, recommendations

3. A good researcher needs to have some specific core competencies like:

1. An analytical mind

2. A people person

3. The ability to stay calm

4. Intelligence

5. Curiosity

6. Quick thinker

7. Commitment

8. Excellent written and verbal communication skills

9. Sympathetic

10. Systematic

11. Thirst for new information

12. A keen sense of things around him

13. Reflects or thinks about the things he encounters

14. Apply a systematic approach in assessing situations

1.2 Answers to check your progress

1. An investigation is an attempt to find, in a scientific way, the answer to an original question. The scientific way may involve careful recording of organised observations such as watching the behaviour of wild birds or the movement of planets.

2. A research investigation involves:

- Choosing and defining a topic
- Asking questions about your topic
- Forming a hypothesis
- Investigating your hypothesis
- Carefully recording the results of the experiments
- Analysing results
- Working logically through your results so as to support or disprove your hypothesis.
- Writing a report to tell others what you did and what you found, based on experiments you carried out.

3. A hypothesis is a specific, testable prediction. It describes in concrete terms what you expect will happen in a certain circumstance.

4. Data can be defined as a collection of facts, figures or any other related material, which has the ability to serve as the information for the basic study and the analysis.

5.Primary data in very simple and general language can be defined as the first hand information relating to any type of the research that has been gathered or collected by the researcher or by any of his assistant or an agent.

6.Methods of the collection of the primary data can be categorized as –

a. Observation

b. Questionnaire and Schedule

c. Experimentation

d. Stimulation

e. Interview method

f. Projective Techniques

7.Types of Questionnaire are–

1. Structured questionnaire

2. Non Structured questionnaire

3. Codified questionnaire

4. Uncodified questionnaire

8. Secondary data is based on the second – hand information i.e. the data that has been collected, compiled and presented in the past by some other company or group and is now being used in the various investigation procedures, this type of data is referred to as the secondary data.

9. Methods of the collection of the secondary data can be categorized as

a. Internal
• Involves data that a company is already having.
• This type of data is collected by the company in routine.
• This data is used by the company itself.
• Data collected by such method is always in tune and regard with the research operation's purpose.

b. External
• Involves data collected by the individuals.
• Data collected acts as a very useful and a meaningful tool for the researcher in carrying out the various research operations.
• Further are of two types – personal sources and the public sources.

i. **Personal Sources** – These type of sources for the collection of the secondary data generally involve –
(a) Autobiographies
(b) Diaries
(c) Letters
(d) Memoirs

ii. **Public Sources** – These are further of two types –
A. Unpublished – Due to various reasons sometimes the data is not at all published and some examples of such sources can be reports of inquiry commissions, report of special inquiry etc.
B. Published – Such sources include the following –
(a) Books
(b) Journals
(c) Newspapers
(d) Reports of the government departments
(e) Reports of the autonomous institutes

10.A **survey** is a research method in which subjects respond to a series of statements or questions in a questionnaire or an interview.

11. Participant observation is a research method in which investigators systematically observe people while joining them in their routine activities.

12. Dependent variables show the effect of manipulating or introducing the independent variables.

13. Independent variables are those that the researcher has control over. This "control" may involve manipulating existing variables (e.g., modifying existing methods of instruction) or introducing new variables (e.g., adopting a totally new method for some sections of a class) in the research setting.

14. Intervening variables refer to abstract processes that are not directly observable but that link the independent and dependent variables.

15. Extraneous variables are those factors in the research environment which may have an effect on the dependent variable(s) but which are not controlled. Extraneous variables are dangerous.

1.3 Answers to check your progress

1. When deciding on a topic, there are a few things that you will need to do:

- brainstorm for ideas
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- ensure that the topic is manageable and that material is available
- make a list of key words
- be flexible
- define your topic as a focused research question
- research and read more about your topic
- formulate a thesis statement

1.6 Conclusion

This chapter enables us to know the basic elements of research which is related to systematic investigation and study. It also defines the prerequisites of a good researcher. This chapter also studies the key terms in research: investigation, exploration, hypothesis, data, methods and techniques, results and findings and variables. This chapter guidesabout the various avenues in research and to select a relevant research topic.

The next chapter deals with how to construct research design.

1.7 Summary

Research comprises "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications."The major steps in conducting research are: identification of research problem, literature review, specifying the purpose of research, determine specific research questions, specification of a Conceptual framework - Usually a set of hypotheses, choice of a methodology (for data collection), data collection, analyzing and interpreting the data, reporting and evaluating research, communicating the research findings and, possibly, recommendations.

A good researcher needs to have some specific core competencies like:**a**n analytical mind, a people person, the ability to stay calm, intelligence, curiosity, quick thinker, commitment, excellent written and verbal communication skills, sympathetic, systematic, thirst for new information, and a keen sense of things around him, to apply a systematic approach in assessing situations.

A research investigation involves: choosing and defining a topic, asking questions about your topic, forming a hypothesis, investigating your hypothesis, carefully recording the results of the experiments, analysing results, working logically through your results so as to support or disprove your hypothesis, writing a report to tell others what you did and what you found, based on experiments you carried out.

1.8 Field work

Try to critically examine the qualities of a good researcher and check if it applies to you. Make a list of the qualities present and absent in you which can lead you to be a good researcher.

Chapter-II

Constructing Research Design

2.0 Objectives

Friends, this chapter deals with how to construct a good research design. After study of this chapter you will be able to:

- Explain pre-experimental designs
- Explain experimental designs
- Explain pre test and post test design

2.1 Introduction

Friends, in the last chapter we have studied about the basic elements of research, qualities of a good researcher and key terms of research. This chapter will introduce you to pre – experimental designs. Also the chapter deals with experimental designs. This chapter will also explain pre test and post test design.

2.2 Pre-experimental Designs

Pre-Experimental Designs

Pre-experiments are the simplest form of research design. In a pre-experiment either a single group or multiple groups are observed subsequent to some agent or treatment presumed to cause change.

Types of Pre-Experimental Design

- One-shot case study design

Chapter –III

Research Process

3.0 Objectives

Friends, this chapter introduce you to the research process. This chapter will help you to explain:

- How to formulate a research problem or research topic
- To prepare bibliography for background reading
- To make a review of literature
- To define aims and objectives
- To develop hypothesis
- To decide the scope and limitations of research
- To adopt appropriate research methodology

3.1 Introduction

In the previous chapter we studied how to construct appropriate research design. This chapter will formulate the research design. The chapter will help to make background preparation of research. It will help to make bibliography for background reading and literature review. It will help to make aims and objectives and hypothesis of research study. It will also help to set the scope and limitations of research.

3.2 Formulating the Research Problem/Research Topic

Once the general topic or problem has been identified, this should then be stated as a clear **research problem** that is, taken from just a statement about a problematic situation to a clearly defined researchable problem that identifies the issues you are trying to address.

It is not always easy to formulate the research problem simply and clearly. In some areas of scientific research the investigator might spend years exploring, thinking, and researching before they are clear about what research questions they are seeking to answer. Many topics may prove too wide-ranging to provide a researchable problem. Choosing to study, for instance a social issue such as child poverty, does not in itself provide a researchable problem. The problem is too wide-ranging for one researcher to address. Time and resources would make this unfeasible and the results from such a study would consequently lack depth and focus.

Statement of research problem

An adequate statement of the research problem is one of the most important parts of the research. Different researchers are likely to generate a variety of researchable problems from the same situation since there are many research issues that can arise out of a general problem situation. Your research will be able to pursue only one in depth.

For a problem statement to be effective in the planning of applied research it should have the following characteristics (Andrew and Hildebrand 1982).

1. The problem reflects felt needs
2. The problem is non-hypothetical, ie it must be based on factual evidence

3. It should suggest meaningful and testable hypotheses - to avoid answers that are of little or no use to the alleviation of the problem
4. The problems should be relevant and manageable
5. Formulating the research problem allows you to make clear, both to yourself and the reader, what the purpose of your research is. Subsequent elaboration of method should be oriented to providing information to address that problem. The problem statement is therefore a very important device for keeping you on track with your research. It is also one means by which your research will be evaluated - does the research address the problem as stated.

What is a good research question?

It is important to start your thinking about the dissertation with a *question* rather than simply a topic heading. The question sets out what you hope to learn about the topic. This question, together with your approach, will guide and structure the choice of data to be collected and analysed.
Some research questions focus your attention onto the relationship of particular theories and concepts: **'how does gender relate to career choices of members of different religions?'**
Some research questions aim to open an area to let possible new theories emerge: **'what is going on here?'** is the most basic research question in exploratory research. For an undergraduate dissertation, your question **needs to be more targeted than either of these**.
Creating a research question is a task. Good research questions are formed and worked on, and are rarely simply found. You start with what interests you, and you refine it until it is workable. There is no recipe for the perfect research question, but there are bad research questions. The following guidelines highlight some of the features of good questions.

- Relevant
- Manageable in terms of research and in terms of your own academic abilities.
- Substantial and with original dimensions.
- Consistent with the requirements of the assessment.
- Clear and simple.
- Interesting

Relevant

The question will be of academic and intellectual interest to people in the field you have chosen to study. The question arises from issues raised in the literature or in practice.
You should be able to establish a clear purpose for your research in relation to the chosen field. For example, are you filling a gap in knowledge, analysing academic assumptions or professional practice, monitoring a development in practice, comparing different approaches or testing theories within a specific population?

Manageable

You need to be realistic about the scope and scale of the project. The question you ask must be within your ability to tackle. For example, are you able to *access* people, statistics, or documents

from which to collect the data you need to address the question fully? Are you able to relate the concepts of your research question to the observations, phenomena, indicators or variables you can access? Can this data be accessed within the limited *time* and *resources* you have available to you?
Sometimes a research question appears feasible, but when you start your fieldwork or library study, it proves otherwise. In this situation, it is important to write up the problems honestly and to reflect on what has been learnt. It may be possible, with your supervisor, to develop a contingency plan to anticipate possible problems of access.

Substantial and (within reason) original

The question should not simply copy questions asked in other final year modules, or modules previously undertaken. It shows your own imagination and your ability to construct and develop research issues. And it needs to give sufficient scope to develop into a dissertation.

Consistent with the requirements of the assessment

The question must allow you the scope to satisfy the learning outcomes of the course.
For example, you can choose to conduct a theoretical study, one that does not contain analysis of empirical data. In this case, it will be necessary for you to think carefully before making such a choice. You would be required to give an account of your methodology, to explain why theoretical analysis was the most appropriate way of addressing the question and how you have gone about using theoretical models to produce new insights about the subject.

Clear and simple

The complexity of a question can frequently hide unclear thoughts and lead to a confused research process. A very elaborate research question, or a question which is not differentiated into different parts, may hide concepts that are contradictory or not relevant. This needs to be clear and thought-through, but it is one of the hardest parts of your work.
Equally, you may want to begin with your literature review and data collection and you may feel tempted to 'make do' with a broad and vague research question for the moment. However, a muddled question is likely to generate muddled data and equally muddled analysis.
If you create a clear and simple research question, you may find that it becomes more complex as you think about the situation you are studying and undertake the literature review. Having one key question with several sub-components will guide your research here.

Interesting

This is essential. The question needs to intrigue you and maintain your interest throughout the project. There are two traps to avoid.

- Some questions are *convenient* - the best you can come up with when you are asked to state a question on a form, maybe – or perhaps the question fits in with your units so you decide it will suffice.

- Some questions are *fads - t*hey arise out of a particular set of personal circumstances, for example a job application. Once the circumstances change you can lose enthusiasm for the topic and it becomes very tedious.

Make sure that you have a real, grounded interest in your research question, and that you can explore this and back it up by academic and intellectual debate. It is your interest that will motivate you to keep working and to produce a good dissertation.

Moving into action

- Make sure you note, either on computer or on index cards, anything you read that is relevant to your study. Can you map out the contemporary debates and critiques in the area? Are there any recent legal or policy changes of significance? What are the main practice issues to consider?
- Where (i.e. in what settings) does the work you are interested in take place? What access do you have to it? Will there be ethical issues? How might you be able to negotiate access? What obstacles are there? While it is early days to be specific about you data collection, it is important to know that you are on a course which will yield data, rather than a series of negative responses.
- What sort of time scales are you going to need to do the sort of research you are planning? How much time have you got? Are your plans unrealistic?
- Having thought about these things, try narrowing down your ideas again to the sort of research you can do.
- Make a list of the skills and knowledge you bring to the research task. Do you like interviewing? Will you be able to have the interviews transcribed? Are you keen to do surveys? Remember that you will need to have a reasonable sample to undertaken meaningful quantitative analysis.
- Are there sources of secondary data that you could access?
- Are there possibilities for documentary analysis?

Key Questions

- What aspect do you find the most interesting about your chosen field or topic?
- Is there 'room' for investigation in this sub-topic area?
- Have you tried formulating questions in different ways?
- Are you happy with your questions? (You will be the one working on them!)
- Have you discussed your topic with your supervisor?

Rationale of Questions

- Is the statement of reasons why a particular question is worth putting across.
- States what will happen to other parts of knowledge or practice if the question posed is answered, i.e., how the answer to the question will contribute to theory and/ or practice.
- Helps to effect a discrimination between scientifically good and scientifically trivial questions.

Specifying Questions

- Culminate the process of formulating a research problem
- Involve the breaking down of originating question in to several specifying questions related to particular aspects and their consequences.

Necessary Conditions for Formulating a Research Problem

We may now list some of the conditions that experience has proved to be conducive to formulation of significant research problems.

Systematic Immersion in the Subject matter through first hand observation

The researcher must immerse him/her self in the subject matter area with I which he/ she wishes to pose specific problem. This exercise helps a great deal in suggesting to the researcher the specific questions that may be posed for the study to answer. This process is known as pilot survey, preliminary survey or exploratory study.

Study of Relevant Literature on the Subject.

This would help the researcher to know if there are certain gaps in the theories (his/her research will then be to bridge this gap) or whether the prevailing theories applicable to the problem are in consistent with theoretical expectations and so on. This is also an aspect of exploration.

Discussions with persons having rich practical experience in the field of study.

This is often known as an experience survey, which again is an exercise at exploration. These people help in sharpening the focus of attention on specific aspects with in the field.

Sources of Research Problem

The research problem may be selected from the following sources:

- theory of one's own interest
- daily problems
- technological changes
- un explored areas
- discussions with other people

A research may select a problem for investigation from a given theory in which he has considerable interest. In such situations the researcher must have thorough knowledge of that theory and should be sufficiently inquisitive to explore some unexplained aspects or assumptions of that theory.

Research problem can also be selected on the basis of daily experience of a researcher. Everyday problems constantly present something new and worthy of investigation and it depends on the worthy of investigation and it depends on the sharpness of the researcher intellect to knit his daily experiences in to a research problem.

Technological changes in a fast changing society are constantly brought forth new problems and new opportunities for research. What is the impact of a changed technology on the existing socio economic set up, always interests the researcher and tempts him to undertake such studies as are revealing regarding the impact of new technology on the existing system.

Research problems can be both abstract and of applied interest. These may also be selected from those areas which have not been explored so far. Such area may be theoretical or empirical in nature.

Sometimes the researcher while discussing the interest with some other people may come across a problem that can be researched by the investigator. The problem may relate to any source as discussed above. In the same way reading assignments in text books, special assignments, research reports and term papers may also suggest some additional areas of needed research. Many research articles suggest some additional areas of needed research. Many research articles suggest problem for further investigation that may prove fruitful.

Criteria of a Good Research Problem

Factors to be taken in to account in the choice of research problem are both external and personal. External criteria involve such issues as newness and significance for the area, availability of data and method and administrative and institutional cooperation personal criteria include such consideration as interest, training, cost and time. The following are move detailed list of criteria for the choice of research problem.

Novelty

It should be sufficiently original so that it does not involve objectionable duplication. Ignorance of prior studies may lead a student to spend time a problem already investigated. The study should also employ the most recent data. Although originality is an important consideration, there is also a constant need for verification of the findings of the previous investigations, using newer and better devices and procedures. There is also a need for the testing of former findings under changed conditions.

Interesting

The problem should be interesting for the investigator himself. If he is not interested in to, he will be able to face and overcome the obstacles which come at every step in research. His interest should be purely intellectual and should not be there only for a reward, material benefit, advancement in position, increased authority, etc.

Importance

If it is not worthwhile, if adds to neither knowledge nor lead to any improvements in the current practices, it would be in vain set up as a discipline and to previous research findings in any way.

Immediate Application

The investigator should ask himself question, will my research help in solving an urgent problem

Feasibility or Amenability

The suitability of the problem for a particular research worker is the matter of its feasibility. The investigator should be able to carry it to a successful conclusion. He should possess the required competence, knowledge and understanding. He should be skillful enough to develop, administer, and interpret the necessary data gathering devices and procedures etc.

Feasibility issue of research includes the following

- Availability of data
- Availability of cooperation
- Availability of guidance
- Availability of other facilitates
- Experience and creativity
- Coverage and confidence

Common Errors in Formulating Research Problem

Naming a Broad Filed

To choose the broad area of study instead of specific problem makes no justification.

Narrowing or Localizing a Topic

The problem should not be narrowed to such an extent that it becomes too small and insignificant from research point or view.

3.3 Preparing Bibliography for Background Reading

Finding Background Information

Overview - The Importance of Background Information

After choosing a topic, you will need to locate introductory sources that give basic background information about the subject. Finding background information at the beginning of your research is especially important if you are unfamiliar with the subject area, or not sure from what angle to approach your topic. Some of the information that a background search can provide includes:

- Broad overview of the subject
- Definitions of the topic
- Introduction to key issues
- Names of people who are authorities in the subject field
- Major dates and events
- Keywords and subject-specific vocabulary terms that can be used for database searches

- Bibliographies that lead to additional resources

Encyclopedias

Encyclopedias are important sources to consider when initially researching a topic. General encyclopedias provide basic information on a wide range of subjects in an easily readable and understandable format.

If you are certain about what subject area you want to choose your topic from, you might want to use a specialized or **subject encyclopedia** instead. Subject encyclopedias limit their scope to one particular field of study, offering more detailed information about the subject.

- **General Encyclopedias** provide information about nearly every topic. Using an encyclopedia is an effective way to quickly get a broad overview of a subject. Some encyclopedias will provide more in-depth information than others, however any general encyclopedia is a good source to consult for background information of your chosen subject area. Most encyclopedias provide the following:
    - Main concepts
    - Titles of important books written about topic
    - Names of authors who have written about topic
    - Keywords and subject terms related to topic
    - Lists of related articles or additional resources
- **Gale Virtual Reference Desk**
  This online encyclopedia is a vast online library giving instant access to the most authoritative and up-to-date scholarship across the arts, humanities, social sciences, and sciences. It is one of the largest academic reference collections online.
- **Subject-Specific Encyclopedias** are important background sources for information. Unlike general encyclopedias which cover a wide range of topics, subject-specific encyclopedias focus their information in one particular subject area. Some features of subject-specific encyclopedias include:
    - Detailed articles written by experts within a field
    - Extensive and comprehensive bibliographies of important resources
- **Wikipedia**
  From Wikipedia's own page, "the free encyclopedia that anyone can edit". This includes the 10 year old down the street so reading the entry and treating it as fact is not the best thing to do. Instead use the **References** or **Further Readings** at the end of an entry to verify the information presented in the Wikipedia entry.

Periodicals

Periodicals (also known as **serials**) are publications printed "periodically", either daily, weekly, monthly, quarterly, or on an annual basis. Journals, magazines, and newspapers are different types of periodicals. Examples of periodicals include the following:

- **NEWSPAPERS** - *New York Times*
- **POPULAR MAGAZINES** - *Time* or *Vogue*

- **SCHOLARLY JOURNALS/PEER-REVIEWED-** *Journal of Advertising Research*
- **TRADE PUBLICATIONS** - *Consumer Marketing*

Because of their up-to-date information, articles from newspapers, and popular and general interest periodical publications make great resources for choosing topics. However, *scholarly* or *peer-reviewed* journals, because they often require specialized knowledge or vocabulary, should not be used for selecting topics and instead used later in the research process when you have established a better understanding of your topic.

You may search in the following ways:

- Keyword search example: journal and advertising
- Title search example: American marketing journal
- Title search example: New York times
- Subject heading search example: advertising--periodicals

Frequently Used Databases for Newspapers

Newspapers are good sources for up-to-date as well as historical information about events and issues. Databases such as

- InfoTrac Newsstand
- Factiva

are excellent sources for locating newspaper articles from leading newspapers such as the *New York Times* and the *Wall Street Journal*.

Browsing Current Print Periodical Collections

It is also a good idea to browse current print periodical collections to see what the UB Libraries own, and to stay up-to-date in your subject area.

Current periodicals in the Humanities, Social Sciences, Sciences and Engineering are located in the current periodicals area, on the third floor of Lockwood Library. The periodicals are placed in an alphabetical order by title.

Internet

Using search interfaces like **Google** can lead you to an ocean of good and bad information. Being critical of everything you see on the Internet is crucial when getting background information for an academic writing assignment. Professors often prohibit students from citing Internet sites on a research paper so be careful that you understand what is acceptable and unacceptable to quote. However, there are places on the Internet that will give you references that you may want to track down through your library.

- **Wikipedia**
  (http://www.wikipedia.org/)
  From Wikipedia's own page, "the free encyclopedia that anyone can edit". This includes the 10 year old kid down the street so reading the entry and treating it as fact is not the best thing to do. Instead use the **References** or **Further Readings** at the end of an entry to verify the information presented in the Wikipedia entry.
- **Google Books**
  (http://books.google.com/)
  Enter your search terms in Google books and digitized holdings of some of the world's greatest academic libraries will appear. Google collaborated with some of the finest research libraries in the world to digitize items found in the "public domain". They also provide access to chapters within contemporary books. This might give you just enough background information to get your paper started without coming in to the library to borrow a book.
- **Google Scholar**
  (http://scholar.google.com/)
  Here you are finding scholarly research, but from a limited number of journals. Once you put in your search terms you can get a good overview of a topic by limiting to time period on the left. **Tip: Select "Settings" from the main page then "Library Links" (on the left). Once there enter *University at Buffalo* and select the university. This then allows you to find the article through your library by clicking the "Find it @ UB" link.

Searching for sources

- Identify important concepts in your topic.
- Once you have articulated your topic, try to pick out important concepts or keywords which you can use when you search for articles.
- Example: How will *global warming* affect *developing countries*?
- Identify the subject area.
- For the global warming and developing countries topic there are a couple subject areas to consider when trying to choose a database or index. The issue of global warming could be described as *environmental* or *scientific*. The fact that the issue of developing countries is also a factor means that the subject area also involves *international* issues.
- Consider how recent or historical your search is.
- Since global warming is a recent concern, finding the most current articles would be useful.
- Choose the appropriate article database or index.
- Look at the Online Journals and Databases and match the subject areas of your topic with the subject areas of the different article databases that are available for you to search.
- Example: For the Global Warming topic, you can look at the Life Sciences & Medicine database subject area and see that there is an Environmental Sciences and Pollution Management database that deals with environmental issues. By looking at the Social Sciences, Business, & Education database subject area, you can also see that the PAIS Archive (Public Affairs Information Service) database might have articles dealing with developing countries. Searching both of these databases for articles relating to your topic would be a good place to start your research.

- Run the search.
- Think about the important concepts and subject area of your topic. Choose keywords that you can use to search the databases.
- Example: In the topic "How will global warming affect developing countries?" the important concepts are global warming and developing countries. One way to make sure that your search for articles is effective is to think of synonyms or additional words to describe your topic.

  Global warming: greenhouse effect, climate change
  developing countries: developing nations, underdeveloped countries, third world

- Most article databases allow you to build your searches by combining similar concepts with the word *OR*. This will result in a broader search.
- For example: global warming *OR* greenhouse effect *OR* climate change will find any article that has *any* of the three concepts in it. You can combine dissimilar concepts to create a focused search.

Example: The search "global warming *AND* developing countries" will find any article that has *both* concepts in it. For example, the search "(global warming *OR* greenhouse effect) *AND* developing countries" will find any article that has *either* global warming *or* greenhouse effect as terms *and* the term developing countries.

Evaluate your results

- Look at the number of article citations you were able to retrieve. If you retrieved more articles than you expected and they don't seem to be relevant to your topic, you may need to add another concept or keyword to your search statement in order to narrow your search. If you retrieved fewer articles than you expected, perhaps your search statement was too narrow. You might want to take some keywords out of your search statement to create a broader search which will retrieve more articles.
- Look at the abstract or subject headings of the article citations you have retrieved to determine if they are relevant to your research.
- If you want more information about how to search article databases, workshops are offered every semester.

3.1 Check your progress

1. What are the characteristics of a good research problem?

2. What are the features of a good research question?

3. Why should a research question be clear and simple?

4. What factors need to be considered when actual research action has to take place?

5. What are the conditions of formulating a research problem?

6. What are the criterion of a good research problem?

7. What are the common errors in formulating a research problem?

8. What is the advantage of background information?

9. How encyclopedias help in searching information?

10. How to use internet as source of information?

3.4 Review of Literature

What is a literature review?

The literature review provides you, the student, with the foundation you need to intensively explore a topic. It is an overview and evaluation of the writings in a specific area of interest. You will find literature reviews in many types of writing – annual reviews by commercial publishers, scholarly journal articles, and theses and dissertations to name a few. The ultimate purpose of the literature review is to bring together and analyze significant writings on a topic. For the student in the process of writing a thesis or dissertation, the purpose of the literature review is to show your intellectual grasp of a topic by sharing the knowledge that exists in your area of interest and evaluating this knowledge. It will help you identify important theorists, research groups and writing in your area of interest as well as the vocabulary, methods, history, and key variables used in the field of study.

The Literature Review

One of the most important early steps in a research project is the conducting of the literature review. A literature review is designed to identify related research, to set the current research project within a conceptual and theoretical context. When looked at that way, there is almost no topic that is so new or unique that we can't locate relevant and informative related research.

Some tips about conducting the literature review. First, **concentrate your efforts on the *scientific* literature**. Try to determine what the most credible research journals are in your topical area and start with those. Put the greatest emphasis on research journals that use a blind review system. In a blind review, authors submit potential articles to a journal editor who solicits several reviewers who agree to give a critical review of the paper. The paper is sent to these reviewers with no identification of the author so that there will be no personal bias (either for or against the author). Based on the reviewers' recommendations, the editor can accept the article, reject it, or recommend that the author revise and resubmit it. Articles in journals with blind review processes can be expected to have a fairly high level of credibility. Second, **do the review early** in the research process. You are likely to learn a lot in the literature review that will help you in making the tradeoffs you'll need to face. After all, previous researchers also had to face tradeoff decisions.

What should you look for in the literature review? First, you might be able to find a study that is quite similar to the one you are thinking of doing. Since all credible research studies have to review the literature themselves, you can check their literature review to get a quick-start on your own. Second, prior research will help assure that you include all of the major relevant constructs in your study. You may find that other similar studies routinely look at an outcome that you might not have included. If you did your study without that construct, it would not be judged credible if it ignored a major construct. Third, the literature review will help you to find and select appropriate measurement instruments. You will readily see what measurement instruments researchers use themselves in contexts similar to yours. Finally, the literature review will help you to anticipate common problems in your research context. You can use the prior experiences of others to avoid common traps and pitfalls.

As part of the planning process you should have done a **LITERATURE REVIEW**, which is a survey of important articles, books and other sources pertaining to your research topic. Now, for the second main section of your research report you need to write a summary of the main studies and research related to your topic. This review of the professional literature relevant to your research question will help to contextualize, or frame, your research. It will also give readers the necessary background to understand your research.

Evaluating other studies:

In a review of the literature, you do not merely summarize the research findings that others have reported. You must also evaluate and comment on each study's worth and validity. You may find that some published research is not valid. If it also runs counter to your hypothesis, you may want to critique it in your review. Don't just ignore it. Tell how your research will be better/overcome the flaws. Doing this can strengthen the rationale for conducting your research.

Selecting the studies to include in the review:

You do not need to report on every published study in the area of your research topic.
Choose those studies which are most relevant and most important.

Organizing the review:

After you have decided which studies to review, you must decide how to order them. In making your selection, keep your research question in mind. It should be your most important guide in determining what other studies are relevant. Many people simple create a list of one-paragraph summaries in chronological order. This is not always the most effective way to organize your review. You should consider other ways, such as...

- By topic
- Problem -> solution
- Cause -> effect

Another approach is to organize your review by argument and counter argument. For example,

You may write about those studies that disagree with your hypothesis, and then discuss those that agree with it. Yet another way to organize the studies in your review is to group them according to a particular variable, such as age level of the subjects (child studies, adult studies, etc.) or research method (case studies, experiments, etc.).

The end of the review:

The purpose of your review of the literature was to set the stage for your own research. Therefore, you should conclude the review with a statement of your hypothesis, or focused research question. When this is done, you are ready to proceed with part three of your research report, in which you explain the methods you used.

The Literature Review as a Process

The first step in the process of reviewing the literature is to identify a useful set of materials to explore. Where should you begin? There are two ways to approach the identification of appropriate materials.

You can use the "citation pearl searching" approach. In this process, you begin with an article of particular interest in the topic you are exploring. This could be a reading from a class, a mention in a textbook or something you have found searching the library catalog or databases. Look at the references found in that work and begin to build a body of literature that is relevant for your topic. Using citation tracking tools like the Web of Science or Scopus you should be able to amass a number of writings related to the original work including articles cited by the original author and articles that cite the original author. Once you have digested these articles, go back to the databases and catalogs and see if you can find more material by searching the names of the authors you have collected, or search using the vocabulary you have developed.

The second way to approach your information gathering phase is the standard hierarchical search. Here you might begin with an essay in an encyclopedia and explore the references found at the end of the essay. Again, taking the terms and authors you find there explore your topic using a variety of catalogs and databases. There are literally hundreds of resources you can use to explore your topic including journal articles, books, government documents, statistical databases, newspapers, archives, and more. There are also handbooks, dictionaries, and annual reviews that will provide you with additional sources for your work whichever method you choose for your search.

Conducting a Literature Review

Evaluating the credibility of sources is one of the most difficult aspects, especially with the ease of finding information on the internet.

The only real way to evaluate is through experience, but there are a few tricks for evaluating information quickly, yet accurately.

There is such a thing as 'too much information,' and Google does not distinguish or judge the quality of results, only how search engine friendly a paper is. This is why it is still good practice to begin research in an academic library. Any journals found there can be regarded as safe and credible.

The next stage is to use the internet, and this is where the difficulties start. It is very difficult to judge the credibility of an online paper. The main thing is to structure the internet research as if it were on paper. Bookmark papers, which may be relevant, in one folder and make another subfolder for a 'shortlist.'

- The easiest way is to scan the work, using the abstract and introduction as guides. This helps to eliminate the non-relevant work and also some of the lower quality research.
  If it sets off alarm bells, there may be something wrong, and the paper is probably of a low quality. Be very careful not to fall into the trap of rejecting research just because it conflicts with your hypothesis. Failure to do this will completely invalidate the literature review and potentially undermine the research project. Any research that may be relevant should be moved to the shortlist folder.
- The next stage is to critically evaluate the paper and decide if the research is sufficient quality. Think about it this way: The temptation is to try to include as many sources as possible, because it is easy to fall into the trap of thinking that a long bibliography equates to a good paper. A smaller number of quality sources is far preferable than a long list of irrelevance.
- Check into the credentials of any source upon which you rely heavily for the literature review. The reputation of the University or organization is a factor, as is the experience of the researcher. If their name keeps cropping up, and they have written many papers, the source is usually OK.
- Look for agreements. Good research should have been replicated by other independent researchers, with similar results, showing that the information is usually fairly safe to use.
  If the process is proving to be difficult, and in some fields, like medicine and environmental research, there is a lot of poor science, do not be afraid to ask a supervisor for a few tips. They should know some good and reputable sources to look at. It may be a little extra work for them, but there will be even more work if they have to tear apart a review because it is built upon shaky evidence.

Conducting a good literature review is a matter of experience, and even the best scientists have fallen into the trap of using poor evidence. This is not a problem, and is part of the scientific process; if a research program is well constructed, it will not affect the results.

3.5 Defining Aims and Objectives

Aims and Objectives

It is often useful to consider your research questions in terms of aim(s) and objectives.

The aim of the work, *i.e.* the overall purpose of the study, should be clearly and concisely defined.

Aims:

- Are broad statements of desired outcomes, or the general intentions of the research, which 'paint a picture' of your research project
- Emphasize what is to be accomplished (not how it is to be accomplished)
- Address the long-term project outcomes, *i.e.* they should reflect the aspirations and expectations of the research topic.

Once aims have been established, the next task is to formulate the objectives. Generally, a project should have no more than two or three aims statements, while it may include a number of objectives consistent with them.

Objectives are subsidiary to aims and:

- Are the steps you are going to take to answer your research questions or a specific list of tasks needed to accomplish the goals of the project
- Emphasize how aims are to be accomplished
- Must be highly focused and feasible
- Address the more immediate project outcomes
- Make accurate use of concepts
- Must be sensible and precisely described
- Should read as an 'individual' statement to convey your intentions

Here is an example of a project aim and subsidiary objectives:

Aim

- To critically assess the collection and disposal operations for bulky household waste in order to identify factors, which contribute to performance and technical efficiency.

Objectives

- To critically assess bulky waste operations by local authorities, including volumes/types of materials arising and current disposal/recovery routes.
- To classify and evaluate the operation of furniture recovery schemes nationally.
- To make recommendations to improve the operational effectiveness of, and to maximise recovery opportunities of bulky waste collection.

Aims and Objectives should:

- Be concise and brief.
- Be interrelated; the aim is what you want to achieve, and the objective describes how you are going to achieve that aim.
- Be realistic about what you can accomplish in the duration of the project and the other commitments you have
- Provide you and your supervisor(s) with indicators of how you intend to:
    - approach the literature and theoretical issues related to your project.

- access your chosen subjects, respondents, units, goods or services.
- develop a sampling frame and strategy or a rationale for their selection.
- develop a strategy and design for data collection and analysis.
- deal with ethical and practical problems in your research.

Aims and Objectives should not:

- Be too vague, ambitious or broad in scope.
- Just repeat each other in different terms.
- Just be a list of things related to your research topic.
- Contradict your methods - *i.e.* they should not imply methodological goals or standards of measurement, proof or generalisability of findings that the methods cannot sustain.

At the conclusion of your project you will need to assess whether or not you have met your objectives and if not, why not. However, you may not always meet your aims in full, since your research may reveal that your questions were inappropriate, that there are intervening variables you could not account for or that the circumstances of the study have changed, *etc*. Whatever the case, your conclusion will still have to reflect on how well the research design, which was guided by your objectives has contributed to addressing your aims.

What is the difference between an aim and an objective in an academic context?

Aim

- An intention or aspiration; what you hope to achieve.
- Aims are statements of intent, written in broad terms.
- Aims set out what you hope to achieve at the end of the project.

Objectives

- A goal or a step on the way to meeting the aim; how you will achieve it.
- Objectives use specific statements which define measurable outcomes. For example: *what steps will you take to achieve the desired outcome?*

Objectives should be S.M.A.R.T.:

- **Specific** – be precise about what you are going to do
- **Measureable** –you will know when you have reached your goal
- **Achievable** – Don't attempt too much. A less ambitious but completed objective is better than an over-ambitious one that you cannot possible achieve.
- **Realistic** – do you have the necessary resources to achieve the objective? For example: time, money, skills, etc
- **Time constrained** – determine when each stage needs to be completed. Is there time in your schedule to allow for unexpected delays?

Remember:

Use strong positive statements which use strong verbs. Avoid weaker verbs.

Strong verbs:*collect, construct, classify, develop, devise, measure, produce, revise, select, synthesize*
Weak verbs:*appreciate, consider, enquire, learn, know, understand, be aware of, appreciate, listen, perceive*

How many aims or objectives should there be?

- There are no fixed number of aims or objectives.
- Some tutors are happy with one clear strong aim, whilst others like to see a main aim supported by at least two subsidiary aims.
- You will be required to produce sufficient objectives to be able to measure progress towards meeting the aim/s.

Remember:

Aims describe what you want to achieve. **Objectives** describe **how** you are going to achieve those aims.

Example
Aim: To investigate the relationship between tectonic-plate movement and the gravitational effect of the alignment of the major planets.

Objectives:

- Data sets will be extracted from the known historical record of tectonic-plate movement
- Data sets will be extracted from astronomical tables detailing the various alignments of the major planets covering the same period as data from the geological record.
- The data from both sets will be synthesized to establish if correlation points exist between major geological events and planetary alignments.

How many aims or objectives should there be?

There is no fixed number of objectives but you will be required to produce sufficient objectives to be able to measure progress towards meeting the aim/s.

To review: - aims describe what you want to achieve, and objectives describe how you are going to achieve those aims.

3.2 Check your progress

1. What is the purpose of literature review?

2. What are the advantages of literature review?

3. How to organize literature review?

4. What is citation pearl searching method of literature review?

5. What is standard hierarchical search method of literature review?

6. What are the do's and don'ts in constructing aims and objectives?

3.6 Developing Hypothesis

Hypothesis

The derivation of a suitable hypothesis goes hand in hand with the selection of a research problem. Hypothesis is a statement temporarily accepted as true in the light of what is, at the time, known about the phenomenon, and it is employed as a basis for action in the search of new truth. A hypothesis is a tentative assumption drawn from knowledge and theory which is used as a guide in the investigation of other facts and theories that are yet unknown. It is a guide, supposition or tentative inference as to the existence of some fact condition or relationship relative to some phenomenon which serves to explain such facts as ready are know to exist in a given area of research and to guide the search for new truth. A hypothesis is a tentative supposition or provisional guess which seems to explain the situation under observation. A hypothesis states what we are looking for. A hypothesis looks forward. It is a proposition which can be put to a test to determine its validity.

Importance of Hypothesis

1. It provides direction to research. It defines what is relevant and what is irrelevant. Thus it prevents the review or irrelevant literature and the collection useless or excess data.
2. It sensitizes the investigator to certain aspects of situations which are relevant from the stand point of the problem in hand. It spells the difference between precision and haphazardness, between fruitful and fruitless research.
3. It is a guide to thinking process and the process of discovery. It is the investigators eye a sort of guiding light in the world of darkness.
4. It focuses research without it research would be like a random and aimless wandering.

5. It places clear and specific goals before us. These clear and specific goals provide the investigator with a basis for selecting samples and research procedures to meet these goals.

Characteristics of a Usable Hypothesis

The criteria for judging the usability of the hypothesis are none else than those that help the hypothesis perform their designated functions vis- a Vis research and the growth of knowledge. Hence, a good useable hypothesis is the one which satisfies many of the following criteria.

- A hypothesis should be empirically testable

- A good hypothesis in agreement with the observed facts.
- A good hypothesis does not conflict with any law of nature which is known to be true.
- A good hypothesis is expert.
- It should be so designed that its test will provide an answer to original problems which forms primary purpose of the investigation.
- It must be stated in final form early in the experiment before any attempt at verification is made.
- The hypothesis must be conceptually clear.
- The hypothesis must be specific

Advisedly, the hypothesis should be related to a body of theory or some theoretical orientation.

Difficulties in the Formulation of Hypothesis

- Lack of knowledge and clarity of the theoretical frame work of the area in which the investigator chooses to work.
- Lack of ability to make use of the theoretical frame work logically.
- Lack of acquaintance with available research techniques. This result in failure of phrasing the hypothesis properly.
- Vagueness of the statement
- **Often, one of the trickiest parts of designing and writing up any research paper is how to write a hypothesis.**
- The entire experiment and research revolves around the research hypothesis (H_1) and the null hypothesis (H_0), so making a mistake here could ruin the whole design.

- Needless to say, it can all be a little intimidating, and many students find this to be the most difficult stage of the scientific method.
- In fact, it is not as difficult as it looks, and if you have followed the steps of the scientific process and found an area of research and potential research problem, then you may already have a few ideas.
- It is just about making sure that you are asking the right questions and wording your hypothesis statements correctly.

The Three-Step Process

- Often, it is still quite difficult to isolate a testablehypothesis after all of the research and study. The best way is to adopt a three-step hypothesis; this will help you to narrow things down, and is the most foolproof guide to how to write a hypothesis.
- Step one is to think of a general hypothesis, including everything that you have observed and reviewed during the information gathering stage of any research design. This stage is often called developing the research problem.

An Example of How to Write a Hypothesis

A worker on a fish-farm notices that his trout seem to have more fish lice in the summer, when the water levels are low, and wants to find out why. His research leads him to believe that the

amount of oxygen is the reason - fish that are oxygen stressed tend to be more susceptible to disease and parasites.

He proposes a general hypothesis.

"Water levels affect the amount of lice suffered by rainbow trout."

This is a good general hypothesis, but it gives no guide to how to design the research or experiment. The hypothesis must be refined to give a little direction.

"Rainbow trout suffer more lice when water levels are low."

Now there is some directionality, but the hypothesis is not really testable, so the final stage is to design an experiment around which research can be designed, a testable hypothesis.

"Rainbow trout suffer more lice in low water conditions because there is less oxygen in the water."

This is a testable hypothesis - he has established variables, and by measuring the amount of oxygen in the water, eliminating other controlled variables, such as temperature, he can see if there is a correlation against the number of lice on the fish.
This is an example of how a gradual focusing of research helps to define how to write a hypothesis.

The Next Stage - What to Do with the Hypothesis

Once you have your hypothesis, the next stage is to design the experiment, allowing a statistical analysis of data, and allowing you to test your hypothesis.
The statistical analysis will allow you to reject either the null or the alternative hypothesis. If the alternative is rejected, then you need to go back and refine the initial hypothesis or design a completely new research program.

This is part of the scientific process, striving for greater accuracy and developing ever more refined hypotheses.

3.7 Deciding the Scope and Limitations

The limitations of the study are those characteristics of design or methodology that impacted or influenced the interpretation of the findings from your research. They are the constraints on generalizability, applications to practice, and/or utility of findings that are the result of the ways in which you initially chose to design the study and/or the method used to establish internal and external validity.

Importance of Scope and Limitations

Always acknowledge a study's limitations. It is far better for you to identify and acknowledge your study's limitations than to have them pointed out by your professor and be graded down because you appear to have ignored them.

Keep in mind that acknowledgement of a study's limitations is an opportunity to make suggestions for further research. If you do connect your study's limitations to suggestions for further research, be sure to explain the ways in which these unanswered questions may become more focused because of your study.

Acknowledgement of a study's limitations also provides you with an opportunity to demonstrate that you have thought critically about the research problem, understood the relevant literature published about it, and correctly assessed the methods chosen for studying the problem. A key objective of the research process is not only discovering new knowledge but to also confront assumptions and explore what we don't know.

Claiming limitations is a subjective process because you must evaluate the impact of those limitations. Don't just list key weaknesses and the magnitude of a study's limitations. To do so diminishes the validity of your research because it leaves the reader wondering whether, or in what ways, limitation(s) in your study may have impacted the results and conclusions. Limitations require a critical, overall appraisal and interpretation of their impact. You should answer the question: do these problems with errors, methods, validity, etc. eventually matter and, if so, to what extent?

Descriptions of Possible Limitations

All studies have limitations. However, it is important that you restrict your discussion to limitations related to the research problem under investigation. For example, if a meta-analysis of existing literature is not a stated purpose of your research, it should not be discussed as a limitation. **Do not apologize for not addressing issues that you did not promise to investigate in the introduction of your paper.**

Here are examples of limitations related to methodology and the research process you may need to describe and to discuss how they possibly impacted your results. Descriptions of limitations should be stated in the past tense because they were discovered after you completed your research.

Possible Methodological Limitations

- **Sample size** -- the number of the units of analysis you use in your study is dictated by the type of research problem you are investigating. Note that, if your sample size is too small, it will be difficult to find significant relationships from the data, as statistical tests normally require a larger sample size to ensure a representative distribution of the population and to be considered representative of groups of people to whom results will be generalized or transferred. Note that sample size is less relevant in qualitative research.

- **Lack of available and/or reliable data** -- a lack of data or of reliable data will likely require you to limit the scope of your analysis, the size of your sample, or it can be a significant obstacle in finding a trend and a meaningful relationship. You need to not only describe these limitations but to offer reasons why you believe data is missing or is unreliable. However, don't just throw up your hands in frustration; use this as an opportunity to describe the need for future research.
- **Lack of prior research studies on the topic** -- citing prior research studies forms the basis of your literature review and helps lay a foundation for understanding the research problem you are investigating. Depending on the currency or scope of your research topic, there may be little, if any, prior research on your topic. **Before assuming this to be true, consult with a librarian!** In cases when a librarian has confirmed that there is a lack of prior research, you may be required to develop an entirely new research typology [for example, using an exploratory rather than an explanatory research design]. Note again that this limitation can serve as an important opportunity to describe the need for further research.
- **Measure used to collect the data** -- sometimes it is the case that, after completing your interpretation of the findings, you discover that the way in which you gathered data inhibited your ability to conduct a thorough analysis of the results. For example, you regret not including a specific question in a survey that, in retrospect, could have helped address a particular issue that emerged later in the study. Acknowledge the deficiency by stating a need for future researchers to revise the specific method for gathering data.
- **Self-reported data** -- whether you are relying on pre-existing data or you are conducting a qualitative research study and gathering the data yourself, self-reported data is limited by the fact that it rarely can be independently verified. In other words, you have to take what people say, whether in interviews, focus groups, or on questionnaires, at face value. However, self-reported data can contain several potential sources of bias that you should be alert to and note as limitations. These biases become apparent if they are incongruent with data from other sources. These are:

  (1) **Selective memory** [remembering or not remembering experiences or events that occurred at some point in the past];

  (2) **Telescoping** [recalling events that occurred at one time as if they occurred at another time];

  (3) **Attribution** [the act of attributing positive events and outcomes to one's own agency but attributing negative events and outcomes to external forces]; and,

  (4) **Exaggeration** [the act of representing outcomes or embellishing events as more significant than is actually suggested from other data].

Possible Limitations of the Researcher

- **Access** -- if your study depends on having access to people, organizations, or documents and, for whatever reason, access is denied or limited in some way, the reasons for this need to be described.

- **Longitudinal effects** -- The time available to investigate a research problem and to measure change or stability over time is pretty much constrained by the due date of your assignment. Be sure to choose a problem that does not require an excessive amount of time to complete the literature review, apply the methodology, and gather and interpret the results. If you're unsure whether you can complete your research within the confines of the assignment's due date, talk to your professor.
- **Cultural and other type of bias** -- we all have biases, whether we are conscience of them or not. Bias is when a person, place, or thing is viewed or shown in a consistently inaccurate way. Bias is usually negative, though one can have a positive bias as well, especially if that bias reflects your reliance on research that only support for your hypothesis. When proof-reading your paper, be especially critical in reviewing how you have stated a problem, selected the data to be studied, what may have been omitted, the manner in which you have ordered events, people, or places, how you have chosen to represent a person, place, or thing, to name a phenomenon, or to use possible words with a positive or negative connotation. **NOTE:** If you detect bias in prior research, it must be acknowledged and you should explain what measures were taken to avoid perpetuating that bias.
- **Fluency in a language** -- if your research focuses on measuring the perceived value of after-school tutoring among Mexican-American ESL [English as a Second Language] students, for example, and you are not fluent in Spanish, you are limited in being able to read and interpret Spanish language research studies on the topic. This deficiency should be acknowledged.

Structure and Writing Style

Information about the limitations of your study are generally placed either at the beginning of the discussion section of your paper so the reader knows and understands the limitations before reading the rest of your analysis of the findings, or, the limitations are outlined at the conclusion of the discussion section as an acknowledgement of the need for further study. Statements about a study's limitations should not be buried in the body [middle] of the discussion section unless a limitation is specific to something covered in that part of the paper. If this is the case, though, the limitation should be reiterated at the conclusion of the section.

If you determine that your study is seriously flawed due to important limitations, such as, an inability to acquire critical data, consider reframing it as a pilot study intended to lay the groundwork for a more complete research study in the future. Be sure, though, to specifically explain the ways that these flaws can be successfully overcome in a new study.

But, do not use this as an excuse for not developing a thorough research paper! Review the tab in this guide for developing a research topic. If serious limitations exist, it generally indicates a likelihood that your research problem is too narrowly defined or that the issue or event under study is too recent and, thus, very little research has been written about it. If serious limitations do emerge, consult with your professor about possible ways to overcome them or how to reframe your study.

When discussing the limitations of your research, be sure to:

- Describe each limitation in detailed but concise terms;
- Explain why each limitation exists;
- Provide the reasons why each limitation could not be overcome using the method(s) chosen to acquire or gather the data [cite to other studies that had similar problems when possible];
- Assess the impact of each limitation in relation to the overall findings and conclusions of your study; and,
- If appropriate, describe how these limitations could point to the need for further research.

Remember that the method you chose may be the source of a significant limitation that has emerged during your interpretation of the results [for example, you didn't interview a group of people that you later wish you had]. If this is the case, don't panic. Acknowledge it, and explain how applying a different or more robust methodology might address the research problem more effectively in a future study. A underlying goal of scholarly research is not only to show what works, but to demonstrate what doesn't work or what needs further clarification.

3.8 Adopting Appropriate Research Methodology

Adopting Qualitative and Quantitative Research Methods

3.1 Introduction

Baker (2003) describes methodology as the critical evaluation of alternative research strategies and methods. Methodology is a combination of techniques used to enquire into specific situation (Easterby-Smith, et al. 2002). Methodology is the analysis of, and the rationale for, the particular method or methods used in a given study, and in that type of study in general (Jankowicz, 2000).

3.2 Research approaches

The extent to which the theory is clear at the beginning of the research is important in the design of the research project. The researcher can use the deductive approach and/or the inductive approach (Saunders et.al, 2007).

3.2.1 Deductive approach

In this approach, a theory and hypothesis is developed and a research strategy is designed to test the hypothesis. The theory allows examining the specific outcome of the inquiry, which will tend to confirm the theory or indicate modifications.

3.2.2 Inductive approach

In this approach, first the data is collected and theory is developed from the result of the data analysed. The result of this analysis would be the formulation of a theory. This approach is concerned with the context in which the events are taking place. Therefore the study of a small sample of subjects might be more appropriate than a large number as with the deductive approach.

Followers of the inductive approach would criticise the deductive approach because of its tendency to construct a methodology that is not flexible and that does not allow alternative explanations of what is going on. On the other hand, the deductive approach emphasises scientific principles, moving from theory to data, the need to explain underlying relationships between variables, collection of quantitative data, the application of controls to ensure validity of data, the working of concepts to ensure clarity of definition, a highly structured approach, researcher independence of what is being researched and the necessity to select samples of sufficient size in order to generalise conclusions.

The inductive approach also emphasises gaining an understanding of the meanings humans attach to events, a close understanding of the research context, the collection of qualitative data, a more flexible structure that allows room for changes as the research progresses, a realisation that the researcher is part of the research process and less concern with the need to generalise. This approach to research also gives room for alternative theories to be put forth.

Deductive research can be quicker to complete. However, time must be devoted to setting up the study prior to data collection and analysis. On the other hand, inductive research can be more prolonged. While the deductive approach to research can be a lower risk strategy, inductive research poses the risk that no useful data patterns and theory may emerge.

3.3 Research Design

Research design is about organising research activity, including the collection of data, in ways that are most likely to achieve the research aim. A research design needs to consider the extent to which you should collect data from a research population.

Vogt (1993) defines research design as the science of planning procedures for conducting studies so as to get the most valid findings. Research design is an overall plan for relating the conceptual research problem to relevant and practicable empirical research which provides a plan or a framework for data collection and its analysis.

3.4 Adopting Qualitative and Quantitative Research Methods

Research method is that section of research report that describes the research methods used in conducting the research. Research method is a systematic and orderly approach taken towards the collection and analysis of data so that information can be obtained from data.

The quantitative approach is collecting and analysing of numerical data and applying statistical test, while quantitative approach is more subjective in nature and involves examining and reflecting on perceptions in order to gain an understanding of social and human activities.

Qualitative approach is the nature and content of what is said while quantitative approach determines the number of who said it. Quantitative methods are usually regarded as more robust, leading to actionable results and recommendations, whereas qualitative methods are seen as lacking in rigour, resulting in indecisive outcomes. Van Maanen (1983) defines qualitative techniques as an array of interpretative techniques which seek to describe, decode, translate and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world. Collis and Hussey (2003) argue that quantitative approach to data collection provides relative ease and speed with which research can be conducted. Ghuari and Granhaug(2005) describe qualitative method of data analysis as the interactive way where collected data are analysed initiating new question and further data collection.

Qualitative research is thus common in social and behavioural sciences and among practitioners who want to understand human behaviour and functions. Since this research has to do with social sciences, it makes qualitative analysis relevant to the research. The rationale of using quantitative methods for this study was in order to obtain the opinion of the management, staff and students rather than seek only statistical data which can eliminate the human aspect and only seek to measure a predetermined variable (Black, 2003).

The quantitative data analysis gives the research more direction and viable to readers by numeric interpretation of responses to the questionnaires given out, apart from this using quantitative method of analysing is rational. The quantitative data analysis has been used in the research by quantifying responses from the management, staff and students of the organisation via questionnaires.

3.5 Questionnaires

Questionnaire is a list of carefully structured questions, chosen after considerable testing, with a view to eliciting reliable responses from chosen sample. The aim of a questionnaire is to find out what a selected group of participants do, think or feel (Collin and Hussey, 2003). Questionnaires are used to collect data by asking the sample/participants to respond to exactly the same set of questions.

The questionnaire method will facilitate this research due to time constraint on the part of both the researcher and the respondents. To justify this, other methods used in collecting primary data are semi structured and in depth interviews.

The questions in the questionnaire will be a combination of Yes/No questions, questions that will give the respondent an option to add comments/justification further to his/her answer. Open questions are also used to allow the respondents free to express his/her view, so that it helps in critical analysis.

3.6 Interviews

Interviews are a method of collecting data in which selected participants are asked questions in order to find out what they think or feel. Interviews make it easier to gather the necessary information and opinions, maybe face to face, voice to voice or screen to screen; conducted with individuals or group of individuals (Hussey and Hussey, 1997).

For the purpose of this research, conducting interviews, a qualitative method of data collection is used. According to Saunders et al. (2003) interviews are categorised as follows:

Structured interviews

Semi- structured interviews

Unstructured interviews

Structured interviews are based on a pre-determined set of questions that are asked by the interviewer in a particular order with no room for flexibility. There is no much room for interaction between the interviewer and the interviewee. A semi-structured interview also involves a pre-determined set of questions, but gives the interviewer scope to change the order of questions asked, query certain areas of interest based on the answers given. However, unstructured interviews are informal. This method of interviewing allows the interviewer to ask any questions without being bound to a pre-determined set of questions. It looks more like a casual chat which allows the interviewer to talk about the issues pertaining to the research (Saunders et al., 2003).

The interviewer conducted semi-structured interviews, as it is more flexible and helpful in this research.

Interviews Procedure

Prior to the interview, each respondent will be met personally to provide him or her with details about the topic, time and details about the topic. All the respondents were issued a consent form, which mentioned that participation will be voluntary, without coercion and they could withdraw from the study at any time. Interviews will be physically constructed in the organisation rooms, with prior permission.

3.7 Samples and Procedures

Jankowicz (2000) describes sampling as a deliberate choice of a number of people, the sample who are to provide data from which you will draw conclusions about some larger group, the population whom this represents. Sample is a subset of a population, while population is a body or any collection of items under consideration (Collis and Hussey, 2003). Ghauri, et al. 1995 defines sampling as saving work, examining the sample instead of whole population.

Sampling saves time; this is evident when you have tight deadlines. Occasionally, to save time, surveys collect data from the entire population but analyse only a sample of the data collected. For reasons of economy this procedure has sometimes been adopted for hard-to-code questions, such as occupation and industry, in the United Kingdom 1991 census. Data were collected from the total population for all questions but, for the hard-to-code questions, only 10 per cent were entered into the computer and subsequently analysed, although it should be noted that, for the 2001 census, advances in automated and computer assisted coding software meant all these were coded (Teague, 2000).

Many researchers, for example Henry (1990), argue that using sampling makes possible a higher accuracy than a census. The smaller number of cases for which the data is collected means that more time can be spent designing and piloting the means of collecting these data. Collecting data from fewer cases also means that the collected information will be more detailed.

For the purpose of this research, the sampling method has been used because it is practically impossible to reach the entire population due to time constraints on the part of the researcher.

3.8 Sampling Techniques

Sampling techniques are a range of methods that enable the researcher to reduce the amount of data to be collected by considering only data from a subgroup rather than possible cases or element (Saunders, et al. 2003).

Two types SVR of sampling techniques are identified as follows:

Probability or Representative sampling

Non-probability or Judgmental sampling (Saunders, et al. 2003).

Probability sampling is the selection of elements based on random sample procedure that gives a known and non-zero chance of being selected, thereby minimizing selection. It involves taking large samples considered to be representative of target population from which they are drawn (Saunders, et al. 2003).

In non-probability sampling, the probability of each case being selected from the total population is unknown. Non-probability sampling is more frequently used for case study research. In this sampling the researcher uses subjective methods such as personal experience, convenience, and expert judgement to select elements in the sample (Saunders, et al. 2003).

Designing a research protocol

Use of case study approach, research questionnaires to sample views and opinions about the project topic, subjective selection of sample based on the

researcher's judgement, disregarding response questionnaires, which were incomplete.

What if I want to find out about social trends, or the measurable effects of particular policies?

You will probably want to use large datasets and undertake quantitative data analysis, and you will be adopting a realist approach to the topic studied. Quantitative dissertations are likely to be nearer to the lower end of the range of approved lengths for the dissertation (e.g. if the length is to be 5,000-8,000 words, dissertations based on quantitative analysis are likely to be closer to 5,000 words in length). They will also include tables and figures giving your important findings. Remember that all tables must be carefully titled and labelled and that sources of your data must be acknowledged.

What if I want to record people's views on an issue, and give them a 'voice'?

You will probably want to use in-depth qualitative data, and you may wish to adopt a realist, a phenomenologist, or a constructionist approach to the topic. Qualitative dissertations will include descriptive material, usually extracts from interviews, conversations, documents or field notes, and are therefore likely to be nearer to the upper limit of your word range (e.g. 8,000 words). The types of method suitable for a dissertation could include content analysis, a small scale ethnographic study, small scale in-depth qualitative interviewing.

Whether you choose qualitative or quantitative analysis will depend on several things:

Your preferred philosophical approach (realist, phenomenologist or constructionist).

Your skills and abilities with methods of data collection (if needed) and analysis.

The topic or issue you are interested in.

How you frame your research question.

Can I combine qualitative and quantitative methods?

There are many ways in which qualitative and quantitative data and analysis can be combined. Here are two examples.

You may be interested in doing an analysis that is primarily quantitative, looking at social trends, or policy implications. However you also want to introduce a 'human touch' by conducting one or several interviews asking what these trends mean to people or how particular individuals experience events. After doing your quantitative analysis, you should include a chapter or section on the qualitative data you have collected. In your discussion of findings you

can use the qualitative data to help you understand the patterns in the quantitative analysis.

You may be interested in doing an evaluative case study of a process or policy. You will have a particular focus – a 'case' that you are looking at. You will triangulate methods – i.e. collect data in several different ways, and some of these data may be quantitative. You will analyse each type of data and describe this, and then write a discussion that shows how each piece of analysis contributes to the overall picture of what is going on.

Your supervisor or research methods tutor may be able to give you detailed examples of these or other ways to combine methods.

What is secondary analysis?

Secondary analysis is when you analyse data which was collected by another researcher. It allows the researcher to explore areas of interest without having to go through the process of collecting data themselves in the field. The problem with using fieldwork methods in an undergraduate dissertation, however, is that they are costly in terms of time (which is relatively scarce in your final year!) and possibly your own financial resources too. You may choose, therefore, to undertake secondary research, analysing existing data.

Where do I find existing research data?

There are a range of documents that already contain research data that you can analyse. You may, for example, be interested in exploring whether gender stereotypes in the media are changing. This might entail content analysis of newspapers, magazines, video or other media over different time periods. Here you would not be collecting your own data but instead would be analysing existing documents.

There are some advantages of doing secondary analysis, particularly if you are doing a quantitative study. You will be able to work with much larger datasets than you could have collected yourself. This has the following advantages:

They allow you to discuss trends and social changes.

The data are often collected through a random sample, which allows you to generalise to the population under consideration.

They may also allow you to make comparisons over time, as some datasets are products of longitudinal studies. Examples of large datasets include the British Crime Survey, and the Youth Cohort Study. Smaller, more targeted datasets may also be available.

Secondary analysis has disadvantages also: the data were collected for a purpose different from yours.

You have to find out something about that purpose, as well as the methods of collection, in order to justify your use of a secondary dataset.

Collecting you own data - primary research

Quantitative data may also result from non-participant observations or other measurements (e.g. in an experimental design). Also, sometimes data that are collected through qualitative processes (participant observation, interviews) are coded and quantified. Your research methods tutor can give you further information on these types of data, but here are some common quantitative data collection methods and their definitions:

Self-completion questionnaires

A series of questions that the respondent answers on their own. Self-completion questionnaires are good for collecting data on relatively simple topics, and for gaining a general overview of an issue. Questionnaires need to have clear questions, an easy to follow design, and not be too long.

Structured observation

Watching people and recording systematically their behaviour. Prior to the observation, an observation schedule will be produced which details what exactly the researcher should look for and how those observations should be recorded.

If you are conducting a qualitative analysis you are likely to wish to use at least some original material. This may be collected through in-depth interviews, participant observation recordings and field notes, non-participant observation, or some combination of these. Below are some data collection methods that you might want to use for your dissertation:

In-depth interviews

A way of asking questions which allows the interviewee to have more control of the interview. The interview could be semi-structured, which uses an interview schedule to keep some control of the interview, but also allows for some flexibility in terms of the interviewee's responses. The interview could be unstructured, here the aim is to explore the interviewee's feelings about the issue being explored and the style of questioning is very informal. Or the interview could be a life history where the interviewer tries to find out about the whole life, or a portion of the person's life.

Focus groups

A form of interviewing where there are several participants; there is an emphasis in the questioning on a tightly defined topic; the accent is on interaction within the group and the joint construction of meaning. The moderator tries to provide a relatively free rein to the discussion.

Participant observation

This involves studying people in naturally occurring settings. The researcher participates directly in the setting and collects data in a systematic manner. The researcher will observe behaviour, listen to conversations, and ask questions.

Spend some time looking at general books about research - they will give you an overview of the data collection methods available and help you to make the best choice for your project. Bryman (2004) would be a useful starting point.

For any piece of research you conduct, be it empirically based (quantitative or qualitative) or library based, its methods must be justified. You need to show in the final dissertation how you have given consideration to different methods, and why you have chosen and eliminated these.

What's all this about research design?

Research design is vital to conducting a good piece of work. At the start of your research you need to set down clearly:

Your research focus and research question.

How you propose to examine the topic:

Approach

Methods of data collection

Methods of data analysis

The types and sources of information you need.

How you will access these sources of information (be they people, existing datasets, biographical accounts, media articles or websites, official records).

The proposed outcome of this research (in your case, a dissertation) and the form it will take.

A time-frame for all this.

Whatever approach you settle on, you MUST be able to justify its appropriateness to your topic and question.

3.3 Check your progress

1. What is hypothesis?

2. Elaborate the importance of hypothesis.

3. What are the prerequisites of a good hypothesis?

4. What are the difficulties in formulating a hypothesis?

5. Elaborate the importance of scope and limitations.

6. What are the possible methodological limitations in research?

7. What limitations are possible for a researcher while conducting research?

8. What are the possible research approaches for the researcher?

9. What is research design?

10. What are the types of sampling techniques?

3.1 Answers to check your progress

1. For a problem statement to be effective in the planning of applied research it should have the following characteristics:

1. The problem reflects felt needs

2. The problem is non-hypothetical, ie it must be based on factual evidence

3. It should suggest meaningful and testable hypotheses - to avoid answers that are of little or no use to the alleviation of the problem

4. The problems should be relevant and manageable

5. Formulating the research problem allows you to make clear, both to yourself and the reader, what the purpose of your research is. Subsequent elaboration of method should be oriented to providing information to address that problem. The problem statement is therefore a very important device for keeping you on track with your research. It is also one means by which your research will be evaluated - does the research address the problem as stated.

2. The following guidelines highlight some of the features of good questions:

- Relevant.
- Manageable in terms of research and in terms of your own academic abilities.
- Substantial and with original dimensions.
- Consistent with the requirements of the assessment.
- Clear and simple.
- Interesting.

3. The complexity of a question can frequently hide unclear thoughts and lead to a confused research process. A very elaborate research question, or a question which is not differentiated into different parts, may hide concepts that are contradictory or not relevant. This needs to be clear and thought-through, but it is one of the hardest parts of your work. Therefore a research question should be clear and simple.

4. The following factors should be considered when actual research action has to be executed:

- Make sure you note, either on computer or on index cards, anything you read that is relevant to your study. Can you map out the contemporary debates and critiques in the area? Are there any recent legal or policy changes of significance? What are the main practice issues to consider?

- Where (i.e. in what settings) does the work you are interested in take place? What access do you have to it? Will there be ethical issues? How might you be able to negotiate access? What obstacles are there? While it is early days to be specific about you data collection, it is important to know that you are on a course which will yield data, rather than a series of negative responses.
- What sort of time scales are you going to need to do the sort of research you are planning? How much time have you got? Are your plans unrealistic?
- Having thought about these things, try narrowing down your ideas again to the sort of research you can do.
- Make a list of the skills and knowledge you bring to the research task. Do you like interviewing? Will you be able to have the interviews transcribed? Are you keen to do surveys? Remember that you will need to have a reasonable sample to undertaken meaningful quantitative analysis.
- Are there sources of secondary data that you could access?
- Are there possibilities for documentary analysis?

5. Following are the conditions that need to be considered while formulating a research problem:

1. Systematic Immersion in the Subject matter through first hand observation

2. Study of Relevant Literature on the Subject.

3. Discussions with persons having rich practical experience in the field of study.

4. Sources of Research Problem
The research problem may be selected from the following sources:

- theory of one's own interest
- daily problems
- technological changes
- un explored areas
- discussions with other people

Research problem can also be selected on the basis of daily experience of a researcher. Everyday problems constantly present something new and worthy of investigation and it depends on the worthy of investigation and it depends on the sharpness of the researcher intellect to knit his daily experiences in to a research problem.

Technological changes in a fast changing society are constantly brought forth new problems and new opportunities for research. What is the impact of a changed technology on the existing socio economic set up, always interests the researcher and tempts him to undertake such studies as are revealing regarding the impact of new technology on the existing system.

6. Criteria of a Good Research Problem

Factors to be taken in to account in the choice of research problem are both external and personal. External criteria involve such issues as newness and significance for the area, availability of data and method and administrative and institutional cooperation personal criteria include such consideration as interest, training, cost and time. The following are more detailed list of criteria for the choice of research problem.

1. Novelty

2. Interesting

3. Importance

4. Immediate Application

5. Feasibility or Amenability

Feasibility issue of research includes the following

- Availability of data
- Availability of cooperation
- Availability of guidance
- Availability of other facilitates
- Experience and creativity
- Coverage and confidence

7. Following are the c**ommon errors in Formulating Research Problem:**

Naming a Broad Filed

To choose the broad area of study instead of specific problem makes no justification.

Narrowing or Localizing a Topic

The problem should not be narrowed to such an extent that it becomes too small and insignificant from research point or view.

8.Some of the information that a background search can provide includes:

- Broad overview of the subject
- Definitions of the topic
- Introduction to key issues
- Names of people who are authorities in the subject field
- Major dates and events
- Keywords and subject-specific vocabulary terms that can be used for database searches
- Bibliographies that lead to additional resources

9.Encyclopedias are important sources to consider when initially researching a topic. General encyclopedias provide basic information on a wide range of subjects in an easily readable and understandable format.

- **General Encyclopedias** provide information about nearly every topic. Using an encyclopedia is an effective way to quickly get a broad overview of a subject. Some encyclopedias will provide more in-depth information than others, however any general encyclopedia is a good source to consult for background information of your chosen subject area. Most encyclopedias provide the following:
    - Main concepts
    - Titles of important books written about topic
    - Names of authors who have written about topic
    - Keywords and subject terms related to topic
    - Lists of related articles or additional resources
- Gale Virtual Reference Desk
  This online encyclopedia is a vast online library giving instant access to the most authoritative and up-to-date scholarship across the arts, humanities, social sciences, and sciences. It is one of the largest academic reference collections online.
- **Subject-Specific Encyclopedias** are important background sources for information. Unlike general encyclopedias which cover a wide range of topics, subject-specific encyclopedias focus their information in one particular subject area. Some features of subject-specific encyclopedias include:
    - Detailed articles written by experts within a field
    - Extensive and comprehensive bibliographies of important resources
- Wikipedia
  From Wikipedia's own page, "the free encyclopedia that anyone can edit". This includes the 10 year old down the street so reading the entry and treating it as fact is not the best thing to do. Instead use the **References** or **Further Readings** at the end of an entry to verify the information presented in the Wikipedia entry.

10.Using search interfaces like Googlecan lead you to an ocean of good and bad information. Being critical of everything you see on the Internet is crucial when getting background information for an academic writing assignment.

- Wikipedia
  (http://www.wikipedia.org/)
  From Wikipedia's own page, "the free encyclopedia that anyone can edit".
- Google Books
  (http://books.google.com/)
  Enter your search terms in Google books and digitized holdings of some of the world's greatest academic libraries will appear.
- Google Scholar
  (http://scholar.google.com/)
  Here you are finding scholarly research, but from a limited number of journals.

3.2 Answers to check your progress

1. The ultimate purpose of the literature review is to bring together and analyze significant writings on a topic. The purpose of the literature review is to show your intellectual grasp of a topic by sharing the knowledge that exists in your area of interest and evaluating this knowledge. It will help you identify important theorists, research groups and writing in your area of interest as well as the vocabulary, methods, history, and key variables used in the field of study.

2. Literature review has many advantages. First, you might be able to find a study that is quite similar to the one you are thinking of doing. Second, prior research will help assure that you include all of the major relevant constructs in your study. You may find that other similar studies routinely look at an outcome that you might not have included. Third, the literature review will help you to find and select appropriate measurement instruments. You will readily see what measurement instruments researchers use themselves in contexts similar to yours. Finally, the literature review will help you to anticipate common problems in your research context. You can use the prior experiences of others to avoid common traps and pitfalls.

3.After you have decided which studies to review, you must decide how to order them. In making your selection, keep your research question in mind. You should consider other ways, such as...

- By topic
- Problem -> solution
- Cause -> effect

Another approach is to organize your review by argument and counter argument. Yet another way to organize the studies in your review is to group them according to a particular variable, such as age level of the subjects (child studies, adult studies, etc.) or research method (case studies, experiments, etc.).

4.In citation pearl searching method, you begin with an article of particular interest in the topic you are exploring. This could be a reading from a class, a mention in a textbook or something you have found searching the library catalog or databases. Look at the references found in that work and begin to build a body of literature that is relevant for your topic.

5. Standard hierarchical search method is to begin with an essay in an encyclopedia and explore the references found at the end of the essay. Again, taking the terms and authors you find there explore your topic using a variety of catalogs and databases. There are literally hundreds of resources you can use to explore your topic including journal articles, books, government documents, statistical databases, newspapers, archives, and more. There are also handbooks, dictionaries, and annual reviews that will provide you with additional sources for your work whichever method you choose for your search.

6. Following are the do's and don'ts in constructing aims and objectives:

Aims and Objectives should:

- Be concise and brief.
- Be interrelated; the aim is what you want to achieve, and the objective describes how you are going to achieve that aim.
- Be realistic about what you can accomplish in the duration of the project and the other commitments you have
- Provide you and your supervisor(s) with indicators of how you intend to:
    - Approach the literature and theoretical issues related to your project.
    - Access your chosen subjects, respondents, units, goods or services.
    - Develop a sampling frame and strategy or a rationale for their selection.
    - Develop a strategy and design for data collection and analysis.
    - Deal with ethical and practical problems in your research.

Aims and Objectives should not:

- Be too vague, ambitious or broad in scope.
- Just repeat each other in different terms.
- Just be a list of things related to your research topic.
- Contradict your methods - *i.e.* they should not imply methodological goals or standards of measurement, proof or generalisability of findings that the methods cannot sustain.

3.3 Answers to check your progress

1. A hypothesis is a tentative assumption drawn from knowledge and theory which is used as a guide in the investigation of other facts and theories that are yet unknown. It is a guide, supposition or tentative inference as to the existence of some fact condition or relationship relative to some phenomenon which serves to explain such facts as ready are known to exist in a given area of research and to guide the search for new truth. A hypothesis is a tentative

supposition or provisional guess which seems to explain the situation under observation. A hypothesis states what we are looking for.

2. Hypothesis has following advantages:

1. It provides direction to research. It defines what is relevant and what is irrelevant. Thus it prevents the review or irrelevant literature and the collection useless or excess data.

2. It sensitizes the investigator to certain aspects of situations which are relevant from the stand point of the problem in hand. It spells the difference between precision and haphazardness, between fruitful and fruitless research.

3. It is a guide to thinking process and the process of discovery. It is the investigators eye a sort of guiding light in the world of darkness.

4. It focuses research without it research would be like a random and aimless wandering.

5. It places clear and specific goals before us. These clear and specific goals provide the investigator with a basis for selecting samples and research procedures to meet these goals.

3. A good useable hypothesis is the one which satisfies many of the following criteria:

- A hypothesis should be empirically testable
- A good hypothesis in agreement with the observed facts.
- A good hypothesis does not conflict with any law of nature which is known to be true.
- A good hypothesis is expert.
- It should be so designed that its test will provide an answer to original problems which forms primary purpose of the investigation.
- It must be stated in final form early in the experiment before any attempt at verification is made.
- The hypothesis must be conceptually clear.
- The hypothesis must be specific

4. Following are the difficulties in the formulation of hypothesis:

- Lack of knowledge and clarity of the theoretical frame work of the area in which the investigator chooses to work.
- Lack of ability to make use of the theoretical frame work logically.
- Lack of acquaintance with available research techniques. This result in failure of phrasing the hypothesis properly.
- Vagueness of the statement
- Often, one of the trickiest parts of designing and writing up any research paper is how to write a hypothesis.
- The entire experiment and research revolves around the research hypothesis (H_1) and the null hypothesis (H_0), so making a mistake here could ruin the whole design.

- Needless to say, it can all be a little intimidating, and many students find this to be the most difficult stage of the scientific method.
- In fact, it is not as difficult as it looks, and if you have followed the steps of the scientific process and found an area of research and potential research problem, then you may already have a few ideas.
- It is just about making sure that you are asking the right questions and wording your hypothesis statements correctly.

5.Acknowledgement of the limitations in research is important. It has the following advantages:

Always acknowledge a study's limitations. It is far better for you to identify and acknowledge your study's limitations than to have them pointed out by your professor and be graded down because you appear to have ignored them.

Keep in mind that acknowledgement of a study's limitations is an opportunity to make suggestions for further research. If you do connect your study's limitations to suggestions for further research, be sure to explain the ways in which these unanswered questions may become more focused because of your study.

Acknowledgement of a study's limitations also provides you with an opportunity to demonstrate that you have thought critically about the research problem, understood the relevant literature published about it, and correctly assessed the methods chosen for studying the problem. A key objective of the research process is not only discovering new knowledge but to also confront assumptions and explore what we don't know.

Claiming limitations is a subjective process because you must evaluate the impact of those limitations. Don't just list key weaknesses and the magnitude of a study's limitations. To do so diminishes the validity of your research because it leaves the reader wondering whether, or in what ways, limitation(s) in your study may have impacted the results and conclusions. Limitations require a critical, overall appraisal and interpretation of their impact. You should answer the question: do these problems with errors, methods, validity, etc. eventually matter and, if so, to what extent?

6.Following are the possible methodological limitations in research:

- **Sample size** -- the number of the units of analysis you use in your study is dictated by the type of research problem you are investigating. Note that, if your sample size is too small, it will be difficult to find significant relationships from the data, as statistical tests normally require a larger sample size to ensure a representative distribution of the population and to be considered representative of groups of people to whom results will be generalized or transferred. Note that sample size is less relevant in qualitative research.
- **Lack of available and/or reliable data** -- a lack of data or of reliable data will likely require you to limit the scope of your analysis, the size of your sample, or it can be a significant obstacle in finding a trend and a meaningful relationship. You need to not

only describe these limitations but to offer reasons why you believe data is missing or is unreliable. However, don't just throw up your hands in frustration; use this as an opportunity to describe the need for future research.

- **Lack of prior research studies on the topic** -- citing prior research studies forms the basis of your literature review and helps lay a foundation for understanding the research problem you are investigating. Depending on the currency or scope of your research topic, there may be little, if any, prior research on your topic. **Before assuming this to be true, consult with a librarian!** In cases when a librarian has confirmed that there is a lack of prior research, you may be required to develop an entirely new research typology [for example, using an exploratory rather than an explanatory research design]. Note again that this limitation can serve as an important opportunity to describe the need for further research.
- **Measure used to collect the data** -- sometimes it is the case that, after completing your interpretation of the findings, you discover that the way in which you gathered data inhibited your ability to conduct a thorough analysis of the results. For example, you regret not including a specific question in a survey that, in retrospect, could have helped address a particular issue that emerged later in the study. Acknowledge the deficiency by stating a need for future researchers to revise the specific method for gathering data.
- **Self-reported data** -- whether you are relying on pre-existing data or you are conducting a qualitative research study and gathering the data yourself, self-reported data is limited by the fact that it rarely can be independently verified. In other words, you have to take what people say, whether in interviews, focus groups, or on questionnaires, at face value. However, self-reported data can contain several potential sources of bias that you should be alert to and note as limitations. These biases become apparent if they are incongruent with data from other sources. These are:

(1) **Selective memory** [remembering or not remembering experiences or events that occurred at some point in the past];

(2) **Telescoping** [recalling events that occurred at one time as if they occurred at another time];

(3) **attribution** [the act of attributing positive events and outcomes to one's own agency but attributing negative events and outcomes to external forces]; and,

(4) **Exaggeration** [the act of representing outcomes or embellishing events as more significant than is actually suggested from other data].

7. Following are the possible limitations of the researcher while conducting research:

- **Access** -- if your study depends on having access to people, organizations, or documents and, for whatever reason, access is denied or limited in some way, the reasons for this need to be described.
- **Longitudinal effects** -- The time available to investigate a research problem and to measure change or stability over time is pretty much constrained by the due date of your assignment. Be sure to choose a problem that does not require an excessive amount of time to complete the literature review, apply the methodology, and gather and interpret

the results. If you're unsure whether you can complete your research within the confines of the assignment's due date, talk to your professor.

- **Cultural and other type of bias** -- we all have biases, whether we are conscience of them or not. Bias is when a person, place, or thing is viewed or shown in a consistently inaccurate way. Bias is usually negative, though one can have a positive bias as well, especially if that bias reflects your reliance on research that only support for your hypothesis. When proof-reading your paper, be especially critical in reviewing how you have stated a problem, selected the data to be studied, what may have been omitted, the manner in which you have ordered events, people, or places, how you have chosen to represent a person, place, or thing, to name a phenomenon, or to use possible words with a positive or negative connotation.
- **Fluency in a language** -- if your research focuses on measuring the perceived value of after-school tutoring among Mexican-American ESL [English as a Second Language] students, for example, and you are not fluent in Spanish, you are limited in being able to read and interpret Spanish language research studies on the topic. This deficiency should be acknowledged.

8. Following are the research approaches that can be used by the researcher:

The researcher can use the deductive approach and/or the inductive approach.

Deductive approach

In this approach, a theory and hypothesis is developed and a research strategy is designed to test the hypothesis. The theory allows examining the specific outcome of the inquiry, which will tend to confirm the theory or indicate modifications.

Inductive approach

In this approach, first the data is collected and theory is developed from the result of the data analysed. The result of this analysis would be the formulation of a theory. This approach is concerned with the context in which the events are taking place. Therefore the study of a small sample of subjects might be more appropriate than a large number as with the deductive approach.

9. Research design is an overall plan for relating the conceptual research problem to relevant and practicable empirical research which provides a plan or a framework for data collection and its analysis.

10. The two types of sampling techniques identified are as follows:

Probability or Representative sampling

Probability sampling is the selection of elements based on random sample procedure that gives a known and non-zero chance of being selected, thereby minimizing selection. It involves taking large samples considered to be representative of target population from which they are drawn.

Non-probability or Judgmental sampling

In non-probability sampling, the probability of each case being selected from the total population is unknown. Non-probability sampling is more frequently used for case study research. In this sampling the researcher uses subjective methods such as personal experience, convenience, and expert judgement to select elements in the sample.

3.9 Conclusion

This chapter deals with the research process. It prepares the background for research like preparing bibliography for background reading and formulating research problem. It helps in making a review of literature, defining aims and objectives and deciding the scope and limitations. It guides in adopting a suitable research methodology.

The next chapter deals with various dimensions of research in English literature and language.

3.10 Summary

A good research question should be relevant, manageable in terms of research and in terms of your own academic abilities, substantial and with original dimensions, consistent with the requirements of the assessment, clear and simple and interesting.

Following are the conditions that need to be considered while formulating a research problem: s**ystematic Immersion in the Subject matter through first hand observation, study of Relevant Literature on the Subject and discussions with persons having rich practical experience in the field of study.** The research problem may be selected from the following sources:theory of one's own interest, daily problems, technological changes, unexplored areas, and discussions with other people

The ultimate purpose of the literature review is to bring together and analyze significant writings on a topic. The purpose of the literature review is to show your intellectual grasp of a topic by sharing the knowledge that exists in your area of interest and evaluating this knowledge. It will help you identify important theorists, research groups and writing in your area of interest as well as the vocabulary, methods, history, and key variables used in the field of study.

A hypothesis is a tentative assumption drawn from knowledge and theory which is used as a guide in the investigation of other facts and theories that are yet unknown. It is a guide, supposition or tentative inference as to the existence of some fact condition or relationship relative to some phenomenon which serves to explain such facts as ready are known to exist in a given area of research and to guide the search for new truth. A hypothesis is a tentative supposition or provisional guess which seems to explain the situation under observation. A hypothesis states what we are looking for.

3.11Field work

Prepare a bibliography of references available of the various subjects of your study.

Chapter - IV

Dimensions of Research in English language and English Literature

4.0 Objectives

Friends, this chapter will introduce you to dimensions of research in English language and English literature. After studying this chapter you will be able to:

- To know the kinds of research possible in English literature
- To know the kinds of research possible in English language
- To know the areas of qualitative research in linguistics
- To know the areas of quantitative research in linguistics

4.1 Introduction

In the previous chapter we have studied the research process.

In this chapter we will study the various areas of research possible in English Language and Literature. Also we will study the areas of qualitative and quantitative research in English language and literature.

4.2 Kinds of research possible in English literature

Types of research methods and disciplines

A **dissertation** is an extended piece of writing based on comprehensive reading and research, written by an academic scholar at an undergraduate, masters or post graduate level. In some cases, a dissertation is referred to an academic research document written at PhD level, while a Thesis may be one which is written by an academic at Masters or Undergraduate level. However the opposite is also true in other cases. However, in British English it is the other way round, a dissertation is usually written for a master's degree and a thesis is written at PhD level.

Types of Research

There are two types of research which can be done to develop a thesis or dissertation:

Practical Research: The practical approach consists of the empirical study of the topic under research and chiefly consists of hands on approach. This involves first hand research in the form of questionnaires, surveys, interviews, observations and discussion groups.

Theoretical Research: A non empirical approach to research, this usually involves perusal of mostly published works like researching through archives of public libraries, court rooms and published academic journals.

Types of Research Methodology

Qualitative

This type of research methods involves describing in details specific situation using research tools like interviews, surveys, and Observations. Qualitative Research is primarily exploratory research. It is used to gain an understanding of underlying reasons, opinions, and motivations. It provides insights into the problem or helps to develop ideas or hypotheses for potential quantitative research. Qualitative Research is also used to uncover trends in thought and opinions, and dive deeper into the problem. Qualitative data collection methods vary using unstructured or semi-structured techniques. Some common methods include focus groups (group discussions), individual interviews, and participation/observations. The sample size is typically small, and respondents are selected to fulfill a given quota.

Quantitative

This type of research methods requires quantifiable data involving numerical and statistical explanations. Quantitative Research is used to quantify the problem by way of generating numerical data or data that can be transformed into useable statistics. It is used to quantify attitudes, opinions, behaviors, and other defined variables – and generalize results from a larger sample population. Quantitative Research uses measurable data to formulate facts and uncover patterns in research. Quantitative data collection methods are much more structured than Qualitative data collection methods. Quantitative data collection methods include various forms of surveys – online surveys, paper surveys, mobile surveys and kiosk surveys, face-to-face interviews, telephone interviews, longitudinal studies, website interceptors, online polls, and systematic observations.

Correlation/Regression Analysis

This research method involves determining the strength of the relationship between two or more variables (e.g. are violent video games correlated with aggression in children).

Meta-Analysis

This research method is useful for finding out the average impact of several different studies on a hypothesis.

Methodologies

The way you approach your question will have a profound effect upon the way you construct your dissertation, so this section discusses the types of research you might undertake for your dissertation. The use of literature and case studies is considered and the merits of primary research are debated and advice is given on the use of existing research data. You may not be fond of statistics, but the potential relevance of a quantitative approach should be considered and similarly, the idea of qualitative analysis and conducting your own research may yield valuable data. The possibilities of using quantitative and qualitative data are also discussed.

What approach should I take - qualitative or quantitative?
What approach should I take - qualitative or quantitative?

Your approach, research design, and research question are all connected. 'Approach' means something more than the type of data you use – it refers to your overall orientation to research and the type of claims you will make for your study. Dissertations can be based on either quantitative or qualitative data, or on a combination of both. How you choose this may depend on your preferences and abilities, and the suitability of particular approaches to your topic. You need to be able to justify why you have chosen to use such data. Quantitative data is particularly useful when you wish to discover how common particular forms of behaviour such as illegal drug use are for a particular age group. Qualitative data is particularly useful when you wish to find out why people engage in such behaviour.
Think about the Research Methods modules you have taken so far. Think about the different

kinds of studies you have read for other modules. There is plenty of scope to use the approaches and methods that you are most comfortable with. You need to **justify** your approach and methods and to cite appropriate literature to help you do this.

What if I want to find out about social trends, or the measurable effects of particular policies?

You will probably want to use large datasets and undertake quantitative data analysis, and you will be adopting a realist approach to the topic studied. Quantitative dissertations are likely to be nearer to the lower end of the range of approved lengths for the dissertation (e.g. if the length is to be 5,000-8,000 words, dissertations based on quantitative analysis are likely to be closer to 5,000 words in length). They will also include tables and figures giving your important findings. Remember that all tables must be carefully titled and labelled and that sources of your data must be acknowledged.

What if I want to record people's views on an issue, and give them a 'voice'?

You will probably want to use in-depth qualitative data, and you may wish to adopt a realist, a phenomenologist, or a constructionist approach to the topic. Qualitative dissertations will include descriptive material, usually extracts from interviews, conversations, documents or field notes, and are therefore likely to be nearer to the upper limit of your word range (e.g. 8,000 words). The types of method suitable for a dissertation could include content analysis, a small scale ethnographic study, small scale in-depth qualitative interviewing.

Whether you choose qualitative or quantitative analysis will depend on several things:

- Your preferred philosophical approach (realist, phenomenologist or constructionist).
- Your skills and abilities with methods of data collection (if needed) and analysis.
- The topic or issue you are interested in.
- How you frame your research question.

Can I combine qualitative and quantitative methods?

There are many ways in which qualitative and quantitative data and analysis can be combined. Here are two examples.

- You may be interested in doing an analysis that is primarily quantitative, looking at social trends, or policy implications. However you also want to introduce a 'human touch' by conducting one or several interviews asking what these trends mean to people or how particular individuals experience events. After doing your quantitative analysis, you should include a chapter or section on the qualitative data you have collected. In your discussion of findings you can use the qualitative data to help you understand the patterns in the quantitative analysis.
- You may be interested in doing an evaluative case study of a process or policy. You will have a particular focus – a 'case' that you are looking at. You will triangulate methods – i.e. collect data in several different ways, and some of these data may be quantitative.

You will analyse each type of data and describe this, and then write a discussion that shows how each piece of analysis contributes to the overall picture of what is going on.

Your supervisor or research methods tutor may be able to give you detailed examples of these or other ways to combine methods.

Can my dissertation be entirely literature-based?

Yes. If you decide to do a primarily theoretical dissertation, it is almost certain that your dissertation will be entirely literature-based. This is likely to be the methodology of theoretical analysis: selection and discussion of theoretical material and descriptive material, in context, and detailed comparison of theories in terms of their applicability. You might ask how useful certain concepts or theories are for understanding particular patterns of behaviour. How useful is the concept of institutional racism? Is objectivity in the media possible? How useful is subcultural theory for understanding virtual communities? Here, the focus of attention is not so much to discover something about the social world, for example virtual communities, as to reach a judgement about the value of key concepts or theories in understanding that world. How the study is approached and how contrasting approaches are drawn upon needs to be stated very clearly.

A library-based or theoretical study is not necessarily 'easier' than an empirical study, indeed, it may well be harder. Remember that theoretical studies, like data-based studies, need to have their research design spelled out from the start.

But even if your dissertation is more empirically focused, it could still be entirely literature-based. You might choose to conduct a review of a field of work. What does the research literature in this field tell us about x? While all dissertations will include a literature review, it is possible to produce a dissertation that is entirely based on a review of the literature. If you do this, it is important to review the literature from an explicit angle and identify some themes to make the review distinctive. You might, for example, explore empirical debates in your chosen field across different countries or time periods.

What is case study research?

Whilst it is possible for dissertations to be entirely literature-based, the most common form of dissertation takes the form of a case study. Here the focus of attention is on a particular community, organisation or set of documents. The attraction of this kind of dissertation is that it stems from empirical curiosity but is at the same time practical. You may be interested in a wider question but a case study enables you to focus on a specific example. A major challenge in case study dissertations is connecting your own primary research or re-analysis with the broader theoretical themes and empirical concerns of the existing literature.

What's an empirical study?

Most dissertations demand either primary or secondary research. In other words, you usually have to analyse data that you have either collected yourself or data that is already available. The reason for this is that the questions dissertations usually address take the following form: Is x

happening? Is x changing? Why is x happening? Why is x changing? These questions demand primary or secondary analysis of data.

What is secondary analysis?

Secondary analysis is when you analyse data which was collected by another researcher. It allows the researcher to explore areas of interest without having to go through the process of collecting data themselves in the field. The problem with using fieldwork methods in an undergraduate dissertation, however, is that they are costly in terms of time (which is relatively scarce in your final year!) and possibly your own financial resources too. You may choose, therefore, to undertake secondary research, analysing existing data.

Where do I find existing research data?

There are a range of documents that already contain research data that you can analyse. You may, for example, be interested in exploring whether gender stereotypes in the media are changing. This might entail content analysis of newspapers, magazines, video or other media over different time periods. Here you would not be collecting your own data but instead would be analysing existing documents.

DEFINITION OF RESEARCH

When you say that you are undertaking a research study to find answers to a question, you are implying that the process;

1. is being undertaken within a framework of a set of philosophies (approaches);
2. uses procedures, methods and techniques that have been tested for their validity and reliability;
3. is designed to be unbiased and objective. Philosophies means approaches e.g. qualitative, quantitative and the academic discipline in which you have been trained. Validity means that correct procedures have been applied to find answers to a question. Reliability refers to the quality of a measurement procedure that provides repeatability and accuracy. Unbiased and objective means that you have taken each step in an unbiased manner and drawn each conclusion to the best of your ability and without introducing your own vested interest. (Bias is a deliberate attempt to either conceal or highlight something). Adherence to the three criteria mentioned above enables the process to be called 'research.' However, the degree to which these criteria are expected to be fulfilled varies from discipline to discipline and so the meaning of 'research' differs from one academic discipline to another.

The difference between research and non-research activity is, in the way we find answers: the process must meet certain requirements to be called research. We can identify these requirements by examining some definitions of research. The word research is composed of two syllables, reandsearch. Re- is a prefix meaning again, anew or over again search is a verb meaning to examine closely and carefully, to test and try, or to probe.

Together they form a noun describing a careful, systematic, patient study and investigation in some field of knowledge, undertaken to establish facts or principles. Research is a structured enquiry that utilizes acceptable scientific methodology to solve problems and create new knowledge that is generally applicable. Scientific methods consist of systematic observation, classification and interpretation of data. Although we engage in such process in our daily life, the

difference between our casual day- to-day generalisation and the conclusions usually recognized as scientific method lies in the degree of formality, rigorousness, verifiability and general validity of latter.

CHARACTERISTICS OF RESEARCH:

Research is a process of collecting, analyzing and interpreting information to answer questions. But to qualify as research, the process must have certain characteristics: it must, as far as possible, be controlled, rigorous, systematic, valid and verifiable, empirical and critical.

Controlled- in real life there are many factors that affect an outcome. The concept of control implies that, in exploring causality in relation to two variables (factors), you set up your study in a way that minimizes the effects of other factors affecting the relationship. This can be achieved to a large extent in the physical sciences (cookery, bakery), as most of the research is done in a laboratory. However, in the social sciences (Hospitality and Tourism) it is extremely difficult as research is carried out on issues related to human beings living in society, where such controls are not possible. Therefore in Hospitality and Tourism, as you cannot control external factors, you attempt to quantify their impact.

-Rigorous

-you must be scrupulous in ensuring that the procedures followed to find answers to questions are relevant, appropriate and justified.

Again, the degree of rigor varies markedly between the physical and social sciences and within the social sciences.

-Systematic

-this implies that the procedure adopted to undertake an investigation follow a certain logical sequence. The different steps cannot be taken in a haphazard way. Some procedures must follow others.

-Valid and verifiable

-this concept implies that whatever you conclude on the basis of your findings is correct and can be verified by you and others.

-Empirical

-this means that any conclusion drawn is based upon hard evidence gathered from information collected from real life experiences or observations.

-Critical

-critical scrutiny of the procedures used and the methods employed is crucial to a research enquiry. The process of investigation must be foolproof and free from drawbacks. The process adopted and the procedures used must be able to withstand critical scrutiny. For a process to be called research, it is imperative that it has the above characteristics.

TYPES OF RESEARCH

Research can be classified from three perspectives:

1. Application of research study
2. Objectives in undertaking the research
3. Inquiry mode employed

Application:

From the point of view of application, there are two broad categories of research:

- Pure research and
- applied research

Pure research involves developing and testing theories and hypotheses that are intellectually challenging to the researcher but may or may not have practical application at the present time or in the future. The knowledge produced throughpure research is sought in order to add to the existing body of research methods. Applied research is done to solve specific, practical questions; for policy formulation, administration and understanding of a phenomenon. It can be exploratory, but is usually descriptive. It is almost always done on the basis of basic research. Applied research can be carried out by academic or industrial institutions. Often, an academic institution such as a university will has a specific applied research program funded by an industrial partner interested in that program.

Objectives:

From the viewpoint of objectives, a research can be classified as

-descriptive
-correlational
-explanatory
-exploratory

Descriptive research attempts to describe systematically a situation, problem, phenomenon, service or programme, or provides information about, say, living condition of a community, or describes attitudes towards an issue.

Correlational research attempts to discover or establish the existence of a relationship/ interdependence between two or more aspects of a situation. Explanatory research attempts to clarify why and how there is a relationship between two or more aspects of a situation or phenomenon.

Exploratory research is undertaken to explore an area where little is known or to investigate the possibilities of undertaking a particular research study (feasibility study / pilot study). In practice most studies are a combination of the first three categories.

Inquiry Mode:

From the process adopted to find answer to research questions – the two approaches are:

- Structured approach
- Unstructured approach

Structured approach: The structured approach to inquiry is usually classified as quantitative research. Here everything that forms the research process- objectives, design, sample, and the questions that you plan to ask of respondents- is predetermined. It is more appropriate to determine the extent of a problem, issue or phenomenon by quantifying the variation.

e.g. how many people have a particular problem? How many people hold a particular attitude?

Unstructured approach: The unstructured approach to inquiry is usually classified as qualitative research. This approach allows flexibility in all aspects of the research process. It is more appropriate to explore the nature of a problem, issue or phenomenon without quantifying it. Main objective is to describe the variation in a phenomenon, situation or attitude.

e.g., description of an observed situation, the historical enumeration of events, an account of different opinions different people have about an issue, description of working condition in a particular industry. Both approaches have their place in research. Both have their strengths and weaknesses. In many studies you have to combine both qualitative and quantitative approaches. For example, suppose you have to find the types of cuisine / accommodation available in a city and the extent of their popularity.

Types of cuisine are the qualitative aspect of the study as finding out about them entails description of the culture and cuisine. The extent of their popularity is the quantitative aspect as

it involves estimating the number of people who visit restaurant serving such cuisine and calculating the other indicators that reflect the extent of popularity.

4.3 Kinds of research possible in English linguistics

Research in Linguistics and Applied Linguistics

- About Applied Linguistics Research
- About Linguistics Research
- Classroom Based Research
- Cognitive Linguistics
- Corpus Linguistics
- Discourse Analysis
- Learner Autonomy
- Morphology
- New Zealand English
- New Zealand Sign Language NZSL
- Phonetics and Phonology
- Psycholinguistics
- Second Language Acquisition
- Sociolinguistics
- Syntax
- Testing and Assessment
- Vocabulary

About Applied Linguistics Research

Applied Linguistics links the study of language (Linguistics) with the teaching and learning of languages. Applied Linguistics covers a wide range of areas, including:

- investigating language in classrooms (classroom-based research)
- different kinds of written and spoken texts (corpus linguistics)
- how learners approach language learning (learner autonomy)
- testing and assessment of language learning, and
- Vocabulary (including multiword expressions).

About Linguistics Research

Linguistics is the systematic study of the structure of language and the way it is used.

Researching the structure of language involves several areas. Phonetics and Phonology focuses on the sounds of human languages and the ways they pattern in particular languages, including global sound patterns that make up the prosody and intonation of different languages. Morphology examines the internal structure of words, and Syntax is concerned with describing and accounting for the ways words are grouped into larger structure.

Sociolinguistic researches the uses of language. It examines the relationship between language, its users and its uses. Studying language use also involves Discourse Analysis which focuses on extended written and spoken texts to identify how language is used to convey social meaning. Research into the cognitive implications of the analysis of language structure, learning and use are the concern of Psycholinguistics.

Classroom-Based Research

Research in this area can use qualitative and/or quantitative methods, but has a common concern with describing and understanding language use and/or processes of language teaching/learning in classrooms at any level.

Cognitive Linguistics

The school of thought know as Cognitive Linguistics treats language as an integral part of cognition, and linguistic phenomena as 'motivated' by people's general cognitive abilities and their interaction with the physical and the social world. Regarding language acquisition, Cognitive Linguists emphasise the importance of item-based learning, such as the learning of multiword 'chunks,' and they explore ways of helping learners get to grips with the challenge for memory that this entails.

Corpus Linguistics

A corpus is a principled collection of machine-readable authentic spoken or written texts. Corpus studies attempt to identify patterns of language use, eg lexicon, grammar, discourse, in a relevant corpus or corpora. These patterns are relevant to a variety of research questions in both linguistics and applied linguistics.

Discourse Analysis

Discourse analysis is the study of language in use, both in spoken and written contexts.

Learner Autonomy

When we look at learner autonomy and learning strategies, we consider questions such as: 'How do language learners actively approach, manage, and control their own learning processes for the successful completion of learning tasks?' and 'How can learners develop as independent, social, and responsible individuals?'

Prosody

Prosody and intonation, i.e. the rhythm, timing and tune of speech, are an important part of spoken language. Prosody and intonation have a huge range of functions, including focusing attention on particular parts of a spoken message and organising discourse, signaling syntactic structure and showing the attitudes and emotions of the speaker. Research carried out by members of the School has looked at some of these functions of prosody and intonation in

English and other languages, including the interaction of prosody and focus, and prosody and syntax.

Psycholinguistics

Psycholinguistics is the study of the mental representations and processes used in the production and comprehension of language.

Second Language Acquisition

Second Language Acquisition (SLA) is a broad research field. Its interests include the roles of task-based interaction, feedback and focus on form in language learning, socio-cultural perspectives on language learning, learner autonomy, and acquisition of intercultural competence (including intercultural pragmatics).

Sociolinguistics

Sociolinguistic research examines the way language is used in different social contexts.

Syntax

Syntax is the study of the rules governing the way words are combined to form sentences.

Testing and Assessment

The central concerns of language testing include the development, validation, and analysis of language tests. Language assessment, on the other hand, focuses more on the classroom use of language assessment for the purposes of learning and teaching.

Vocabulary

Vocabulary has received a great deal of attention in the literature on language learning in recent years and has been an area of strength in the School since the 1960s

4.4 Qualitative Research in linguistics

In Linguistic research, it is often a descriptive quantitative approach which is used to analyse the speech products or the texts, while the process is just superficially touched. Meanwhile, it isthrough the use of qualitative research we can uncover the process and its intricate details of the phenomena which are difficult to covey with quantitative methods.

When to use Qualitative Method in Linguistic Research

Although qualitative research methods are often referred to a nonmathematical analytic procedure that results in research findings, the notion that qualitative research is non-quantitative is true but uninformative. The choice of using qualitativemethods should not downplay statistical techniques of the kinds of quantitative methods. The same reminder also applies to the use of quantitative methods over qualitative methods. The

choice between different research methods should depend upon what the researcher is trying to find. In a survey of discovering how many people use standard language compared to using local language, quantitative method may seem to be the most appropriate choice. However, if we are more concerned with exploring why in a certain area people prefer the use of a certain language uncommon to the local standard language, then qualitative method may be favored. Hence, the choice of using qualitative research mainly depends on what it is that the researcher wants to find out. Qualitative methods are used because they are more adaptable to dealing with multiple realities. Qualitative research is often done by researchers in the social and behavioral sciences, as well as by practitioners in fields that concern with issues related to human behavior andfunctioning. Many sociolinguistic researches have been dealing with human behavior. There is a common belief that qualitative researchers can in fact provide a deeper understanding of social phenomena than would be obtained from quantitative data. To find out why some people prefer using hints instead of using direct requests for instance, the use of qualitative methods mayuncover a deeper understanding of their behavior. This is also supported by Lincoln and Guba(1985) who maintain that since qualitative researchers are used to probing for possible meanings,they are more sensitive to and adaptable to the many mutually shaping influences and value patterns that may be encountered. Eventually, it will also allow researchers to show empathy and deeper understanding of their respondents' behavior. Qualitative research does not concern with the number of sample used in the research, buton sample(s) who can provide a lot of answers to the research question. It is also not meant tomake any generalization about a certain phenomenon. Sample should be selected purposively to be able to provide rich data to the researcher. So, the choice of using qualitative may be due to the need of giving rich answer rather than for making generalization. Many qualitative researches do imply a commitment to field activities. In an observation on classroom behavior, Mehan (as quoted by Silverman, 2001) suggests that the quantitative approach to classroom observation is useful for certain purposes, namely, for providing the frequency of teacher talk by comparison with student talk. He further mentions, that this approach minimizes the contribution of students, neglects the inter-relationship of verbal to non-verbal behavior, obscures the contingent nature of interaction, and ignores the multiple functions of language. This is to say that field activities are significant in qualitative research. Therefore,linguistic research, where natural speech acts, natural settings and field activities are neededwould be best carried out in qualitative methods.

How to Analyze and Report the Findings

One noted difference between doing quantitative research and qualitative research is the amount of the gathered data. In doing qualitative research the researcher usually has piles of collected data in the forms of journal writings, transcripts of interviews, documents, results of triangulation, and field notes, which are not as easy to organize as in quantitative data findings which are often helped by the use of computer. The use of coding method as suggested by Strauss and Corbin (1990) is usually helpful to make the report more organized. Analysis of data is done during and after the field research. The working hypotheses during the field research should continuously be checked, noted and compared.The case study reporting mode is likely to be preferred. Qualitative researchers argue that case study reporting mode is more adapted to a description of the multiple realities encountered atany given site. It is also adaptable to demonstrating the researcher's interaction with the site and consequent biases that may result. Narration is also often used in the report, because it is suited to demonstrating the variety of

mutually shaping influences present, and picture the value positions of researcher, substantive theory, methodological paradigm, and local contextual values.

Qualitative analysis: Richness and Precision.

The aim of qualitative analysis is a complete, detailed description. No attempt is made to assign frequencies to the linguistic features which are identified in the data, and rare phenomena receives (or should receive) the same amount of attention as more frequent phenomena. Qualitative analysis allows for fine distinctions to be drawn because it is not necessary to shoehorn the data into a finite number of classifications. Ambiguities, which are inherent in human language, can be recognised in the analysis. For example, the word "red" could be used in a corpus to signify the colour red, or as a political cateogorisation (e.g. socialism or communism). In a qualitative analysis both senses of *red* in the phrase "the red flag" could be recognised.

The main disadvantage of qualitative approaches to corpus analysis is that their findings cannot be extended to wider populations with the same degree of certainty that quantitative analyses can. This is because the findings of the research are not tested to discover whether they are statistically significant or due to chance.

Quantitative analysis: Statistically reliable and generalizable results.

In quantitative research we classify features, count them, and even construct more complex statistical models in an attempt to explain what is observed. Findings can be generalised to a larger population, and direct comparisons can be made between two corpora, so long as valid sampling and significance techniques have been used. Thus, quantitative analysis allows us to discover which phenomena are likely to be genuine reflections of the behaviour of a language or variety and which are merely chance occurrences. The more basic task of just looking at a single language variety allows one to get a precise picture of the frequency and rarity of particular phenomena and thus their relative normality or abnormality.

However, the picture of the data which emerges from quantitative analysis is less rich than that obtained from qualitative analysis. For statistical purposes, classifications have to be of the hard-and-fast (so-called "Aristotelian" type). An item either belongs to class *x* or it doesn't. So in the above example about the phrase "the red flag" we would have to decide whether to classify "red" as "politics" or "colour." As can be seen, many linguistic terms and phenomena do not therefore belong to simple, single categories: rather they are more consistent with the recent notion of "fuzzy sets" as in the *red* example. Quantatitive analysis is therefore an idealisation of the data in some cases. Also, quantatitve analysis tends to sideline rare occurrences. To ensure that certain statistical tests (such as chi-squared) provide reliable results, it is essential that minimum frequencies are obtained - meaning that categories may have to be collapsed into one another resulting in a loss of data richness.

4.5 Quantitative Research in linguistics

Quantitative linguistics (**QL**) is a sub-discipline of general linguistics and, more specifically, of mathematical linguistics. Quantitative linguistics deals with language learning, language

change, and application as well as structure of natural languages. QL investigates languages using statistical methods; its most demanding objective is the formulation of language laws and, ultimately, of a general theory of language in the sense of a set of interrelated languages laws.[1] Synergetic linguistics was from its very beginning specifically designed for this purpose.[2] QL is empirically based on the results of language statistics, a field which can be interpreted as statistics of languages or as statistics of any linguistic object. This field is not necessarily connected to substantial theoretical ambitions. Corpus linguistics and computational linguistics are other fields which contribute important empirical evidence.

History

The earliest QL approaches date back in the ancient Greek and Indian world. One of the historical sources consists of applications of combinatorics to linguistic matters, another one is based on elementary statistical studies, which can be found under the header colometry and stichometry.

Language laws in quantitative linguistics

In QL, the concept of law is understood as the class of law hypotheses which have been deduced from theoretical assumptions, are mathematically formulated, are interrelated with other laws in the field, and have sufficiently and successfully been tested on empirical data, i.e. which could not be refuted in spite of much effort to do so. Köhler writes about QL laws: "Moreover, it can be shown that these properties of linguistic elements and of the relations among them abide by universal laws which can be formulated strictly mathematically in the same way as common in the natural sciences. One has to bear in mind in this context that these laws are of stochastic nature; they are not observed in every single case (this would be neither necessary nor possible); they rather determine the probabilities of the events or proportions under study. It is easy to find counterexamples to each of the above-mentioned examples; nevertheless, these cases do not violate the corresponding laws as variations around the statistical mean are not only admissible but even essential; they are themselves quantitatively exactly determined by the corresponding laws. This situation does not differ from that in the natural sciences, which have since long abandoned the old deterministic and causal views of the world and replaced them by statistical/probabilistic models."

Some linguistic laws

There exist quite a number of proposed language laws, among them are:

- Law of diversification: If linguistic categories such as parts-of-speech or inflectional endings appear in various forms it can be shown that the frequencies of their occurrences in texts are controlled by laws.
- Length (or more generally, complexity) distributions. The investigation of text or dictionary frequencies of units of any kind with regard to their lengths yields regularly a number of distributions, depending on the given kind of the unit under study. By now, the following units have been studied:
    - Law of the distribution of morph lengths;

    - Law of the distribution of the lengths of rhythmical units;
    - Law of the distribution of sentence lengths;
    - Law of the distribution of syllable lengths;
    - Law of the distribution of word lengths;

Other linguistic units which also abide by this law are e.g., letters (characters) of different complexities, the lengths of the so-called herbs and of speech acts. The same holds for the distributions of sounds (phones) of different durations.

- Martin's law: This law concerns lexical chains which are obtained by looking up the definition of a word in a dictionary, then looking up the definition of the definition just obtained etc. Finally, all these definitions form a hierarchy of more and more general meanings, whereby the number of definitions decreases with increasing generality. Among the levels of this kind of hierarchy, there exists a number of lawful relations.
- Menzerath's law (also, in particular in linguistics, Menzerath-Altmann law): This law states that the sizes of the constituents of a construction decrease with increasing size of the construction under study. The longer, e.g. a sentence (measured in terms of the number of clauses) the shorter the clauses (measured in terms of the number of words), or: the longer a word (in syllables or morphs) the shorter the syllables or words in sounds).
- Rank-frequency laws: Virtually any kind of linguistic units abides by these relations. We will give here only a few illustrative examples:
    - The words of a text are arranged according their text frequency and assigned a rank number and the corresponding frequency. Since George Kingsley Zipf (the well-known "Zipf's Law"), a large number of mathematical models of the relation between rank and frequency has been proposed.
    - A similar distribution between rank and frequency of sounds, phonemes, and letters can be observed.
    - Word associations: Rank and frequency of associations subjects react with on a (word) stimulus.
- Law of language change: Growth processes in language such as vocabulary growth, the dispersion of foreign or loan words, changes in the inflectional system etc. abide by a law known in QL as Piotrowski law, and corresponds to growth models in other scientific disciplines. The Piotrowski law is a case of the so-called logistic model (cf. logistic equation). It was shown that it covers also language acquisition processes (cf. language acquisition law).
- Text block law: Linguistic units (e.g. words, letters, syntactic functions and constructions) show a specific frequency distribution in equally large text blocks.
- Zipf's law: The frequency of words is inversely proportional to their rank in frequency lists.

Stylistics

The study of poetic and also non-poetic styles can be based on statistical methods; moreover, it is possible to conduct corresponding investigations on the basis of the specific forms (parameters) language laws take in texts of different styles. In such cases, QL supports research into stylistics:

One of the overall aims is evidence as objective as possible also in at least part of the domain of stylistic phenomena by referring to language laws. One of the central assumptions of QL is that some laws (e.g. the distribution of word lengths) require different models, at least different parameter values of the laws (distributions or functions) depending on the text sort a text belongs to. If poetic texts are under study QL methods form a sub-discipline of Quantitative Study of Literature (stylometrics).

Check your progress

1. What are the two types of research that can be done to develop thesis?

2. What is qualitative research method?

3. What is quantitative research method?

4. What is Correlation/ Regression analysis method?

5. What criterion is involved in selecting qualitative or quantitative analysis?

6. What is descriptive research?

7. What is co relational research?

8. What is explanatory research?

9. What is exploratory research?

10. What is Psycholinguistics?

11. What is Second Language Acquisition?

12. What is Martin's law?

13. What is Menzareth's law?

Answers to check your progress

1. There are two types of research which can be done to develop a thesis or dissertation:

Practical Research: The practical approach consists of the empirical study of the topic under research and chiefly consists of hands on approach. This involves first hand research in the form of questionnaires, surveys, interviews, observations and discussion groups.

Theoretical Research: A non empirical approach to research, this usually involves perusal of mostly published works like researching through archives of public libraries, court rooms and published academic journals.

2. Qualitative research methods involve describing in details specific situation using research tools like interviews, surveys, and Observations. Qualitative Research is primarily exploratory research. It is used to gain an understanding of underlying reasons, opinions, and motivations. It provides insights into the problem or helps to develop ideas or hypotheses for potential quantitative research.

3. Quantitative research methods require quantifiable data involving numerical and statistical explanations. Quantitative Research is used to quantify the problem by way of generating numerical data or data that can be transformed into useable statistics. It is used to quantify attitudes, opinions, behaviors, and other defined variables – and generalize results from a larger sample population. Quantitative Research uses measurable data to formulate facts and uncover patterns in research.

4. **Correlation/Regression Analysis r**esearch method involves determining the strength of the relationship between two or more variables (e.g. are violent video games correlated with aggression in children).

5. Whether you choose qualitative or quantitative analysis will depend on several things:

- Your preferred philosophical approach (realist, phenomenologist or constructionist).
- Your skills and abilities with methods of data collection (if needed) and analysis.
- The topic or issue you are interested in.
- How you frame your research question.

6. Descriptive research attempts to describe systematically a situation, problem, phenomenon, service or programme, or provides information about, say, living condition of a community, or describes attitudes towards an issue.

7. Correlational research attempts to discover or establish the existence of a relationship/interdependence between two or more aspects of a situation.

8. Explanatory research attempts to clarify why and how there is a relationship between two or more aspects of a situation or phenomenon.

9. Exploratory research is undertaken to explore an area where little is known or to investigate the possibilities of undertaking a particular research study (feasibility study / pilot study). In practice most studies are a combination of the first three categories.

10. Psycholinguistics is the study of the mental representations and processes used in the production and comprehension of language.

11. Second Language Acquisition (SLA) is a broad research field. Its interests include the roles of task-based interaction, feedback and focus on form in language learning, socio-cultural

perspectives on language learning, learner autonomy, and acquisition of intercultural competence (including intercultural pragmatics).

12. Martin's law concerns lexical chains which are obtained by looking up the definition of a word in a dictionary, then looking up the definition of the definition just obtained etc. Finally, all these definitions form a hierarchy of more and more general meanings, whereby the number of definitions decreases with increasing generality.

13. Menzerath's law states that the sizes of the constituents of a construction decrease with increasing size of the construction under study.

4.6 Conclusion

This chapter has dealt with the various dimensions of research in English Language and English Literature. It has guided in regards of kinds of research possible in English literature and English linguistics. Also it has acquainted us with qualitative and quantitative research in Linguistics.

The next chapter has dealt with development, hypothesis and preparation of research proposal.

4.7 Summary

There are two types of research which can be done to develop a thesis or dissertation:

Practical Research: The practical approach consists of the empirical study of the topic under research and chiefly consists of hands on approach. This involves first hand research in the form of questionnaires, surveys, interviews, observations and discussion groups.

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4.8 Field work

Make a list of various areas research topics in English Literature and Language.

Chapter V:

Development, Hypothesis and Preparation of Research Proposal

5.0 Objectives

Friends, in this chapter we are going to study the development, hypothesis and preparation of research proposal. This chapter will enable you to:

- Make a clear statement of purpose
- Prepare a strong theory base
- Efficient methods to draw insights from data
- Reliable and valid methods of data gathering
- Effective analytical techniques

5.1 Introduction

Friends, in the last chapter we have studied dimensions of research in English language and English Literature. This chapter will acquaint you with how to make a clear statement of purpose. It will also prepare a strong theory base. This chapter will guide to learn efficient methods to draw insights from data. It will also explain about the reliable and valid methods of data gathering and effective analytical techniques.

5.2 Clear Statement of Purpose

Writing a Statement of Purpose

What is it?

A Statement of Purpose is a sentence that you write, which states, in some detail, what you want to learn about in your research project.
The statement guides you as you work so that you will read and take notes only on what's needed for your project.

Why do I need to do it?

Writing a statement of purpose will do four things to help you:

- You will get more interested in your project.
- It will keep you from getting overwhelmed and panicky at all the information you may find.
- It will help you develop a Thesis Statement, which comes later on in the research process.
- It saves you valuable time and effort.

When and How to do it:

After you focus your topic, after some overview reading, write a sentence that says what you want to learn about. Don't worry if you're not totally sure, your Statement of Purpose may change three or four times before you're done. To write the sentence, first answer these questions for yourself as best as you can:

1. What is my real personal interest in the topic?
(There will always be something that can interest you)

2. What do I specifically want to learn about my topic?
(Don't overwhelm yourself with too many things. Two or three are plenty.)
Start your Statement of Purpose with words like "I want to learn about..."

Make sure your Statement of Purpose is specific enough.

The main purpose of the introduction is to give a description of the problem that will be addressed. In this section the researcher might discuss the nature of the research, the purpose of

the research, the significance of the research problem, and the research question(s) to be addressed.

Three essential parts of a good introduction are:

- **RATIONALE**
- **PURPOSE**
- **RESEARCH QUESTION(S)**

RATIONALE

Somewhere in the introduction you need to inform the reader of the rationale of your research. This is a brief explanation of why your research topic is worthy of study and may make a significant contribution to the body of already existing research.

PURPOSE

The statement of purpose is not simply a statement of why the research is being done. (That is what the rationale section is for.) Rather, "purpose" refers to the goal or objective of your research. The purpose statement should answer questions. . .

- "What are the objectives of my research?" and
- "What do I expect to discover or learn from this research?"

RESEARCH QUESTION

The introduction usually ends with a research question or questions. This question should be. . .

- Related to your research purpose
- Focused
- Clear

The purpose statement of a dissertation proposal identifies the research method. The purpose statement of a dissertation proposal explains why a researcher's study will be conducted and what the study will accomplish. It guides the research, describes the expected outcomes, and explains the means for collecting data. Purpose statements typically are a half to three-quarters of a page in length and should include a single statement that clearly identifies the research method and design, problem, population and setting.

Identify the Research Method

The purpose statement should clearly indicate the research method to be used in the study. The researcher should identify whether the method will be quantitative or qualitative. Quantitative research uses numerical data. Qualitative research uses descriptive or narrative data.

Purpose Statement

The purpose statement builds on the knowledge gap in the problem statement. Describe what new knowledge the study will produce. This is not the specific content or answer but rather the type of knowledge that will be produced. The purpose should directly address the knowledge gap in the problem statement. Then describe what will someone be able to do better once they have the findings from this study?

The generic purpose of a research study is to produce new credible empirical knowledge and insights. The question here is what is the specific deliverable or contribution to the body of knowledge that this study is expected to produce? The purpose or desired deliverable will drive the research questions and design decisions. The purpose statement addresses and aligns several issues including the problem statement; the goal of the study; the variables, relationships, and population to be studied; and the type of knowledge to be generated. This information will help you determine the feasibility of the study considering: the level of effort and money required; your actual and potential expertise and that needed from others; the availability of subjects and resources; and the ethical implications.

Key Components

There are four key components to a purpose statement including dissatisfaction with our current knowledge; a vision of what could be improved if we make the contribution to knowledge; the constructs, variables, and relationships included in the study; and the final deliverable.

Dissatisfaction with Our Current Knowledge

There has to be some dissatisfaction with the current level of knowledge of the topic. This is usually accomplished by connecting to the problem statement. This is a fairly easy concept – in basic terms, the purpose of the study is to produce new knowledge that practitioners can use to solving the problem and research can use to further the theories on the topic.

Vision

The second component of the purpose statement is to define a reason for or goal of the study. This contribution needs to also be aligned with the problem statement and the first component described above. The vision should be focused on what can be done with the research output. How will it help?

Who and What

The third component of the purpose statement includes the variables (independent, dependent, and moderating), the relationships, and the population that is being studied. These elements

should also align with the problem statement and the conceptual framework. The nature of the variables, relationships, and the population along with the research approach will drive other research design decisions including the sampling plan. The first three components of the purpose statement work together to define the study and lead to an output or deliverable – a contribution to the body of knowledge.

Deliverable

The purpose statement also clarifies the type of knowledge to be generated by the study. What specifically will be delivered in what form. This is simply a description of the output of the study and identification of the overall approach (e.g., multiple case study). The deliverable hopefully includes a contribution to theory and practice. As a scholar-practitioner my research agenda is focused on building bridges between theory and practice.

The components of the purpose statement need to be stated objectively and they need to be aligned and internally consistent and congruent. In short, the four components need to present a consistent and logical case for the study.

Utility

So, why have a purpose statement at all? There are several reasons to develop a clear purpose statement including: (a) it will help you decide if the study is feasible from a time and financial cost perspective; (b) is it within your capabilities and expertise and help identify expertise and resources that you will need to acquire; and (c) it helps to identify ethical issues that will need to be addressed. The first reason is to determine the feasibility of the project. This is a very important consideration. Most graduate students have some timeline that they are working toward. This timeline is an important parameter to consider when scoping the project. The second consideration is the expertise needed to accomplish the study. How much of the required expertise do you have and how much will you have to acquire? What resources will be required? Finally, some studies have few ethical dilemmas and others have many. There are situations that make conducting studies that "do no harm" difficult. And, of course there are studies that are conducted with a protected population such as children, prisoners, and so forth that require special attention. So, there are several practical reasons to develop clear and consistent purpose statements early in the process.

5.3 A Strong Theory Base

Ans: Theories are formulated to explain, predict, and understand phenomena and, in many cases, to challenge and extend existing knowledge within the limits of critical bounding assumptions. The theoretical framework is the structure that can hold or support a theory of a research study. The theoretical framework introduces and describes the theory that explains why the research problem under study exists.

Importance of Theory

A theoretical framework consists of concepts and, together with their definitions and reference to relevant scholarly literature, existing theory that is used for your particular study. The theoretical framework must demonstrate an understanding of theories and concepts that are relevant to the topic of your research paper and that relate to the broader areas of knowledge being considered.

The theoretical framework is most often not something readily found within the literature. You must review course readings and pertinent research studies for theories and analytic models that are relevant to the research problem you are investigating. The selection of a theory should depend on its appropriateness, ease of application, and explanatory power.

The theoretical framework strengthens the study in the following ways:

1. An explicit statement of theoretical assumptions permits the reader to evaluate them critically.
2. The theoretical framework connects the researcher to existing knowledge. Guided by a relevant theory, you are given a basis for your hypotheses and choice of research methods.
3. Articulating the theoretical assumptions of a research study forces you to address questions of why and how. It permits you to intellectually transition from simply describing a phenomenon you have observed to generalizing about various aspects of that phenomenon.
4. Having a theory helps you identify the limits to those generalizations. A theoretical framework specifies which key variables influence a phenomenon of interest and highlights the need to examine how those key variables might differ and under what circumstances.

By virtue of its application nature, good theory in the social sciences is of value precisely because it fulfills one primary purpose: to explain the meaning, nature, and challenges associated with a phenomenon, often experienced but unexplained in the world in which we live, so that we may use that knowledge and understanding to act in more informed and effective ways.

Strategies for Developing the Theoretical Framework

I. Developing the Framework

Here are some strategies to develop of an effective theoretical framework:

1. **Examine your thesis title and research problem**. The research problem anchors your entire study and forms the basis from which you construct your theoretical framework.
2. **Brainstorm about what you consider to be the key variables in your research**. Answer the question, "What factors contribute to the presumed effect?"
3. **Review related literature** to find how scholars have addressed your research question.
4. **List the constructs and variables** that might be relevant to your study. Group these variables into independent and dependent categories.

5. **Review key social science theories** that are introduced to you in your course readings and choose the theory that can best explain the relationships between the key variables in your study [note the Writing Tip on this page].
6. **Discuss the assumptions or propositions** of this theory and point out their relevance to your research.

A theoretical framework is used to limit the scope of the relevant data by focusing on specific variables and defining the specific viewpoint [framework] that the researcher will take in analyzing and interpreting the data to be gathered. It also facilitates the understanding of concepts and variables according to given definitions and builds new knowledge by validating or challenging theoretical assumptions.

II. Purpose of theories

Think of theories as the conceptual basis for understanding, analyzing, and designing ways to investigate relationships within social systems. To that end, the following roles served by a theory can help guide the development of your framework.

- Means by which new research data can be interpreted and coded for future use,
- Response to new problems that have no previously identified solutions strategy,
- Means for identifying and defining research problems,
- Means for prescribing or evaluating solutions to research problems,
- Ways of discerning certain facts among the accumulated knowledge that are important and which facts are not,
- Means of giving old data new interpretations and new meaning,
- Means by which to identify important new issues and prescribe the most critical research questions that need to be answered to maximize understanding of the issue,
- Means of providing members of a professional discipline with a common language and a frame of reference for defining the boundaries of their profession, and
- Means to guide and inform research so that it can, in turn, guide research efforts and improve professional practice.

Just as a research problem in your paper requires contextualization and background information, a theory requires a framework for understanding its application to the topic being investigated. When writing and revising this part of your research paper, keep in mind the following:

- **Clearly describe the framework, concepts, models, or specific theories that underpin your study**. This includes noting who the key theorists are in the field who have conducted research on the problem you are investigating and, when necessary, the historical context that supports the formulation of that theory. This latter element is particularly important if the theory is relatively unknown or it is borrowed from another discipline.
- **Position your theoretical framework within a broader context of related frameworks, concepts, models, or theories**. As noted in the example above, there will likely be several concepts, theories, or models that can be used to help develop a

framework for understanding the research problem. Therefore, note why the theory you've chosen is the appropriate one.

- **The present tense is used when writing about theory.** Although the past tense can be used to describe the history of a theory or the role of key theorists, the construction of your theoretical framework is happening now.
- **You should make your theoretical assumptions as explicit as possible**. Later, your discussion of methodology should be linked back to this theoretical framework.
- **Don't just take what the theory says as a given!** Reality is never accurately represented in such a simplistic way; if you imply that it can be, you fundamentally distort a reader's ability to understand the findings that emerge. Given this, always note the limitiations of the theoretical framework you've chosen [i.e., what parts of the research problem require further investigation because the theory inadequately explains a certain phenomena].

5.1 Check your progress

1. What is a statement of purpose?

2. What are the advantages of a statement of purpose?

3. What is the purpose of a purpose statement?

4. What are the key components of a purpose statement?

5. How does a theoretical framework strengthen the research study?

6. What strategies can be used to strengthen a theoretical framework?

7. What is the purpose of theories?

5.4 Proper and Adequate Data sources

Data selection is defined as the process of determining the appropriate **data type** and **source**, as well as suitable **instruments** to collect data. Data selection precedes the actual practice of data collection. This definition distinguishes data selection from selective data reporting (**selectively** excluding data that is not supportive of a research hypothesis) and interactive/active data selection (using collected data for monitoring activities/events, or conducting **secondary data analyses**). The process of selecting suitable data for a research project can impact data integrity.

The primary objective of data selection is the determination of appropriate data type, source, and instrument(s) that allow investigators to adequately answer research questions. This determination is often discipline-specific and is primarily driven by the nature of the investigation, existing literature, and **accessibility** to necessary data sources.

Integrity issues can arise when the decisions to select 'appropriate' data to collect are based primarily on cost and convenience considerations rather than the ability of data to adequately answer research questions. Certainly, cost and convenience are valid factors in the decision-making process. However, researchers should assess to what degree these factors might compromises the integrity of the research endeavor.

Considerations/issues in data selection

There are a number of issues that researchers should be aware of when selecting data. These include determining:

- the appropriate type and sources of data which permit investigators to adequately answer the stated research questions,
- suitable procedures in order to obtain a **representative sample**
- The proper instruments to collect data. There should be compatibility between the type/**source** of data and the mechanisms to collect it. It is difficult to extricate the selection of the type/source of data from instruments used to collect the data.

Types/ Sources of Data

Depending on the discipline, data types and sources can be represented in a variety of ways. The two primary data types are quantitative (represented as numerical figures - interval and ratio level measurements), and qualitative (text, images, audio/video, etc.). Although scientific disciplines differ in their preference for one type over another, some investigators utilize information from both quantitative and qualitative with the expectation of developing a richer understanding of a targeted phenomenon. Data sources can include field notes, journal, laboratory notes/specimens, or direct observations of humans, animals, plants.

Interactions between data type and source are not infrequent. Researchers collect information from human beings that can be qualitative (ex. observing child rearing practices) or quantitative (recording biochemical markers, anthropometric measurements). Determining appropriate data is discipline-specific and is primarily driven by the nature of the investigation, existing literature, and accessibility to data sources.

Questions that need to be addressed when selecting data type and type include:

1. What is (are) the research question(s)?
2. What is the scope of the investigation? (This defines the parameters of any study. Selected data should not extend beyond the scope of the study).
3. What has the literature (previous research) determined to be the most appropriate data to collect?
4. What type of data should be considered: quantitative, qualitative, or a composite of both?

Methodological Procedures to Obtain a Representative Sample

The goal of sampling is to select a data source that is representative of the entire data universe of

interest. Depending on discipline, samples can be drawn from human or animal populations, laboratory specimens, observations, or historical documents. Failure to ensure representativeness may introduce bias, and thus compromise data integrity.

It is one thing to have a sampling methodology designed for representativeness and yet another thing for the data sample to actually be representative. Thus, data sample representativeness should be tested and/or verified before use of those data.

Potential biases limit the ability to draw inferences to larger populations. A partial list of biases could include sex, age, race, height, or geographical locale.

A variety of sampling procedures are available to reduce the likelihood of drawing a biased sample, and some of them are listed below:

1. Simple random sampling
2. Stratified sampling
3. Cluster sampling
4. Systematic sampling

These methods of sampling try to ensure the representativeness from the entire population by incorporating an element of 'randomness' to the selection procedure, and thus a greater ability to generalize findings to the targeted population. These methods contrast sharply with the 'convenience' sample where little or no attempt is made to ensure representativeness.

Random sampling procedures common in quantitative research contrasts with the predominant type of sampling conducted in qualitative research. Since investigators may be focusing on a small numbers of cases, sampling procedures are often purposive or theoretical rather than random. According to Savenye and Robinson (2004), "For the study to be valid, the reader should be able to believe that a representative sample of involved individuals was observed. The "multiple realities" of any cultural context should be represented.

Each strategy has its appropriate application for specific scenarios (the reader is advised to review research methodology textbooks for detailed information on each sampling procedure). Selection bias can occur when failing to implement a selected sampling procedure properly. The resulting non-representative sample may exhibit disproportionate numbers of participants sharing characteristics (ex. race, gender, age, geographic) that could interact with main effect variables. Use of homogenous samples in clinical trials may limit the ability of researchers to generalize findings to a broader population. The issues of sampling procedures apply to both quantitative and qualitative research areas.

Savenye and Robinson (2004) contrast this approach with qualitative researchers' tendency to interpret results of an investigation or draw conclusions based on specific details of a particular study, rather than in terms of generalizability to other situations and settings. While findings from a case study cannot be generalized, this data may be used to develop research questions later to be investigated in an experiment.

Attention to the data selection process is crucial in supporting the research steps that follow. Despite efforts to maintain strict adherence to data collection protocols, selection of fitting statistical analyses, accurate data reporting, and an unbiased write-up, scientific findings will have questionable value if the data selection process is flawed.

WHAT IS THE PURPOSE OF SOURCE DOCUMENTATION?

To understand the importance of good source documentation we should first review the purpose of source documentation. The most important purpose of source documentation in a clinical trial is to reconstruct the trial as it happened. It should enable an independent observer to reconfirm the data. Documentation should be such that it is able to provide audit trail to permit investigation if and when required.

Source documentation is the medical record of the subject before, during and after the trial.

It is the tool which confirms the eligibility criteria of the subject in the given trial.

It documents the progress of the subject from consenting till the subject completes the study. It records the accountability of the investigational product dispensed, consumed and returned by the subject. It serves as the complete medical record of the subject as the reference to the treating physician at any point of time.

Finally it forms a strong foundation for the data that gets transcribed into a CRF which ultimately gets translated into a clinical study report.

Irrespective of clinical trial, accurate documentation supports the fundamental principle of protecting subject's rights, safety and well-being.

There cannot be two thoughts to emphasize the need for reliable and quality documentation.

PRINCIPLES OF GOOD DOCUMENTATION PRACTICE

So, what does it mean when we say 'Good Documentation' and how do we practice it?

Any basic training in clinical research will definitely include these phrases:

'What is not documented is not done!'

'Document what is done as well as what is not done!'

Source data

All information in *original* records and *certified copies* of original records of clinical findings, observations, or other activities in a clinical trial necessary for the reconstruction and evaluation of the trial. Source data are contained in source documents (original records or certified copies).

The words in *italics* describe some inherent qualities of source data.

Source documents

Original documents, data and records (e.g., hospital records, clinical and office charts, laboratory notes, memoranda, subjects' diaries or evaluation checklists, pharmacy dispensing records, recorded data from automated instruments, copies or transcriptions certified after verification as being accurate copies, microfiches, photographic negatives, microfilm or magnetic media, X-rays, subject files, and records kept at the pharmacy, at the laboratories and at medico-technical departments involved in the clinical trial).

This definition describes the various types of documents which collectively form the source document.

Let's look at these attributes described by different authorities collectively.

Attributable

It should be clear who has documented the data.

Legible

Readable and signatures identifiable.

Contemporaneous

The information should be documented in the correct time frame along with the flow of events. If a clinical observation cannot be entered when made, chronology should be recorded. Acceptable amount of delay should be defined and justified.

Original

Original, if not original should be exact copy; the first record made by the appropriate person. The investigator should have the original source document.

Accurate

Accurate, consistent and real representation of facts.

Enduring

Long-lasting and durable.

Available and accessible

Easily available for review of treating physicians and during audits/inspections. The documents should be retrievable in reasonable time.

Complete

Complete till that point in time.

Consistent

Demonstrate the required attributes consistently.

Credible

Based on real and reliable facts.

Corroborated

The data should be backed up by evidence.

The degree to which the data fulfills the data quality criteria establishes acceptability of the data. It also determines the degree of excellence of the data quality. Qualities like consistency, credibility and corroboration help establish data integrity along with the data quality.

5.5 Efficient methods to draw insights from data

Quantitative research can serve two purposes in the context of gathering client insights: descriptive and causal. Surveys are an example of a descriptive use of quantitative research. It helps describe market characteristics or functions and is characterized by pre-formulated hypotheses, microfinance customers like the concept of joint liability, for example. Causal research establishes cause and effect relationships and involves manipulation of one or more independent variables, for example rate of interest and client dropout. One question to explore in this context might be how the change in rate of interest affects client drop out.

A good starting point could be a discussion on the situations where quantitative techniques are preferred.

Here's a quick summary:

#1. Don't be sloppy. Your data presentation is your brand.

#2. Bring insane focus, and simplify.

#3. Calibrate data altitude optimally.

#4. Eliminate distractions, make data the hero!

#5. Lines, bars, pies… stress… choose the best-fit.

#6. Consolidate data, be as honest as you can be.

#7. Ditch the text, visualize the story.

We are going to have a lot of fun, and learn some not-so-obvious lessons.

It's not the ink, it's the think.

An important point first.

Lesson 1: Don't be sloppy. Your data presentation is your brand.

Lesson 2: Bring insane focus, and simplify.

Lesson 3: Calibrate data altitude optimally.

Lesson 4: Eliminate distractions, make data the hero!

Lesson 5: Lines, bars, pies… stress… choose the best-fit.

Lesson 6: Consolidate data; be as honest as you can be.

Lesson 7: Ditch the text, visualize the story.

It takes a tiny amount of time to really look at the data you are presenting, really think about what you are trying to say and identify the singular point. Once you know that, it is only a couple of minutes of work to decrapify the report/dashboard/slide/spreadsheet and ensure we are presenting data as simply as possible using the most optimal visual.

5.2 Check your progress

1. What is data selection?

2. What is the purpose of data selection?

3. What are the issues that need to be considered in data selection?

4. What is the purpose of a source documentation?

5. What are the attributes of source documents?

5.6 Reliable and valid data gathering methods

Identify data sources and methods

Introduction

After the evaluation questions and information requirements have been articulated, the next step is to consider what data sources and methods are likely to yield the necessary information and to develop a research plan. This requires the consideration of:

- the existing data sources that might be used
- the gaps in information and whether they are critical
- how any new information can be collected
- whether the research plan is achievable given the resources available and timing of the evaluation
- the requirements for privacy and ethics approval.

Identify existing data sources

Before developing plans to collect new data, identify what data sets are already available. While the research plan should be guided by the evaluation questions rather than the available data, there are often pre-existing data sets that can be utilised or adapted. These include internal agency and program information and data sets collected by the state and federal governments.

Decide how new data can be collected

There are a number of methods for collecting and analysing data to inform evaluations of community engagement activities. In general, these are split between qualitative and quantitative approaches. In most cases, it is best to use a combination of both qualitative and quantitative methods. A common approach is to undertake qualitative research to identify what are/were the significant issues or factors affecting the process and outcomes of the community engagement activities. This might be in the form of interviews with key stakeholders and interviews or focus groups with representatives from the community. This is followed by quantitative research to test or 'verify' these findings across a much broader study area or range of respondents than could be reached by qualitative methods.

The most common methods of data collection for evaluation include:

- participant questionnaires
- interviews
- focus groups
- observation
- document analysis
- population surveys

Things to consider when choosing data collection methods

In choosing which methods of data collection to use, consider:

- What methods are likely to be most appropriate for your research participants?
- What characteristics of your respondents (age, culture, location, literacy levels, language, and time available) might make different methods more or less appropriate?
- How much time do potential participants have available to participate in the evaluation and is there a risk of overloading participants?
- Will extra support for participants be required for data collection activities that are time intensive or require travel, such as focus groups?

Participant questionnaires

Participant questionnaires can be used to collect both quantitative and qualitative data.

Questionnaires which involve sampling a population and the production of quantitative data-sets that can be statistically analysed are referred to as questionnaire 'surveys' (see below).

Quantitative data are collected using closed-response questions that can be numerically coded. For example:

- yes/no responses
- multiple-choice responses
- Likert scaled items – which ask respondents to indicate which of range responses most accurately reflects their opinion or experience (see examples in Box 3).

Questionnaires can be:

- self-administered, for example in the form of questionnaires mailed or emailed to respondents or given out to respondents during a community engagement activity or
- researcher-administered, for example by asking the questionnaires questions over the telephone or face-to-face.

Questionnaires are commonly used to gather information on:

- participants' actions, for example how often they engage in consultation activities
- participants' satisfaction with the processes used for a community engagement activity
- participants' satisfaction with the outcomes of a community engagement activity, including the resulting decision
- participants' perceptions about what they gained from the activity, for example what they learnt or if they developed new relationships
- demographic information on participants

Questionnaire surveys can also be used to test respondents before and after a community engagement activity to look for changes in perceptions, attitudes, opinions, knowledge, awareness, and feelings of efficacy or actions.

Non-participants in community engagement activities can also be surveyed to examine why they did not participate, and whether any aspect of the process prevented them from participating.

Population surveys

Population surveys most commonly involve phone or written questionnaires administered to a random sample of a selected target population, using closed-response questions or pre-coded openresponse questions. They are commonly used to provide:

- baseline data, for example demographic information to compare with data collected on community engagement activity participants to establish how representative the participants in the activity were of the target group
- data on the percentage of a target population who had contact with large-scale community engagement activities (for example, information provision activities or large public consultation opportunities) and their experiences and perceptions of that contact
- benchmarking data on whole-of-government community engagement and related social indicators, including:
    - levels of participation in civic activities
    - linking social capital
    - feelings of efficacy
    - sense of community
    - community capacity
    - knowledge about issues
- Data on community opinions or preferences related to opportunities to participate.

Interviews

Interviews are purposeful conversations used to gather open-ended qualitative data. Interviews can be done face-to-face or over the phone.

Interviews can be:

- 'unstructured' and conversational in nature
- 'semi-structured' based on a guiding set of topics or questions
- 'structured' based on written questions that are asked verbatim.

Semi-structured and unstructured interviews provide information in the form of 'stories' of experiences. This allows mini-evaluations of activities to be gathered from a range of perspectives that can be compared with the evaluator's own observations and impressions of the same event and/or with the observations and impressions of others. These stories can provide greater resonance with some audiences than sets of numerical data.

As with questionnaires, interviews are commonly used to gather information about participants' perception of the success of a community engagement activity, both in terms of the process and the outcomes. This includes exploring:

- what happened
- people's impressions of why things happened in certain ways
- how they felt this affected themselves, others and the activity overall.

Interviews can also be conducted with government officers and decision-makers who use the results of community engagement to explore issues such as:

- how the information received from community engagement is valued and used
- how it could be improved
- which types of information are most useful.

Interview questions need to be carefully worded, so that respondents are not limited or led in their responses.

The major drawback to interviews is the time and cost involved. Interviews are time-intensive for both the researcher and the respondent. This is especially the case when full transcription and coding of interviews is undertaken. However, in the case of less formal evaluations as part of formative evaluation, informal interviews can provide valuable insights into community engagement activities from a range of perspectives.

Focus groups

Focus groups are a type of group interview that utilizes a purposefully identified sample of respondents who discuss a question or a topic. Focus groups can be comprised of community members, government participants or activity organisers. Focus groups involve a facilitator and a note-taker, both of whom have little intervention into the content of the discussion.

The information gained from focus groups will be qualitative and similar to the type of information that can be expected from interviews. However, focus groups are useful in bringing out experiences and ideas that the participants might have trouble identifying as individuals. On the other hand, focus groups tend not to draw out the richness of individual experiences in the way interviews do. There are also issues with confidentiality and group dynamics that need to be considered. In general focus groups are not appropriate for groups with mixed 'power' relations, for example, service providers and users, because these factors may limit participants' perceived ability to be open and honest in their responses.

Observation

Observation is a technique of qualitative research by which the researcher observes the object of study as either a participant or a neutral observer. Usually a researcher will observe an activity with specific questions in mind. However, a good researcher will also be open-minded about noting things that appear to be important to how an activity functions. Observation is useful because it provides the opportunity to gain information on informal and taken-for-granted aspects of a situation which people often fail to acknowledge or have difficulty articulating. It also more realistically captures the chaotic nature of most processes, whereas, respondents in

recounting these processes will often make them sound more rational and ordered than they were.

Observation of community engagement activities is commonly used to gather information on:

- group processes
- group dynamics
- the nature of interaction
- the time spent participating and relative dominance of discussion by different individuals/ groups
- the quality of facilitation.

It can also be used to record:

- issues raised in discussions which can be compared to the formal records of the event to evaluate the quality and accuracy of the data collection in community engagement activities
- statements made by participants (either as a formal part of the process or in informal conversation) about the quality of the community engagement process and what they felt they gained from the process.

Observation should, wherever possible, be one of the data collection methods used in an evaluation.

Document Analysis

Documentation and records of community engagement activities can be used to gather both quantitative and qualitative information required for many evaluations. The most common types of data gathered from these sources include:

- the parameters of the activity, for example, numbers of participants, comments provided or requests for information
- number of resources provided, where and when
- costs
- processes used
- time/day of activity
- responses to information collected through community engagement.

Decide when data collection needs to occur

Data collection can occur prior to, during, or after a community engagement activity or program has finished.

If the reason for evaluating is to ensure the program is as effective as possible (formative evaluation), then evaluation needs to occur while changes can still be made. Therefore, data collection needs to take place at key stages during the community engagement program.

If the purpose of the evaluation is to measure performance based on the achievement of outcomes (summative evaluation), then data collection needs to occur both during the program and after it has finished and outcomes are visible. Ideally, data collection should continue until the medium to longer-term outcomes have had a chance to emerge.

If objective (evidence of outcomes) rather than subjective (perception of change) evidence of change is desired, data collection will also have to occur before the program commences – to establish what is commonly referred to as a baseline.

Tip: Deciding when to collect data

Data collection for many evaluations only occurs shortly after a community engagement program has finished. This is too late for the results to contribute to improving the effectiveness of the program, and too early for the medium to longer-term outcomes of the program to be known.

In most situations data should be collected:

- during the course of a program – as part of a continuous improvement cycle
- shortly after the program has finished – to explore the short-term outcomes; and
- after a period of time – to explore the medium to longer-term outcomes and/or the sustainability of changes that resulted from the program.

Data collection methods

Qualitative and Quantitative Methods

Data are usually collected through qualitative and quantitative methods.[1] Qualitative approaches aim to address the 'how' and 'why' of a program and tend to use unstructured methods of data collection to fully explore the topic. Qualitative questions are open-ended such as 'why do participants enjoy the program?' and 'How does the program help increase self esteem for participants?' Qualitative methods include focus groups, group discussions and interviews. Quantitative approaches on the other hand address the 'what' of the program. They use a systematic standardised approach and employ methods such as surveys[1] and ask questions such as 'what activities did the program run?' and 'what skills do staff need to implement the program effectively?'

Both methods have their strengths and weaknesses. Qualitative approaches are good for further exploring the effects and unintended consequences of a program. They are, however, expensive and time consuming to implement. Additionally the findings cannot be generalised to participants outside of the program and are only indicative of the group involved.

Quantitative approaches have the advantage that they are cheaper to implement, are standardised so comparisons can be easily made and the size of the effect can usually be measured. Quantitative approaches however are limited in their capacity for the investigation and explanation of similarities and unexpected differences. It is important to note that for peer-based programs quantitative data collection approaches often prove to be difficult to implement for

agencies as lack of necessary resources to ensure rigorous implementation of surveys and frequently experienced low participation and loss to follow up rates are commonly experienced factors.

Mixed Methods

Is there a way to achieve both the depth and breadth that qualitative and quantitative methods may achieve individually? One answer is to consider a mixed methods approach as your design, combining both qualitative and quantitative research data, techniques and methods within a single research framework.

Mixed methods approaches may mean a number of things: ie a number of different types of methods in a study or at different points within a study, or, using a mixture of qualitative and quantitative methods.

Mixed methods encompass multifaceted approaches that combine to capitalise on strengths and reduce weaknesses that stem from using a single research design.Using this approach to gather and evaluate data may assist to increase the validity and reliability of the research.

Some of the common areas in which mixed-method approaches may be used include:

- Initiating, designing, developing and expanding interventions;
- Evaluation;
- Improving research design; and
- Corroborating findings, data triangulation or convergence.

Some of the challenges of using a mixed methods approach include:

- Delineating complementary qualitative and quantitative research questions;
- Time-intensive data collection and analysis; and
- Decisions regarding which research methods to combine.

These challenges call for training and multidisciplinary collaboration and may therefore require greater resources (both financial and personnel) and a higher workload than using a single method. However this may be mediated by identifying key issues early and ensuring the participation of experts in qualitative and quantitative research.

Mixed methods are useful in highlighting complex research problems such as disparities in health and can also be transformative in addressing issues for vulnerable or marginalised populations or research which involves community participation. Using a mixed-methods approach is one way to develop creative options to traditional or single design approaches to research and evaluation.

Documentation

Substantial description and documentation often referred to as “thick description”, can be used to further explore a subject. This process provides a thorough description of the “study participants, context and procedures, the purpose of the intervention and its transferability”.Thick description also includes the complexities experienced in addition to the commonalities found, which assists in maintaining data integrity.

The use of documentation provides an ongoing record of activities. This can be records of informal feedback and reflections through journals, diaries or progress reports. The challenge of documentation is that it requires an ongoing commitment to regularly document thoughts and activities throughout the evaluation process

Creative strategies

Drama, exhibition, and video are imaginative and attractive alternatives to the written word.These imaginative new approaches can be used to demystify the evaluation process. Using creative arts in evaluation offers opportunities for imaginative ways of understanding programs and creating evaluation knowledge. The creative arts may be used in designing, interpreting, and communicating evaluations.The direct perception and understanding a creative arts approach brings is helpful to the evaluator in gaining a deep understanding of the program. In addition, this approach is a useful means of connecting with participants’ experience in an evaluation.

Creative strategies are advantageous as they:

- provide an opportunity for participants to portray experience through different art forms which often reveals insights that they may not have been able to articulate in words;
- accommodate for people who learn in different ways, who have different cultural backgrounds and/or who are less articulate, it can be a most useful means of engaging them in an evaluation and offering them a voice;
- cab use a combination of arts-based approaches in the evaluation process; and
- Can be used in conjunction with more traditional approaches.

Challenges arising from creative strategies include:

- Participants are often fearful of engaging with art. This may be as a result of past negative experiences of art in school or lack of belief in their own abilities. The challenge is to assure them that they or their final product are not being judged. It is the process of engaging with art that often elicits valuable data.
- The success of such an approach can often rely on the interest levels of the participants; the task needs to be defined clearly, emphasizing the reasoning behind it.

Triangulation

Triangulation is used to address the validity of the data. Triangulation methods use multiple forms of data collection, such as focus groups, observation and in-depth interviews to investigate

the evaluation objectives. Utilising multiple data collection methods leads to an acceptance of reliability and validity when the data from the various sources are comparable and consistent. Using more than one person to collect the data can also increase its reliability. This, however, will significantly increase the cost of the evaluation. Additionally, theory triangulation provides new insights by drawing on multiple theoretical perspectives.

Validity and Reliability

Validity

Validity is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform. It is rare, if nearly impossible, that an instrument be 100% valid, so validity is generally measured in degrees. As a process, validation involves collecting and analyzing data to assess the accuracy of an instrument. There are numerous statistical tests and measures to assess the validity of quantitative instruments, which generally involves pilot testing.

External validity is the extent to which the results of a study can be *generalized* from a sample to a population. Establishing external validity for an instrument, then, follows directly from sampling. Recall that a sample should be an accurate representation of a population, because the total population may not be available. An instrument that is externally valid helps obtain population generalizability, or the degree to which a sample represents the population.

Content validity refers to the appropriateness of the content of an instrument. In other words, do the measures (questions, observation logs, etc.) accurately assess what you want to know? This is particularly important with achievement tests. Consider that a test developer wants to maximize the validity of a unit test for 7th grade mathematics. This would involve taking representative questions from each of the sections of the unit and evaluating them against the desired outcomes.

Reliability

Reliability can be thought of as consistency. Does the instrument consistently measure what it is intended to measure? It is not possible to calculate reliability; however, there are four general estimators that you may encounter in reading research:

1. *Inter-Rater/Observer Reliability*: The degree to which different raters/observers give consistent answers or estimates.
2. *Test-Retest Reliability*: The consistency of a measure evaluated over time.
3. *Parallel-Forms Reliability:* The reliability of two tests constructed the same way, from the same content.
4. *Internal Consistency Reliability:* The consistency of results across items, often measured with Cronbach's Alpha.

Part IV: Validity and Reliability in Qualitative Research

Establishing validity and reliability in qualitative research can be less precise, though participant/member checks, peer evaluation (another researcher checks the researcher's inferences based on the instrument (Denzin & Lincoln, 2005), and multiple methods (keyword: triangulation), are convincingly used. Some qualitative researchers reject the concept of validity due to the constructivist viewpoint that reality is unique to the individual, and cannot be generalized. These researchers argue for a different standard for judging research quality.

Quality Criteria

The criteria used to establish the quality of action research should be no different from those used with other forms of research. Topping any researcher's list of quality criteria are the twin pillars of science: validity and reliability. These concepts are so critical to the quality of action research that it is worth taking some time to discuss and explore each of them.

Validity

Validity refers to the essential truthfulness of a piece of data. By asserting validity, the researcher is asserting that the data actually measure or reflect the specific phenomenon claimed. Scientific history is full of examples of research findings that were discredited because they were shown to lack validity.

A mercury thermometer is an example of a valid instrument yielding valid data. The height reached by the fluid in an accurate thermometer is a valid and appropriate measurement of air temperature. Similarly, the movement of a membrane in a barometer is an appropriate and valid way to determine barometric pressure. A ruler can be a valid way to measure length, and unfortunately (for those of us who are weight conscious) a bathroom scale can be a valid measure of weight.

Reliability

Reliability is a different but no less important concept. Reliability relates to researchers' claims regarding the accuracy of their data. To enhance the reliability of your action research data, you need to continually ask yourself these questions when planning data collection:

- Is this information an accurate representation of reality?
- Can I think of any reasons to be suspicious of its accuracy?

RELIABILITY AND VALIDITY

Warwick and Linninger (1975) point out that there are two basic goals in questionnaire design.

1. To obtain information relevant to the purposes of the survey.

2. To collect this information with maximal reliability and validity.

How can a researcher be sure that the data gathering instrument being used will measure what it is supposed to measure and will do this in a consistent manner? This is a question that can only be answered by examining the definitions for and methods of establishing the validity and reliability of a research instrument. These two very important aspects of research design will be discussed in this module.

Validity

Validity can be defined as the degree to which a test measures what it is supposed to measure. There are three basic approaches to the validity of tests and measures as shown by Mason and Bramble (1989). These are content validity, construct validity, and criterion-related validity.

Content Validity

This approach measures the degree to which the test items represent the domain or universe of the trait or property being measured. In order to establish the content validity of a measuring instrument, the researcher must identify the overall content to be represented. Items must then be randomly chosen from this content that will accurately represent the information in all areas. By using this method the researcher should obtain a group of items which is representative of the content of the trait or property to be measured.

Identifying the universe of content is not an easy task. It is, therefore, usually suggested that a panel of experts in the field to be studied be used to identify a content area. For example, in the case of researching the knowledge of teachers about a new curriculum, a group of curriculum and teacher education experts might be asked to identify the content of the test to be developed.

Construct Validity

Cronbach and Meehl (1955) indicated that, "Construct validity must be investigated whenever no criterion or universe of content is accepted as entirely adequate to define the quality to be measured" as quoted by Carmines and Zeller (1979). The term construct in this instance is defined as a property that is offered to explain some aspect of human behavior, such as mechanical ability, intelligence, or introversion (Van Dalen, 1979). The construct validity approach concerns the degree to which the test measures the construct it was designed to measure.

There are two parts to the evaluation of the construct validity of a test. First and most important, the theory underlying the construct to be measured must be considered. Second the adequacy of the test in measuring the construct is evaluated (Mason and Bramble, 1989). For example, suppose that a researcher is interested in measuring the introverted nature of first year teachers. The researcher defines introverted as the overall lack of social skills such as conversing, meeting and greeting people, and attending faculty social functions. This definition is based upon the researcher's own observations. A panel of experts is then asked to evaluate this construct of introversion. The panel cannot agree that the qualities pointed out by the researcher adequately define the construct of introversion. Furthermore, the researcher cannot find evidence in the research literature supporting the introversion construct as defined here. Using this information,

the validity of the construct itself can be questioned. In this case the researcher must reformulate the previous definition of the construct.

Once the researcher has developed a meaningful, useable construct, the adequacy of the test used to measure it must be evaluated. First, data concerning the trait being measured should be gathered and compared with data from the test being assessed. The data from other sources should be similar or convergent. If convergence exists, construct validity is supported.

After establishing convergence the discriminate validity of the test must be determined. This involves demonstrating that the construct can be differentiated from other constructs that may be somewhat similar. In other words, the researcher must show that the construct being measured is not the same as one that was measured under a different name.

Criterion-Related Validity

This approach is concerned with detecting the presence or absence of one or more criteria considered to represent traits or constructs of interest. One of the easiest ways to test for criterion-related validity is to administer the instrument to a group that is known to exhibit the trait to be measured. This group may be identified by a panel of experts. A wide range of items should be developed for the test with invalid questions culled after the control group has taken the test. Items should be omitted that are drastically inconsistent with respect to the responses made among individual members of the group. If the researcher has developed quality items for the instrument, the culling process should leave only those items that will consistently measure the trait or construct being studied. For example, suppose one wanted to develop an instrument that would identify teachers who are good at dealing with abused children. First, a panel of unbiased experts identifies 100 teachers out of a larger group that they judge to be best at handling abused children. The researcher develops 400 yes/no items that will be administered to the whole group of teachers, including those identified by the experts. The responses are analyzed and the items to which the expert identified teachers and other teachers responding differently are seen as those questions that will identify teachers who are good at dealing with abused children.

Reliability

The reliability of a research instrument concerns the extent to which the instrument yields the same results on repeated trials. Although unreliability is always present to a certain extent, there will generally be a good deal of consistency in the results of a quality instrument gathered at different times. The tendency toward consistency found in repeated measurements is referred to as reliability (Carmines & Zeller, 1979).

In scientific research, accuracy in measurement is of great importance. Scientific research normally measures physical attributes which can easily be assigned a precise value. Many times numerical assessments of the mental attributes of human beings are accepted as readily as numerical assessments of their physical attributes. Although we may understand that the values assigned to mental attributes can never be completely precise, the imprecision is often looked upon as being too small to be of any practical concern. However, the magnitude of the

imprecision is much greater in the measurement of mental attributes than in that of physical attributes. This fact makes it very important that the researcher in the social sciences and humanities determine the reliability of the data gathering instrument to be used (Willmott & Nuttall, 1975).

Validity is the accuracy of the information generated.

The primary advantage of surveys is their cost in relation to the amount of data you can collect. Surveying generally is considered efficient because you can include large numbers of people at a relatively low cost. There are two key disadvantages: First, if the survey is conducted by mail, response rates can be very low, jeopardizing the validity of the data collected. There are mechanisms to increase response rates, but they will add to the cost of the survey. We will discuss tips for boosting response rates later in this lesson. Written surveys also don't allow respondents to clarify a confusing question. Thorough survey pre-testing can reduce the likelihood that problems will arise.

Reliability refers to consistency.

Reliability can also be thought of as the extent to which data are reproducible. Do items or questions on a survey, for example, repeatedly produce the same response regardless of when the survey is administered or whether the respondents are men or women? Bias in the data collection instrument is a primary threat to reliability and can be reduced by repeated testing and revision of the instrument.

You cannot have a valid instrument if it is not reliable. However, you can have a reliable instrument that is not valid. Think of shooting arrows at a target. Reliability is getting the arrows to land in about the same place each time you shoot. You can do this without hitting the bull's-eye. Validity is getting the arrow to land on the bull's-eye. Lots of arrows landing in the bull's-eye means you have both reliability and validity.

5.7 Effective analytical techniques

Data analysis

Analysis of data is a process of inspecting, cleaning, transforming, and modeling data with the goal of discovering useful information, suggesting conclusions, and supporting decision-making. Data analysis has multiple facets and approaches, encompassing diverse techniques under a variety of names, in different business, science, and social science domains.

The process of data analysis

Analysis refers to breaking a whole into its separate components for individual examination. Data analysis is a process for obtaining raw data and converting it into information useful for decision-making by users. Data is collected and analyzed to answer questions, test hypotheses or disprove theories.

There are several phases that can be distinguished, described below.

Data requirements

The data necessary as inputs to the analysis are specified based upon the requirements of those directing the analysis or customers who will use the finished product of the analysis. Specific variables regarding a population (e.g., age and income) may be specified and obtained.

Data collection

Data is collected from a variety of sources. The requirements may be communicated by analysts to custodians of the data, such as information technology personnel within an organization. The data may also be collected from sensors in the environment, such as traffic cameras, satellites, recording devices, etc. It may also be obtained through interviews, downloads from online sources, or reading documentation.

Data processing

The phases of the intelligence cycle used to convert raw information into actionable intelligence or knowledge are conceptually similar to the phases in data analysis.

Data initially obtained must be processed or organized for analysis. For instance, this may involve placing data into rows and columns in a table format for further analysis, such as within a spreadsheet or statistical software.

Data cleaning

Once processed and organized, the data may be incomplete, contain duplicates, or contain errors. The need for data cleaning will arise from problems in the way that data is entered and stored. Data cleaning is the process of preventing and correcting these errors. Common tasks include record matching, deduplication, and column segmentation. Such data problems can also be identified through a variety of analytical techniques.

Exploratory data analysis

Once the data is cleaned, it can be analyzed. Analysts may apply a variety of techniques referred to as exploratory data analysis to begin understanding the messages contained in the data. The process of exploration may result in additional data cleaning or additional requests for data, so these activities may be iterative in nature.

Data product

A data product is a computer application that takes data inputs and generates outputs, feeding them back into the environment. It may be based on a model or algorithm. An example is an application that analyzes data about customer purchasing history and recommends other purchases the customer might enjoy.

Communication

Once the data is analyzed, it may be reported in many formats to the users of the analysis to support their requirements. The users may have feedback, which results in additional analysis. When determining how to communicate the results, the analyst may consider data visualization techniques to help clearly and efficiently communicate the message to the audience. Data visualization uses information displays such as tables and charts to help communicate key messages contained in the data. Tables are helpful to a user who might lookup specific numbers, while charts (e.g., bar charts or line charts) may help explain the quantitative messages contained in the data.

Quantitative messages

Author Stephen Few described eight types of quantitative messages that users may attempt to understand or communicate from a set of data and the associated graphs used to help communicate the message.

1. Time-series: A single variable is captured over a period of time, such as the unemployment rate over a 10-year period. A line chart may be used to demonstrate the trend.
2. Ranking: Categorical subdivisions are ranked in ascending or descending order, such as a ranking of sales performance (the *measure*) by sales persons (the *category*, with each sales person a *categorical subdivision*) during a single period. A bar chart may be used to show the comparison across the sales persons.
3. Part-to-whole: Categorical subdivisions are measured as a ratio to the whole (i.e., a percentage out of 100%). A pie chart or bar chart can show the comparison of ratios, such as the market share represented by competitors in a market.
4. Deviation: Categorical subdivisions are compared against a reference, such as a comparison of actual vs. budget expenses for several departments of a business for a given time period. A bar chart can show comparison of the actual versus the reference amount.
5. Frequency distribution: Shows the number of observations of a particular variable for given interval, such as the number of years in which the stock market return is between intervals such as 0-10%, 11-20%, etc. A histogram, a type of bar chart, may be used for this analysis.
6. Correlation: Comparison between observations represented by two variables (X,Y) to determine if they tend to move in the same or opposite directions. For example, plotting unemployment (X) and inflation (Y) for a sample of months. A scatter plot is typically used for this message.
7. Nominal comparison: Comparing categorical subdivisions in no particular order, such as the sales volume by product code. A bar chart may be used for this comparison.
8. Geographic or geospatial: Comparison of a variable across a map or layout, such as the unemployment rate by state or the number of persons on the various floors of a building. A cartogram is a typical graphic used.

Techniques for analyzing quantitative data

Author Jonathan Koomey has recommended a series of best practices for understanding quantitative data. These include:

- Check raw data for anomalies prior to performing your analysis;
- Re-perform important calculations, such as verifying columns of data that are formula driven;
- Confirm main totals are the sum of subtotals;
- Check relationships between numbers that should be related in a predictable way, such as ratios over time;
- Normalize numbers to make comparisons easier, such as analyzing amounts per person or relative to GDP or as an index value relative to a base year;
- Break problems into component parts by analyzing factors that led to the results, such as DuPont analysis of return on equity.

For the variables under examination, analysts typically obtain descriptive statistics for them, such as the mean (average), median, and standard deviation. They may also analyze the distribution of the key variables to see how the individual values cluster around the mean.

Analytical Method

The Analytical Method is a generic process combining the power of the Scientific Method with the use of formal process to solve any type of problem. It has these nine steps:

1. Identify the problem to solve.

2. Choose an appropriate process. (THE KEY STEP)

3. Use the process to hypothesize analysis or solution elements.

4. Design an experiment(s) to test the hypothesis.

5. Perform the experiment(s).

6. Accept, reject, or modify the hypothesis.

7. Repeat steps 3, 4, 5, and 6 until the hypothesis is accepted.

8. Implement the solution.

9. Continuously improve the process as opportunities arise.

Why this is important

Use of the Analytical Method is critical to solving the sustainability problem because it appears that current processes are inadequate. They are intuitive, simple, and based on how activists approach everyday problems.

A Vastly Better Method

1. Identify the problem to solve.

2. Perform an analysis. (KEY STEP)

3. Develop a solution based on the analysis.

4. Implement the solution.

This raises a question: How do we perform a high quality analysis? The only way science and business have found to do that reliably is by using a process that defines how the analysis should be done. So let's add a select-a-process step:

An Almost Good Enough Method

1. Identify the problem to solve.

2. Choose an appropriate process to perform the analysis. (KEY STEP)

3. Execute the process. Its output is a high quality analysis.

4. Develop a solution based on the analysis.

5. Implement the solution.

This raises a further question: How do we choose an appropriate process?

The Scientific Method is the great granddaddy of all modern problem solving processes. It has these five amazingly simple but powerful steps:

The Scientific Method

1. Observe a phenomenon that has no good explanation.

2. Formulate a hypothesis.

3. Design an experiment(s) to test the hypothesis.

4. Perform the experiment(s).

5. Accept, reject, or modify the hypothesis.

So we don't have to choose a process at the highest appropriate level of abstraction. We already have one: the Scientific Method. Let's incorporate it into the five steps we had earlier:

The Analytical Method

1. Identify the problem to solve.

2. Choose an appropriate process. (THE KEY STEP)

3. Use the process to hypothesize analysis or solution elements.

4. Design an experiment(s) to test the hypothesis.

5. Perform the experiment(s).

6. Accept, reject, or modify the hypothesis.

7. Repeat steps 3, 4, 5, and 6 until the hypothesis is accepted.

8. Implement the solution.

9. Continuously improve the process as opportunities arise.

We've also added the last step of continuous process improvement. This is mandatory until you've solved the same type of problem many times. Then your process will have matured.

This gives us the nine steps of the Analytical Method. All scientifically based problem solving approaches use the Analytical Method. By listing its steps we can see exactly where we need to improve to perform it well.

5.3 Analysis of Qualitative Information

The analysis of qualitative data-typically in conjunction with the statistical (and other types of) analysis of quantitative data-can provide a holistic view of the phenomena of interest in an evaluation. The process of gathering and analyzing qualitative information is often inductive and "naturalistic": at the beginning of data collection or analysis, the evaluator has no particular guiding theory concerning the phenomena being studied. (Another type of non-statistical analysis of quantitative data is discussed in section 5.5, which covers the use of models.)

Non-statistical data analysis may rely on the evaluator's professional judgement to a greater degree than is the case with other methods, such as statistical analysis. Consequently, in addition to being knowledgeable about the evaluation issues, evaluators carrying out non-statistical analysis must be aware of the many potential biases that could affect the findings.

Several types of non-statistical analysis exist, including content analysis, analysis of case studies, inductive analysis (including the generation of typologies) and logical analysis. All methods are intended to produce patterns, themes, tendencies, trends and "motifs," which are generated by the data. They are also intended to produce interpretations and explanations of these patterns. The data analysis should assess the reliability and validity of findings (possibly through a discussion

of competing hypotheses). The analysis should also analyze "deviant" or "outlying" cases. It should "triangulate" several data sources, and include collection or analytical methods.

The four main decisions to be made in non-statistical data analysis concern the analytical approach to be used (such as qualitative summary, qualitative comparison, or descriptive or multivariate statistics); the level of analysis; the time at which to analyze (which includes decisions about recording and coding data and about quantifying this data); and the method used to integrate the non-statistical analysis with related statistical analysis.

Although non-statistical (and statistical) data analysis typically occurs after all the data have been collected, it may be carried out during data collection. The latter procedure may allow the evaluator to develop new hypotheses, which can be tested during the later stages of data collection. It also permits the evaluator to identify and correct data collection problems and to find information missing from early data collection efforts. On the other hand, conclusions based on early analysis may bias later data collection or may induce a premature change in program design or delivery, making interpretation of findings based on the full range of data problematic.

Non-statistical data analysis is best done in conjunction with the statistical analysis of related (quantitative or qualitative) data. The evaluation should be designed so that the two sorts of analysis, using different but related data, are mutually reinforcing or at least illuminating.

In addition, non-statistical analysis allows the evaluator to take advantage of all the available information. The findings of a non-statistical analysis may be more richly detailed than those from a purely statistical analysis.

5.3 Check your progress

1. What things need to be considered while collecting data?

2. What sort of information do we gather from questionnaires?

3. What information is provided by population surveys?

4. What are focus groups?

5. What are the advantages and disadvantages of focus groups?

6. How does observation method function?

7. What kind of information is collected by observation method in community engagement activities?

8. What kind of data is collected through document analysis?

9. What are the advantages and disadvantages of qualitative and quantitative methods of data collection?

10. What are the advantages of mixed method of data collection?

11. What are the areas where mixed methods can be used?

12. What are the challenges that are confronted in using mixed methods?

13. What are the advantages of creative strategies?

14. What are the challenges faced in using creative strategies?

15. What is validity?

16. What is internal validity?

17. What is content validity?

18. How is reliability calculated?

19. What is data cleaning?

20. What are the eight types of quantitative messages that can be used to communicate?

21. What are the techniques used for analyzing quantitative data?

22. What are the steps used in analytical method?

5.1 Answers to check your progress

1. A Statement of Purpose is a sentence that you write, which states, in some detail, what you want to learn about in your research project. The statement guides you as you work so that you will read and take notes only on what's needed for your project.

2. The advantages of writing a statement of purpose are:

- You will get more interested in your project.
- It will keep you from getting overwhelmed and panicky at all the information you may find.
- It will help you develop a Thesis Statement, which comes later on in the research process.
- It saves you valuable time and effort.

3. The generic purpose of a research study is to produce new credible empirical knowledge and insights. The purpose or desired deliverable will drive the research questions and design decisions. The purpose statement addresses and aligns several issues including the problem statement; the goal of the study; the variables, relationships, and population to be studied; and the type of knowledge to be generated. This information will help you determine the feasibility of the study considering: the level of effort and money required; your actual and potential

expertise and that needed from others; the availability of subjects and resources; and the ethical implications.

4. There are four key components to a purpose statement including dissatisfaction with our current knowledge; a vision of what could be improved if we make the contribution to knowledge; the constructs, variables, and relationships included in the study; and the final deliverable.

5. The theoretical framework strengthens the research study in the following ways:

1. An explicit statement of theoretical assumptions permits the reader to evaluate them critically.

2. The theoretical framework connects the researcher to existing knowledge. Guided by a relevant theory, you are given a basis for your hypotheses and choice of research methods.

3. Articulating the theoretical assumptions of a research study forces you to address questions of why and how. It permits you to intellectually transition from simply describing a phenomenon you have observed to generalizing about various aspects of that phenomenon.

4. Having a theory helps you identify the limits to those generalizations. A theoretical framework specifies which key variables influence a phenomenon of interest and highlights the need to examine how those key variables might differ and under what circumstances.

6. Here are some strategies to develop an effective theoretical framework:

1. Examine your thesis title and research problem. The research problem anchors your entire study and forms the basis from which you construct your theoretical framework.

2. Brainstorm about what you consider to be the key variables in your research. Answer the question, "What factors contribute to the presumed effect?"

3. Review related literature to find how scholars have addressed your research question.

4. List the constructs and variables that might be relevant to your study. Group these variables into independent and dependent categories.

5. Review key social science theories that are introduced to you in your course readings and choose the theory that can best explain the relationships between the key variables in your study.

6. Discuss the assumptions or propositions of this theory and point out their relevance to your research.

7. Think of theories as the conceptual basis for understanding, analyzing, and designing ways to investigate relationships within social systems. To that end, the following roles served by a theory can help guide the development of your framework.

- Means by which new research data can be interpreted and coded for future use,
- Response to new problems that have no previously identified solutions strategy,
- Means for identifying and defining research problems,
- Means for prescribing or evaluating solutions to research problems,
- Ways of discerning certain facts among the accumulated knowledge that are important and which facts are not,
- Means of giving old data new interpretations and new meaning,
- Means by which to identify important new issues and prescribe the most critical research questions that need to be answered to maximize understanding of the issue,
- Means of providing members of a professional discipline with a common language and a frame of reference for defining the boundaries of their profession, and
- Means to guide and inform research so that it can, in turn, guide research efforts and improve professional practice.

5.2 Answers to check your progress

1. Data selection is defined as the process of determining the appropriate data type and source, as well as suitable instruments to collect data. Data selection precedes the actual practice of data collection.

2. The primary objective of data selection is the determination of appropriate data type, source, and instrument(s) that allow investigators to adequately answer research questions. This determination is often discipline-specific and is primarily driven by the nature of the investigation, existing literature, and accessibility to necessary data sources.

3. There are a number of issues that researchers should be aware of when selecting data. These include determining:

- the appropriate type and sources of data which permit investigators to adequately answer the stated research questions,
- suitable procedures in order to obtain a representative sample
- The proper instruments to collect data. There should be compatibility between the type/source of data and the mechanisms to collect it. It is difficult to extricate the selection of the type/source of data from instruments used to collect the data.

4. The most important purpose of source documentation in a clinical trial is to reconstruct the trial as it happened. It should enable an independent observer to reconfirm the data. Documentation should be such that it is able to provide audit trail to permit investigation if and when required. It is the tool which confirms the eligibility criteria of the subject in the given trial. It documents the progress of the subject from consenting till the subject completes the study. It records the accountability of the investigational product dispensed, consumed and returned by the subject.

5. Following are the attributes of source documents:

1. Attributable: It should be clear who has documented the data.

2. Legible: Readable and signatures identifiable.

3. Contemporaneous: The information should be documented in the correct time frame along with the flow of events. If a clinical observation cannot be entered when made, chronology should be recorded. Acceptable amount of delay should be defined and justified.

4. Original: Original, if not original should be exact copy; the first record made by the appropriate person. The investigator should have the original source document.

5. Accurate: Accurate, consistent and real representation of facts.

6. Enduring: Long-lasting and durable.

7. Available and accessible: Easily available for review of treating physicians and during audits/inspections. The documents should be retrievable in reasonable time.

8. Complete: Complete till that point in time.

9. Consistent: Demonstrate the required attributes consistently.

10. Credible: Based on real and reliable facts.

11. Corroborated: The data should be backed up by evidence.

5.3 Answers to check your progress

1. In choosing which methods of data collection to use, consider:

- What methods are likely to be most appropriate for your research participants?
- What characteristics of your respondents (age, culture, location, literacy levels, language, and time available) might make different methods more or less appropriate?
- How much time do potential participants have available to participate in the evaluation and is there a risk of overloading participants?
- Will extra support for participants be required for data collection activities that are time intensive or require travel, such as focus groups?

2. Questionnaires are commonly used to gather information on:

- participants' actions, for example how often they engage in consultation activities
- participants' satisfaction with the processes used for a community engagement activity
- participants' satisfaction with the outcomes of a community engagement activity, including the resulting decision
- participants' perceptions about what they gained from the activity, for example what they learnt or if they developed new relationships
- Demographic information on participants.

Questionnaire surveys can also be used to test respondents before and after a community engagement activity to look for changes in perceptions, attitudes, opinions, knowledge, awareness, and feelings of efficacy or actions.

3. Population surveys are commonly used to provide:

- baseline data, for example demographic information to compare with data collected on community engagement activity participants to establish how representative the participants in the activity were of the target group
- data on the percentage of a target population who had contact with large-scale community engagement activities (for example, information provision activities or large public consultation opportunities) and their experiences and perceptions of that contact
- benchmarking data on whole-of-government community engagement and related social indicators, including:
    - levels of participation in civic activities
    - linking social capital
    - feelings of efficacy
    - sense of community
    - community capacity
    - knowledge about issues
- Data on community opinions or preferences related to opportunities to participate.

4. Focus groups are a type of group interview that utilizes a purposefully identified sample of respondents who discuss a question or a topic. Focus groups can be comprised of community members, government participants or activity organisers. Focus groups involve a facilitator and a note-taker, both of whom have little intervention into the content of the discussion.

5.The information gained from focus groups will be qualitative and similar to the type of information that can be expected from interviews.However, focus groups are useful in bringing out experiences and ideas that the participants might have trouble identifying as individuals. On the other hand, focus groups tend not to draw out the richness of individual experiences in the way interviews do. There are also issues with confidentiality and group dynamics that need to be considered. In general focus groups are not appropriate for groups with mixed 'power' relations, for example, service providers and users, because these factors may limit participants' perceived ability to be open and honest in their responses.

6.Observation is a technique of qualitative research by which the researcher observes the object of study as either a participant or a neutral observer. Usually a researcher will observe an activity with specific questions in mind. However, a good researcher will also be open-minded about noting things that appear to be important to how an activity functions.

7.Observation of community engagement activities is commonly used to gather information on:

- group processes
- group dynamics
- the nature of interaction

- the time spent participating and relative dominance of discussion by different individuals/ groups
- the quality of facilitation.

It can also be used to record:

- issues raised in discussions which can be compared to the formal records of the event to evaluate the quality and accuracy of the data collection in community engagement activities
- Statements made by participants (either as a formal part of the process or in informal conversation) about the quality of the community engagement process and what they felt they gained from the process.

8. The most common types of data gathered from document analysis include:

- the parameters of the activity, for example, numbers of participants, comments provided or requests for information
- number of resources provided, where and when
- costs
- processes used
- time/day of activity
- responses to information collected through community engagement.

9. Both the qualitative and quantitative methods have their strengths and weaknesses. Qualitative approaches are good for further exploring the effects and unintended consequences of a program. They are, however, expensive and time consuming to implement. Additionally the findings cannot be generalised to participants outside of the program and are only indicative of the group involved.

Quantitative approaches have the advantage that they are cheaper to implement, are standardised so comparisons can be easily made and the size of the effect can usually be measured. Quantitative approaches however are limited in their capacity for the investigation and explanation of similarities and unexpected differences. It is important to note that for peer-based programs quantitative data collection approaches often prove to be difficult to implement for agencies as lack of necessary resources to ensure rigorous implementation of surveys and frequently experienced low participation and loss to follow up rates are commonly experienced factors.

10. Mixed methods of data collection encompass multifaceted approaches that combine to capitalise on strengths and reduce weaknesses that stem from using a single research design. Using this approach to gather and evaluate data may assist to increase the validity and reliability of the research.Mixed methods are useful in highlighting complex research problems such as disparities in health and can also be transformative in addressing issues for vulnerable or marginalised populations or research which involves community participation. Using a mixed-methods approach is one way to develop creative options to traditional or single design approaches to research and evaluation

11. Some of the common areas in which mixed-method approaches may be used include:

- Initiating, designing, developing and expanding interventions;
- Evaluation;
- Improving research design; and
- Corroborating findings, data triangulation or convergence.

12. Some of the challenges of using a mixed methods approach include:

- Delineating complementary qualitative and quantitative research questions;
- Time-intensive data collection and analysis; and
- Decisions regarding which research methods to combine.

These challenges call for training and multidisciplinary collaboration and may therefore require greater resources (both financial and personnel) and a higher workload than using a single method. However this may be mediated by identifying key issues early and ensuring the participation of experts in qualitative and quantitative research.

13. Creative strategies are advantageous as they:

- provide an opportunity for participants to portray experience through different art forms which often reveals insights that they may not have been able to articulate in words;
- accommodate for people who learn in different ways, who have different cultural backgrounds and/or who are less articulate, it can be a most useful means of engaging them in an evaluation and offering them a voice;
- cab use a combination of arts-based approaches in the evaluation process; and
- Can be used in conjunction with more traditional approaches.

14. Challenges arising from creative strategies include:

- Participants are often fearful of engaging with art. This may be as a result of past negative experiences of art in school or lack of belief in their own abilities. The challenge is to assure them that they or their final product are not being judged. It is the process of engaging with art that often elicits valuable data.
- The success of such an approach can often rely on the interest levels of the participants; the task needs to be defined clearly, emphasising the reasoning behind it.

15.*Validity*is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform. As a process, validation involves collecting and analyzing data to assess the accuracy of an instrument. There are numerous statistical tests and measures to assess the validity of quantitative instruments, which generally involves pilot testing.

*16. External validity*is the extent to which the results of a study can be *generalized*from a sample to a population. Establishing external validity for an instrument, then, follows directly from sampling. Recall that a sample should be an accurate representation of a population, because the

total population may not be available. An instrument that is externally valid helps obtain population generalizability, or the degree to which a sample represents the population.

*17. Content validity*refers to the appropriateness of the content of an instrument. In other words, do the measures (questions, observation logs, etc.) accurately assess what you want to know? This is particularly important with achievement tests. Consider that a test developer wants to maximize the validity of a unit test for 7th grade mathematics. This would involve taking representative questions from each of the sections of the unit and evaluating them against the desired outcomes.

18.It is not possible to calculate reliability; however, there are four general estimators that you may encounter in reading research:

1. Inter-Rater/Observer Reliability: The degree to which different raters/observers give consistent answers or estimates.

2. Test-Retest Reliability: The consistency of a measure evaluated over time.

3. Parallel-Forms Reliability: The reliability of two tests constructed the same way, from the same content.

*4. Internal Consistency Reliability:*The consistency of results across items, often measured with Cronbach's Alpha.

19.Data cleaning is the process of preventing and correcting these errors. Common tasks include record matching, deduplication, and column segmentation. Such data problems can also be identified through a variety of analytical techniques.

20. Author Stephen Few described eight types of quantitative messages that users may attempt to understand or communicate from a set of data and the associated graphs used to help communicate the message.

1. Time-series: A single variable is captured over a period of time, such as the unemployment rate over a 10-year period. A line chart may be used to demonstrate the trend.

2. Ranking: Categorical subdivisions are ranked in ascending or descending order, such as a ranking of sales performance (the *measure*) by sales persons (the *category*, with each sales person a *categorical subdivision*) during a single period. A bar chart may be used to show the comparison across the sales persons.

3. Part-to-whole: Categorical subdivisions are measured as a ratio to the whole (i.e., a percentage out of 100%). A pie chart or bar chart can show the comparison of ratios, such as the market share represented by competitors in a market.

4. Deviation: Categorical subdivisions are compared against a reference, such as a comparison of actual vs. budget expenses for several departments of a business for a given time period. A bar chart can show comparison of the actual versus the reference amount.

5. Frequency distribution: Shows the number of observations of a particular variable for given interval, such as the number of years in which the stock market return is between intervals such as 0-10%, 11-20%, etc. A histogram, a type of bar chart, may be used for this analysis.

6. Correlation: Comparison between observations represented by two variables (X,Y) to determine if they tend to move in the same or opposite directions. For example, plotting unemployment (X) and inflation (Y) for a sample of months. A scatter plot is typically used for this message.

7. Nominal comparison: Comparing categorical subdivisions in no particular order, such as the sales volume by product code. A bar chart may be used for this comparison.

8. Geographic or geospatial: Comparison of a variable across a map or layout, such as the unemployment rate by state or the number of persons on the various floors of a building. A cartogram is a typical graphic used

21.The techniques for analyzing quantitative data are:

Author Jonathan Koomey has recommended a series of best practices for understanding quantitative data. These include:

- Check raw data for anomalies prior to performing your analysis;
- Re-perform important calculations, such as verifying columns of data that are formula driven;
- Confirm main totals are the sum of subtotals;
- Check relationships between numbers that should be related in a predictable way, such as ratios over time;
- Normalize numbers to make comparisons easier, such as analyzing amounts per person or relative to GDP or as an index value relative to a base year;
- Break problems into component parts by analyzing factors that led to the results, such as DuPont analysis of return on equity.

For the variables under examination, analysts typically obtain descriptive statistics for them, such as the mean (average), median, and standard deviation. They may also analyze the distribution of the key variables to see how the individual values cluster around the mean.

22.The Analytical Method is a generic process combining the power of the Scientific Method with the use of formal process to solve any type of problem. It has these nine steps:

1. Identify the problem to solve.

2. Choose an appropriate process. (THE KEY STEP)

3. Use the process to hypothesize analysis or solution elements.

4. Design an experiment(s) to test the hypothesis.

5. Perform the experiment(s).

6. Accept, reject, or modify the hypothesis.

7. Repeat steps 3, 4, 5, and 6 until the hypothesis is accepted.

8. Implement the solution.

9. Continuously improve the process as opportunities arise.

5.8 Conclusion

Through this chapter we have come to know about the development, hypothesis and preparation of research proposal. We have also come to know about the clear statement of purpose. This chapter has prepared a strong theory. The chapter guides for proper and adequate data sources. It also guides about efficient methods to draw insights from data and reliable and valid data gathering reliable and valid data gathering methods.

5.9 Summary

A statement of purpose is a sentence that you write, which states, in some detail, what you want to learn about in your research project. The statement guides you as you work so that you will read and take notes only on what's needed for your project. The advantages of writing a statement of purpose are that you will get more interested in your project. It will keep you from getting overwhelmed and panicky at all the information you may find. It will help you develop a Thesis Statement, which comes later on in the research process. It saves you valuable time and effort.

Data selection is defined as the process of determining the appropriate data type and source, as well as suitable instruments to collect data. Data selection precedes the actual practice of data collection. The primary objective of data selection is the determination of appropriate data type, source, and instrument(s) that allow investigators to adequately answer research questions. This determination is often discipline-specific and is primarily driven by the nature of the investigation, existing literature, and accessibility to necessary data sources.

In choosing which methods of data collection to use, consider what methods are likely to be most appropriate for your research participants? What characteristics of your respondents (age, culture, location, literacy levels, language, time available) might make different methods more or less appropriate? How much time do potential participants have available to participate in the evaluation and is there a risk of overloading participants? Will extra support for participants be required for data collection activities that are time intensive or require travel, such as focus groups?

5.10 Field work

Try to analyse what would be the most effective analytical technique if you are working on a research project based on language.

Chapter VI:

Research Process

6.0 Objectives

Friends, in this chapter we will study the research process. After studying this chapter you will be able to discuss:

- How to collect and classify data
- How to analyze the data
- How to arrive at interpretations and generalizations
- How to prepare chapter wise design

6.1 Introduction

Friends, in the last chapter we have studied the development, hypothesis and preparation of research proposal. In this chapter we are going to study how to collect, analyze and classify data. It also guides how to arrive at interpretations and generalizations and to prepare chapter wise design.

6.2Collecting and classifying Data

Data classification

Data classification is the process of organizing data into categories for its most effective and efficient use.

Primary and secondary sources

Although there are several ways to classify sources, one of the most useful is by their **primary** or **secondary** nature, a distinction deriving from the field of Historiography. Although there is some variability in the use of these terms outside of Wikipedia, we focus on one particular aspect of the distinction useful for editors:

Primary sources

A primary source is a source cited for some new idea, creative thought, or data originating in that source, and not derived from another author or another source. Primary sources usually have some immediate connection or contact with the source of the new idea, thought, or data. For example, the primary source of some experimental data might be written by the scientist who performed the experiments. The primary source of a quotation might be written by someone who was present when the thing was said. The primary source of a historical theory is usually written by the historian who first conceived that theory. The primary source of information about a fictional universe is usually written by the author of that fictional universe.

Secondary sources

A secondary source is any source cited for its second-hand information from a different work. Secondary sources are not the originators of new ideas, creative thoughts, or data; they merely act as a conduit for such information. For example, if an author compiles research data from several scientists into a table for comparison, she is a secondary source with respect to that data. If an author paraphrases a quotation in another source, it is a secondary source with respect to that quotation. If an author in a historiography summarizes a historical theory from the 1800s, she is a secondary source as to that historical theory. An encyclopedia about a fictional universe is a secondary source as to the works of fiction defining that fictional universe.

Some secondary sources, such as textbooks and treatises, are further described as tertiary sources. However, the tertiary source concept is not as significant and clear-cut as the others, and the category has less relevance to Wikipedia, except for the fact that Wikipedia is itself a tertiary source.

First-party and third-party sources

Another way to categorize sources is by whether the cited information is written by the authoritative creator of that information (the "first party"), or by someone else (a "third party"). A source is considered **third-party** if the author and/or sponsoring/publishing organization is

not involved in the subject of the source. Thus, an autobiography is never third-party, as the author is the subject, and an article published by Microsoft on the reliability of Windows XP is not third-party, as the company is describing its own product. On the other hand, a technical review of Windows by someone not involved in operating system development or marketing is likely to be third-party, as is a military history from someone not involved in the conflict in question.

Third-party sources are generally preferred as the author has no obvious incentive to distort the truth or "spin" the facts a certain way. They are thus considered advantageous in ensuring a neutral point of view. However, it should be remembered that a source is not necessarily entirely neutral just because it is third-party, and where a range of views and perspectives exist, they should all be given reasonable coverage. In such situations, care should be taken to avoid giving undue weight to a particular point of view.

Classification of Data

What is a classified map?

A classified map represents data that has been grouped into different classes. On the map, the different classes can be distinguished e.g. by different colours (hue, brightness, or saturation).

Why can it be useful to classify data before creating a map?

The human eye only has a limited ability to discriminate a large number of different areal symbol shades. Due to this fact, it is sometimes essential to classify quantitative thematic map content. This allows us to create a smaller number of data classes and to choose symbol shades that can be distinguished easily.

What is the difference between a classified and an unclassified map?

Classified maps consist of colour shades that are generally based on the conventional "maximum-contrast" approach, using equally spaced tones from one class to another. Thanks to this method, the classified map does not reveal a huge and inhomogeneous range of colour variations.

Thus, we finally have to decide when we choose to classify our collected data and when not.

Major Classification Methods

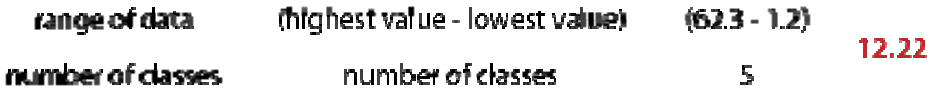
For thematic map presentation, the acquired and analysed thematic data values are often grouped into classes, which simplify the reading of the map as we have learned in the previous section. If you decide to classify your data, you may wonder, what would be the best method. For this purpose, we will repeat and refresh the basics of your knowledge about statistical methods in the following. The major methods of data classification are:

- Equal intervals,

- Mean-standard deviation,
- Quantiles,
- Maximum breaks and
- Natural breaks

The Equal Interval Classification (constant class intervals)

In this classification method, each class consists of an equal data interval along the dispersion graph shown in the figure. To determine the class interval, you divide the whole range of all your data (highest data value minus lowest data value) by the number of classes you have decided to generate.



After you have done that, you add the resulting class interval to the lowest value of your data-set, which gives you the first class interval. Add this interval as many times as necessary in order to reveal the number of your predefined classes.

When is it useful to choose the method of equal class intervals?

It is appropriate to use equal class intervals when the data distribution has a rectangular shape in the histogram. This, however, occurs very rarely in the context of geographic phenomena. Moreover, it is useful to use this method when your classification steps are nearly equal in size. The major disadvantage of this method is that class limits fail to reveal the distribution of the data along the number line. There may be classes that remain blank, which of course is not particularly meaningful on a map.

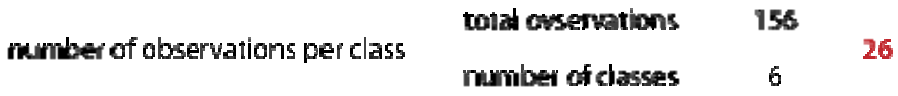
The Mean-Standard Deviation Classification

Another method that allows us to classify our dataset is the standard deviation. This method takes into account how data is distributed along the dispersion graph. To apply this method, we repeatedly add (or subtract) the calculated standard deviation from the statistical mean of our dataset. The resulting classes reveal the frequency of elements in each class.

The mean-standard deviation method is particularly useful when our purpose is to show the deviation from the mean of our data array. This classification method, however, should only be used for data-sets that show an approximately "standardised normal distribution" ("Gaussian distribution"). This constraint is the major disadvantage of this method.

The Quantiles Classification

Another possibility to classify our dataset is to use the method of quantiles. To apply this method we have to predefine how many classes we wish to use. Then we rank and order our data classes by placing an equal number of observations into each class. The number of observations in each class is computed by the formula:



If no integer values are resulting from this division, we attempt to place approximately the same number of observations in each class.

An advantage of quantiles is that classes are easy to compute, and that each class is approximately equally represented on the final map. Moreover, quantiles are very useful for ordinal data, since the class assignment of quantiles is based on ranked data. The main disadvantage of this classification method is the gaps that may occur between the observations. These gaps sometimes lead to an over-weighting of some single detached observations at the edge of the number line.

The Maximum Breaks Classification

When we choose to use the method of maximum breaks we first order our raw data from low to high. Then we calculate the differences between each neighboring value, when the largest value differences will be applied as class breaks. You can also recognise the maximum breaks visually on the dispersion graph: large value differences are represented by blank spaces.

One advantage of working with this method is its clear consideration of data distribution along the number line. Another advantage is that maximum breaks can be calculated easily by subtracting the next lower neighboring value from each value. A disadvantage, however, is that the systematic classification of data misses any proper attention to a visually more logical and more convenient clustering (see "Natural breaks").

The Natural Breaks Classification

Applying the classification method of "natural breaks", we consider visually logical and subjective aspects to grouping our data set. One important purpose of natural breaks is to minimise value differences between data within the same class. Another purpose is to emphasize the differences between the created classes.

Discussion of the Classification Methods

Equal intervals

Particularly useful when the dispersion graph has a rectangular shape (rare in geographic phenomena) and when enumeration units are nearly equal in size. In such cases, orderly maps are produced.

Mean-standard Deviation

Should be used only when the dispersion graph approximates a normal distribution. The classes formed, yield information about frequencies in each class. Particularly useful when the purpose is to show deviation from the array mean. Understood by many readers.

Quantiles

Good method of assuring an equal number of observations in each class. Can be misleading if the enumeration units vary greatly in size.

Maximum Breaks

Simplistic method which consider how data are distributed along the dispersion graph and group those that are similar to one another (or, avoid grouping values that are dissimilar). Relatively easy to compute, simply involving subtracting adjacent values.

Natural Breaks

Good graphic way of determining natural group of similar values by searching for significant depressions in frequency distribution. Minor troughs can be misleading and may yield poorly defined class boundaries.

Data classification: why it is important and how to do it

Data classification and identification...

Data classification and identification is all about tagging your data so it can be found quickly and efficiently.

But organisations can also gain from de-duplicating their information, which helps to cut storage and backup costs, whilst speeding up data searches.

Thirdly, classification can help an organisation to meet legal and regulatory requirements for retrieving specific information within a set timeframe, and this is often the motivation behind implementing data classification technology.

However, data strategies differ greatly from one organisation to the next, as each generates different types and volumes of data. The balance may vary greatly from one user to the next between office documents, e-mail correspondence, images, video files, customer and product information, financial data, and so on.

It may seem a good idea to classify and tag everything in the databases, but experts warn against it.

As well as the type and confidentiality of the data, organisations should also consider its integrity, as low-quality data cannot be trusted. Users should also consider its availability, because high data availability requires a resilient storage and networking environment.

Data classification - 10 top tips

1. Think twice about tagging and categorising everything - the costs are high

2. Consider the confidentiality and security of the data to be classified

3. Consider its integrity, as low-quality data cannot be trusted

4. Look at its availability - high availability needs resilient storage and networking

5. Use an effective metadata strategy to tag the data well

6. Get the support of the management and employees who will use the system

7. Use data cleansing technology to remove redundant, obsolete or trivial content

8. Carry out an information audit, to gain an accurate view of the nature of the data

9. Carry out classification design based on the data audit results

10. Monitor and maintain the data classification system over time, tweaking as necessary

6.3 Analyzing the data

Collecting and Analyzing Data

What do we mean by collecting data?

Essentially, collecting data means putting your design for collecting information into operation. You've decided how you're going to get information – whether by direct observation, interviews, surveys, experiments and testing, or other methods – and now you and/or other observers have to implement your plan. There's a bit more to collecting data, however. If you are conducting observations, for example, you'll have to define what you're observing and arrange to make observations at the right times, so you actually observe what you need to. You'll have to record the observations in appropriate ways and organize them so they're optimally useful.

Recording and organizing data may take different forms, depending on the kind of information you're collecting. The way you collect your data should relate to how you're planning to analyze and use it. Regardless of what method you decide to use, recording should be done concurrent with data collection if possible, or soon afterwards, so that nothing gets lost and memory doesn't fade.

Some of the things you might do with the information you collect include:

- Gathering together information from all sources and observations
- Making photocopies of all recording forms, records, audio or video recordings, and any other collected materials, to guard against loss, accidental erasure, or other problems
- Entering narratives, numbers, and other information into a computer program, where they can be arranged and/or worked on in various ways
- Performing any mathematical or similar operations needed to get quantitative information ready for analysis. These might, for instance, include entering numerical observations into a chart, table, or spreadsheet, or figuring the mean (average), median (midpoint), and/or mode (most frequently occurring) of a set of numbers.
- Transcribing (making an exact, word-for-word text version of) the contents of audio or video recordings
- Coding data (translating data, particularly qualitative data that isn't expressed in numbers, into a form that allows it to be processed by a specific software program or subjected to statistical analysis)
- Organizing data in ways that make them easier to work with. How you do this will depend on your research design and your evaluation questions. You might group observations by the dependent variable (indicator of success) they relate to, by individuals or groups of participants, by time, by activity, etc. You might also want to group observations in several different ways, so that you can study interactions among different variables.

There are two kinds of variables in research. An **independent variable** (the intervention) is a condition implemented by the researcher or community to see if it will create change and improvement. This could be a program, method, system, or other action. A dependent variable is what may change as a result of the independent variable or intervention. A **dependent variable** could be a behavior, outcome, or other condition. A smoking cessation program, for example, is an independent variable that may change group members' smoking behavior, the primary dependent variable.

What do we mean by analyzing data?

Analyzing information involves examining it in ways that reveal the relationships, patterns, trends, etc. that can be found within it. That may mean subjecting it to statistical operations that can tell you not only what kinds of relationships seem to exist among variables, but also to what level you can trust the answers you're getting. It may mean comparing your information to that from other groups (a control or comparison group, statewide figures, etc.), to help draw some conclusions from the data. The point, in terms of your evaluation, is to get an accurate assessment in order to better understand your work and its effects on those you're concerned with, or in order to better understand the overall situation.

There are two kinds of data you're apt to be working with, although not all evaluations will necessarily include both. **Quantitative data** refer to the information that is collected as, or can be translated into, numbers, which can then be displayed and analyzed mathematically. **Qualitative data** are collected as descriptions, anecdotes, opinions, quotes,

interpretations, etc., and are generally either not able to be reduced to numbers, or are considered more valuable or informative if left as narratives. As you might expect, quantitative and qualitative information needs to be analyzed differently.

Quantitative data

Quantitative data are typically collected directly as numbers. Some examples include:

- The frequency (rate, duration) of specific behaviors or conditions
- Test scores (e.g., scores/levels of knowledge, skill, etc.)
- Survey results (e.g., reported behavior, or outcomes to environmental conditions; ratings of satisfaction, stress, etc.)
- Numbers or percentages of people with certain characteristics in a population (diagnosed with diabetes, unemployed, Spanish-speaking, under age 14, grade of school completed, etc.)

Data can also be collected in forms other than numbers, and turned into quantitative data for analysis. Researchers can count the number of times an event is documented in interviews or records, for instance, or assign numbers to the levels of intensity of an observed event or behavior. For instance, community initiatives often want to document the amount and intensity of environmental changes they bring about – the new programs and policies that result from their efforts. Whether or not this kind of translation is necessary or useful depends on the nature of what you're observing and on the kinds of questions your evaluation is meant to answer.

Quantitative data is usually subjected to statistical procedures such as calculating the mean or average number of times an event or behavior occurs (per day, month, and year). These operations, because numbers are "hard" data and not interpretation, can give definitive, or nearly definitive, answers to different questions. Various kinds of quantitative analysis can indicate changes in a dependent variable related to – frequency, duration, timing (when particular things happen), intensity, level, etc. They can allow you to compare those changes to one another, to changes in another variable, or to changes in another population. They might be able to tell you, at a particular degree of reliability, whether those changes are likely to have been caused by your intervention or program, or by another factor, known or unknown. And they can identify relationships among different variables, which may or may not mean that one causes another.

Qualitative data

Unlike numbers or "hard data," qualitative information tends to be "soft," meaning it can't always be reduced to something definite. That is in some ways a weakness, but it's also strength. A number may tell you how well a student did on a test; the look on her face after seeing her grade, however, may tell you even more about the effect of that result on her. That look can't be translated to a number, nor can a teacher's knowledge of that student's history, progress, and experience, all of which go into the teacher's interpretation of that look. And that interpretation may be far more valuable in helping that student succeed than knowing her grade or numerical score on the test.

Qualitative data can sometimes be changed into numbers, usually by counting the number of times specific things occur in the course of observations or interviews, or by assigning numbers or ratings to dimensions (e.g., importance, satisfaction, ease of use).

The challenges of translating qualitative into quantitative data have to do with the human factor. Even if most people agree on what 1 (lowest) or 5 (highest) means in regard to rating "satisfaction" with a program, ratings of 2, 3, and 4 may be very different for different people. Furthermore, the numbers say nothing about why people reported the way they did. One may dislike the program because of the content, the facilitator, the time of day, etc. The same may be true when you're counting instances of the mention of an event, such as the onset of a new policy or program in a community based on interviews or archival records. Where one person might see a change in program he considers important another may omit it due to perceived unimportance.

Qualitative data can sometimes tell you things that quantitative data can't. It may reveal why certain methods are working or not working, whether part of what you're doing conflicts with participants' culture, what participants see as important, etc. It may also show you patterns – in behavior, physical or social environment, or other factors – that the numbers in your quantitative data don't, and occasionally even identify variables that researchers weren't aware of.

It is often helpful to collect both quantitative and qualitative information.

Quantitative analysis is considered to be objective – without any human bias attached to it – because it depends on the comparison of numbers according to mathematical computations. Analysis of qualitative data is generally accomplished by methods more subjective – dependent on people's opinions, knowledge, assumptions, and inferences (and therefore biases) – than that of quantitative data. The identification of patterns, the interpretation of people's statements or other communication, the spotting of trends – all of these can be influenced by the way the researcher sees the world. Be aware, however, that quantitative analysis is influenced by a number of subjective factors as well. What the researcher chooses to measure, the accuracy of the observations, and the way the research is structured to ask only particular questions can all influence the results, as can the researcher's understanding and interpretation of the subsequent analyses.

Why should you collect and analyze data for your evaluation?

Part of the answer here is that not every organization – particularly small community-based or non-governmental ones – will necessarily have extensive resources to conduct a formal evaluation. They may have to be content with less formal evaluations, which can still be extremely helpful in providing direction for a program or intervention. An informal evaluation will involve some data gathering and analysis. This data collection and sense making is critical to an initiative and its future success, and has a number of advantages.

- **The data can show whether there was any significant change in the dependent variable(s) you hoped to influence**. Collecting and analyzing data helps you see whether

your intervention brought about the desired results.

The term "significance" has a specific meaning when you're discussing statistics. The level of significance of a statistical result is the level of confidence you can have in the answer you get. Generally, researchers don't consider a result significant unless it shows at least a 95% certainty that it's correct (called the .05 level of significance, since there's a 5% chance that it's wrong). The level of significance is built into the statistical formulas: once you get a mathematical result, a table (or the software you're using) will tell you the level of significance.

Thus, if data analysis finds that the independent variable (the intervention) influenced the dependent variable at the .05 level of significance, it means there's a 95% probability or likelihood that your program or intervention had the desired effect. The .05 level is generally considered a reasonable result, and the .01 level (99% probability) is considered about as close to certainty as you are likely to get. A 95% level of certainty doesn't mean that the program works on 95% of participants, or that it will work 95% of the time. It means that there's only a 5% possibility that it isn't actually what's influencing the dependent variable(s) and causing the changes that it seems to be associated with.

- **They can uncover factors that may be associated with changes in the dependent variable(s).** Data analyses may help discover unexpected influences; for instance, that the effort was twice as large for those participants who also were a part of a support group. This can be used to identify key aspects of implementation.
- **They can show connections between or among various factors that may have an effect on the results of your evaluation**. Some types of statistical procedures look for connections ("correlations" is the research term) among variables. Certain dependent variables may change when others do. These changes may be similar – i.e., both variables increase and decrease (e.g., as children's proficiency at reading increases, the amount of reading they do also increases). Or the opposite may be observed – i.e. the two variables change in opposite directions (as the amount of exercise they engage in increases, peoples' weight decreases). Correlations don't mean that one variable causes another, or that they both have the same cause, but they can provide valuable information about associations to expect in an evaluation.
- **They can help shed light on the reasons that your work was effective or, perhaps, less effective than you'd hoped**. By combining quantitative and qualitative analysis, you can often determine not only what worked or didn't, but why. The effect of cultural issues, how well methods are used, the appropriateness of your approach for the population – these as well as other factors that influence success can be highlighted by careful data collection and analysis. This knowledge gives you a basis for adapting and changing what you do to make it more likely you'll achieve the desired outcomes in the future.
- **They can provide you with credible evidence to show stakeholders that your program is successful, or that you've uncovered, and are addressing limitations**. Stakeholders, such as funders and community boards, want to know their investments are well spent. Showing evidence of intermediate outcomes (e.g. new programs and policies) and longer-term outcomes (e.g., improvements in education or health indicators) is becoming increasingly important to receiving – and retaining – funding.

- **Their use shows that you're serious about evaluation and about improving your work.** Being a good trustee or steward of community investment includes regular review of data regarding progress and improvement.
- **They can show the field what you're learning, and thus pave the way for others to implement successful methods and approaches**. In that way, you'll be helping to improve community efforts and, ultimately, quality of life for people who benefit.

When and by whom should data be collected and analyzed?

As far as data collection goes, the "when" part of this question is relatively simple: data collection should start no later than when you begin your work – or before you begin in order to establish a baseline or starting point – and continue throughout. Ideally, you should collect data for a period of time before you start your program or intervention in order to determine if there are any trends in the data before the onset of the intervention. Additionally, in order to gauge your program's longer-term effects, you should collect follow-up data for a period of time following the conclusion of the program.

The timing of analysis can be looked at in at least two ways: One is that it's best to analyze your information when you've collected all of it, so you can look at it as a whole. The other is that if you analyze it as you go along, you'll be able to adjust your thinking about what information you actually need, and to adjust your program to respond to the information you're getting. Which of these approaches you take depends on your research purposes. If you're more concerned with a summative evaluation – finding out whether your approach was effective, you might be more inclined toward the first. If you're oriented toward improvement – a formative evaluation – we recommend gathering information along the way. Both approaches are legitimate, but ongoing data collection and review can particularly lead to improvements in your work.

The "who" question can be more complex. If you're reasonably familiar with statistics and statistical procedures, and you have the resources in time, money, and personnel, it's likely that you'll do a somewhat formal study, using standard statistical tests.

If that's not the case, you have some choices:

- You can hire or find a volunteer outside evaluator, such as from a nearby college or university, to take care of data collection and/or analysis for you.
- You can conduct a less formal evaluation. Your results may not be as sophisticated as if you subjected them to rigorous statistical procedures, but they can still tell you a lot about your program. Just the numbers – the number of dropouts (and when most dropped out), for instance, or the characteristics of the people you serve – can give you important and usable information.
- You can try to learn enough about statistics and statistical software to conduct a formal evaluation yourself. (Take a course, for example.)
- You can collect the data and then send it off to someone – a university program, a friendly statistician or researcher, or someone you hire – to process it for you.
- You can collect and rely largely on qualitative data. Whether this is an option depends to a large extent on what your program is about. You wouldn't want to conduct a formal

evaluation of effectiveness of a new medication using only qualitative data, but you might be able to draw some reasonable conclusions about use or compliance patterns from qualitative information.

- If possible, use a randomized or closely matched control group for comparison. If your control is properly structured, you can draw some fairly reliable conclusions simply by comparing its results to those of your intervention group. Again, these results won't be as reliable as if the comparison was made using statistical procedures, but they can point you in the right direction. It's fairly easy to tell whether or not there's a major difference between the numbers for the two or more groups. If 95% of the students in your class passed the test, and only 60% of those in a similar but uninstructed control group did, you can be pretty sure that your class made a difference in some way, although you may not be able to tell exactly what it was that mattered. By the same token, if 72% of your students passed and 70% of the control group did as well, it seems pretty clear that your instruction had essentially no effect, if the groups were starting from approximately the same place.

Who should actually collect and analyze data also depends on the form of your evaluation. If you're doing a participatory evaluation, much of the data collection - and analyzing - will be done by community members or program participants themselves. If you're conducting an evaluation in which the observation is specialized, the data collectors may be staff members, professionals, highly trained volunteers, or others with specific skills or training (graduate students, for example). Analysis also could be accomplished by a participatory process. Even where complicated statistical procedures are necessary, participants and/or community members might be involved in sorting out what those results actually mean once the math is done and the results are in. Another way analysis can be accomplished is by professionals or other trained individuals, depending upon the nature of the data to be analyzed, the methods of analysis, and the level of sophistication aimed at in the conclusions.

How do you collect and analyze data?

Whether your evaluation includes formal or informal research procedures, you'll still have to collect and analyze data, and there are some basic steps you can take to do so.

Implement your measurement system

We've previously discussed designing an observational system to gather information. Now it's time to put that system in place.

- *Clearly define and describe what measurements or observations are needed*. The definition and description should be clear enough to enable observers to agree on what they're observing and reliably record data in the same way.
- *Select and train observers*. Particularly if this is part of a participatory process, observers need training to know what to record; to recognize key behaviors, events, and conditions; and to reach an acceptable level of inter-rater reliability (agreement among observers).
- *Conduct observations at the appropriate times for the appropriate period of time*. This may include reviewing archival material; conducting interviews, surveys, or focus

groups; engaging in direct observation; etc.
- *Record data in the agreed-upon ways*. These may include pencil and paper, computer (using a laptop or handheld device in the field, entering numbers into a program, etc.), audio or video, journals, etc.

Organize the data you've collected

How you do this depends on what you're planning to do with it, and on what you're interested in.

- *Enter any necessary data into the computer*. This may mean simply typing comments, descriptions, etc., into a word processing program, or entering various kinds of information (possibly including audio and video) into a database, spreadsheet, a GIS (Geographic Information Systems) program, or some other type of software or file.
- *Transcribe any audio- or videotapes*. This makes them easier to work with and copy, and allows the opportunity to clarify any hard-to-understand passages of speech.
- *Score any tests* and record the scores appropriately.
- *Sort your information in ways appropriate to your interest*. This may include sorting by category of observation, by event, by place, by individual, by group, by the time of observation, or by a combination or some other standard.
- *When possible, necessary, and appropriate, transform qualitative into quantitative data*. This might involve, for example, counting the number of times specific issues were mentioned in interviews, or how often certain behaviors were observed.

There are other excellent possibilities for analysis besides statistical procedures, however. A few include:

- *Simple counting, graphing and visual inspection of frequency or rates of behavior, events, etc., over time*.
- *Using visual inspection of patterns over time to identify discontinuities* (marked increases, decreases) in the measures over time (sessions, weeks, months).
- *Calculating the mean (average), median (midpoint), and/or mode (most frequent) of a series of measurements or observations*. What was the average blood pressure, for instance, of people who exercised 30 minutes a day at least five days a week, as opposed to that of people who exercised two days a week or less?
- *Using qualitative interviews, conversations, and participant observation to observe (and track changes in) the people or situation*. Journals can be particularly revealing in this area because they record people's experiences and reflections over time.
- *Finding patterns in qualitative data*. If many people refer to similar problems or barriers, these may be important in understanding the issue, determining what works or doesn't work and why, or more.
- *Comparing actual results to previously determined goals or benchmarks*. One measure of success might be meeting a goal for planning or program implementation, for example.

There are a number of different kinds of results you might be looking for.

- *Differences within people or groups*. If you have repeated measurements for individuals/groups over time, we can see if there are marked increases/decreases in the (frequency, rate) of behavior (events, etc.) following introduction of the program or intervention. When the effects are seen when and only when the intervention is introduced – and if the intervention is staggered (delayed) across people or groups – this increases our confidence that the intervention, and not something else, is producing the observed effects.
- *Differences between or among two or more groups*. If you have one or more randomized control groups in a formal study (groups that are drawn at random from the same population as the group in your program, but are not getting the same program or intervention, or are getting none at all), then the statistical significance of differences between or among the groups should tell you whether your program has any more influence on the dependent variable(s) than what's experienced by the other groups.
- *Results that show statistically significant changes*. With or without a control or comparison group, many statistical procedures can tell you whether changes in dependent variables are truly significant (or not likely due to chance). These results may say nothing about the causes of the change (or they may, depending on how you've structured your evaluation), but they do tell you what's happening, and give you a place to start.
- *Correlations*. Correlation means that there are connections between or among two or more variables. Correlations can sometimes point to important relationships you might not have predicted. Sometimes they can shed light on the issue itself, and sometimes on the effects of a group's cultural practices. In some cases, they can highlight potential causes of an issue or condition, and thus pave the way for future interventions.

Correlation between variables doesn't tell you that one necessarily causes the other, but simply that change in one have a relationship to changes in the other. Among American teenagers, for instance, there is probably a fairly high correlation between an increase in body size and an understanding of algebra. This is not because one causes the other, but rather the result of the fact that American schools tend to begin teaching algebra in the seventh, eighth, or ninth grades, a time when many 12-, 13-, and 14-year-olds are naturally experiencing a growth spurt.

On the other hand, correlations can reveal important connections. A very high correlation between, for instance, the use of a particular medication and the onset of depression might lead to the withdrawal of that medication, or at least a study of its side effects, and increased awareness and caution among doctors who prescribe it. A very high correlation between gang membership and having a parent with a substance abuse problem may not reveal a direct cause-and-effect relationship, but may tell you something important about who is more at risk for substance abuse.

- *Patterns*. In both quantitative and qualitative information, patterns often emerge: certain health conditions seem to cluster in particular geographical areas; people from a particular group behave in similar ways; etc. These patterns may not be specifically what you were looking for or expected to find, but they may either be important in themselves or shed light on the areas you're interested in. In some cases, you may need to subject them to statistical procedures (regression analysis, for example) to see if, in fact, they're random, or if they constitute actual patterns.

- *Obvious important findings*. Whether as a result of statistical analysis, or of examination of your data and application of logic, some findings may stand out. If 70% of a group of overweight participants in a healthy eating and physical activity program lowered their weight and blood pressure significantly, compared to only 20% of a similar group not in the program, you can probably assume that program may have been effective. If there's no change whatsoever in education outcomes after two years of your education program, then you're either running an ineffective program, or you're simply not reaching those who are most likely to have poorer outcomes (which can also be interpreted to mean you're running an ineffective program.)

Not all important findings will necessarily tell you whether your program worked, or what the most effective method is. It might be obvious from your data collection, for instance, that, while violence or roadway injuries may not be seen as a problem citywide, they are much higher in one or more particular areas, or that the rates of diabetes are markedly higher for particular groups or those living in areas with greater disparities of income. If you have the resources, it's wise to look at the results of your research in a number of different ways, both to find out how to improve your program, and to learn what else you might do to affect the issue.

Interpret the results

Once you've organized your results and run them through whatever statistical or other analysis you've planned for, it's time to figure out what they mean for your evaluation. Probably the most common question that evaluation research is directed toward is whether the program being evaluated works or makes a difference. In research terms, that often translates to "What were the effects of the independent variable (the program, intervention, etc.) on the dependent variable(s) (the behavior, conditions, or other factors it was meant to change)?" There are a number of possible answers to this question:

- *Your program had exactly the effects on the dependent variable(s) you expected and hoped it would*. Statistics or other analysis showed clear positive effects at a high level of significance for the people in your program and – if you used a multiple-group design – none, or far fewer, of the same effects for a similar control group and/or for a group that received a different intervention with the same purpose. Your early childhood education program, for instance, greatly increased development outcomes for children in the community, and also contributed to an increase in the percentage of children succeeding in school.
- *Your program had no effect*. Your program produced no significant results on the dependent variable, whether alone or compared to other groups. This would mean no change as a result of your program or intervention.
- *Your program had a negative effect*. For instance, intimate partner violence increased (or at least appeared to) as a result of your intervention. (It is relatively common for reported events, such as violence or injury, to increase when the intervention results in improved surveillance and ease of reporting).
- *Your program had the effects you hoped for and other effects as well*.
    - These effects might be *positive*. Your youth violence prevention program, for instance, might have resulted in greatly reduced violence among teens, and might

also have resulted in significantly improved academic performance for the kids involved.
- These effects might be *neutral*. The same youth violence prevention program might somehow result in youth watching TV more often after school.
- These effects might be *negative*. (These effects are usually called unintended consequences.) Youth violence might decrease significantly, but the incidence of teen pregnancies or alcohol consumption among youth in the program might increase significantly at the same time.
- These effects might be *multiple*, or *mixed*.For instance, a program to reduce HIV/AIDS might lower rates of unprotected sex but might also increase conflict and instances of partner violence. Your program had no effect or a negative effect and other effects as well. As with programs with positive effects, these might be positive, neutral, or negative; single or multiple; or consistent or mixed.

If your analysis gives you a clear indication that what you're doing is accomplishing your purposes, interpretation is relatively simple: You should keep doing it, while trying out ways to make it even more effective, or while aiming at other related issues as well.

Careful and insightful interpretation of your data may allow you to answer questions like these. You may be able to use correlations, for instance, to generate hypotheses about your results. If positive or negative changes in particular variables are consistently associated with positive or negative changes in other variables, the two may be connected. (The word "may" is important here. The two may be connected, but they may not, or both may be related to a third variable that you're not aware of or that you consider trivial.) Such a connection can point the way toward a factor (e.g., access to support) that is causing the changes in both variables, and that must be addressed to make your program successful. Correlations may also indicate patterns in your data, or may lead to an unexpected way of looking at the issue you're addressing.

You can often use qualitative data to understand the meaning of an intervention, and people's reactions to the results. The observation that participants are continually suffering from a variety of health problems may be traced, through qualitative data, to nutrition problems (due either to poverty or ignorance) or to lack of access to health services, or to cultural restrictions (some Muslim women may be unwilling – or unable because of family prohibition – to accept care and treatment from male doctors, for example).

Once you have organized your data, both statistical results and anything that can't be analyzed statistically need to be analyzed logically. This may not give you convincing information but it will almost undoubtedly give you some ideas to follow up on, and some indications of connections and avenues you might not yet have considered. It will also show you some additional results – people reacting differently than before to the program, for example. The numbers can tell you whether there is change, but they can't always tell you what causes it or why (although they sometimes can), or why some people benefit while others don't. Those are often matters for logical analysis, or critical thinking.

Analyzing and interpreting the data you've collected brings you, in a sense, back to the beginning. You can use the information you've gained to adjust and improve your program or

intervention, evaluate it again, and use that information to adjust and improve it further, for as long as it runs. You have to keep up the process to ensure that you're doing the best work you can and encouraging changes in individuals, systems, and policies that make for a better and healthier community.

You have to become a cultural detective to understand your initiative, and, in some ways, every evaluation is an anthropological study.

Analyze Data

With the data in a form that is now useful, the researcher can begin the process of analyzing the data to determine what has been learned. The method used to analyze data depends on the approach used to collect the information (secondary research, primary quantitative research or primary qualitative research). For primary research the selection of method of analysis also depends on the type of research instrument used to collect the information.

Essentially there are two types of methods of analysis – descriptive and inferential.

Descriptive Data Analysis

Not to be confused with descriptive research, descriptive analysis, as the name implies, is used to describe the results obtained. In most cases the results are merely used to provide a summary of what has been gathered (e.g., how many liked or dislike a product) without making a statement of whether the results hold up to statistical evaluation. For quantitative data collection the most common methods used for this basic level of analysis are visual representations, such as charts and tables, and measures of central tendency including averages (i.e., mean value). For qualitative data collection, where analysis may consist of the researcher's own interpretation of what was learned, the information may be coded or summarized into grouping categories.

Inferential Data Analysis

While descriptive data analysis can present a picture of the results, to really be useful the results of research should allow the researcher to accomplish other goals such as:

- Using information obtained from a small group (i.e., sample of customers) to make judgments about a larger group (i.e., all customers)
- Comparing groups to see if there is a difference in how they respond to an issue
- Forecasting what may happen based on collected information

To move beyond simply describing results requires the use of inferential data analysis where advanced statistical techniques are used to make judgments (i.e., inferences) about some issue (e.g., is one type of customer different from another type of customer). Using inferential data analysis requires a well-structured research plan that follows the scientific method. Also, most (but not all) inferential data analysis techniques require the use of quantitative data collection.

As an example of the use of inferential data analysis, a marketer may wish to know if North

American, European and Asian customers differ in how they rate certain issues. The marketer uses a survey that includes a number of questions asking customers from all three regions to rate issues on a scale of 1 to 5. If a survey is constructed properly the marketer can compare each group using statistical software that tests whether differences exists. This analysis offers much more insight than simply showing how many customers from each region responded to each question.

Analyzing and Interpreting Information

Analyzing quantitative and qualitative data is often the topic of advanced research and evaluation methods courses. However, there are certain basics which can help to make sense of reams of data.

Basic analysis of "quantitative" information

(For information other than commentary, e.g., ratings, rankings, yes's, no's, etc.):

1. Make copies of your data and store the master copy away. Use the copy for making edits, cutting and pasting, etc.
2. Tabulate the information, i.e., add up the number of ratings, rankings, yes's, no's for each question.
3. For ratings and rankings, consider computing a mean, or average, for each question. For example, "For question #1, the average ranking was 2.4". This is more meaningful than indicating, e.g., how many respondents ranked 1, 2, or 3.
4. Consider conveying the range of answers, e.g., 20 people ranked "1", 30 ranked "2", and 20 people ranked "3."

Basic analysis of "qualitative" information

(respondents' verbal answers in interviews, focus groups, or written commentary on questionnaires):

1. Read through all the data.
2. Organize comments into similar categories, e.g., concerns, suggestions, strengths, weaknesses, similar experiences, program inputs, recommendations, outputs, outcome indicators, etc.
3. Label the categories or themes, e.g., concerns, suggestions, etc.
4. Attempt to identify patterns, or associations and causal relationships in the themes, e.g., all people who attended programs in the evening had similar concerns, most people came from the same geographic area, most people were in the same salary range, what processes or events respondents experience during the program, etc.
5. Keep all commentary for several years after completion in case needed for future reference.

Interpreting information

1. Attempt to put the information in perspective, e.g., compare results to what you expected, promised results; management or program staff; any common standards for your products or services; original goals (especially if you're conducting a program evaluation); indications or measures of accomplishing outcomes or results (especially if you're conducting an outcomes or performance evaluation); description of the program's experiences, strengths, weaknesses, etc. (especially if you're conducting a process evaluation).
2. Consider recommendations to help employees improve the program, product or service; conclusions about program operations or meeting goals, etc.
3. Record conclusions and recommendations in a report, and associate interpretations to justify your conclusions or recommendations.

Reporting Results

1. The level and scope of content depends on to whom the report is intended, e.g., to funders / bankers, employees, clients, customers, the public, etc.
2. Be sure employees have a chance to carefully review and discuss the report. Translate recommendations to action plans, including who is going to do what about the research results and by when.
3. Funders / bankers will likely require a report that includes an executive summary (this is a summary of conclusions and recommendations, not a listing of what sections of information are in the report -- that's a table of contents); description of the organization and the program, product, service, etc., under evaluation; explanation of the research goals, methods, and analysis procedures; listing of conclusions and recommendations; and any relevant attachments, e.g., inclusion of research questionnaires, interview guides, etc. The funder may want the report to be delivered as a presentation, accompanied by an overview of the report. Or, the funder may want to review the report alone.
4. Be sure to record the research plans and activities in a research plan which can be referenced when a similar research effort is needed in the future.

6.1 Check your progress

1. What do you mean by primary source?

2. What is secondary source?

3. What is a classified map?

4. What are the major data classification methods?

5. Enlist important do’s of classifying data.

6. How to implement measure systems?

7. How can data be organized?

6.4Arriving at interpretations and generalizations

On Generalization in Qualitatively Oriented Research

Qualitatively oriented research projects usually use more intensive and extensive methods of data collection and data analysis like in-depth interviews, open-ended questionnaires, long-lasting field research with many field notes, and interpretative document analysis. This often allows the construction of only few cases or small samples. But can we draw more general inferences from our data? Are the results of such a study valid not only for the study but for the population on which the research question wanted to make statements? Do we find in our cases or small samples characteristics or relationships that have value for other cases or samples? This is the problem of generalization.

Looking for first, rough definitions of the term, we find formulations as

- inferring general formulations, scientific laws, from specific facts;
- extension of the validity of formulations;
- transfer of assumptions over persons, situations or contexts; and
- raising the level of abstraction in sentences.

In traditional quantitative social research the problem of generalization is discussed under the concept of external validity (of experimental studies). Would the same result be found under a different set of circumstances (Sarafino, 2005).

Generalization is a central step in the qualitative research process, as Flick (2005) has worked out in his qualitative process model. He underlines the necessity to define the aims of generalization (e.g. comparisons, typologies, age, sex, area). But what are concrete procedures of generalization?

In his contribution to the FQS Debate on *Quality of Qualitative Research*, Fahrenberg (2003) underlines the necessity of generalization, but criticizes in qualitative studies an overhasty generalization of their results.

Some authors argue that here are different forms of generalization in qualitative and in quantitative oriented research. Diriwaechter, Valsinger and Sauck (2005) distinguish functional generalization (looking for commonalities between observations, more quantitative) and categorical generalization (building homogeneous classes, more qualitative). Flick (2005) differentiates between numerical and theoretical generalization which goes in a similar direction. But they all underline the important role of generalization.

2. The Logic of Generalization

The procedure of generalization seems to be the kernel of all scientific work, a basic attribute of scientific knowledge as the aim of science. From single observations we try to draw inferences to more general formulations to be extended to future situations.

The formulation of more general statements is only possible by abstraction. This conclusion is called induction. The general formulation can be linked with other, formerly developed general formulations to a network of statements, a theory. The advantage of those theories is that we can apply them to new situations which we don't have to explore over again. This conclusion is called deduction. Such a proceeding seems to be very useful, that is, it appears to be at the core of scientific work. But there are considerable objections.

3. The Critics of Generalization

There are two critical positions towards generalization: a constructivist and a critical rationalist position.

The first position can be characterized by the famous notion: "The only generalization is that there is no generalization" (Lincoln & Guba, 1985, p.110). From a constructivist point of view all phenomena are time and context specific. Our insight can only be a reconstruction of subjective perspectives of people in specific situations. So the aim of inquiry can only be the development of an ideographic body of knowledge. Even the social constructivist position, which seeks for similarities of individual perspectives, takes those agreements as only time and context specific. Denzin (1983) argues in a similar direction stating that "the interpretivist rejects generalization as a goal" (p.133). Human interactions and life world phenomena have always multiple meanings, which leads to an inherent indeterminateness in the life world and forbids generalizations.

The second position brings the central logical argument, that a complete inductive proof of general sentences is not possible (Popper, 1959). Even if we observed thousands of white swans it is impossible to draw the inference that all swans are white (because tomorrow a black one could occur), and only such time- and space- unrestricted sentences (universal statements) are scientific useful. This is why Popper developed his program of falsification working only with deductive inferences. He hopes that after falsifying all fallacies only true sentences will remain. This position of critical rationalism, nowadays often called post-positivism, is found in qualitative oriented research as well (Denzin & Lincoln, 2003). So the controversy is open.

There is a position that mediates between the extreme standpoints for and against generalization. Malcolm Williams (2002) calls it moderatum generalization and puts it in contrast to total generalization, where the specific sentences S are completely and identically covered by the general laws. "Moderatum generalization: where aspects of S can be seen to be instances of a broader recognizable set of features. This is the form of generalization made in interpretive research" (p.131).

Generalization is important and necessary for scientific research, but we have to specify what sorts of arguments or inferences are aimed at with generalization and what procedures of generalization are used.

4. The Aims of Generalization

Theoretical sentences are the aim of generalization. But they can have different forms and structures, and different types of general sentences need different procedures of generalization. Perhaps we can differentiate eight different types of generalizations:

- Universal laws, unlimited in space and time, as claimed by Popper, are indeed difficult to proof. It can always happen that a contradictive observation is made in future. The generalization therefore must be made very cautiously and must be held in a process of permanent review. But there are severe doubts if in social sciences universal laws can be found at all. In psychology for example universal laws were formulated (frustration-aggression law: all persons who are frustrated react with aggressions; early learning laws: classical and operant conditioning) but later on restricted by further research (frustration-aggression law: consideration of anger emotions; learning laws: consideration of cognitive factors).
- Statistical laws are easier to proof because there can be contradictory observations. We only have to show that theses contradictive cases are so infrequent that this can be explained by chance.
- If we try to formulate general, theoretical sentences more cautiously, the term of rule instead of law would be helpful. Rules describe regularities and similarities, rules can have exceptions. Peter Winch (1958) was one of the first to postulate rules instead of laws in social sciences. Behavior is meaningful and symbolic and therefore an application of rules in social contexts.
- More restricted, more modest in generalization would it be to aim at only context specific statements. We want to formulate rules or describe relationships which are valuable only under certain conditions, in similar situations, persons, and times. The results of the study can only be generalized to middle class people in industrial states in 21st century. The concept of middle range theories, going back to Robert Merton (1968) goes in this direction.
- To record similarities and differences between several observations by systematic comparisons would again be a more moderate form of generalization. Behind the similarities and differences rules or relationships between variables could be formulated, but this is a matter of interpretation, not proved by the empirical data themselves.
- Descriptive studies want to prepare the ground for generalizations in the sense of collecting specific observations as basis for discovering similarities or rules. Good descriptive studies try to present the phenomena in a broad range, to explore different contexts and so they have to reflect on later generalizations.
- Explorative studies do not generalize well but develop general statements, hypotheses, which can be tested for generality in following studies. They have to reflect on those possibilities (e.g. empirically testable hypotheses).
- The most "modest" form of generalization would be to generalize not the results of the study but the procedures to come to results. In some forms of action research it seems that the authors do not want to generalize the solutions to the problems in their own praxis but want to give advice how to solve similar problems in the future. Maybe the constructivist position goes in the same direction: not the result of reconstruction but the procedures, the discourses on reality, can be generalized.

Those eight levels of generalized sentences differ in abstraction: from general laws to procedures for gaining insight in specific situations. It is the epistemological position of the researcher and the conditions and possibilities of his research field and research question which determines the aim of generalization in a study. The next point would be to find a concrete procedure for generalization.

5. Procedures of Generalization

There are very different possibilities to come to generalizations. There are eleven pathways:

- The analysis of the total population is in some cases possible and fruitful. A study of world champions, Nobel Prize winners, or European countries can analyze all relevant cases and has therefore no problems of generalization.
- Falsification of general laws is the procedure critical rationalism (Popper) suggests as the only possible one. It is an indirect strategy because it tries to find false generalizations and hopes that true generalizations will remain.
- Working with randomized samples is the way quantitative studies would usually work with. We hope that the random sample contains cases with all relevant attributes as in the population. The size of such representative samples should be big enough (more than 30 because of the "central limit theorem") and can be calculated if we determine alpha level, power and effect size in the statistical analyses that should be applied (cf. Cohen 1988). It is unusual but possible to work with randomized samples in qualitatively oriented research (e.g. an open-ended interview study).
- Random sample strategies often are difficult to achieve (a list of the whole population is necessary!) and stratification strategies are adopted (often in combination with random strategies). Following theoretical considerations some dimensions are defined as central (e.g. age, sex) and the distribution of those variables in the sample is previously fixed (we want n female and m male in our study). The strata can be fixed in equal parts or following the distribution in the population (cf. for sampling Thompson, 1992).
- Working with bigger samples is a strategy that can be recommended in general. The more cases we have analyzed the more general the conclusions can be. The restrictions in sample size within qualitative oriented studies normally come from practical considerations (intensive and complex data collection) and it is wise to extend the sample at its limits (following an adequate sample strategy).
- Argumentative generalization is an ex post strategy. The researcher discusses the qualities of the sample and considers the possibilities of generalization (Terhart, 1981). Terhart suggests a more specific form of generalization. The researcher has to find out what aspects of our results a generalizable to what new situations.
- Theoretical sampling is an important strategy in qualitative oriented research developed in the framework of Grounded Theory (Glaser & Strauss, 1967; Strauss, 1987). It is a form of argumentative generalization in the process of data collection. The main idea is that from the beginning of data collection the material is analyzed by coding in a sense of inductive theory development. The first results lead to considerations what further material (including new interviews, field observations, and documents) is needed to confirm or support or critical check the first results. This is an iterative process that comes to an end if sufficient evidence had been found (saturation).

- Looking for typical material is another strategy for generalization. From prior considerations or ex post analyses parts of the material (the cases) are seen as typical for a broader population. (cf. Mayring, 2003, Chapter 4.3.17).
- Variation of the phenomenon, looking at the phenomenon under different circumstances, is a central strategy within phenomenological analysis (Moustakas, 1994). Looking for contrast cases is a similar frequently recommended strategy (e.g. within Grounded Theory). The finding of similarities within the variations leads to generalizations.
- Triangulation (cf. Denzin, 1970) means the combination or integration of several studies to come to more secure and more general results. The new trend of multi methods and mixed methodology (Mayring, 2001; Tashakkorie & Teddlie, 1998) goes in this direction.
- A last strategy for generalization would be to do comparative literature analysis. We can look for similar studies and compare our results with those studies. This can lead to complex meta-analysis (cf. for different approaches Schulz, 2004).

This list shows that there is a broad range of different possibilities to generalize results in quantitative and qualitative oriented studies. Again the adequate strategy depends on theoretical and epistemological considerations.

6. Possibilities of Generalizations from Single Case Studies

In single case analysis, the necessity of generalization is evident, because the single case itself is not of interest, only the conclusions and transfers we can draw from this material.

The first tentative and weakest form of generalization would be to analyze the context of the single case and to generalize the results to similar contexts. We have deeply interviewed a young male person in a larger city and we generalize the results to young male urbanities. It would be better to reflect on generalization ex ante, which means to select the single case following prior considerations. Looking for a typical case, a representative case, a frequent occurring case or a theoretical interesting case would be a good strategy. That means that it would be good to formulate a case definition (What would be a good case for my study?) before the case selection (cf. Mayring, 2003).

The next step is to confirm the results and to come to more general conclusions is to widen the case basis. The recommendations of case study researchers are to work with three to ten single cases (cf. Yin 2005).

A last possibility to come to general conclusions from single cases lies in the longitudinal structure of the material. We can identify time series in a single case and analyze trends. But even experimental designs can be reconstructed in single cases: Several interventions in the life course, observations before and after the interventions, comparison with biographical phases without intervention can lead to a systematic analysis of intervention effects and causal interpretations (cf. Julius, Schlosser & Goetze, 2000).

7. Final Conclusions and Questions

In summarizing, there are three general questions on generalization in qualitative oriented research projects:

- Is generalization of the study results important or necessary in research?
- What is the aim of generalization? To what statements do we want to generalize?
- What are possible procedures of generalization?

In most cases the targeted conclusions of a qualitative study are more general than the results found: we need generalization. There is a broad range of possibilities for generalization from qualitative studies. Especially single case analyses are not speaking for themselves, they need generalization. A reflective, theory-guided selection of cases and a stepwise broadening of the case basis are central procedures for generalization of single cases.

Generalization is an essential component of the wider scientific process. In an ideal world, to test a hypothesis, you would sample an entire population.

You would use every possible variation of an independent variable. In the vast majority of cases, this is not feasible, so a representative group is chosen to reflect the whole population.
For any experiment, you may be criticized for your generalizations about sample, time and size.

- You must ensure that the sample group is as truly representative of the whole population as possible.
- For many experiments, time is critical as the behaviors can change yearly, monthly or even by the hour.
- The size of the group must allow the statistics to be safely extrapolated to an entire population.

In reality, it is not possible to sample the whole population, due to budget, time and feasibility.
For example, you may want to test a hypothesis about the effect of an educational program on school children.
For the perfect experiment, you would test every single child using the program, against a control group. If this number runs into the millions, this may not be possible without a huge number of researchers and a bottomless pit of money.
Thus, you need to generalize and try to select a sample group that is representative of the whole population.

A high budget research project might take a smaller sample from every school in the country; a lower budget operation may have to concentrate upon one city or even a single school.

The key to generalization is to understand how much your results can be applied backwards to represent the group of children, as a whole. The first example, using every school, would be a strong representation, because the range and number of samples is high. Testing one school makes generalization difficult and affects the external validity.
You might find that the individual school tested generates better results for children using that particular educational program.

However, a school in the next town might contain children who do not like the system. The students may be from a completely different socioeconomic background or culture. Critics of your results will pounce upon such discrepancies and question your entire experimental design. Most statistical tests contain an inbuilt mechanism to take into account sample sizes with larger groups and numbers, leading to results that are more significant.
The problem is that they cannot distinguish the validity of the results, and determine whether your generalization systems are correct. This is something that must be taken into account when generating a hypothesis and designing the experiment.
The other option, if the sample groups are small, is to use proximal similarity and restrict your generalization. This is where you accept that a limited sample group cannot represent all of the population.

If you sample children from one town, it is dangerous to assume that it represents all children. It is, however, reasonable to assume that the results should apply to a similar sized town with a similar socioeconomic class. This is not perfect, but certainly contains more external validity and would be an acceptable generalization.

6.5 Preparing Chapter wise Design

How to prepare a Research Proposal

Most students and beginning researchers do not fully understand what a research proposal means, nor do they understand its importance. A research proposal is a detailed description of a proposed study designed to investigate a given problem.

A research proposal is intended to convince others that you have a worthwhile research project and that you have the competence and the work-plan to complete it. Broadly the research proposal must address the following questions regardless of your research area and the methodology you choose: What you plan to accomplish, why do you want to do it and how are you going to do it.

The elements of a research proposal are highlighted below:

1. Title: It should be concise and descriptive. It must be informative and catchy. An effective title not only prick's the readers interest, but also predisposes him/her favorably towards the proposal. Often titles are stated in terms of a functional relationship, because such titles clearly indicate the independent and dependent variables. The title may need to be revised after completion of writing of the protocol to reflect more closely the sense of the study.

2. Abstract: It is a brief summary of approximately 300 words. It should include the main research question, the rationale for the study, the hypothesis (if any) and the method. Descriptions of the method may include the design, procedures, the sample and any instruments that will be used. It should stand on its own, and not refer the reader to points in the project description.

3. Introduction: The introduction provides the readers with the background information. Its purpose is to establish a framework for the research, so that readers can understand how it relates to other research. It should answer the question of why the research needs to be done and what will be its relevance. It puts the proposal in context.

The introduction typically begins with a statement of the research problem in precise and clear terms.

The statement of the research problem is important. The statement of the problem is the essential basis for the construction of a research proposal (research objectives, hypotheses, methodology, work plan and budget etc). It is an integral part of selecting a research topic. It will guide and put into sharper focus the research design being considered for solving the problem. It allows the investigator to describe the problem systematically, to reflect on its importance, its priority in the country and region and to point out why the proposed research on the problem should be undertaken. It also facilitates peer review of the research proposal by the funding agencies.

Then it is necessary to provide the context and set the stage for the research question in such a way as to show its necessity and importance. This step is necessary for the investigators to familiarize themselves with existing knowledge about the research problem and to find out whether or not others have investigated the same or similar problems. This step is accomplished by a thorough and critical review of the literature and by personal communication with experts. It helps further understanding of the problem proposed for research and may lead to refining the statement of the problem, to identify the study variables and conceptualize their relationships, and in formulation and selection of a research hypothesis. It ensures that you are not "re-inventing the wheel" and demonstrates your understanding of the research problem. It gives due credit to those who have laid the groundwork for your proposed research. In a proposal, the literature review is generally brief and to the point. The literature selected should be pertinent and relevant.

Against this background, you then present the rationale of the proposed study and clearly indicate why it is worth doing.

4. Objectives: Research objectives are the goals to be achieved by conducting the research. They may be stated as ‘general’ and ‘specific.’

The general objective of the research is what is to be accomplished by the research project, for example, to determine whether or not a new vaccine should be incorporated in a public health program.

The specific objectives relate to the specific research questions the investigator wants to answer through the proposed study and may be presented as primary and secondary objectives, for example, primary: To determine the degree of protection that is attributable to the new vaccine in a study population by comparing the vaccinated and unvaccinated groups. Secondary: To study the cost-effectiveness of this programme.

Young investigators are advised to resist the temptation to put too many objectives or over-ambitious objectives that cannot be adequately achieved by the implementation of the protocol.

5. Variables: During the planning stage, it is necessary to identify the key variables of the study and their method of measurement and unit of measurement must be clearly indicated. Four types of variables are important in research:

a. Independent variables: variables that are manipulated or treated in a study in order to see what effect differences in them will have on those variables proposed as being dependent on them. The different synonyms for the term 'independent variable' which are used in literature are: cause, input, predisposing factor, risk factor, determinant, antecedent, characteristic and attribute.

b. Dependent variables: variables in which changes are results of the level or amount of the independent variable or variables.

Synonyms: effect, outcome, consequence, result, condition, disease.

c. Confounding or intervening variables: variables that should be studied because they may influence or 'mix' the effect of the independent variables. For instance, in a study of the effect of measles (independent variable) on child mortality (dependent variable), the nutritional status of the child may play an intervening (confounding) role.

d. Background variables: variables that are so often of relevance in investigations of groups or populations that they should be considered for possible inclusion in the study. For example sex, age, ethnic origin, education, marital status, social status etc.

The objective of research is usually to determine the effect of changes in one or more independent variables on one or more dependent variables. For example, a study may ask "Will alcohol intake (independent variable) have an effect on development of gastric ulcer (dependent variable)?"

Certain variables may not be easy to identify. The characteristics that define these variables must be clearly identified for the purpose of the study.

6. Questions and/ or hypotheses: If you as a researcher know enough to make prediction concerning what you are studying, then the hypothesis may be formulated. A hypothesis can be defined as a tentative prediction or explanation of the relationship between two or more variables. In other words, the hypothesis translates the problem statement into a precise, unambiguous prediction of expected outcomes. Hypotheses are not meant to be haphazard guesses, but should reflect the depth of knowledge, imagination and experience of the investigator. In the process of formulating the hypotheses, all variables relevant to the study must be identified. For example: "Health education involving active participation by mothers will produce more positive changes in child feeding than health education based on lectures". Here the independent variable is types of health education and the dependent variable is changes in child feeding.

A research question poses a relationship between two or more variables but phrases the relationship as a question; a hypothesis represents a declarative statement of the relations between two or more variables.

For exploratory or phenomenological research, you may not have any hypothesis (please do not confuse the hypothesis with the statistical null hypothesis). Questions are relevant to normative or census type research (How many of them are there? Is there a relationship between them?). Deciding whether to use questions or hypotheses depends on factors such as the purpose of the study, the nature of the design and methodology, and the audience of the research (at times even the outlook and preference of the committee members, particularly the Chair).

7. Methodology: The method section is very important because it tells your Research Committee how you plan to tackle your research problem. The guiding principle for writing the Methods section is that it should contain sufficient information for the reader to determine whether the methodology is sound. Some even argue that a good proposal should contain sufficient details for another qualified researcher to implement the study indicate the methodological steps you will take to answer every question or to test every hypothesis illustrated in the Questions/hypotheses section. It is vital that you consult a biostatistician during the planning stage of your study, to resolve the methodological issues before submitting the proposal.

This section should include:

Research design: The selection of the research strategy is the core of research design and is probably the single most important decision the investigator has to make. The choice of the strategy, whether descriptive, analytical, experimental, operational or a combination of these depend on a number of considerations, but this choice must be explained in relation to the study objectives.

Research subjects or participants: Depending on the type of your study, the following questions should be answered

- - What are the criteria for inclusion or selection?
- - What are the criteria for exclusion?
- - What is the sampling procedure you will use so as to ensure representativeness and reliability of the sample and to minimize sampling errors? The key reason for being concerned with sampling is the issue of validity-both internal and external of the study results.
- - Will there be use of controls in your study? Controls or comparison groups are used in scientific research in order to increase the validity of the conclusions. Control groups are necessary in all analytical epidemiological studies, in experimental studies of drug trials, in research on effects of intervention programmes and disease control measures and in many other investigations. Some descriptive studies (studies of existing data, surveys) may not require control groups.
- - What are the criteria for discontinuation?

Sample size: The proposal should provide information and justification (basis on which the sample size is calculated) about sample size in the methodology section. A larger sample size than needed to test the research hypothesis increases the cost and duration of the study and will be unethical if it exposes human subjects to any potential unnecessary risk without additional benefit. A smaller sample size than needed can also be unethical as it exposes human subjects to risk with no benefit to scientific knowledge. Calculation of sample size has been made easy by computer software programmes, but the principles underlying the estimation should be well understood.

Interventions: If an intervention is introduced, a description must be given of the drugs or devices (proprietary names, manufacturer, chemical composition, dose, frequency of administration) if they are already commercially available. If they are in phases of experimentation or are already commercially available but used for other indications, information must be provided on available pre-clinical investigations in animals and/or results of studies already conducted in humans (in such cases, approval of the drug regulatory agency in the country is needed before the study).

Ethical issues: Ethical considerations apply to all types of health research. Before the proposal is submitted to the Ethics Committee for approval, two important documents mentioned below (where appropriate) must be appended to the proposal. In additions, there is another vital issue of Conflict of Interest, wherein the researchers should furnish a statement regarding the same.

The Informed consent form (informed decision-making): A consent form, where appropriate, must be developed and attached to the proposal. It should be written in the prospective subjects' mother tongue and in simple language which can be easily understood by the subject. The use of medical terminology should be avoided as far as possible. Special care is needed when subjects are illiterate. It should explain why the study is being done and why the subject has been asked to participate. It should describe, in sequence, what will happen in the course of the study, giving enough detail for the subject to gain a clear idea of what to expect. It should clarify whether or not the study procedures offer any benefits to the subject or to others, and explain the nature, likelihood and treatment of anticipated discomfort or adverse effects, including psychological and social risks, if any. Where relevant, a comparison with risks posed by standard drugs or treatment must be included. If the risks are unknown or a comparative risk cannot be given it should be so stated. It should indicate that the subject has the right to withdraw from the study at any time without, in any way, affecting his/her further medical care. It should assure the participant of confidentiality of the findings.

Ethics checklist: The proposal must describe the answer of the following questions:

- Is the research design adequate to provide answers to the research question? It is unethical to expose subjects to research that will have no value.
- Is the method of selection of research subjects justified? The use of vulnerable subjects as research participants needs special justification. Vulnerable subjects include those in prison, minors and persons with mental disability. In international research it is important to mention that the population in which the study is conducted will benefit from any potential outcome of the research and the research is not being conducted solely for the

- Are the interventions justified, in terms of risk/benefit ratio? Risks are not limited to physical harm. Psychological and social risks must also be considered.
- For observations made, have measures been taken to ensure confidentiality?

Research setting: The research setting includes all the pertinent facets of the study, such as the population to be studied (sampling frame), the place and time of study.

Study instruments: Instruments are the tools by which the data are collected. For validated questionnaires/interview schedules, reference to published work should be given and the instrument appended to the proposal. For new a questionnaire which is being designed specifically for your study the details about preparing, precoding and pretesting of questionnaire should be furnished and the document appended to the proposal. Descriptions of other methods of observations like medical examination, laboratory tests and screening procedures is necessary- for established procedures, reference of published work cited but for new or modified procedure, an adequate description is necessary with justification for the same.

Collection of data: A short description of the protocol of data collection. For example, in a study on blood pressure measurement: time of participant arrival, rest for 5p. 10 minutes, which apparatus (standard calibrated) to be used, in which room to take measurement, measurement in sitting or lying down position, how many measurements, measurement in which arm first (whether this is going to be randomized), details of cuff and its placement, who will take the measurement. This minimizes the possibility of confusion, delays and errors.

Data analysis: The description should include the design of the analysis form, plans for processing and coding the data and the choice of the statistical method to be applied to each data. What will be the procedures for accounting for missing, unused or spurious data?

Monitoring, supervision and quality control: Detailed statement about the all logistical issues to satisfy the requirements of Good Clinical Practices (GCP), protocol procedures, responsibilities of each member of the research team, training of study investigators, steps taken to assure quality control (laboratory procedures, equipment calibration etc)

Gantt chart: A Gantt chart is an overview of tasks/proposed activities and a time frame for the same. You put weeks, days or months at one side, and the tasks at the other. You draw fat lines to indicate the period the task will be performed to give a timeline for your research study.

Significance of the study: Indicate how your research will refine, revise or extend existing knowledge in the area under investigation. How will it benefit the concerned stakeholders? What could be the larger implications of your research study?

Dissemination of the study results: How do you propose to share the findings of your study with professional peers, practitioners, participants and the funding agency?

Budget: A proposal budget with item wise/activity wise breakdown and justification for the same. Indicate how the study will be financed.

References: The proposal should end with relevant references on the subject. For web based search include the date of access for the cited website, for example: add the sentence "accessed on June 10, 2008".

Appendixes: Include the appropriate appendixes in the proposal. For example: Interview protocols, sample of informed consent forms, cover letters sent to appropriate stakeholders, official letters for permission to conduct research. Regarding original scales or questionnaires, if the instrument is copyrighted then permission in writing to reproduce the instrument from the copyright holder or proof of purchase of the instrument must be submitted.

6.6 Conclusion

Definition

The conclusion is intended to help the reader understand why your research should matter to them after they have finished reading the paper. A conclusion is not merely a summary of the main topics covered or a re-statement of your research problem but a synthesis of key points and, if applicable, where you recommend new areas for future research. For most essays, one well-developed paragraph is sufficient for a conclusion, although in some cases, a two or three paragraph conclusion may be required.

Importance of a Good Conclusion

A well-written conclusion provides you with important opportunities to demonstrate to the reader your overall understanding of the research problem. These include:

1. **Presenting the last word on the issues you raised in your paper**. Just as the introduction gives a first impression to your reader, the conclusion offers a chance to leave a lasting impression. Do this, for example, by highlighting key points in your analysis or results or by noting important or unexpected implications applied to practice.
2. **Summarizing your thoughts and conveying the larger significance of your study**. The conclusion is an opportunity to succinctly answer the "So what?" question by placing the study within the context of past research about the topic you've investigated.
3. **Demonstrating the importance of your ideas**. Don't be shy. The conclusion offers you the opportunity to elaborate on the impact of your findings.
4. **Introducing possible new or expanded ways of thinking about the research problem**. This does not refer to introducing new information [which should be avoided], but to offer new insight and creative approaches for framing/contextualizing the research problem based on the results of your study.

Structure and Writing Style

I. General Rules

When writing the conclusion to your paper, follow these general rules:

- State your conclusions in clear, simple language. State how your findings differ or support those of others and why.
- Do not simply reiterate your results or the discussion. Provide a synthesis of arguments presented in the paper to show how these converge to address the research problem or study objectives.
- Indicate opportunities for future research, as long as you haven't already done so in the discussion section of your paper. Highlighting areas for further research provides the reader with evidence that you have an in-depth awareness of the research problem you studied.

The function of your paper's conclusion is to restate the main argument. It reminds the reader of the strengths of your main argument(s) and reiterates the most important evidence supporting those argument(s). Make sure, however, that your conclusion is not simply a repetitive summary of the findings. This reduces the impact of the argument(s) you have developed in your essay. Do clearly state the context, background, and necessity of pursuing the research problem you investigated in relation to an issue, controversy, or a gap found in the literature.

Consider the following points to help ensure your conclusion is appropriate:

1. If the argument or purpose of your paper is complex, you may need to summarize the argument for your reader.
2. If, prior to your conclusion, you have not yet explained the significance of your findings or if you are proceeding inductively, use the end of your paper to describe your main points and explain their significance.
3. Move from a detailed to a general level of consideration that returns the topic to the context provided by the introduction or within a new context that emerges from the data.

The conclusion also provides a place for you to persuasively and succinctly restate your research problem, given that the reader has now been presented with all the information about the topic. Depending on the discipline you are writing in, the concluding paragraph may contain your reflections on the evidence presented, or on the essay's central research problem. However, the nature of being introspective about the research you have done will depend on the topic and whether your professor wants you to express your observations in this way.

NOTE: Do not delve into idle speculation. Being introspective means looking within yourself as an author to try and understand an issue more deeply, not to guess at possible outcomes.

II. Developing a Compelling Conclusion

Strategies to help you move beyond merely summarizing the key points of your research paper may include any of the following.

1. If your essay deals with a contemporary problem, warn readers of the possible consequences of not attending to the problem.
2. Recommend a specific course or courses of action that, if adopted, could address a specific problem in practice or in the development of new knowledge.
3. Cite a relevant quotation or expert opinion to lend authority to the conclusion you have reached [a good place to look is research from your literature review].
4. Restate a key statistic, fact, or visual image to drive home the ultimate point of your paper.
5. If your discipline encourages personal reflection, illustrate your concluding point with a relevant narrative drawn from your own life experiences.
6. Return to an anecdote, an example, or a quotation that you presented in your introduction, but add further insight derived from the findings of your study; use your interpretation of results to reframe it in new ways.
7. Provide a "take-home" message in the form of a strong, succinct statement that you want the reader to remember about your study.

III. Problems to Avoid

Failure to be concise
The conclusion section should be concise and to the point. Conclusions that are too lengthy often have unnecessary information. The conclusion section is not the place for details about your methodology or results. Although you should give a summary of what was learned from your research, this summary should be relatively brief, since the emphasis in the conclusion is on the implications, evaluations, insights, and other forms of analysis that you make.

Failure to comment on larger, more significant issues
In the introduction, your task was to move from general [the field of study] to specific [your research problem]. However, in the conclusion, your task is to move from a specific discussion [your research problem] back to a general discussion [i.e., how your research contributes new understanding or fills an important gap in the literature]. In short, the conclusion is where you should place your research within a larger context.

Failure to reveal problems and negative results
Negative aspects of the research process should never be ignored. Problems, drawbacks, and challenges encountered during your study should be summarized as a way of qualifying your overall conclusions. If you encountered negative results [findings that are validated outside the research context in which they were generated], you must report them in the results section and discuss their implications in the discussion section of your paper. In the conclusion, use your summary of the negative results as an opportunity to explain how they provide information on which future research can be based.

Failure to provide a clear summary of what was learned
In order to be able to discuss how your research fits back into your field of study [and possibly the world at large], you need to summarize briefly and directly how it contributes to new knowledge or a new understanding about the research problem. Often this element of your conclusion is only a few sentences long.

Failure to match the objectives of your research
Often research objectives in the social sciences change while the research is being carried out. This is not a problem unless you forget to go back and refine the original objectives in your introduction. As these changes emerge they must be documented so that they accurately reflect what you were trying to accomplish in your research [not what you thought you might accomplish when you began].

Resist the urge to apologize
If you've immersed yourself in studying the research problem, you presumably should know a good deal about it, perhaps even more than your professor! Nevertheless, by the time you have finished writing, you may be having some doubts about what you have produced. Repress those doubts! Don't undermine your authority by saying something like, "This is just one approach to examining this problem; there may be other, much better approaches that...."

Writing a Conclusion

What is it?

A conclusion is the last paragraph in your research paper, or the last part in any other type of presentation.

Why do it?

A conclusion is like the final chord in a song. It makes the listener feel that the piece is complete and well done. The same is true for your audience. You want them to feel that you supported what you stated in your thesis. You then become a reliable author for them and they are impressed by that and will be more likely to read your work in the future. They may also have learned something and maybe have had their opinion changed by what you have written or created!

How do I do it?

A conclusion is, in some ways, like your introduction. You restate your thesis and summarize your main points of evidence for the reader.You can usually do this in one paragraph. In the following example, the thesis statement is in **bold.** Notice that it is written in 2 sentences. This is a stylistic choice for impact.

Example:

The problem of teen gang violence can be eliminated. It will, however, take time, money, and a combined effort on the part of many people. Organized, free, after-school programs such as: sports teams and games; art, music, and drama activities; internships in local area businesses and professional organizations; and interesting volunteer activities in the community would help engage teens in worthwhile pursuits outside of school hours. More job opportunities for teens, especially those funded by state and local programs, would offer income for teens as well as productive work for the community. Outreach to families through schools, community

organizations, and places of worship would help promote inter-generational activities that could improve family closeness, helping teens to work on their problems at the family level, instead of taking them to the streets. If these programs can be implemented, we will surely see a decrease in teen gang activity and safer streets and neighborhoods for us all.

Make Your Last Words Count

In academic writing, a well-crafted conclusion can provide the final word on the value of your analysis, research, or paper. Complete your conclusions with conviction!

Conclusions show readers the value of your completely developed argument or thoroughly answered question. Consider the conclusion from the reader's perspective. At the end of a paper, a reader wants to know how to benefit from the work you accomplished in your paper. Here are **ways to think about the purpose of a conclusion**:

- To **connect** the paper's findings to a larger context, such as the wider conversation about an issue as it is presented in a course or in other published writing.
- To **suggest** the implications of your findings or the importance of the topic.
- To **ask** questions or suggest ideas for further research.
- To **revisit** your main idea or research question with new insight.

How do you start drafting a conclusion?

Effective conclusions take the paper beyond summary and demonstrate a further appreciation of the paper's argument and its significance: why it works, why it is meaningful, and why it is valuable. To get started, you might ask yourself these questions:

- How do the ideas in your paper connect to what you have discussed in class, or to what scholars have written in their treatment of your topic?
- What new ideas have you added to the conversation? What ideas do you critique?
- What are the limitations of your data, methods, or results?
- What are the consequences of the strongest idea that comes out of your paper?
- How can you return to the question or situation you describe in your introduction?

Examples

Gender and Women's Studies

From Examining Millie and Christine McKoy: Where Enslavement and Enfreakment Meet (*Signs* 37, 2011), by UW–Madison Professor Ellen Samuels. Notice how Samuels's conclusion briefly summarizes her article's main claims before turning to the consequences of her strongest claims.

While there are still many questions left unanswered about the McKoys, and many possible truths to be drawn from their lives, I have aimed in this article to establish that at least two things are not true: the tale of the beneficent and beloved slaveowners and the resigned, downcast

expression on Millie's face in the altered picture. Moreover, I contend that turning away from historical legacies as complex and dangerous as those of enslavement and enfreakment keeps us from being able to understand them and to imagine different futures. We need to develop paradigms of analysis that allow us to perceive and interpret both the radical empowerment of the McKoys' lives and the oppressions that are no less fundamental to their story. Such an analysis must allow for dissonance, contradictions, and even discomfort in its gaze. Only then can we move forward with the work of shaping new representations and new possibilities for extraordinary bodily experience.

Writing a conclusion is the final part of the research paper, drawing everything together and tying it into your initial research.

If you remember, a research paper starts with a broad look at the research and narrows down to the results, before the discussion opens it out again.
At the beginning of the research paper, you looked at all of the previous research and boiled it down into a research question.

In the discussion, you assess how the results answer to this question and discuss its relevance to the existing knowledge in the field.
When writing a conclusion, you should try to answer a few questions, as succinctly as possible.

You will have already answered some of these in your discussion, but the key is to leave some questions that another researcher can expand upon for their research project.

If you are planning a long career as a scientist, it is something that you can return to in the future. A good research project, whatever the results, will generate leads for others to follow.

About conclusions

Introductions and conclusions can be the most difficult parts of papers to write. While the body is often easier to write, it needs a frame around it. An introduction and conclusion frame your thoughts and bridge your ideas for the reader.

Just as your introduction acts as a bridge that transports your readers from their own lives into the “place” of your analysis, your conclusion can provide a bridge to help your readers make the transition back to their daily lives. Such a conclusion will help them see why all your analysis and information should matter to them after they put the paper down.

Your conclusion is your chance to have the last word on the subject. The conclusion allows you to have the final say on the issues you have raised in your paper, to synthesize your thoughts, to demonstrate the importance of your ideas, and to propel your reader to a new view of the subject. It is also your opportunity to make a good final impression and to end on a positive note.

Your conclusion can go beyond the confines of the assignment. The conclusion pushes beyond the boundaries of the prompt and allows you to consider broader issues, make new connections, and elaborate on the significance of your findings.

Your conclusion should make your readers glad they read your paper. Your conclusion gives your reader something to take away that will help them see things differently or appreciate your topic in personally relevant ways. It can suggest broader implications that will not only interest your reader, but also enrich your reader's life in some way. It is your gift to the reader.

Strategies for writing an effective conclusion

One or more of the following strategies may help you write an effective conclusion.

- Play the "So What" Game. If you're stuck and feel like your conclusion isn't saying anything new or interesting, ask a friend to read it with you. Whenever you make a statement from your conclusion, ask the friend to say, "So what?" or "Why should anybody care?" Then ponder that question and answer it. Here's how it might go:

You: *Basically, I'm just saying that education was important to Douglass.*

Friend: *So what?*

You: *Well, it was important because it was a key to him feeling like a free and equal citizen.*

Friend: *Why should anybody care?*

You: *That's important because plantation owners tried to keep slaves from being educated so that they could maintain control. When Douglass obtained an education, he undermined that control personally.*

You can also use this strategy on your own, asking yourself "So what?" as you develop your ideas or your draft.

- Return to the theme or themes in the introduction. This strategy brings the reader full circle. For example, if you begin by describing a scenario, you can end with the same scenario as proof that your essay is helpful in creating a new understanding. You may also refer to the introductory paragraph by using key words or parallel concepts and images that you also used in the introduction.
- Synthesize, don't summarize: Include a brief summary of the paper's main points, but don't simply repeat things that were in your paper. Instead, show your reader how the points you made and the support and examples you used fit together. Pull it all together.
- Include a provocative insight or quotation from the research or reading you did for your paper.
- Propose a course of action, a solution to an issue, or questions for further study. This can redirect your reader's thought process and help her to apply your info and ideas to her own life or to see the broader implications.

- Point to broader implications. For example, if your paper examines the Greensboro sit-ins or another event in the Civil Rights Movement, you could point out its impact on the Civil Rights Movement as a whole. A paper about the style of writer Virginia Woolf could point to her influence on other writers or on later feminists.

Strategies to avoid

- Beginning with an unnecessary, overused phrase such as “in conclusion,” “in summary,” or “in closing.” Although these phrases can work in speeches, they come across as wooden and trite in writing.
- Stating the thesis for the very first time in the conclusion.
- Introducing a new idea or subtopic in your conclusion.
- Ending with a rephrased thesis statement without any substantive changes.
- Making sentimental, emotional appeals that are out of character with the rest of an analytical paper.
- Including evidence (quotations, statistics, etc.) that should be in the body of the paper.

Summary:

Conclusions wrap up what you have been discussing in your paper. After moving from general to specific information in the introduction and body paragraphs, your conclusion should begin pulling back into more general information that restates the main points of your argument. Conclusions may also call for action or overview future possible research. The following outline may help you conclude your paper:

In a general way,

- Restate your topic and why it is important,
- Restate your thesis/claim,
- Address opposing viewpoints and explain why readers should align with your position,
- Call for action or overview future research possibilities.

Remember that once you accomplish these tasks, unless otherwise directed by your instructor, you are finished. Don't try to bring in new points or end with a whiz bang conclusion or try to solve world hunger in the final sentence of your conclusion. Simplicity is best for a clear, convincing message.

The preacher's maxim is one of the most effective formulas to follow for argument papers:

1. Tell what you're going to tell them (introduction).
2. Tell them (body).
3. Tell them what you told them (conclusion).

6.2 Check your progress

1. What is a constructivist position of generalization?

2. What is a research proposal?

3. How should be the title of a research proposal?

4. What is the purpose of an introduction in a research proposal?

5. How is the statement of research problem important?

6. What are the four types of variables in research?

7. What is the importance of a good conclusion?

8. What are the general rules to be followed while writing conclusion to a research paper?

9. What strategies should be implemented while drafting conclusion?

10. What are the strategies to be avoided while writing conclusion?

Collecting and Analyzing Data

What do we mean by collecting data?

Essentially, collecting data means putting your design for collecting information into operation. You've decided how you're going to get information – whether by direct observation, interviews, surveys, experiments and testing, or other methods – and now you and/or other observers have to implement your plan. There's a bit more to collecting data, however. If you are conducting observations, for example, you'll have to define what you're observing and arrange to make observations at the right times, so you actually observe what you need to. You'll have to record the observations in appropriate ways and organize them so they're optimally useful.

Recording and organizing data may take different forms, depending on the kind of information you're collecting. The way you collect your data should relate to how you're planning to analyze and use it. Regardless of what method you decide to use, recording should be done concurrent with data collection if possible, or soon afterwards, so that nothing gets lost and memory doesn't fade.

Some of the things you might do with the information you collect include:

- Gathering together information from all sources and observations
- Making photocopies of all recording forms, records, audio or video recordings, and any other collected materials, to guard against loss, accidental erasure, or other problems
- Entering narratives, numbers, and other information into a computer program, where they can be arranged and/or worked on in various ways
- Performing any mathematical or similar operations needed to get quantitative information ready for analysis. These might, for instance, include entering numerical observations into a chart, table, or spreadsheet, or figuring the mean (average), median (midpoint),

and/or mode (most frequently occurring) of a set of numbers.
- Transcribing (making an exact, word-for-word text version of) the contents of audio or video recordings
- Coding data (translating data, particularly qualitative data that isn't expressed in numbers, into a form that allows it to be processed by a specific software program or subjected to statistical analysis)
- Organizing data in ways that make them easier to work with. How you do this will depend on your research design and your evaluation questions. You might group observations by the dependent variable (indicator of success) they relate to, by individuals or groups of participants, by time, by activity, etc. You might also want to group observations in several different ways, so that you can study interactions among different variables.

There are two kinds of variables in research. An **independent variable** (the intervention) is a condition implemented by the researcher or community to see if it will create change and improvement. This could be a program, method, system, or other action. A dependent variable is what may change as a result of the independent variable or intervention. A **dependent variable** could be a behavior, outcome, or other condition. A smoking cessation program, for example, is an independent variable that may change group members' smoking behavior, the primary dependent variable.

What do we mean by analyzing data?

Analyzing information involves examining it in ways that reveal the relationships, patterns, trends, etc. that can be found within it. That may mean subjecting it to statistical operations that can tell you not only what kinds of relationships seem to exist among variables, but also to what level you can trust the answers you're getting. It may mean comparing your information to that from other groups (a control or comparison group, statewide figures, etc.), to help draw some conclusions from the data. The point, in terms of your evaluation, is to get an accurate assessment in order to better understand your work and its effects on those you're concerned with, or in order to better understand the overall situation.

There are two kinds of data you're apt to be working with, although not all evaluations will necessarily include both. **Quantitative data** refer to the information that is collected as, or can be translated into, numbers, which can then be displayed and analyzed mathematically. **Qualitative data** are collected as descriptions, anecdotes, opinions, quotes, interpretations, etc., and are generally either not able to be reduced to numbers, or are considered more valuable or informative if left as narratives. As you might expect, quantitative and qualitative information needs to be analyzed differently.

Quantitative data

Quantitative data are typically collected directly as numbers. Some examples include:

- The frequency (rate, duration) of specific behaviors or conditions
- Test scores (e.g., scores/levels of knowledge, skill, etc.)

- Survey results (e.g., reported behavior, or outcomes to environmental conditions; ratings of satisfaction, stress, etc.)
- Numbers or percentages of people with certain characteristics in a population (diagnosed with diabetes, unemployed, Spanish-speaking, under age 14, grade of school completed, etc.)

Data can also be collected in forms other than numbers, and turned into quantitative data for analysis. Researchers can count the number of times an event is documented in interviews or records, for instance, or assign numbers to the levels of intensity of an observed event or behavior. For instance, community initiatives often want to document the amount and intensity of environmental changes they bring about – the new programs and policies that result from their efforts. Whether or not this kind of translation is necessary or useful depends on the nature of what you're observing and on the kinds of questions your evaluation is meant to answer.

Quantitative data is usually subjected to statistical procedures such as calculating the mean or average number of times an event or behavior occurs (per day, month, and year). These operations, because numbers are "hard" data and not interpretation, can give definitive, or nearly definitive, answers to different questions. Various kinds of quantitative analysis can indicate changes in a dependent variable related to – frequency, duration, timing (when particular things happen), intensity, level, etc. They can allow you to compare those changes to one another, to changes in another variable, or to changes in another population. They might be able to tell you, at a particular degree of reliability, whether those changes are likely to have been caused by your intervention or program, or by another factor, known or unknown. And they can identify relationships among different variables, which may or may not mean that one causes another.

Qualitative data

Unlike numbers or "hard data," qualitative information tends to be "soft," meaning it can't always be reduced to something definite. That is in some ways a weakness, but it's also strength. A number may tell you how well a student did on a test; the look on her face after seeing her grade, however, may tell you even more about the effect of that result on her. That look can't be translated to a number, nor can a teacher's knowledge of that student's history, progress, and experience, all of which go into the teacher's interpretation of that look. And that interpretation may be far more valuable in helping that student succeed than knowing her grade or numerical score on the test.

Qualitative data can sometimes be changed into numbers, usually by counting the number of times specific things occur in the course of observations or interviews, or by assigning numbers or ratings to dimensions (e.g., importance, satisfaction, ease of use).

The challenges of translating qualitative into quantitative data have to do with the human factor. Even if most people agree on what 1 (lowest) or 5 (highest) means in regard to rating "satisfaction" with a program, ratings of 2, 3, and 4 may be very different for different people. Furthermore, the numbers say nothing about why people reported the way they did. One may dislike the program because of the content, the facilitator, the time of day, etc. The same may be true when you're counting instances of the mention of an event, such as the onset of a

new policy or program in a community based on interviews or archival records. Where one person might see a change in program he considers important another may omit it due to perceived unimportance.

Qualitative data can sometimes tell you things that quantitative data can't. It may reveal why certain methods are working or not working, whether part of what you're doing conflicts with participants' culture, what participants see as important, etc. It may also show you patterns – in behavior, physical or social environment, or other factors – that the numbers in your quantitative data don't, and occasionally even identify variables that researchers weren't aware of.

It is often helpful to collect both quantitative and qualitative information.

Quantitative analysis is considered to be objective – without any human bias attached to it – because it depends on the comparison of numbers according to mathematical computations. Analysis of qualitative data is generally accomplished by methods more subjective – dependent on people's opinions, knowledge, assumptions, and inferences (and therefore biases) – than that of quantitative data. The identification of patterns, the interpretation of people's statements or other communication, the spotting of trends – all of these can be influenced by the way the researcher sees the world. Be aware, however, that quantitative analysis is influenced by a number of subjective factors as well. What the researcher chooses to measure, the accuracy of the observations, and the way the research is structured to ask only particular questions can all influence the results, as can the researcher's understanding and interpretation of the subsequent analyses.

Why should you collect and analyze data for your evaluation?

Part of the answer here is that not every organization – particularly small community-based or non-governmental ones – will necessarily have extensive resources to conduct a formal evaluation. They may have to be content with less formal evaluations, which can still be extremely helpful in providing direction for a program or intervention. An informal evaluation will involve some data gathering and analysis. This data collection and sense making is critical to an initiative and its future success, and has a number of advantages.

- **The data can show whether there was any significant change in the dependent variable(s) you hoped to influence**. Collecting and analyzing data helps you see whether your intervention brought about the desired results.

The term "significance" has a specific meaning when you're discussing statistics. The level of significance of a statistical result is the level of confidence you can have in the answer you get. Generally, researchers don't consider a result significant unless it shows at least a 95% certainty that it's correct (called the .05 level of significance, since there's a 5% chance that it's wrong). The level of significance is built into the statistical formulas: once you get a mathematical result, a table (or the software you're using) will tell you the level of significance.

Thus, if data analysis finds that the independent variable (the intervention) influenced the dependent variable at the .05 level of significance, it means there's a 95% probability or

likelihood that your program or intervention had the desired effect. The .05 level is generally considered a reasonable result, and the .01 level (99% probability) is considered about as close to certainty as you are likely to get. A 95% level of certainty doesn't mean that the program works on 95% of participants, or that it will work 95% of the time. It means that there's only a 5% possibility that it isn't actually what's influencing the dependent variable(s) and causing the changes that it seems to be associated with.

- **They can uncover factors that may be associated with changes in the dependent variable(s).** Data analyses may help discover unexpected influences; for instance, that the effort was twice as large for those participants who also were a part of a support group. This can be used to identify key aspects of implementation.
- **They can show connections between or among various factors that may have an effect on the results of your evaluation**. Some types of statistical procedures look for connections ("correlations" is the research term) among variables. Certain dependent variables may change when others do. These changes may be similar – i.e., both variables increase and decrease (e.g., as children's proficiency at reading increases, the amount of reading they do also increases). Or the opposite may be observed – i.e. the two variables change in opposite directions (as the amount of exercise they engage in increases, peoples' weight decreases). Correlations don't mean that one variable causes another or that they both have the same cause, but they can provide valuable information about associations to expect in an evaluation.
- **They can help shed light on the reasons that your work was effective or, perhaps, less effective than you'd hoped**. By combining quantitative and qualitative analysis, you can often determine not only what worked or didn't, but why. The effect of cultural issues, how well methods are used, and the appropriateness of your approach for the population – these as well as other factors that influence success can be highlighted by careful data collection and analysis. This knowledge gives you a basis for adapting and changing what you do to make it more likely you'll achieve the desired outcomes in the future.
- **They can provide you with credible evidence to show stakeholders that your program is successful, or that you've uncovered, and are addressing limitations**. Stakeholders, such as funders and community boards, want to know their investments are well spent. Showing evidence of intermediate outcomes (e.g. new programs and policies) and longer-term outcomes (e.g., improvements in education or health indicators) is becoming increasingly important to receiving – and retaining – funding.
- **Their use shows that you're serious about evaluation and about improving your work.** Being a good trustee or steward of community investment includes regular review of data regarding progress and improvement.
- **They can show the field what you're learning, and thus pave the way for others to implement successful methods and approaches**. In that way, you'll be helping to improve community efforts and, ultimately, quality of life for people who benefit.

When and by whom should data be collected and analyzed?

As far as data collection goes, the "when" part of this question is relatively simple: data collection should start no later than when you begin your work – or before you begin in order to

establish a baseline or starting point – and continue throughout. Ideally, you should collect data for a period of time before you start your program or intervention in order to determine if there are any trends in the data before the onset of the intervention. Additionally, in order to gauge your program's longer-term effects, you should collect follow-up data for a period of time following the conclusion of the program.

The timing of analysis can be looked at in at least two ways: One is that it's best to analyze your information when you've collected all of it, so you can look at it as a whole. The other is that if you analyze it as you go along, you'll be able to adjust your thinking about what information you actually need, and to adjust your program to respond to the information you're getting. Which of these approaches you take depends on your research purposes. If you're more concerned with a summative evaluation – finding out whether your approach was effective, you might be more inclined toward the first. If you're oriented toward improvement – a formative evaluation – we recommend gathering information along the way. Both approaches are legitimate, but ongoing data collection and review can particularly lead to improvements in your work.

The "who" question can be more complex. If you're reasonably familiar with statistics and statistical procedures, and you have the resources in time, money, and personnel, it's likely that you'll do a somewhat formal study, using standard statistical tests.

If that's not the case, you have some choices:

- You can hire or find a volunteer outside evaluator, such as from a nearby college or university, to take care of data collection and/or analysis for you.
- You can conduct a less formal evaluation. Your results may not be as sophisticated as if you subjected them to rigorous statistical procedures, but they can still tell you a lot about your program. Just the numbers – the number of dropouts (and when most dropped out), for instance, or the characteristics of the people you serve – can give you important and usable information.
- You can try to learn enough about statistics and statistical software to conduct a formal evaluation yourself. (Take a course, for example.)
- You can collect the data and then send it off to someone – a university program, a friendly statistician or researcher, or someone you hire – to process it for you.
- You can collect and rely largely on qualitative data. Whether this is an option depends to a large extent on what your program is about. You wouldn't want to conduct a formal evaluation of effectiveness of a new medication using only qualitative data, but you might be able to draw some reasonable conclusions about use or compliance patterns from qualitative information.
- If possible, use a randomized or closely matched control group for comparison. If your control is properly structured, you can draw some fairly reliable conclusions simply by comparing its results to those of your intervention group. Again, these results won't be as reliable as if the comparison were made using statistical procedures, but they can point you in the right direction. It's fairly easy to tell whether or not there's a major difference between the numbers for the two or more groups. If 95% of the students in your class passed the test, and only 60% of those in a similar but uninstructed control group did, you can be pretty sure that your class made a difference in some way, although you may not

be able to tell exactly what it was that mattered. By the same token, if 72% of your students passed and 70% of the control group did as well, it seems pretty clear that your instruction had essentially no effect, if the groups were starting from approximately the same place.

Who should actually collect and analyze data also depends on the form of your evaluation. If you're doing a participatory evaluation, much of the data collection - and analyzing - will be done by community members or program participants themselves. If you're conducting an evaluation in which the observation is specialized, the data collectors may be staff members, professionals, highly trained volunteers, or others with specific skills or training (graduate students, for example). Analysis also could be accomplished by a participatory process. Even where complicated statistical procedures are necessary, participants and/or community members might be involved in sorting out what those results actually mean once the math is done and the results are in. Another way analysis can be accomplished is by professionals or other trained individuals, depending upon the nature of the data to be analyzed, the methods of analysis, and the level of sophistication aimed at in the conclusions.

How do you collect and analyze data?

Whether your evaluation includes formal or informal research procedures, you'll still have to collect and analyze data, and there are some basic steps you can take to do so.

Implement your measurement system

We've previously discussed designing an observational system to gather information. Now it's time to put that system in place.

- *Clearly define and describe what measurements or observations are needed*. The definition and description should be clear enough to enable observers to agree on what they're observing and reliably record data in the same way.
- *Select and train observers*. Particularly if this is part of a participatory process, observers need training to know what to record; to recognize key behaviors, events, and conditions; and to reach an acceptable level of inter-rater reliability (agreement among observers).
- *Conduct observations at the appropriate times for the appropriate period of time*. This may include reviewing archival material; conducting interviews, surveys, or focus groups; engaging in direct observation; etc.
- *Record data in the agreed-upon ways*. These may include pencil and paper, computer (using a laptop or handheld device in the field, entering numbers into a program, etc.), audio or video, journals, etc.

Organize the data you've collected

How you do this depends on what you're planning to do with it, and on what you're interested in.

- *Enter any necessary data into the computer*. This may mean simply typing comments,

descriptions, etc., into a word processing program, or entering various kinds of information (possibly including audio and video) into a database, spreadsheet, a GIS (Geographic Information Systems) program, or some other type of software or file.
- *Transcribe any audio- or videotapes*. This makes them easier to work with and copy, and allows the opportunity to clarify any hard-to-understand passages of speech.
- *Score any tests* and record the scores appropriately.
- *Sort your information in ways appropriate to your interest*. This may include sorting by category of observation, by event, by place, by individual, by group, by the time of observation, or by a combination or some other standard.
- *When possible, necessary, and appropriate, transform qualitative into quantitative data*. This might involve, for example, counting the number of times specific issues were mentioned in interviews, or how often certain behaviors were observed.

There are other excellent possibilities for analysis besides statistical procedures, however. A few include:

- *Simple counting, graphing and visual inspection of frequency or rates of behavior, events, etc., over time*.
- *Using visual inspection of patterns over time to identify discontinuities* (marked increases, decreases) in the measures over time (sessions, weeks, months).
- *Calculating the mean (average), median (midpoint), and/or mode (most frequent) of a series of measurements or observations*. What was the average blood pressure, for instance, of people who exercised 30 minutes a day at least five days a week, as opposed to that of people who exercised two days a week or less?
- *Using qualitative interviews, conversations, and participant observation to observe (and track changes in) the people or situation*. Journals can be particularly revealing in this area because they record people's experiences and reflections over time.
- *Finding patterns in qualitative data*. If many people refer to similar problems or barriers, these may be important in understanding the issue, determining what works or doesn't work and why, or more.
- *Comparing actual results to previously determined goals or benchmarks*. One measure of success might be meeting a goal for planning or program implementation, for example.

There are a number of different kinds of results you might be looking for.

- *Differences within people or groups*. If you have repeated measurements for individuals/groups over time, we can see if there are marked increases/decreases in the (frequency, rate) of behavior (events, etc.) following introduction of the program or intervention. When the effects are seen when and only when the intervention is introduced – and if the intervention is staggered (delayed) across people or groups – this increases our confidence that the intervention, and not something else, is producing the observed effects.
- *Differences between or among two or more groups*. If you have one or more randomized control groups in a formal study (groups that are drawn at random from the same population as the group in your program, but are not getting the same program or intervention, or are getting none at all), then the statistical significance of differences

between or among the groups should tell you whether your program has any more influence on the dependent variable(s) than what's experienced by the other groups.

- *Results that show statistically significant changes*. With or without a control or comparison group, many statistical procedures can tell you whether changes in dependent variables are truly significant (or not likely due to chance). These results may say nothing about the causes of the change (or they may, depending on how you've structured your evaluation), but they do tell you what's happening, and give you a place to start.
- *Correlations*. Correlation means that there are connections between or among two or more variables. Correlations can sometimes point to important relationships you might not have predicted. Sometimes they can shed light on the issue itself, and sometimes on the effects of a group's cultural practices. In some cases, they can highlight potential causes of an issue or condition, and thus pave the way for future interventions.

Correlation between variables doesn't tell you that one necessarily causes the other, but simply that change in one have a relationship to changes in the other. Among American teenagers, for instance, there is probably a fairly high correlation between an increase in body size and an understanding of algebra. This is not because one causes the other, but rather the result of the fact that American schools tend to begin teaching algebra in the seventh, eighth, or ninth grades, a time when many 12-, 13-, and 14-year-olds are naturally experiencing a growth spurt.

On the other hand, correlations can reveal important connections. A very high correlation between, for instance, the use of a particular medication and the onset of depression might lead to the withdrawal of that medication, or at least a study of its side effects, and increased awareness and caution among doctors who prescribe it. A very high correlation between gang membership and having a parent with a substance abuse problem may not reveal a direct cause-and-effect relationship, but may tell you something important about who is more at risk for substance abuse.

- *Patterns*. In both quantitative and qualitative information, patterns often emerge: certain health conditions seem to cluster in particular geographical areas; people from a particular group behave in similar ways; etc. These patterns may not be specifically what you were looking for or expected to find, but they may either be important in themselves or shed light on the areas you're interested in. In some cases, you may need to subject them to statistical procedures (regression analysis, for example) to see if, in fact, they're random, or if they constitute actual patterns.
- *Obvious important findings*. Whether as a result of statistical analysis, or of examination of your data and application of logic, some findings may stand out. If 70% of a group of overweight participants in a healthy eating and physical activity program lowered their weight and blood pressure significantly, compared to only 20% of a similar group not in the program, you can probably assume that program may have been effective. If there's no change whatsoever in education outcomes after two years of your education program, then you're either running an ineffective program, or you're simply not reaching those who are most likely to have poorer outcomes (which can also be interpreted to mean you're running an ineffective program.)

Not all important findings will necessarily tell you whether your program worked, or what the

most effective method is. It might be obvious from your data collection, for instance, that, while violence or roadway injuries may not be seen as a problem citywide, they are much higher in one or more particular areas, or that the rates of diabetes are markedly higher for particular groups or those living in areas with greater disparities of income. If you have the resources, it's wise to look at the results of your research in a number of different ways, both to find out how to improve your program, and to learn what else you might do to affect the issue.

Interpret the results

Once you've organized your results and run them through whatever statistical or other analysis you've planned for, it's time to figure out what they mean for your evaluation. Probably the most common question that evaluation research is directed toward is whether the program being evaluated works or makes a difference. In research terms, that often translates to "What were the effects of the independent variable (the program, intervention, etc.) on the dependent variable(s) (the behavior, conditions, or other factors it was meant to change)?" There are a number of possible answers to this question:

- *Your program had exactly the effects on the dependent variable(s) you expected and hoped it would*. Statistics or other analysis showed clear positive effects at a high level of significance for the people in your program and – if you used a multiple-group design – none, or far fewer, of the same effects for a similar control group and/or for a group that received a different intervention with the same purpose. Your early childhood education program, for instance, greatly increased development outcomes for children in the community, and also contributed to an increase in the percentage of children succeeding in school.
- *Your program had no effect*. Your program produced no significant results on the dependent variable, whether alone or compared to other groups. This would mean no change as a result of your program or intervention.
- *Your program had a negative effect*. For instance, intimate partner violence increased (or at least appeared to) as a result of your intervention. (It is relatively common for reported events, such as violence or injury, to increase when the intervention results in improved surveillance and ease of reporting).
- *Your program had the effects you hoped for and other effects as well*.
    - These effects might be *positive*. Your youth violence prevention program, for instance, might have resulted in greatly reduced violence among teens, and might also have resulted in significantly improved academic performance for the kids involved.
    - These effects might be *neutral*. The same youth violence prevention program might somehow result in youth watching TV more often after school.
    - These effects might be *negative*. (These effects are usually called unintended consequences.) Youth violence might decrease significantly, but the incidence of teen pregnancies or alcohol consumption among youth in the program might increase significantly at the same time.
    - These effects might be *multiple*, or *mixed*.For instance, a program to reduce HIV/AIDS might lower rates of unprotected sex but might also increase conflict and instances of partner violence. Your program had no effect or a negative effect

and other effects as well. As with programs with positive effects, these might be positive, neutral, or negative; single or multiple; or consistent or mixed.

If your analysis gives you a clear indication that what you're doing is accomplishing your purposes, interpretation is relatively simple: You should keep doing it, while trying out ways to make it even more effective, or while aiming at other related issues as well.

Careful and insightful interpretation of your data may allow you to answer questions like these. You may be able to use correlations, for instance, to generate hypotheses about your results. If positive or negative changes in particular variables are consistently associated with positive or negative changes in other variables, the two may be connected. (The word "may" is important here. The two may be connected, but they may not, or both may be related to a third variable that you're not aware of or that you consider trivial.) Such a connection can point the way toward a factor (e.g., access to support) that is causing the changes in both variables, and that must be addressed to make your program successful. Correlations may also indicate patterns in your data, or may lead to an unexpected way of looking at the issue you're addressing.

You can often use qualitative data to understand the meaning of an intervention, and people's reactions to the results. The observation that participants are continually suffering from a variety of health problems may be traced, through qualitative data, to nutrition problems (due either to poverty or ignorance) or to lack of access to health services, or to cultural restrictions (some Muslim women may be unwilling – or unable because of family prohibition – to accept care and treatment from male doctors, for example).

Once you have organized your data, both statistical results and anything that can't be analyzed statistically need to be analyzed logically. This may not give you convincing information but it will almost undoubtedly give you some ideas to follow up on, and some indications of connections and avenues you might not yet have considered. It will also show you some additional results – people reacting differently than before to the program, for example. The numbers can tell you whether there is change, but they can't always tell you what causes it or why (although they sometimes can), or why some people benefit while others don't. Those are often matters for logical analysis, or critical thinking.

Analyzing and interpreting the data you've collected brings you, in a sense, back to the beginning. You can use the information you've gained to adjust and improve your program or intervention, evaluate it again, and use that information to adjust and improve it further, for as long as it runs. You have to keep up the process to ensure that you're doing the best work you can and encouraging changes in individuals, systems, and policies that make for a better and healthier community.

You have to become a cultural detective to understand your initiative, and, in some ways, every evaluation is an anthropological study.

Analyze Data

With the data in a form that is now useful, the researcher can begin the process of analyzing the

data to determine what has been learned. The method used to analyze data depends on the approach used to collect the information (secondary research, primary quantitative research or primary qualitative research). For primary research the selection of method of analysis also depends on the type of research instrument used to collect the information.

Essentially there are two types of methods of analysis – descriptive and inferential.

Descriptive Data Analysis

Not to be confused with descriptive research, descriptive analysis, as the name implies, is used to describe the results obtained. In most cases the results are merely used to provide a summary of what has been gathered (e.g., how many liked or dislike a product) without making a statement of whether the results hold up to statistical evaluation. For quantitative data collection the most common methods used for this basic level of analysis are visual representations, such as charts and tables, and measures of central tendency including averages (i.e., mean value). For qualitative data collection, where analysis may consist of the researcher's own interpretation of what was learned, the information may be coded or summarized into grouping categories.

Inferential Data Analysis

While descriptive data analysis can present a picture of the results, to really be useful the results of research should allow the researcher to accomplish other goals such as:

- Using information obtained from a small group (i.e., sample of customers) to make judgments about a larger group (i.e., all customers)
- Comparing groups to see if there is a difference in how they respond to an issue
- Forecasting what may happen based on collected information

To move beyond simply describing results requires the use of inferential data analysis where advanced statistical techniques are used to make judgments (i.e., inferences) about some issue (e.g., is one type of customer different from another type of customer). Using inferential data analysis requires a well-structured research plan that follows the scientific method. Also, most (but not all) inferential data analysis techniques require the use of quantitative data collection.

As an example of the use of inferential data analysis, a marketer may wish to know if North American, European and Asian customers differ in how they rate certain issues. The marketer uses a survey that includes a number of questions asking customers from all three regions to rate issues on a scale of 1 to 5. If a survey is constructed properly the marketer can compare each group using statistical software that tests whether differences exists. This analysis offers much more insight than simply showing how many customers from each region responded to each question.

Analyzing and Interpreting Information

Analyzing quantitative and qualitative data is often the topic of advanced research and evaluation methods courses. However, there are certain basics which can help to make sense of reams of

data.

Basic analysis of "quantitative" information

(For information other than commentary, e.g., ratings, rankings, yes's, no's, etc.):

- Make copies of your data and store the master copy away. Use the copy for making edits, cutting and pasting, etc.
- Tabulate the information, i.e., add up the number of ratings, rankings, yes's, no's for each question.
- For ratings and rankings, consider computing a mean, or average, for each question. For example, "For question #1, the average ranking was 2.4". This is more meaningful than indicating, e.g., how many respondents ranked 1, 2, or 3.
- Consider conveying the range of answers, e.g., 20 people ranked "1", 30 ranked "2", and 20 people ranked "3."

Basic analysis of "qualitative" information

(respondents' verbal answers in interviews, focus groups, or written commentary on questionnaires):

- Read through all the data.
- Organize comments into similar categories, e.g., concerns, suggestions, strengths, weaknesses, similar experiences, program inputs, recommendations, outputs, outcome indicators, etc.
- Label the categories or themes, e.g., concerns, suggestions, etc.
- Attempt to identify patterns, or associations and causal relationships in the themes, e.g., all people who attended programs in the evening had similar concerns, most people came from the same geographic area, most people were in the same salary range, what processes or events respondents experience during the program, etc.
- Keep all commentary for several years after completion in case needed for future reference.

Interpreting information

- Attempt to put the information in perspective, e.g., compare results to what you expected, promised results; management or program staff; any common standards for your products or services; original goals (especially if you're conducting a program evaluation); indications or measures of accomplishing outcomes or results (especially if you're conducting an outcomes or performance evaluation); description of the program's experiences, strengths, weaknesses, etc. (especially if you're conducting a process evaluation).
- Consider recommendations to help employees improve the program, product or service; conclusions about program operations or meeting goals, etc.
- Record conclusions and recommendations in a report, and associate interpretations to

justify your conclusions or recommendations.

Reporting Results

- The level and scope of content depends on to whom the report is intended, e.g., to funders / bankers, employees, clients, customers, the public, etc.
- Be sure employees have a chance to carefully review and discuss the report. Translate recommendations to action plans, including who is going to do what about the research results and by when.
- Funders / bankers will likely require a report that includes an executive summary (this is a summary of conclusions and recommendations, not a listing of what sections of information are in the report -- that's a table of contents); description of the organization and the program, product, service, etc., under evaluation; explanation of the research goals, methods, and analysis procedures; listing of conclusions and recommendations; and any relevant attachments, e.g., inclusion of research questionnaires, interview guides, etc. The funder may want the report to be delivered as a presentation, accompanied by an overview of the report. Or, the funder may want to review the report alone.
- Be sure to record the research plans and activities in a research plan which can be referenced when a similar research effort is needed in the future.

6.3 Check your progress

1. What do you mean by primary source?

2. What is secondary source?

3. What is a classified map?

4. What are the major data classification methods?

5. Enlist important dos of classifying data.

6. How to implement measure systems?

7. How can data be organized?

6.1 Answers to check your progress

1. A primary source is a source cited for some new idea, creative thought, or data originating in that source, and not derived from another author or another source. Primary sources usually have some immediate connection or contact with the source of the new idea, thought, or data.

2. A secondary source is any source cited for its second-hand information from a different work. Secondary sources are not the originators of new ideas, creative thoughts, or data; they merely act as a conduit for such information.

3. A classified map represents data that has been grouped into different classes. On the map, the different classes can be distinguished.

4. For thematic map presentation, the acquired and analysed thematic data values are often grouped into classes, which simplify the reading of the map as we have learned in the previous section. The major methods of data classification are:

- Equal intervals,
- Mean-standard deviation,
- Quantiles,
- Maximum breaks and
- Natural breaks

5. Following are the important do's of data classification:

1. Think twice about tagging and categorising everything - the costs are high

2. Consider the confidentiality and security of the data to be classified

3. Consider its integrity, as low-quality data cannot be trusted

4. Look at its availability - high availability needs resilient storage and networking

5. Use an effective metadata strategy to tag the data well

6. Get the support of the management and employees who will use the system

7. Use data cleansing technology to remove redundant, obsolete or trivial content

8. Carry out an information audit, to gain an accurate view of the nature of the data

9. Carry out classification design based on the data audit results

10. Monitor and maintain the data classification system over time, tweaking as necessary

6. Measurement system can be implemented through the following method:

- *Clearly define and describe what measurements or observations are needed*. The definition and description should be clear enough to enable observers to agree on what they're observing and reliably record data in the same way.
- *Select and train observers*. Particularly if this is part of a participatory process, observers need training to know what to record; to recognize key behaviors, events, and conditions; and to reach an acceptable level of inter-rater reliability (agreement among observers).

- *Conduct observations at the appropriate times for the appropriate period of time*. This may include reviewing archival material; conducting interviews, surveys, or focus groups; engaging in direct observation; etc.
- *Record data in the agreed-upon ways*. These may include pencil and paper, computer (using a laptop or handheld device in the field, entering numbers into a program, etc.), audio or video, journals, etc.

7. Data can be organized in the following ways:

- *Enter any necessary data into the computer*. This may mean simply typing comments, descriptions, etc., into a word processing program, or entering various kinds of information (possibly including audio and video) into a database, spreadsheet, a GIS (Geographic Information Systems) program, or some other type of software or file.
- *Transcribe any audio- or videotapes*. This makes them easier to work with and copy, and allows the opportunity to clarify any hard-to-understand passages of speech.
- *Score any tests* and record the scores appropriately.
- *Sort your information in ways appropriate to your interest*. This may include sorting by category of observation, by event, by place, by individual, by group, by the time of observation, or by a combination or some other standard.
- *When possible, necessary, and appropriate, transform qualitative into quantitative data*. This might involve, for example, counting the number of times specific issues were mentioned in interviews, or how often certain behaviors were observed.

6.2 Answers to check your progress

1. From a constructivist point of view all phenomena are time and context specific. Our insight can only be a reconstruction of subjective perspectives of people in specific situations. So the aim of inquiry can only be the development of an ideographic body of knowledge. Even the social constructivist position, which seeks for similarities of individual perspectives, takes those agreements as only time and context specific. Human interactions and life world phenomena have always multiple meanings, which leads to an inherent indeterminateness in the life world and forbids generalizations.

2. A research proposal is a detailed description of a proposed study designed to investigate a given problem. It is intended to convince others that you have a worthwhile research project and that you have the competence and the work-plan to complete it. Broadly it must address the following questions regardless of your research area and the methodology you choose: What you plan to accomplish, why do you want to do it and how are you going to do it.

3. Title should be concise and descriptive. It must be informative and catchy. An effective title not only prick's the readers interest, but also predisposes him/her favorably towards the proposal.

4. The introduction provides the readers with the background information. Its purpose is to establish a framework for the research, so that readers can understand how it relates to other research. It should answer the question of why the research needs to be done and what will be its relevance. It puts the proposal in context.

5. The statement of the problem is the essential basis for the construction of a research proposal (research objectives, hypotheses, methodology, work plan and budget etc). It is an integral part of selecting a research topic. It will guide and put into sharper focus the research design being considered for solving the problem. It allows the investigator to describe the problem systematically, to reflect on its importance, its priority in the country and region and to point out why the proposed research on the problem should be undertaken. It also facilitates peer review of the research proposal by the funding agencies.

6. Four types of variables are important in research:

a. Independent variables: variables that are manipulated or treated in a study in order to see what effect differences in them will have on those variables proposed as being dependent on them. The different synonyms for the term 'independent variable' which are used in literature are: cause, input, predisposing factor, risk factor, determinant, antecedent, characteristic and attribute.

b. Dependent variables: variables in which changes are results of the level or amount of the independent variable or variables.

Synonyms: effect, outcome, consequence, result, condition, disease.

c. Confounding or intervening variables: variables that should be studied because they may influence or 'mix' the effect of the independent variables. For instance, in a study of the effect of measles (independent variable) on child mortality (dependent variable), the nutritional status of the child may play an intervening (confounding) role.

d. Background variables: variables that are so often of relevance in investigations of groups or populations that they should be considered for possible inclusion in the study. For example sex, age, ethnic origin, education, marital status, social status etc.

7. A well-written conclusion provides you with important opportunities to demonstrate to the reader your overall understanding of the research problem. These include:

1. Presenting the last word on the issues you raised in your paper. Just as the introduction gives a first impression to your reader, the conclusion offers a chance to leave a lasting impression. Do this, for example, by highlighting key points in your analysis or results or by noting important or unexpected implications applied to practice.
2. Summarizing your thoughts and conveying the larger significance of your study. The conclusion is an opportunity to succinctly answer the "So what?" question by placing the study within the context of past research about the topic you've investigated.
3. Demonstrating the importance of your ideas. Don't be shy. The conclusion offers you the opportunity to elaborate on the impact of your findings.
4. Introducing possible new or expanded ways of thinking about the research problem. This does not refer to introducing new information [which should be avoided], but to offer new insight and creative approaches for framing/contextualizing the research problem based on the results of your study.

8. When writing the conclusion to your paper, follow these general rules:
    1. State your conclusions in clear, simple language. State how your findings differ or support those of others and why.
    2. Do not simply reiterate your results or the discussion. Provide a synthesis of arguments presented in the paper to show how these converge to address the research problem or study objectives.
    3. Indicate opportunities for future research, as long as you haven't already done so in the discussion section of your paper. Highlighting areas for further research provides the reader with evidence that you have an in-depth awareness of the research problem you studied.
9. Following strategies should be implemented while drafting conclusion:
    1. Return to the theme or themes in the introduction. This strategy brings the reader full circle. For example, if you begin by describing a scenario, you can end with the same scenario as proof that your essay is helpful in creating a new understanding. You may also refer to the introductory paragraph by using key words or parallel concepts and images that you also used in the introduction.
    2. Synthesize, don't summarize: Include a brief summary of the paper's main points, but don't simply repeat things that were in your paper. Instead, show your reader how the points you made and the support and examples you used fit together. Pull it all together.
    3. Include a provocative insight or quotation from the research or reading you did for your paper.
    4. Propose a course of action, a solution to an issue, or questions for further study. This can redirect your reader's thought process and help her to apply your info and ideas to her own life or to see the broader implications.
    5. Point to broader implications. For example, if your paper examines the Greensboro sit-ins or another event in the Civil Rights Movement, you could point out its impact on the Civil Rights Movement as a whole. A paper about the style of writer Virginia Woolf could point to her influence on other writers or on later feminists.
10. Following strategies should be avoided while writing conclusion:

- Beginning with an unnecessary, overused phrase such as "in conclusion," "in summary," or "in closing." Although these phrases can work in speeches, they come across as wooden and trite in writing.
- Stating the thesis for the very first time in the conclusion.
- Introducing a new idea or subtopic in your conclusion.
- Ending with a rephrased thesis statement without any substantive changes.
- Making sentimental, emotional appeals that are out of character with the rest of an analytical paper.
- Including evidence (quotations, statistics, etc.) that should be in the body of the paper.

6.7 Conclusion

This chapter has dealt with the research process. It tells about how to collect and properly classify the collected data. The next step involved in data processing is its analysis. This chapter

also helps to arrive at interpretations and generalizations. It directs the research scholar to prepare chapter wise design.

6.8 Summary

A primary source is a source cited for some new idea, creative thought, or data originating in that source, and not derived from another author or another source. Primary sources usually have some immediate connection or contact with the source of the new idea, thought, or data.
A secondary source is any source cited for its second-hand information from a different work. Secondary sources are not the originators of new ideas, creative thoughts, or data; they merely act as a conduit for such information.

Data can be organized by following various strategies. *Enter any necessary data into the computer*. This may mean simply typing comments, descriptions, etc., into a word processing program, or entering various kinds of information (possibly including audio and video) into a database, spreadsheet, a GIS (Geographic Information Systems) program, or some other type of software or file. *Transcribe any audio- or videotapes*. This makes them easier to work with and copy, and allows the opportunity to clarify any hard-to-understand passages of speech. *Score any tests* and record the scores appropriately. *Sort your information in ways appropriate to your interest*. This may include sorting by category of observation, by event, by place, by individual, by group, by the time of observation, or by a combination or some other standard. *When possible, necessary, and appropriate, transform qualitative into quantitative data*. This might involve, for example, counting the number of times specific issues were mentioned in interviews, or how often certain behaviors were observed. The statement of the problem is the essential basis for the construction of a research proposal (research objectives, hypotheses, methodology, work plan and budget etc). It is an integral part of selecting a research topic. It will guide and put into sharper focus the research design being considered for solving the problem. It allows the investigator to describe the problem systematically, to reflect on its importance, its priority in the country and region and to point out why the proposed research on the problem should be undertaken. It also facilitates peer review of the research proposal by the funding agencies.

A well-written conclusion provides you with important opportunities to demonstrate to the reader your overall understanding of the research problem. Presenting the last word on the issues you rose in your paper. Just as the introduction gives a first impression to your reader, the conclusion offers a chance to leave a lasting impression. Do this, for example, by highlighting key points in your analysis or results or by noting important or unexpected implications applied to practice. Summarizing your thoughts and conveying the larger significance of your study. The conclusion is an opportunity to succinctly answer the "So what?" question by placing the study within the context of past research about the topic you've investigated. Demonstrating the importance of your ideas. Don't be shy. The conclusion offers you the opportunity to elaborate on the impact of your findings. Also introduces possible new or expanded ways of thinking about the research problem. This does not refer to introducing new information [which should be avoided], but to offer new insight and creative approaches for framing/contextualizing the research problem based on the results of your study.

6.8 Field work

Try to collect reference material for the study of any novel prescribed in your syllabus. Analyze this reference material as your data for the study of the novel.

Chapter VII

Parts of Dissertation

7.0 Objectives

Friends, this chapter is going to discuss the various parts of a dissertation. Study of this chapter will introduce to the various elements of a dissertation. After studying this chapter you will be able to:

- Know all the various parts of dissertation
- How to make Certificate page
- How to write the Acknowledgement page
- How to write Abstract page
- How to prepare the Content Page
- How to enlist the Appendices
- How to prepare the Bibliography

7.1 Introduction

Friends, in the last chapter we have studied the research process. In this chapter we are going to study how to prepare various parts of a dissertation like Certificate page, acknowledgement page, abstract, content page, appendices, bibliography etc.

7.2 Introduction to Parts of Dissertation

This is the part of the dissertation which is probably most precisely prescribed by the university, which may, for example, have a set layout for the title page. There are several short components to these preliminaries, probably including;

Title page, including

- **Title of dissertation** and status:"A dissertation presented to *Name of University* in (partial) fulfilment of requirements for the degree of *Master of Arts* in the *Faculty of Social Sciences*, *month and year* By *Name of author"*
- **Table of Contents** (Some universities require this after the Abstract; check the rules)
- **Formal notices**, including
  - **Declaration of Originality**; formal confirmation that the work is solely that of the author (given a free hand, I would put this after the acknowledgements; it makes more sense there). In the event that the dissertation refers to your own previously published or submitted work, here is where to draw attention to how you will refer to it—generally in the same way as you would to anyone else's.
  - **Confirmation of ethics clearance**: again, requirements vary across universities, but make sure that they are addressed, whatever form they take.
  - **Acknowledgements**; may include the tutor/supervisor, anyone from whom specialist advice was sought, perhaps someone who prepared diagrams, or offered special IT support, or librarians and archivists who dug out obscure material for you... may also include mention of those who responded to a survey or consented to be interviewed. Best to mention others in the research group or team (as a rough rule of thumb, if you were to publish any of the dissertation as an article, who would you list as additional authors?); and people who acted as critical friends.
  - **Technical stuff**; such as a list of abbreviations and initials used within the text, or conventions used to refer to archive material.

Abstract

The Abstract is a very short summary or digest of an article or dissertation whose basic task is to tell a potential reader, searching for scholarly or research-based material by topic or title, whether or not this is what she is looking for. Writing a good one is quite a craft and there is no substitute for reading lots of abstracts to develop the knack of summarising and selecting the key points.

Indeed, drafting and re-drafting the abstract is a very useful exercise for an author, as one has to be rigorous about priorities when there may be a word-limit as short as 200 words.

Do check the regulations; some universities which specify a word-limit for the abstract may refuse to accept the dissertation if the abstract is one word over. It makes sense to give a word count at the end of the abstract. Check too just where it needs to be located.

Introduction

Generally speaking, the Introduction will set out;

1. The **aims and objectives** of the research; how tightly these can be specified will vary from discipline to discipline but they should have been defined and articulated at the very beginning of work on the dissertation. I won't say more on this because this is not about how to *do* your dissertation but about how to write it up, but suffice it to say that aims and subsidiary aims or objectives are critical.

2. The **context** of the work; the reader needs to get a handle on what this is about as soon as possible and the author's reasons for engaging with the topic.
   - The context may be **academic**; "Building on Aardvark and Molestrangler's seminal 2002 work on..." —in which case resist the temptation to go into detail because the place for that is in the Literature Review.
   - It may be **historic**; "The specification of underwater knitting as a core competence by the Institute of ... has led to..."
   - It may be **narrative**; "Based on the author's experience of teaching English as an additional language in Korea, this study uses a grounded-theory approach to generate alternative ethnographic accounts of ..."
   - Regardless, it should be as simple and clear and practical as possible. (The context of the choice of research methods is considered separately under Methodology.) It may well lead into...

3. A more detailed **exegesis** (OK! unpacking) of the title; which may include reasons for the choice of certain words, the reason for the part after the colon (which is generally to qualify and restrict the aspirations of the main title);
   - "Generating a theory of everything: necessity and sufficiency in explanatory accounts of the physical world by seven and eight year old children in an inner-city school." Why that grandiose first part? What it meant by "necessity and sufficiency" in this context? In turn this may lead into...

4. The more specific research **hypotheses** to be tested or **questions** to be answered. Each can be spelt out and then commented on for a paragraph or so. Do this with a view to re-visiting them in the conclusion. (In practice you may well be writing this after writing the conclusion, of course.) Tie these in to the aims and objectives—it may of course make more sense to re-arrange these items in order to make the links clearer. There is nothing sacrosanct about the order in which they are presented here.

5. **Exclusions**: you have to get these in somewhere, and up-front is the best place;

   - "The scope of the study does not extend to a consideration of... because of lack of time/resources/space..." "

   - As discussed in the *Literature Review* below, most previous work in this area has concentrated on... On this occasion, however, attention is directed at..."

6. The **shape** of the dissertation; outline, chapter by chapter, how the argument fits together, and mention the material which has been relegated to the appendices.

7. **Conventions** adopted;

   - "Because of the nature of the action-research process, the convention of the author referring to herself in the third person makes for convoluted expression and hard reading. After consultation, I have decided to adopt a first-person narrative voice..." ("After consultation" is important—you are less likely to get hammered if your supervisor agreed to it.)

   - "For simplicity, and where it does not affect the sense, reported interviews refer to the interviewer and interviewee as of opposite sexes..."

   - "All transcripts of interviews have been translated into English; original language versions are available if required, but will be destroyed (as *per* the ethics policy) as soon as assessment formalities have been completed..."

Literature Review

This is where you outline previous work on the topic, and organise it so as to inform the empirical work which will come later, and its discussion. Planning the literature (or research) review calls for careful thought. It needs to be comprehensive, but obviously in areas which have already been well-researched; it is not going to be possible to include everything ever written about the topic.

The obvious temptation is to set out the review in the order in which you came across the material; you have put a lot of work into reading a lot of stuff and so you are going to show how much work you have done by referring to all that stuff. That is not a good basis, unsurprisingly. It may make sense to you, but not to anyone coming across it afresh.

An appropriate historical discussion: Start with the first major work in the field (or from a date of your choosing if the history is long), and show how subsequent research and commentary has built on, modified, or rubbished it, leading into where your contribution fits.

Of course, not all the literature reviewed will be substantive research on the content of the topic. Some of it may involve outlining philosophical or even methodological principles which underpin what you are doing. Sometimes, however, where the points are quite specific and technical and not really up for debate, they can be dealt with comfortably within the Methodology chapter.

Methodology

The principal—and all too frequent—failing of this chapter is that it is insufficiently specific, and not tied in to the Findings which follow. The chapter has to explain how you got the findings, why they can be trusted, and how they answer the research questions/test the hypotheses.

1. The chosen research **paradigm**. I'm not going to go into that—this is a tactical rather than strategic guide—but it may be about:

   - Uncovering the "facts"
   - Making sense of them
   - Understanding what they mean to different actors
   - Locating them in a political or other context... *etc.*...

   This leads to...

2. A consideration of the **context** and indeed **constraints** of the research. That may mean;

   - Its academic or professional nature
   - Its organisational context and how that might influence the methods available. Is it undertaken on behalf of management or a sponsor, and what say do they have in it? Is it subject to any additional ethics approval beyond the university's internal procedures?
   - And the practicalities of access to people and resources.

3. The selection of a research **strategy**, such as (primarily);

Use of published statistics	Documentary / primary sources
Commentary (docs + journalism etc.)	Experiment
Surveys	Structured interviews
Unstructured interviews	Focus groups
Records of participant observation	Video or audio observation/tracking

   ...and any combination of the above.

4. The research **design**. This is getting rather technical for a guide like this, so what follows is indicative for a survey-based project, because the protocol for that is the most formal:

    - Sample construction
    - Survey method; on-line, phone, personal contact, mail... etc.
    - Consent and ethical considerations
    - Addressing sampling/ non-response bias
    - Instrument construction:

i. Addressing independent variables; questions on age and sex (and occupation, ethnicity) and how (and when) they are posed...

ii. Addressing dependent variables.

- Choice of method;

What questions did you ask and why and how would the answers, particularly cross-tabulated and significance tested, contribute to addressing the research questions/hypotheses? This is the crucial design question: it closes the loop, and you need to lay it out clearly. You do not need to go into detail for every question in the questionnaire or interview schedule, but the questions on the dependent variables need to show a clear line of accountability from the original research questions or hypotheses. How people can leave this out beats me, but many do, and inevitably suffer for it.

- Arrangements for piloting and any changes made as a result.

5. Of course in the real world the actual survey or round of interviews or video samples would have taken place weeks or months ago, and so you will probably be evaluating with hindsight rather than designing for the future. But it is best if you can start the writing and re-writing of this chapter while you are actually designing as well as reviewing after the event; that way the chapter becomes a device for checking progress and structured evaluation.

6. Finally, outline the methods used for processing the data. The actual results belong in the next chapter, but the choice of processing methods belongs here. Include *inter al.*;

    - Statistical techniques adopted, including significance testing—of course the instruments will have been designed with these in mind (won't it?) so this might fit in earlier.
    - Processing methods for qualitative data such as interviews, use of particular packages for tagging and identifying themes. There are conventions and procedures; show how they have been adopted.

- Ditto for audio- or video-recordings.
- Concessions to practicality, such as selective transcription.
- Use or non-use of independent judges for qualitative data. (People very rarely have the resources to use judges at this level, but better to admit that you didn't, much as you would have liked to, rather than ignore the possibility. Markers do understand such things.)

The structure will of course vary from discipline to discipline.

Findings and Discussion

Whether you deal with these separately or together will depend very much on the kind of research you have undertaken, and so it is harder to be prescriptive about the structure of these chapter(s); what follow are mostly simply suggestions.

What is more than just a suggestion, however, is that you signpost clearly in an introductory paragraph just how you are going to present the material. Raw findings easily become fragmented and hard to follow, which is why you may need to discuss and evaluate them as you are going along rather than delay the findings until you have set out all your wares.

Findings themselves

Did you include questions about independent variables such as age and sex etc., so that you could determine the fit between your sample and the overall population? It's important but not exactly exciting; get it out of the way. We shouldn't have to say this, but even in otherwise good dissertations the use and presentation of statistics is often abysmal.

Whether or not charts and tables (or interview transcripts) are presented "in-line" as part of the narrative of the chapter, or separated into appendices is an important choice, but it does not have to be all-or-nothing; just make it clear at the start of the chapter what rule you are going to apply. The referencing of material in appendices is critical, and it is worth getting to grips with automatic cross-referencing in your word-processor, so that when you edit you do not lose track and point the reader to the wrong table or chart.

There are many ways of picking a route through the data:

- Unless explicitly forbidden to do so by the rubrics, use well-structured sub-headings to help the reader keep track. This chapter is probably the easiest in the entire dissertation for the reader to misunderstand, often by confusing just which part of the evidence a point belongs to.
- Sometimes you may want to follow the order of the questions you asked of your respondents. On the whole that works better for interview-based data than for questionnaires, because in the case of the latter the interesting material comes largely from

the cross-tabulation of answers to two or more questions, so it is not always clear in what order to take them.

- Sometimes you may use the actual research questions posed in the *Introduction* (remember that?) but the information in your findings may be too "fine-grained" for that to work directly.

Discussion itself

This is the heart of the dissertation. This is where you tie together the research questions or hypotheses, the data you have unearthed, and the previous research and models and arguments. In a sense, anything goes in this chapter, except that if it is separate from the *Findings*, there should be no new information or data. It is all about the potential meaning(s) of data you have already reported, whether yours or that of previous researchers.

You can now speak in your own voice, as it were (although don't switch from third-person to first-person if you are using that convention). This is also where you should in some measure evaluate your efforts and their limitations. If the research design did not prove up to the task, say why and how that qualifies the results; if the survey suffered from a poor response rate, don't try to cover it up, but discuss how this might have upset the sampling. The marker will already have noticed these limitations anyway, so there is no point in trying to conceal them, but you show your professionalism by the way you address them.

BODY MATTER

The body matter contains the main text of the dissertation. It is commonly divided into chapters, which are often (but not necessarily) of approximately the same length. Each chapter title should provide a reasonable clue to the contents of the chapter. Choose short title chapters; in case this is not possible, consider having shorter versions to be used in the Table of Contents and as running heads.

Chapter 1/Introduction

The first chapter in a dissertation is commonly labelled "Introduction" and serves to acquaint the reader with the topic of investigation, its importance for science, and the issues it raises. The Introduction often includes a literature overview, where the author provides short summaries of works relevant for the topic. The goal with this exercise is twofold: to show what is already known about the problem(s) dealt with in the dissertation, and to demonstrate that the doctoral candidate is familiar with the findings in his/her assumed field of expertise.

The middle chapters

The exact structure of the middle chapters may vary, depending on the scientific field. In the exact sciences, one normally uses the IMRAD format (**I**ntroduction – **M**ethods, **R**esults **and D**iscussion). (The introduction part naturally belongs to the first chapter

"Introduction".) Dissertations in other fields may include one or more chapters on the theory and data.

In some dissertations, the middle chapters are journal articles where the doctoral candidate is a first author. This model has certain disadvantages. Firstly, the dissertation cannot be easily published as a book later on. Secondly, it might be tricky to write a common introduction/conclusion for all the different papers.

Final chapter/Conclusion

The final chapter of a dissertation is almost inevitably called "Conclusion". It summarizes the conclusions of the scientific investigation, the solutions to the problems stated in the beginning, suggestions for future research, and practical implications of the findings. This chapter should be relatively short and preferably written in a way that it can stand alone. Avoid copy-pasting sentences from the Abstract and the Introduction.

Sections in a chapter

Long chapters can be divided into sections, which can be further divided into subsections and sub-subsections. When a chapter is divided in sections, there should be at least two of them. Just one section in a chapter is illogical and asymmetric — you should not have any sections at all in such case. The same applies to subsections and sub-subsections.

Numbering of sections

Numbering the sections and subsections in a chapter provides an easy way for cross-referencing. The most common numbering system is the *multiple numeration system*, where the number of each division is preceded by the number(s) of the higher division(s). For instance, the number 3.2 signifies Section 2 in Chapter 3; the number 5.4.2 signifies Subsection 2 in Section 4 in Chapter.

Conclusion

Unless the requirements call for *Recommendations* as they may in the case of professionally-based programmes, the conclusion should be relatively brief and to the point, usually based on a re-visitation of the research questions (not in enormous detail) and a summary statement of what we can now say about the title.

References

...or separate References and Bibliography, if called for by the regulations.

Appendices

There are policy matters to resolve about how much evidence to include in appendices. In general, however, be guided by the common-sense questions;

- What have you already promised will be available in the appendices?
- And what material is a marker likely to want to see, which is not important enough to go in the main text?

In all probability this will mean that you do not have to include original completed questionnaires or complete transcripts of interviews or focus groups, but should include all original statistical calculations in tabular format.

Video or audio material may be included; make sure that it is presented appropriately so that specific sections can easily be accessed.

You may also need to include some primary source material not readily available to a marker; if so, it will need to be redacted and anonymised.

The components of a doctoral dissertation and their order

Dedication (optional)

On the dedication page the author names the person(s) for whom the book is written. It is for the author to decide whether to have a dedication or not. It is not necessary to identify the person(s) to whom the work is dedicated.

Epigraph (optional)

The epigraph is a short quotation or a poem, which usually serves to link the book to other, usually well-known, published works. The source of the quotation is given on the line following the epigraph and is usually aligned right, often preceded by a dash.

Table of Contents

The table of contents (often titled just Contents) is the first page on which the page number appears (v, vii or ix – depending on whether there is a dedication/ epigraph). The table of contents should contain the title and beginning page number of everything that follows it: acknowledgements, book parts, chapters, sections, list of references, etc. If some chapter titles are too long, consider choosing alternative short titles to be used in the table of contents. Do not include the contents in the table of contents unless you want to make a joke.

List of Illustrations (optional)

The list of illustrations contains all illustrations in the dissertation and the page numbers where they can be found. If there are various kinds of illustrations, the list can be divided into parts, such as Figures, Maps, etc. The titles of the illustrations need not correspond exactly to the captions printed with the illustrations themselves; you can use shortened titles. The list of Illustrations is usually titled simply Illustrations, but appears as List of Illustrations in the table of contents.

List of Tables

A list of tables (usually titled just Tables but entered in the table of contents as List of Tables) contains all tables and their page numbers. The titles of the tables may be shortened if needed.

Note on Transliteration

Sometimes, the author may need to add a list of the transliterations used in the book. This is best done in the front matter and can include a table specifying the conversion of each symbol of the source alphabet into a symbol of the target alphabet.

List of abbreviations

The list of abbreviation contains all the abbreviations used in the body text of the dissertation, listed in an alphabetical order. If the list is less than a page, it can be places on the left-hand page next to the first page of text.

5. BACK MATTER

The contents of the back matter are generally supplementary and often non-essential. The back matter of a dissertation comprises the following parts:

Appendix

The material found in the appendix is not essential to the dissertation, but can be helpful for the reader who seeks further information. Examples are: source texts, lists, survey questionnaires, and sometimes even charts and tables. The appendix should not be a repository of raw data that the author has not been able to work into the main text.

If there are two or more appendices, they are designated by letters: Appendix A, Appendix B, etc.

Notes

The notes section must be arranged by chapters, with chapter numbers and even chapter titles serving as section titles.

Bibliography/Reference List

A reference list includes all sources cited in the work. A bibliography contains all sources the author has consulted, including sources that are not cited in the work: these can be background readings, relevant articles, etc.

No matter whether you have a Reference List or a Bibliography, make sure that all works cited in the text are included there. There is nothing worse than searching for a cited article in the back matter and not finding it there.

7.1 Check your progress

1. What does a title page have?

2. What is the purpose of Introduction chapter?

3. What should be the structure of Conclusion chapter?

4. Describe the numbering of sections.

5. What does an appendix consist of?

6. What does table of content consists of?

7. What does list of illustrations contain?

8. What does back matter consists of?

7.3 Certificate Page

Order of the contents

1. Title page
2. Declaration / Supervisor certificate / Dean's Approval
3. Acknowledgement
4. Table of contents with page numbers

5. List of fig & tables with page numbers
6. Abstract
7. Main text
8. Bibliography or list of references
9. Appendices

Size: International standard paper size A4 (297x210mm) should be used.

Page number: Page should be numbered consecutively and clearly. No page number should be indicated on title page, supervisors' certificates, declaration and acknowledgement; however pages are to counted from title page. From title page to abstract page Greek numbers should be used. From main text to end of thesis Indian numerals should be used. All typing should be on right hand pages only.

Margin: Top 1.0", Bottom 1.0" Left 1.5" Right 1.0"

Line spacing: 1.5

Font: Times new roman, size 10/12 for text, larger fonts may be used for headings & subheadings.

Folded diagram/charts: These should be arranged so as to open to the top and right.

Landscape chart/ fig: Bottom of chart/ fig should be on right side.

CD-ROM: All thesis/ report should include soft copy on CD-ROM accompanied with thesis/report in pocket pasted on inside of back cover.

Text: Before producing the final copies of a thesis/project report the candidate should ensure that all the spelling, grammar, punctuation and bibliography is complete and exact.

Title Page

Title of the Thesis/Report

Thesis/Report submitted in partial fulfillment of the requirement for the degree of

Ph.D

In

English Language

Under the Supervision of

XYZ

By

ABC

To

University School of Chemical Tech. Guru Gobind Singh Indraprastha University

Kashmere Gate, Delhi-06

Month Year

DECLARATION

This is to certify that Thesis/Report entitled "……"which is submitted by me in partical fulfillment of the requirement for the award of degree Ph. D. in English Literature to USCT, GGSIP University, Kashmere Gate, Delhi comprises only my original work and due acknowledgement has been made in the text to all other material used.

Date: ***Name of Student***

APPROVED BY **.....**

Dean

Humanities

Certificate

This is to certify that thesis/Report entitled "……." which is submitted by …… in partial fulfillment of the requirement for the award of degree Ph.D in English Language to USCT, GGSIP University, Kashmere Gate, Delhi is a record of the candidate own work carried out by him under my/our supervision. The matter embodied in this thesis is original and has not been submitted for the award of any other degree.

Date: **Supervisor**

Abstract: An abstract should be 300-500 words in English.

Main Text: Candidates are strongly advised to discuss with their supervisor the style of writing of the thesis/project report before writing begins. The Stages of investigation and writing are likely to be according to the nature of the subject and should be worked out in consultation with supervisor. However the text should be divided in the chapters and each chapter, headings and subheadings should be numbered like x.y.z.A.B….. where x stands for chapter number y stands for headings and z, A, B.. etc stands for subsequent subheadings. Chapter heading should be edited at center while heading and subheadings should be edited at left. There should be separated uniformity in headings and subheadings. Main chapter heading should be in capital letters. Each paragraph should be started from the next line of heading and subheadings. The general guidelines for chapters are as follows, references should be quoted by authors name or by S. No.

For Research project

1. Introduction
2. Literature review
3. Scope of the work
4. Materials and Methods
5. Results and discussions
6. Conclusions
7. References

Reference: All the references should be arranged alphabetically or serially as the case may be for quoting in text.

For Journals:

Kerr, G.T.: Chemistry of Crystalline Aluminositicate; **The J. Phy. Chem.**, April 1968, vol.73, no.3 pp1385-1386.

Garside, J. et-al; Industrial crystallization from solution; **Chem..Engg. Sci**., 1985, vol. 40, no.2, pp. 3-26.

For books:

MeCabe and Smith; **Unit Operations in Chemical Engg.**, 4th ed., TMH, pp.812-814.

Thesis/project report preparation & binding;

Thesis/reports should normally be bound using temporary binding to facilitate the incorporation of amendments which might be required by the examiners. After examination thesis should be hard bound to resist damage or knocking. Twing-ring, spring-back and spiral binders are not acceptable, as thesis bound in these ways frequently do not survive longer.

7.4 Acknowledgement page

ACKNOWLEDGEMENT

I would like to take this opportunity to express my profound gratitude and deep regard to my *(Project Guide name)*, for her exemplary guidance, valuable feedback and constant encouragement throughout the duration of the project. His/Her valuable suggestions were of immense help throughout my project work. His/Her perceptive criticism kept me working to make this project in a much better way. Working under him/her was an extremely knowledgeable experience for me.

I would also like to give my sincere gratitude to all the friends and colleagues who filled in the survey, without which this research would be incomplete.

GUIDELINES FOR WRITING ACKNOWLEDGEMENTS

A page of acknowledgements is usually included at the beginning immediately after the Table of Contents.

Acknowledgements enable you to thank all those who have helped in carrying out the research. Careful thought needs to be given concerning those whose help should be acknowledged and in what order. The general advice is to express your appreciation in a concise manner and to avoid strong emotive language.

Note that personal pronouns such as 'I, my, me …' are nearly always used in the acknowledgements while in the rest of the project such personal pronouns are generally avoided.

The following list includes those people who are often acknowledged.
Note however that every project is different and you need to tailor your acknowledgements to suit your particular situation.

Main supervisor
Second supervisor
Other academic staff in your department
Technical or support staff in your department
Academic staff from other departments
Other institutions, organizations or companies
Past students
Family *
Friends *

* If you wish to acknowledge the help of family members or friends make sure you restrict the wording of your thanks to a relatively formal register.

Study the two examples below. In each one, the acknowledgement of a friend and a family member has been expressed in an inappropriate manner. Read the acknowledgement and then answer the questions that follow.

Example 1.
I wish to thank my boyfriend Jack for his assistance with the statistics used in this report.

This sounds too personal.

Example 2.
I would like to thank my mother for providing me with delicious dinners when I came home late from the university.

This sounds too personal.

Common expressions used to acknowledge assistance

The following vocabulary/phrases are often used when expressing acknowledgements and they may be of help when writing your own acknowledgements.

I would like to express my very great appreciation to ***
I would like to offer my special thanks to ***
Advice given by *** has been a great help in ***
I am particularly grateful for the assistance given by ***
Assistance provided by *** was greatly appreciated.
I wish to acknowledge the help provided by ***
Dr *** provided me with very valuable ***
I would like to thank the following companies for their assistance with the collection of my data:
***
***

My special thanks are extended to the staff of *** company for ***

Acknowledgements format

- The Acknowledgements page is required for all theses and dissertations. It follows the Approval page, unless you have included the optional Dedication page, in which case it follows the Dedication page.
- Center the term “ACKNOWLEDGEMENTS.”
- The page number should be Roman numeral "ii".
- Indent and double-space the body of the text.
- There is no length restriction.

7.5 Abstract

HOW TO WRITE A RESEARCH ABSTRACT

Research abstracts are used throughout the research community to provide a concise description about a research project. It is typically a short summary of your completed research. If done well, it makes the reader want to learn more about your research. Some students present their research findings at local and national conferences. Research abstracts are usually requested as part of the application process for conference presenters. These are the basic components of an abstract in any discipline:

1) Motivation/problem statement: Why do we care about the problem? What practical, scientific, theoretical or artistic gap is your research filling?

2) Methods/procedure/approach: What did you actually do to get your results? (e.g. analyzed 3 novels, completed a series of 5 oil paintings, interviewed 17 students)

3) Results/findings/product: As a result of completing the above procedure, what did you learn/invent/create?

4) Conclusion/implications: What are the larger implications of your findings, especially for the problem/gap identified in step 1? However, it's important to note that the weight accorded to the different components can vary by discipline. For models, try to find abstracts of research that is similar to your research.

Qualities of a Good Abstract Well developed paragraphs are unified, coherent, concise, and able to stand alone uses an introduction/body/conclusion structure which presents the article, paper, or report's purpose, results, conclusions, and recommendations in that order Follows strictly the chronology of the article, paper, or report provides logical connections (or transitions) between the information included adds no new information, but simply summarizes the report is understandable to a wide audience. Often at times uses passive verbs to downplay the author and

emphasize the information Steps to Writing Effective Abstracts Reread the article, paper, or report with the goal of abstracting in mind. Look specifically for these main parts of the article, paper, or report: purpose, methods, scope, results, conclusions, and recommendation. If you're writing an abstract about another person's article, paper, or report, the introduction and the summary are good places to begin. These areas generally cover what the article emphasizes. After you've finished rereading the article, paper, or report, write a rough draft without looking back at what you're abstracting. Don't merely copy key sentences from the article, paper, or report: you'll put in too much or too little information. Don't rely on the way material was phrased in the article, paper, or report: summarize information in a new way. Don'ts do not commence with "this paper…", "this report…" or similar. It is better to write about the research than about the paper. Do not explain the sections or parts of the paper. Avoid sentences that end in "…is described", "…is reported", "…is analyzed" or similar. Do not begin sentences with "it is suggested that…" "it is believed that…", "it is felt that…"or similar. In every case, the four words can be omitted without damaging the essential message. Do not repeat or rephrase the title. Do not refer in the abstract to information that is not in the document. If possible, avoid trade names, acronyms, abbreviations, or symbols. You would need to explain them, and that takes too much room. The abstract should be about the research, not about the act of writing. Where to Find Examples of Abstracts: The best source of example abstracts is journal articles. Go to the library and look at biology journals, or look at electronic journals on the web. Read the abstract; read the article. Pick the best ones, the examples where the abstract makes the

article easier to read, and figure out how they do it.

What is an Abstract?

An abstract is a self-contained, short, and powerful statement that describes a larger work. Components vary according to discipline. An abstract of a social science or scientific work may contain the scope, purpose, results, and contents of the work. An abstract of a humanities work may contain the thesis, background, and conclusion of the larger work. An abstract is not a review, nor does it evaluate the work being abstracted. While it contains key words found in the larger work, the abstract is an original document rather than an excerpted passage.

Why write an Abstract?

You may write an abstract for various reasons. The two most important are selection and indexing. Abstracts allow readers who may be interested in a longer work to quickly decide whether it is worth their time to read it. Also, many online databases use abstracts to index larger works. Therefore, abstracts should contain keywords and phrases that allow for easy searching.

Selection

Say you are beginning a research project on how Brazilian newspapers helped Brazil's ultra-liberal president Luiz Ignácio da Silva wrest power from the traditional, conservative power base. A good first place to start your research is to search Dissertation Abstracts International for all dissertations that deal with the interaction between newspapers and politics. "Newspapers and politics" returned 569 hits. A more selective search of "newspapers and Brazil" returned 22 hits.

That is still a fair number of dissertations. Titles can sometimes help winnow the field, but many titles are not very descriptive. For example, one dissertation is titled "Rhetoric and Riot in Rio de Janeiro." It is unclear from the title what this dissertation has to do with newspapers in Brazil. One option would be to download or order the entire dissertation on the chance that it might speak specifically to the topic. A better option is to read the abstract. In this case, the abstract reveals the main focus of the dissertation:

> *This dissertation examines the role of newspaper editors in the political turmoil and strife that characterized late First Empire Rio de Janeiro (1827-1831). Newspaper editors and their journals helped change the political culture of late First Empire Rio de Janeiro by involving the people in the discussion of state. This change in political culture is apparent in Emperor Pedro I's gradual loss of control over the mechanisms of power. As the newspapers became more numerous and powerful, the Emperor lost his legitimacy in the eyes of the people. To explore the role of the newspapers in the political events of the late First Empire, this dissertation analyzes all available newspapers published in Rio de Janeiro from 1827 to 1831. Newspapers and their editors were leading forces in the effort to remove power from the hands of the ruling elite and place it under the control of the people. In the process, newspapers helped change how politics operated in the constitutional monarchy of Brazil.*

From this abstract you now know that although the dissertation has nothing to do with modern Brazilian politics, it does cover the role of newspapers in changing traditional mechanisms of power. After reading the abstract, you can make an informed judgment about whether the dissertation would be worthwhile to read.

When do people write abstracts?

- when submitting articles to journals, especially online journals
- when applying for research grants
- when writing a book proposal
- when completing the Ph.D. dissertation or M.A. thesis
- when writing a proposal for a conference paper
- when writing a proposal for a book chapter

Most often, the author of the entire work (or prospective work) writes the abstract. However, there are professional abstracting services that hire writers to draft abstracts of other people's work. In a work with multiple authors, the first author usually writes the abstract. Undergraduates are sometimes asked to draft abstracts of books/articles for classmates who have not read the larger work.

Types of Abstracts

There are two types of abstracts: **descriptive** and **informative**. They have different aims, so as a consequence they have different components and styles. There is also a third type called **critical**,

but it is rarely used. If you are unsure which type of abstract you should write, ask your instructor or read other abstracts in your field or in the journal where you are submitting your article.

Descriptive abstracts

A descriptive abstract indicates the type of information found in the work. It makes no judgments about the work, nor does it provide results or conclusions of the research. It does incorporate key words found in the text and may include the purpose, methods, and scope of the research. Essentially, the descriptive abstract describes the work being abstracted. Some people consider it an outline of the work, rather than a summary. Descriptive abstracts are usually very short—100 words or less.

Informative abstracts

The majority of abstracts are informative. While they still do not critique or evaluate a work, they do more than describe it. A good informative abstract acts as a surrogate for the work itself. That is, the writer presents and explains all the main arguments and the important results and evidence in the complete article/paper/book. An informative abstract includes the information that can be found in a descriptive abstract (purpose, methods, scope) but also includes the results and conclusions of the research and the recommendations of the author. The length varies according to discipline, but an informative abstract is rarely more than 10% of the length of the entire work. In the case of a longer work, it may be much less.

Descriptive abstract:

The two most common abstract types—descriptive and informative—are described and examples of each are provided.

Informative abstract:

Abstracts present the essential elements of a longer work in a short and powerful statement. The purpose of an abstract is to provide prospective readers the opportunity to judge the relevance of the longer work to their projects. Abstracts also include the key terms found in the longer work and the purpose and methods of the research. Authors abstract various longer works, including book proposals, dissertations, and online journal articles. There are two main types of abstracts: descriptive and informative. A descriptive abstract briefly describes the longer work, while an informative abstract presents all the main arguments and important results.

Which type should I use?

Your best bet in this case is to ask your instructor or refer to the instructions provided by the publisher. You can also make a guess based on the length allowed; i.e., 100-120 words = descriptive; 250+ words = informative.

How do I write an abstract?

The format of your abstract will depend on the work being abstracted. An abstract of a scientific research paper will contain elements not found in an abstract of a literature article, and vice versa. However, all abstracts share several mandatory components, and there are also some optional parts that you can decide to include or not. When preparing to draft your abstract, keep the following **key process elements** in mind:

- **Reason for writing:**
  What is the importance of the research? Why would a reader be interested in the larger work?
- **Problem:**
  What problem does this work attempt to solve? What is the scope of the project? What is the main argument/thesis/claim?
- **Methodology:**
  An abstract of a scientific work may include specific models or approaches used in the larger study. Other abstracts may describe the types of evidence used in the research.
- **Results:**
  Again, an abstract of a scientific work may include specific data that indicates the results of the project. Other abstracts may discuss the findings in a more general way.
- **Implications:**
  What changes should be implemented as a result of the findings of the work? How does this work add to the body of knowledge on the topic?

(This list of elements is adapted with permission from Philip Koopman, "How to Write an Abstract.")

All abstracts include:

- A full citation of the source, preceding the abstract.
- The most important information first.
- The same type and style of language found in the original, including technical language.
- Key words and phrases that quickly identify the content and focus of the work.
- Clear, concise, and powerful language.

Abstracts may include:

- The thesis of the work, usually in the first sentence.
- Background information that places the work in the larger body of literature.
- The same chronological structure as the original work.

How not to write an abstract:

- Do not refer extensively to other works.
- Do not add information not contained in the original work.
- Do not define terms.

If you are abstracting someone else's writing

When abstracting something you have not written, you cannot summarize key ideas just by cutting and pasting. Instead, you must determine what a prospective reader would want to know about the work. There are a few techniques that will help you in this process:

Identify key terms:

Search through the entire document for key terms that identify the purpose, scope, and methods of the work. Pay close attention to the Introduction (or Purpose) and the Conclusion (or Discussion). These sections should contain all the main ideas and key terms in the paper. When writing the abstract, be sure to incorporate the key terms.

Highlight key phrases and sentences:

Instead of cutting and pasting the actual words, try highlighting sentences or phrases that appear to be central to the work. Then, in a separate document, rewrite the sentences and phrases in your own words.

Don't look back:

After reading the entire work, put it aside and write a paragraph about the work without referring to it. In the first draft, you may not remember all the key terms or the results, but you will remember what the main point of the work was. Remember not to include any information you did not get from the work being abstracted.

No matter what type of abstract you are writing, or whether you are abstracting your own work or someone else's, the most important step in writing an abstract is to revise early and often. When revising, delete all extraneous words and incorporate meaningful and powerful words. The idea is to be as clear and complete as possible in the shortest possible amount of space. The Word Count feature of Microsoft Word can help you keep track of how long your abstract is and help you hit your target length.

7.2 Check your progress

1. What is the pattern of page numbering in a thesis?

2. How should acknowledgment be framed?

3. What are the components of an abstract?

4. What is a descriptive abstract?

5. What is an informative abstract?

6. What are the do's in writing abstracts?

7. What are the don'ts in writing abstracts?

7.6 Content Page

For Academic Papers

This table of contents is an essential part of writing a long academic paper, especially theoretical papers.

It is usually not present in shorter research articles, since most empirical papers have similar structure.
A well laid out table of contents allows readers to easily navigate your paper and find the information that they need. Making a table of contents used to be a very long and complicated process, but the vast majority of word-processing programs, such as Microsoft WordTMandOpen Office, do all of the hard work for you.
It is usually not present in shorter research articles, since most empirical papers have similar structure.
A well laid out table of contents allows readers to easily navigate your paper and find the information that they need. Making a table of contents used to be a very long and complicated process, but the vast majority of word-processing programs, such as Microsoft WordTM and Open Office, do all of the hard work for you.
This saves hours of painstaking labor looking through your paper and makes sure that you have picked up on every subsection. If you have been using an outline as a basis for the paper, then you have a head start and the work on the table of contents formatting is already half done. Whilst going into the exact details of how to make a table of contents in the program lies outside the scope of this article, the Help section included with the word-processing programs gives a useful series of tutorials and trouble-shooting guides.

That said, there are a few easy tips that you can adopt to make the whole process a little easier.

The Importance of Headings

In the word processing programs, there is the option of automatically creating headings and subheadings, using heading 1, heading 2, heading 3 etc on the formatting bar. You should make sure that you get into the habit of doing this as you write the paper, instead of manually changing the font size or using the bold format.

Once you have done this, you can click a button, and the program will do everything for you, laying out the table of contents formatting automatically, based upon all of the headings and subheadings.

In Word, to insert a table of contents, first ensure that the cursor is where you want the table of contents to appear. Once you are happy with this, click 'Insert' on the drop down menu, scroll down to 'Reference,' and then across to 'Index and Tables'.

Click on the 'Table of Contents' tab and you are ready to click OK and go. OpenOffice is a very similar process but, after clicking 'Insert,' you follow 'Indexes and Tables' and 'Indexes and Tables' again.

The table of contents should appear after the title page and after the abstract and keywords, if you use them. As with all academic papers, there may be slight variations from department to department and even from supervisor to supervisor.
Check the preferred table of contents format before you start writing the paper, because changing things retrospectively can be a little more time consuming.

Format for a Research Paper

1. Paper

Use clean, good quality 8 1/2" x 11" white paper, one side only.

2. Margins

Leave margins of your essay 1" (2.5 cm) at the top, bottom, left and right sides of each and every page. 1" is about 10 typed spaces. Exception is made for page numbers which are placed 1/2" (1.25 cm) from the top upper-right hand corner, flushed to the right margin.

3. Title Page

A title page is not essential for a research paper unless specifically requested by your teacher. The MLA Handbook provides a general guideline on writing a research paper and documenting sources. In case of conflict, you should always follow guidelines set down by your teacher.

If you don't have a title page, you may begin 1" from the top of the first page of your essay and start typing your name flush against the left margin. Then under your name, on separate lines,

double-spaced, and flush against the left margin, type your teacher's name, your course code, and the date.

If your teacher prefers that the first page of your essay not be numbered, you will begin numbering with page 2.

Double-space after the date. On a new line, center the title of your essay. If you have a long title, double-space between lines of the title.

4. Numbering Pages and Paragraphs

Number your pages consecutively throughout the essay in the upper right hand corner, flush with the right margin and 1/2" from the top. The MLA Handbook recommends that you type your last name just before the page number in case the pages get misplaced (134). On page 4 of your essay, for example, your top right-hand corner should show: Jones 4

Page numbers must be written in Arabic numerals. Do not add anything fancy to decorate a page number. Do not underline it, enclose it between hyphens, parentheses, asterisks, or precede it with "Page", "Pg.", "P.", or add a period after the number. In other words, DO NOT use any of the following:

PAGE 4, Page 4, Pg. 4, P 4, pg. 4, p. 4, #4, ~ 4 ~, - 4 -, * 4*, (4), “4”, 4, or 4.

Simply write: 4

Remember, there is no period after the page number.

[1] If you are submitting your essay to your teacher via e-mail, he or she may prefer that you number all your paragraphs consecutively with reference points by adding [1] at the beginning of your 1st paragraph, [2] before your 2nd paragraph, and so forth. Electronic submission of documents is becoming more common as e-mail is being used widely. This system will facilitate the citation of sources by identifying a specific paragraph for reference very quickly.

5. Spacing between Lines

Whether your essay is handwritten, typed or printed, the entire essay should be double-spaced between lines along with 1" margin on all sides for your teacher to write comments.

Spacing between Words

In general, leave one space between words and one space after every comma, semi-colon, or colon. Traditionally, two spaces are required at the end of every sentence whether the sentence

ends with a period, a question mark, or an exclamation mark. Although it is not wrong to leave two spaces after a period, it is quite acceptable nowadays to leave only one space after each punctuation. However, NO space should be left in front of a punctuation mark; for example, the following would be incorrect: op. cit. Or "Why me?"

6. Indentation

If a handwritten essay is acceptable to your teacher, remember to double-space all lines, and begin each paragraph with an indentation of 1" from the left margin. Use the width of your thumb as a rough guide.

If you are using a typewriter or word processor on a computer, indent 5 spaces or 1/2" at the beginning of each paragraph. Indent set-off quotations 10 spaces or 1" from the left margin.

Your instructor may give you a choice to indent or not to indent your paragraphs. Whichever one you choose to use, you must be consistent throughout your essay.

If you are not indenting, you will start each paragraph flush to the left margin. It is essential that you double-space between lines and quadruple-space between paragraphs. When paragraphs are not indented, it is difficult for a reader to see where a new paragraph begins; hence quadruple-space is called for between paragraphs. Set-off quotations should still be indented 10 spaces or 1" from the left margin.

7. Right Justify and Automatic Hyphens:

Do not right justify your entire essay and do not automatically format hyphens if you are using a word processor to type your essay. Left justify or justify your essay and type in the hyphens yourself where needed. Left justification is preferred as it will not leave big gaps between words.

8. Titles of Books, Magazines, Newspapers, or Journals

When used within the text of your paper, titles of all full-length works such as novels, plays, books, should be underlined, e.g. Shakespeare's Theatre.

Put in quotation marks titles of shorter works, such as newspaper, journal, and magazine articles, chapters of books, or essays, e.g.: "Giving Back to the Earth: Western Helps Make a Difference in India."

For all title citations, every word, except articles ("a", "an", "the"), prepositions (such as "in", "on", "under", "over"), and conjunctions (such as "and", "because", "but", "however"), should be

capitalized, unless they occur at the beginning of the title or subtitle, e.g.: "And Now for Something Completely Different: A Hedgehog Hospital."

Look it up in a dictionary whenever you are not sure whether a word is being used as a preposition, a conjunction, a noun, a verb, or an adverb. The word "near", for instance, may be an adverb, an adjective, a verb, or a preposition depending on the context in which it is used.

For complicated details on how to cite titles and quotations within titles, sacred texts, shortened titles, exceptions to the rule, etc. please consult the MLA Handbook (102-109).

9. Writing an Essay All in Capital Letters:

Do not write or type everything all in capital letters even though this saves you time and effort not to have to use the shift key repeatedly or to have to figure out when or when not to use capital letters. Some people write everything in capital letters because they had never learned to write sentences in upper and lower-case letters properly when they were in elementary school. Other people write all in capital letters because they want to make what they write appear important. Reading a paper all written in capital letters, especially one without spaces after punctuation marks, slows down reading speed and may even reduce reader comprehension, besides being extremely annoying to the reader. Remember that the purpose of writing anything is to communicate. Most of us are not conditioned to read all text in capital letters. Word processors also treat words stuck together without spaces as single words causing other problems.

10. Table of Contents

A short essay or research paper requires no Table of Contents.

If your written report or research paper is extremely long, it may be helpful to include a Table of Contents showing the page number where each section begins.

For those writing a lengthy document, i.e. a book, here is the suggested order for placing items in a Table of Contents:

Acknowledgements, Foreword, Introduction, Body (Parts I, II, III), Summary or Conclusion, Afterword, Explanatory Notes, Appendices, Contact Organizations, Glossary, Endnotes (if not using Footnotes or Parenthetical citations), Bibliography, Index.

A less involved Table of Contents may include simply the following sections: Introduction, Body (use main section headings), Conclusion (or Summary), Works Cited (or References), along with the corresponding page number where each section begins.

Example:

CONTENTS

11. End of Essay

No special word, phrase or fancy symbol is needed to mark the end of your essay. A period at the end of your last sentence is all that is needed.

12. Keeping Essay Together

Sheets of paper should be stapled at the upper left-hand corner. Use a paper clip if no stapler is available. Do not use a pin or fold the paper. Unless specifically requested by your teacher, do not hand in your paper in a folder, a binder, a plastic jacket, rolled up with an elastic band around it, or tied with a ribbon or a string. Do not spray perfume or cologne on your paper or use scented paper. And NEVER hand in your research or term paper in loose sheets even if the sheets are numbered and neatly placed in an envelope or folder.

The condition of the paper you hand in is an indication of the respect you have for yourself and the respect you have for your teacher. Before handing in your paper, ask yourself, "Is this the very best that I can do?"

7.7 Appendices

Definition

An appendix contains supplementary material that is not an essential part of the text itself but which may be helpful in providing a more comprehensive understanding of the research problem and/or it is information which is too cumbersome to be included in the body of the paper. A separate appendix should be used for each distinct topic or set of data and always have a title descriptive of its contents.

Your research paper must be complete without the appendices, and it must contain all information including tables, diagrams, and results necessary to address the research problem. The key point to remember when you are writing an appendix is that the information is non-essential; if it were removed, the study would still be understandable to the reader.

It is appropriate to include appendices...

- When the incorporation of material in the body of the work would make it poorly structured
- When the information is too long and detailed to be easily summarized in the body of the paper, and
- To ensure inclusion of helpful, supporting, or essential material that would otherwise clutter or break up the narrative flow of the paper, or it would be distracting to the reader.

Structure and Writing Style

I. General Points to Consider

When considering whether to include content in an appendix, keep in mind the following points:

1. **It is usually good practice to include your raw data** in an appendix, laying it out in a clear format so the reader can re-check your results. Another option if you have a large amount of raw data is to consider placing it online and note this as the appendix to your research paper.
2. **Any tables and figures included in the appendix should be numbered as a separate sequence from the main paper**. Remember that appendices contain non-essential information that, if removed, would not diminish a reader's understanding of the overall research problem being investigated. This is why non-textual elements should not carry over the sequential numbering of elements in the paper.
3. **If you have more than three appendices, consider listing them on a separate page at the beginning of your paper**. This will help the reader know before reading the paper what information is included in the appendices [always list the appendix or appendices in a table of contents].
4. **The appendix can be a good place to put maps, photographs, diagrams, and other non-textual elements**, if you feel that it will help the reader to understand the content of your

paper, while keeping in mind the point that the paper should be understandable without them.

5. **An appendix should be streamlined and not loaded with a lot information**. If you have a very long and complex appendix, it is a good idea to break it down into separate appendices, allowing the reader to find relevant information quickly.

II. Contents

Appendices may include some of the following, all of which should be referred to or summarized in the text of your paper:

- Supporting evidence [e.g. raw data]
- Contributory facts or specialized data [raw data appear in the appendix, but with summarized data appearing in the body of the text].
- Sample calculations
- Technical figures, graphs, tables, statistics
- Detailed description of research instruments
- Maps, charts, photographs, drawings
- Letters, emails, and other copies of correspondence
- Questionnaire/survey instruments, with the results appearing in the text
- Interview protocols and complete transcripts of interviews
- Complete field notes from observations
- Specification or data sheets

NOTE: Do not include vague or irrelevant information in an appendix; this additional information will not help the reader's overall understanding and interpretation of your research and may only succeed in distracting the reader from understanding your research study.

III. Format

Here are some general guidelines on how to format appendices, but consult the writing style guide [e.g., APA] your professor wants you to use, if needed:

- Appendices may precede or follow your list of references.
- Each appendix begins on a new page.
- The order they are presented is dictated by the order they are mentioned in the text of your research paper.
- The heading should be "Appendix," followed by a letter or number [e.g., "Appendix A" or "Appendix 1"], centered and written in bold type.
- Appendices must be listed in the table of contents [if used].
- The page number(s) of the appendix/appendices will continue on with the numbering from the last page of the text.

Appendices allow you to include detailed information in your paper that would be distracting in the main body of the paper. Examples of items you might have in an appendix include mathematical proofs, lists of words, the questionnaire used in the research, a detailed description of an apparatus used in the research, etc.

Format of appendices

Your paper may have more than one appendix. Usually, each distinct item has its own appendix. If your paper only has one appendix, label it "Appendix" (without quotes.) If there is more than one appendix, label them "Appendix A," "Appendix B," etc. (without quotes) in the order that each item appears in the paper. In the main text, you should refer to the Appendices by their labels.

The actual format of the appendix will vary depending on the content; therefore, there is no single format. In general, the content of an appendix should conform to the appropriate APA style rules for formatting text.

Footnotes and Endnotes: When footnotes/ endnotes might be necessary

Because APA style uses parenthetical citations, you do not need to use footnotes or endnotes to cite your sources. The only reasons you need to use footnotes are for explanatory (content) notes or copyright permission. **Content footnotes** contain information that supplements the text, but would be distracting or inappropriate to include in the body of the paper. In other words, content footnotes provide important information that is a tangent to what you are discussing in your paper.

The footnote should only express one idea. If it is longer than a few sentences, then you should consider putting this information in an appendix. Most authors do not use footnotes because they tend to be distracting to the readers. If the information is important, authors find a way to incorporate it into the text itself or put it in an appendix.

If you are including a quote that is longer than 500 words or a table or figure in your paper that was originally published elsewhere, then you need to include a footnote that acknowledges that you have permission from the owner of the copyright to use the material.

When to use tables

Tables enable you to show your data in an easy to read format. However, you do not need to present all of your data in tabular form. Tables are only necessary for large amounts of data that would be too complicated in the text. If you only need to present a few numbers, you should do so directly in the text, not in a table.

How to use tables

Each table should be identified by a number, in the order that they appear in the text (e.g., Table 1, Table 2, etc.). When using a table, you need to refer to the table in the text (e.g., "As shown in

Table 1,…") and point out to the reader what they should be looking for in the table. Do not discuss every piece of data that is in the table or else there is no point in having the table. Only mention the most important pieces of information from the table.

The table should also make sense on its own. Be sure to explain all abbreviations except standard abbreviations such as M, SD, and df. Don't forget to identify the unit of measurement.

APA style has a specific format for tables. Tables should appear at the end of your paper, after the reference list and before any appendixes. Every table needs a unique title after its label. The title should be brief but clearly explain what is in the table.

7.8 Bibliography

How to Write a Bibliography

A bibliography is a list of the sources you used to get information for your report. It is included at the end of your report, on the last page (or last few pages).

You will find it easier to prepare your final bibliography if you keep track of each book, encyclopedia, or article you use as you are reading and taking notes. Start a preliminary, or draft, bibliography by listing on a separate sheet of paper all your sources. Note down the full title, author, place of publication, publisher, and date of publication for each source.

Also, every time a fact gets recorded on a note card, its source should be noted in the top right corner. When you are finished writing your paper, you can use the information on your note cards to double-check your bibliography.

When assembling a final bibliography, list your sources (texts, articles, interviews, and so on) in alphabetical order by authors' last names. Sources that don't have authors (encyclopedias, movies) should be put into alphabetical order by title. There are different formats for bibliographies, so be sure to use the one your teacher prefers.

General Guide to Formatting a Bibliography

Make sure that the type of bibliography is known

Annotated? (adding a summary of the source)

What style does the bibliography need to be formatted?

- MLA
- APA
- Chicago/Turabian

Examples:

What are Footnotes?

Footnotes are notes placed at the bottom of a page. They cite references or comment on a designated part of the text above it. For example, say you want to add an interesting comment to

a sentence you have written, but the comment is not directly related to the argument of your paragraph. In this case, you could add the symbol for a footnote. Then, at the bottom of the page you could reprint the symbol and insert your comment. Here is an example:

This is an illustration of a footnote.[1] The number "1" at the end of the previous sentence corresponds with the note below. See how it fits in the body of the text?

[1] At the bottom of the page you can insert your comments about the sentence preceding the footnote.

When your reader comes across the footnote in the main text of your paper, he or she could look down at your comments right away, or else continue reading the paragraph and read your comments at the end. Because this makes it convenient for your reader, most citation styles require that you use either footnotes or endnotes in your paper. Some, however, allow you to make parenthetical references (author, date) in the body of your work.

Footnotes are not just for interesting comments, however. Sometimes they simply refer to relevant sources -- they let your reader know where certain material came from, or where they can look for other sources on the subject. To decide whether you should cite your sources in footnotes or in the body of your paper, you should ask your instructor or see our section on citation styles.

Where does the little footnote mark go?
Whenever possible, put the footnote at the end of a sentence, immediately following the period or whatever punctuation mark completes that sentence. Skip two spaces after the footnote before you begin the next sentence. If you must include the footnote in the middle of a sentence for the sake of clarity, or because the sentence has more than one footnote (try to avoid this!), try to put it at the end of the most relevant phrase, after a comma or other punctuation mark. Otherwise, put it right at the end of the most relevant word. If the footnote is not at the end of a sentence, skip only one space after it.

What's the difference between Footnotes and Endnotes?
The only real difference is placement -- footnotes appear at the bottom of the relevant page, while endnotes all appear at the end of your document. If you want your reader to read your notes right away, footnotes are more likely to get your reader's attention. Endnotes, on the other hand, are less intrusive and will not interrupt the flow of your paper.

If I cite sources in the Footnotes (or Endnotes), how's that different from a Bibliography?
Sometimes you may be asked to include these -- especially if you have used a parenthetical style of citation. A "works cited" page is a list of all the works from which you have borrowed material. Your reader may find this more convenient than footnotes or endnotes because he or she will not have to wade through all of the comments and other information in order to see the sources from which you drew your material. A "works consulted" page is a complement to a "works cited" page, listing all of the works you used, whether they were useful or not.

How to Write a Bibliography - Examples in MLA Style

Format for entries: A single space is used after any punctuation mark. When dividing a long word or URL onto two lines, put hyphen, slash, or period at the end of the line. Do not add a

hyphen to a URL that was not originally there. Never begin a new line with a punctuation mark. Double-space all lines in a bibliography entry. Do not indent the first line of a bibliography entry, indent second and subsequent lines 5 spaces, or 1/2" (1.25 cm) from the left margin.

Guidelines for writing Bibliography

1. Book with one author or editor:

Cross, Charles R. Room Full of Mirrors: A Biography of Jimi Hendrix. New York: Hyperion, 2005.

Maltin, Leonard, ed. Movie & Video Guide 2002 Edition. New York: New American, 2001.

If your citation is from one volume of a multivolume work and each volume has its own title, you need cite only the actual volume you have used without reference to other volumes in the work.

Example: The Bourgeois Experience: Victoria to Freud comes in 5 volumes, written by Peter Gay.

(Title of Vol. 1: Education of the Senses)

Gay, Peter. Education of the Senses. New York: Norton, 1999.

2. Book with two authors or editors:

Bohlman, Herbert M., and Mary Jane Dundas. The Legal, Ethical and International Environment of Business. 5th ed. Cincinnati, OH: West, 2002.

Calvesi, Maurizio, and Lorenzo Canova, eds. Rejoice! 700 Years of Art for the Papal Jubilee. New York: Rizzoli, 1999.

3. Book with three authors or editors:

Clancy, Tom, Carl Stiner, and Tony Koltz. Shadow Warriors: Inside the Special Forces. New York: Putnam, 2002.

Hewitt, Les, Andrew Hewitt, and Luc d'Abadie. The Power of Focus for College Students. Deerfield Beach, FL: Health Communications, 2005.

4. Book with more than three authors or editors:

You have a choice of listing all of the authors or editors in the order as they appear on the title page of the book, or use "et al." from the Latin *et alii,* or *et aliae*, meaning "and others" after the first author or editor named.

Nelson, Miriam E., Kristin R. Baker, RonennRoubenoff, and Lawrence Lindner. Strong Women and Men Beat Arthritis. New York: Perigee, 2003.

or,

Nelson, Miriam E., et al. Strong Women and Men Beat Arthritis. New York: Perigee, 2003.

or,

Pound, Richard W., et al., eds. Canadian Facts and Dates. 3rd ed. Markham, ON: 2005.

5. Book with compilers, or compilers and editors:

McClay, John B., and Wendy L. Matthews, comps. and eds. Corpus Juris Humorous: A Compilation of Outrageous, Unusual, Infamous and Witty Judicial Opinions from 1256 A.D. to the Present. New York: Barnes, 1994.

O'Reilly, James, Larry Habegger, and Sean O'Reilly, comps. and eds. Danger: True Stories of Trouble and Survival. San Francisco: Travellers' Tales, 1999.

6. Book with no author or editor stated:

Maclean's Canada's Century: An Illustrated History of the People and Events That Shaped Our Identity. Toronto: Key, 1999.

Microsoft PowerPoint Version 2002 Step by Step. Redmond, WA: Perspection, 2001.

7. Book with one author, translated by another:

Muller, Melissa. Anne Frank: The Biography. Trans. Rita and Robert Kimber. New York: Metropolitan, 1998.

8. Work in an anthology, a collection by several authors, with one or more editors and/or compilers:

Fox, Charles James. "Liberty Is Order, Liberty Is Strength." What Is a Man? 3,000 Years of Wisdom on the Art of Manly Virtue. Ed. Waller R. Newell. New York: Harper, 2001. 306-7.

9. Article in an encyclopedia with no author stated:

"Nazi Party." New Encyclopaedia Britannica. 1997 ed.

10. Article in an encyclopedia with an author:

If the encyclopedia is well known and articles are arranged alphabetically, it is not necessary to indicate the volume and page numbers. If the encyclopedia is not well known, you must give full publication information including author, title of article, title of encyclopedia, name of editor or edition, number of volumes in the set, place of publication, publisher and year of publication.

Midge, T. "Powwows." Encyclopedia of North American Indians. Ed. D.L. Birchfield. 11 vols. New York: Cavendish, 1997.

11. Article in a magazine, journal, periodical, newsletter, or newspaper with no author stated:

"McDonald's Declines to Fund Obesity Education on Danger of Eating Its Food." National Post [Toronto] 18 Apr. 2006: FP18.

"Pot Use Doubled in Decade, Study Says: 14% Smoked Up in the Past Year." Toronto Star 25 Nov. 2004: A18.

12. Article in a magazine, journal, periodical, newsletter, or newspaper with one or more authors:

Use "+" for pages that are not consecutive.

Example: When numbering pages, use "38-45" if page numbers are consecutive. Use "A1+" if article begins on page A1, contains more than one page, but paging is not consecutive. For page

numbers consisting of more than 3 digits, use short version if it is clear to the reader, e.g. 220-268 may be written as 220-68, but 349-560 must be written in full.
Note also that there is no period after the month. The period in "Mar." is for the abbreviation of March. If there are 4 or less letters in the month, e.g. May, June, and July, the months are not abbreviated. If the publication date is July 18, 2005, citation will be 18 July 2005.

Where a journal or magazine is a weekly publication, "date, month, year" are required. Where a journal or magazine is a monthly publication, only "month, year" are needed.

Where a newspaper title does not indicate the location of publication, add the city of publication between square brackets, e.g. Daily Telegraph [London]. Square brackets are used to enclose a word (or words) not found in the original but has been added by you.

An article in a scholarly journal is treated somewhat differently:

Nielsen, Laura Beth. "Subtle, Pervasive, Harmful: Racist and Sexist Remarks in Public as Hate Speech." Journal of Social Issues 58.2 (2002): 265.

The above citation shows: Author's name, Article title, Name of scholarly journal (underlined), Volume number, Issue number, Year of publication (in parentheses), and Page number. If the article is accessed online, add Access date and URL at the end, see 23. Internet citations, or citing electronic sources (e).

Bogomolny, Laura. "Boss Your Career." Canadian Business 13-16 Mar. 2006: 47-49.

Cave, Andrew. "Microsoft and Sun Settle Java Battle." Daily Telegraph [London] 25 Jan. 2001: 36.

or use "et al.":

Wolanski, Eric, et al. "Mud, Marine Snow and Coral Reefs." American Scientist Jan.-Feb. 2003: 44-51.

13. Article from SIRS (Social Issues Resources Series):

Suggested citation example from SIRS:

Bluestone, Barry, and Irving Bluestone. "Workers (and Managers) of the World Unite." Technology Review Nov.-Dec. 1992: 30-40. Reprinted in WORK. (Boca Raton, FL: Social Issues Resource Series, 1992), Article No. 20.

Example in MLA style:

Bluestone, Barry, and Irving Bluestone. "Workers (and Managers) of the World Unite." Technology Review Nov.-Dec. 1992: 30-40. Work. Ed. Eleanor Goldstein. Vol. 5. Boca Raton: SIRS, 1992. Art. 20.

14. Advertisement:

Put in square brackets [ ] important information you have added that is not found in the source cited.

Build-a-Bear. Advertisement. 7 Feb. 2005 <http://www.buildabear.com/shop/default.aspx>.

GEICO. Advertisement. Newsweek 16 Jan. 2006: 92.

15. Booklet, pamphlet, or brochure with no author stated:

Diabetes Care: Blood Glucose Monitoring. Burnaby, BC: LifeScan Canada, 1997.

16. Booklet, pamphlet, or brochure with an author:

Zimmer, Henry B. Canplan: Your Canadian Financial Planning Software. Calgary, AB: Springbank, 1994.

17. Book, movie or film review:

May use short forms: Rev. (Review), Ed. (Edition, Editor, or Edited), Comp. (Compiled, Compiler).

Creager, Angela N.H. "Crystallizing a Life in Science." Rev. of Rosalind Franklin: The Dark Lady of DNA, by Brenda Maddox. American Scientist Jan.-Feb. 2003: 64-66.

Dillon, Brenda. "Hana's Suitcase." Rev. of Hana's Suitcase, by Karen Levine. Professionally Speaking June 2003: 36.

18. CD-ROM, DVD: See also 35. Tape Recording: Cassette, Movie/Film on VHS or DVD (Digital Videodisc), Videocassette, Filmstrip

A Place in the Sun. Dir. George Stevens. 1951. DVD. Paramount, 2001.

Encarta 2004 Reference Library. CD-ROM. Microsoft, 2003.

19. Computer service - e.g. BRS, DIALOG, MEAD, etc.:

Landler, Mark. "Can U.S. Companies Even Get a Bonjour?" New York Times, Late Ed. - Final Ed., 1. 2 Oct. 1995. DIALOG File 472, item 03072065 197653951002.

20. Definition from a dictionary:

When citing a definition from a dictionary, add the abbreviation Def. after the word. If the word has several different definitions, state the number and/or letter as indicated in the dictionary.

"Mug." Def. 2. The New Lexicon Webster's Encyclopedic Dictionary of the English Language. Canadian ed. 1988.

21. Film, Movie:

Short forms may be used, e.g. dir. (directed by), narr. (narrated by), perf. (performers), prod. (produced by), writ. (written by). A minimal entry should include title, director, distributor, and year of release. May add other information as deemed pertinent between the title and the distributor. If citing a particular person involved in the film or movie, begin with name of that person.

Charlie and the Chocolate Factory. Dir. Tim Burton. Based on book by Roald Dahl. Perf. Johnny Depp. Warner, 2005.

Depp, Johnny, perf. Charlie and the Chocolate Factory. Dir. Tim Burton. Based on book by Roald Dahl. Warner, 2005.

22. Government publication:

Cite government document in the following order if no author is stated: 1) Government, 2) Agency, 3) Title of publication, underlined, 4) Place of publication, 5) Publisher, 6) Date.

Canada. Minister of Indian Affairs and Northern Development. Gathering Strength: Canada's Aboriginal Action Plan. Ottawa: Minister of Public Works and Government Services Canada, 2000.

United States. National Council on Disability. Carrying on the Good Fight - Summary Paper from Think Tank 2000 - Advancing the Civil and Human Rights of People with Disabilities from Diverse Cultures. Washington: GPO, 2000.

Note: GPO = Government Printing Office in Washington, DC which publishes most of the U.S. federal government documents.

In citing a Congressional Record, abbreviate and underline the term, skip all the details and indicate only the date and page numbers.

Example - for the following record:

United States. Personal Responsibility and Work Opportunity Reconciliation Act of 1996. PL 104-193. Congressional Record. Washington: GPO, July 31, 1996.

Cite simply as:

Cong. Rec. 31 July 1996: 104-193.

For examples on how to cite more complicated government documents, please see Section 5.6.21 in MLA Handbook for Writers of Research Papers, 6th ed.

23. Internet citations or citing electronic sources:

a. Internet citation for an advertisement

b. Internet citation for an article from an online database (e.g. SIRS, eLibrary), study guide, magazine, journal, periodical, newsletter, newspaper, online library subscription database service, or an article in PDF with one or more authors stated

c. Internet citation for an article from an online encyclopedia

d. Internet citation for an article from an online magazine, journal, periodical, newsletter, or newspaper with no author stated

e. Internet citation for an article in a scholarly journal

f. Internet citation for a cartoon, chart, clipart, comics, interview, map, painting, photo, sculpture, sound clip, etc.

g. Internet citation for an e-mail (email) from an individual, a list serve, an organization, or citation for an article forwarded from an online database by e-mail

h. Internet citation for an online government publication

i. Internet citation for an online posting, forum, letter to the editor

j. Internet citation for an online project, an information database, a personal or professional Web site

k. Internet citation for a software download

l. Internet citation for a speech taken from a published work with an editor

m. Internet citation for a work translated and edited by another

Basic components of an Internet citation:

1) Author.

2) "Title of Article, Web page or site" in quotation marks.

3) Title of Magazine, Journal, Newspaper, Newsletter, Book, Encyclopedia, or Project, underlined.

4) Editor of Project.

5) Indicate type of material, e.g. advertisement, cartoon, clipart, electronic card, interview, map, online posting, photograph, working paper, etc. if not obvious.

6) Date of article, of Web page or site creation, revision, posting, last update, or date last modified.

7) Group, association, name of forum, sponsor responsible for Web page or Web site.

8) Access date (the date you accessed the Web page or site).

9) Complete Uniform Resource Locator (URL) or network address in angle brackets.

Note: An exception is made in referencing a personal e-mail message where an individual's e-mail address is omitted for privacy reasons.

Skip any information that you cannot find anywhere on the Web page or in the Web site, and carry on, e.g. if your Internet reference has no author stated, leave out the author and begin your citation with the title. Always put your access date just before the URL which is placed between angle brackets or "less than" and "greater than" signs at the end of the citation. Generally, a minimum of three items are required for an Internet citation: Title, Access Date, and URL.

If the URL is too long for a line, divide the address where it creates the least ambiguity and confusion, e.g. do not divide a domain name and end with a period such as *geocities*. Do not divide a term in the URL that is made up of combined words e.g. *School House Rock*. Never add a hyphen at the end of the line to indicate syllabical word division unless the hyphen is actually found in the original URL. Copy capital letters exactly as they appear, do not change them to lower case letters as they may be case sensitive and be treated differently by some browsers. Remember that the purpose of indicating the URL is for readers to be able to access the Web page. Accuracy and clarity are essential.

a. Internet citation for an advertisement:

IBM. Advertisement. 23 Mar. 2003 <http://www.bharatiyahockey.org/2000Olympics/ibm.htm>.

TheraTears. Advertisement. 2003. 8 May 2004 <http://www.theratears.com/dryeye.htm>.

b. Internet citation for an article from an online database (e.g. SIRS, eLibrary), study guide, magazine, journal, periodical, newsletter, newspaper, online library subscription database service, or an article in PDF with one or more authors stated:

Bezlova, Antoaneta. "China to Formalize One-Child Policy." Asia Times Online. 24 May 2001. 10 Oct. 2005 <http://www.atimes.com/china/CE24Ad02.html>.

Clifford, Erin. "Review of Neuropsychology." SparkNotes. 10 Oct. 2005 <http://www.sparknotes.com/psychology/neuro/review/>.

If using an online library subscription database service, add the name of the service, the name of the library or library system, plus the location of the library where the database is accessed, e.g.:

Gearan, Anne. "Justice Dept: Gun Rights Protected." Washington Post. 8 May 2002. SIRS. Iona Catholic Secondary School, Mississauga, ON. 23 Apr. 2004 <http://www.sirs.com>.

Note: 8 May 2002 = date of publication, 23 Apr. 2004 = date of access. Indicate page numbers after publication date if available, e.g. 8 May 2002: 12-14. Leave out page numbers if not indicated in source.

Pahl, Greg. "Heat Your Home with Biodiesel". Mother Earth News. 12 Jan. 2003. eLibrary Canada. Twin Lakes Secondary School, Orillia, ON. 10 Apr. 2006. <http://elibrary.bigchalk.com/ce/canada>.

Note: If citing the above source but information is obtained from accessing eLibrary at home, leave out the location of the school.

c. Internet citation for an article from an online encyclopedia:

Duiker, William J. "Ho Chi Minh." Encarta Online Encyclopedia. 2005. Microsoft. 10 Oct. 2005 <http://encarta.msn.com/encyclopedia_761558397/Ho_Chi_Minh.html>.

"Ho Chi Minh." Encyclopædia Britannica. 2005. Encyclopædia Britannica Premium Service. 9 Oct. 2005 <http://www.britannica.com/eb/article-9040629>.

d. Internet citation for an article from an online magazine, journal, periodical, newsletter, or newspaper with no author stated:

"Childcare Industry 'Should Welcome Men'." BBC News Online: Education.7 June 2003. 10 Oct. 2005 <http://news.bbc.co.uk/1/low/education/2971310.stm>.

"Taiwan: A Dragon Economy and the Abacus." BrookesNews.Com. 8 Dec. 2003. 10 Oct. 2005 <http://www.brookesnews.com/030812taiwan.html>.

e. Internet citation for an article in a scholarly journal:

Nielsen, Laura Beth. "Subtle, Pervasive, Harmful: Racist and Sexist Remarks in Public as Hate Speech." Journal of Social Issues 58.2 (2002), 265-280. 7 June 2003 <http://www.blackwell-synergy.com/doi/abs/10.1111/1540-4560.00260>.

f. Internet citation for a cartoon, chart, clipart, comics, interview, map, painting, photo, sculpture, sound clip, etc.:

"Islamic State of Afghanistan: Political Map." Map. Atlapedia Online. 1993-2003. Latimer Clarke. 7 June 2003 <http://www.atlapedia.com/online/maps/political/Afghan_etc.htm>.

Kersten, Rick, and Pete Kersten. "Congratulations!" Electronic card. Blue Mountain Arts. 2000. 7 June 2003 <http://www.bluemountain.com/display.pd?path=35041&bfrom=1&prodnum=3032062&>.

g. Internet citation for an e-mail (email) from an individual, a listserve, an organization, or citation for an article forwarded from an online database by e-mail:

Barr, Susan I. "The CreatineQuandry." Bicycling Nov. 1998. EBSCOhost Mailer. E-mail to E. Interior. 11 May 2003.

Kenrick, John. "Re: Link to Musicals101.com." E-mail to I. Lee. 10 May 2003.

"NEW THIS WEEK for September 8, 2005." E-mail to author. 8 Sept. 2005 LII Team <poster@lii.org>.

h. Internet citation for an online government publication:

Canada. Office of the Auditor General of Canada and the Treasury Board Secretariat. Modernizing Accountability Practices in the Public Sector. 6 Jan. 1998. 10 Oct. 2005 <http://www.tbs-sct.gc.ca/rma/account/oagtbs_e.asp>.

United States. National Archives and Records Administration. The Bill of Rights. 29 Jan. 1998. 10 Oct. 2005 <http://www.archives.gov/exhibit_hall/charters_of_freedom/bill_of_rights/bill_of_rights.html>.

i. Internet citation for an online posting, forum, letter to the editor:

Kao, Ivy. "Keep Spreading the Word." Online posting. 4 June 2003. Reader Responses, Opinion Journal, Wall Street Journal Editorial Page. 10 Oct. 2005 <http://www.opinionjournal.com/la/responses.html?article_id=110003579>.

Seaside Harry. "My Friend Drove My Car with the Parking Brake On!" Online posting. 10 Oct. 2005. PriusOnline.com Forum Index - Prius - Technical. 10 Oct. 2005 <http://www.priusonline.com/viewtopic.php?t=6298&highlight=>.

j. Internet citation for an online project, an information database, a personal or professional Web site:

The MAD Scientist Network. 1995-2001 or 30 Feb. 1906. Washington U School of Medicine. 10 Oct. 2005. <http://www.madsci.org>.

O'Connor, J.J., and E.F. Robertson. "John Wilkins." Feb. 2002. U of St. Andrews, Scotland. 10 Oct. 2005 <http://www-history.mcs.st-andrews.ac.uk/history/Mathematicians/Wilkins.html>.

k. Internet citation for a software download:

It is not essential to include the file size. Do so if preferred by your instructor.

RAMeSize. Vers. 1.04. 15K. 24 Sept. 2000. Blue Dice Software. 12 Oct. 2004 <http://www.pcworld.com/downloads/file_download.asp?fid=7605>.

l. Internet citation for a speech taken from a published work with an editor:

Lincoln, Abraham. "The Gettysburg Address." 19 Nov. 1863. The Collected Works of Abraham Lincoln. Ed. Roy P. Basler. New Brunswick, NJ: Rutgers UP, 1955. Abraham Lincoln Online. 10 Oct. 2005 <http://showcase.netins.net/web/creative/lincoln/speeches/gettysburg.htm>.

m. Internet citation for a work translated and edited by another:

Augustine, Saint, Bishop of Hippo. Confessions & Enchiridion. Trans. and ed. Albert C. Outler. 1955. Dallas, TX: Southern Methodist U. Digitized 1993. 10 Oct. 2005 <http://www.ccel.org/a/augustine/confessions/confessions_enchiridion.txt>.

24. Interview:

Blair, Tony. Interview. Prime Minister's Office. 31 May 2003. 13 Apr. 2006 <http://www.pm.gov.uk/output/Page3797.asp>.

Chirac, Jacques. Interview. Time 16 Feb. 2003. 10 Oct. 2005 <http://www.time.com/time/europe/magazine/2003/0224/cover/interview.html>.

25. Lecture:

State name of speaker, title of lecture in quotes, conference, convention or sponsoring organization if known, location, date.

Bradley, Vicki. "Marriage." Agnes Arnold Hall, U of Houston. 15 Mar. 2003.

26. Letter, editorial:

An editorial:

Wilson-Smith, Anthony. "Hello, He Must Be Going." Editorial. Maclean's 26 Aug. 2002: 4.

Letter to the Editor:

Lange, Rick. "U.N. Has Become Ineffective and Ought to Be Disbanded." Letter. Buffalo News 23 Jan. 2005: I5.

Kolbert, Elizabeth. "Six Billion Short: How Will the Mayor Make Ends Meet?" Letter. New Yorker 13 Jan. 2003: 33-37.

Reply to a letter to the Editor:

Geens, Jennifer. Reply to letter of Bill Clark. Toronto Star 29 Sept. 2002: A1.

A letter you received from John Smith:

Smith, John. Letter to the author. 15 June 2005.

Published letter in a collection:

Twain, Mark. "Banned in Concord." Letter to Charles L. Webster. 18 Mar. 1885. Letter 850318 of Mark Twain. Ed. Jim Zwick. 2005. 10 Oct. 2005 <http://www.boondocksnet.com/twaintexts/letters/letter850318.html>.

27. Map or Chart:

Treat citation as if it is a book with no author stated. Indicate if the citation is for a chart or a map.

2004 Andex Chart. Chart. Windsor, ON: Andex, 2004.

Canada. Map. Ottawa: Canadian Geographic, 2003.

"Dallas TX." Map. 2005 Road Atlas: USA, Canada, Mexico. Greenville, SC: Michelin, 2005.

28. Musical composition:

Components: 1) Name of composer. 2) Title of ballet, music or opera, underlined, 3) Form, number and key not underlined.

Beethoven, Ludwig van. Für Elise.

Strauss, Richard. Träumerei, op. 9, no. 4.

Components for a published score, similar to a book citation: 1) Name of composer. 2) Underline title of ballet, music, opera, as well as no. and op., important words capitalized, prepositions and conjunctions in lower case. 3) Date composition written. 4) Place of publication: 5) Publisher, 6) Date of publication.

Chopin, Frederic. Mazurka Op. 7, No. 1. New York: Fischer, 1918.

Ledbetter, Huddie, and John Lomax. Goodnight, Irene. 1936. New York: Spencer, 1950.

29. Painting, photograph, sculpture, architecture, or other art form

Components for citing original artwork: 1) Name of artist. 2) Title of artwork, underlined. 3) Date artwork created. 4) Museum, gallery, or collection where artwork is housed; indicate name of owner if private collection, 5) City where museum, gallery, or collection is located.

Ashoona, Kiawak. Smiling Family. 1966. McMichael Canadian Art Collection, Kleinburg, ON.

Brancusi, Constantin. The Kiss. 1909. Tomb of T. Rachevskaia, Montparnasse Cemetery, Paris.

Components for artwork cited from a book: 1) Name of artist. 2) Underline title of artwork. 3) Date artwork created (if date is uncertain use [c. 1503] meaning [circa 1503] or around the year 1503). 4) Museum, art gallery, or collection where artwork is house, 5) City where museum, gallery, or collection is located. 6) Title of book used. 7) Author or editor of book. 8) Place of publication: 9) Publisher, 10) Date of publication. 11) Other relevant information, e.g. figure, page, plate, or slide number.

Abell, Sam. Japan. 1984. National Geographic Photographs: The Milestones. By Leah Bendavid-Val, et al. Washington, DC: National Geographic, 1999. 232.

Carr, Emily. A Haida Village. [c. 1929]. McMichael Canadian Art Collection, Kleinburg, ON. The McMichael Canadian Art Collection. By Jean Blodgett, et al. Toronto: McGraw, 1989. 134.

Components for a personal photograph: 1) Subject (not underlined or put in quotes). 2) Name of person who took the photograph. 3) Date photograph taken.

War in Iraq: Operation Iraq Freedom on CNN. Personal photograph by author. 22 Mar. 2003.

Great Wall of China, Beijing, China. Personal photograph by Cassy Wyse. 28 July 2005.

30. Patent:

Components: 1) Patent inventor(s) or owner(s). 2) Title of patent. 3) Issuing country and patent number. 4) Date patent was issued.

Arbter, Klaus, and Guo-Qing Wei. "VerfahrenzurNachführungeines Stereo-Laparoskope in der minimal invasivenChirurgie." German Patent 3943917. July 1996.

"Conversion of Calcium Compounds into Solid and Gaseous Compounds." US Patent 5078813. 27 Sept. 1988.

31. Performance: (ballet, concert, musical, opera, play, theatrical performance)

Disney's The Lion King. By Roger Allers and Irene Mecchi. Dir. Julie Taymor. Music and lyrics by Elton John and Tim Rice. Princess of Wales Theatre, Toronto. 9 June 2002.

The Hobbit. By J.R.R. Tolkien. Dir. Kim Selody. Perf. Herbie Barnes, Michael Simpson, and Chris Heyerdahl. Living Arts Centre, Mississauga, ON. 20 Apr. 2002.

32. Radio, television:

Components: 1) Title of episode, underlined; or in quotes if appropriate. 2) Title of program, underlined. 3) Title of series. 4) Name of network. 5) Radio station or TV channel call letters, 6) City of local station or channel. 6) Broadcast date.

The CFRB Morning Show. By Ted Woloshyn. CFRB Radio, Toronto. 12 Sept. 2003.

Law and Order. Prod. Wolf Film, Universal Television. NBC Television Network. WHEC, Rochester, NY. 16 Oct. 2002.

33. Recording - Music CD, LP, magnetic tape:

Components:

1) Name of author, composer, singer, or editor. 2) Title of song (in quotation marks). 3) Title of recording (underlined). 4) Publication medium (LP, CD, magnetic tape, etc.). 5) Edition, release, or version. 6) Place of publication: Publisher, Date of publication. If citing from Internet, see Item 23.

Burch, Marilyn Reesor. Mosaic. CD. Writ., dir. and prod. Marilyn Reesor Burch. Choirs dir. Don and Catherine Robertson. Barrie, ON: Power Plant Recording Studio, n.d.

or,

Burch, Marilyn Reesor. Mosaic. CD. Writ., dir. and prod. Marilyn Reesor Burch. Choirs dir. Don and Catherine Robertson. Barrie, ON: Power Plant Recording Studio, [c. 1997].

Note: "n.d." means "no date" available. [c. 1997] means "circa 1997."

McDonald, Michael. No Lookin' Back. LP. Prod. Michael McDonald and Ted Templeman. Engineered and mixed by R

Software on floppy disk

ThinkPad ACP Patch for ThinkPad 600, 770, and 770E. Diskette. Vers. 1.0. IBM, 1998.

Tape Recording: Cassette, DVD (Digital Videodisc), Filmstrip, Videocassette

Covey, Stephen R. Living the 7 Habits: Applications and Insights. Cassette tape recording read by author. New York: Simon, Audio Div., 1995.

Ginger. Solid Ground. Cassette tape recording from album Far Out. Vancouver: Nettwerk, 1994.

Unpublished dissertations, theses

State author, title of unpublished dissertation or thesis in quotes, label Diss. or MA thesis, name of university, and year.

Elmendorf, James. "The Military and the Mall: Society and Culture in Long Beach, California." BA thesis. Hampshire College, 1995.

Jackson, Marjorie. "The Oboe: A Study of Its Development and Use." Diss. Columbia U, 1962.

Underline title if dissertation is published:

Chan, Marjorie K.M. Fuzhou Phonology: A Non-Linear Analysis of Tone and Stress. Diss. U of Washington, 1985.

Gregory, T.R. The C-Value Enigma. PhD thesis. U. of Guelph, ON, 2002.

Bibliography

Key Info

- Make a list to keep track of ALL the books, magazines, and websites you read as you follow your background research plan. Later this list of sources will become your bibliography.
- Most teachers want you to have at least three written sources of information.
- Write down, photocopy, or print the following information for each source you find. You can use the Science Buddies Bibliography Worksheet to help you.

The bibliographic information for different types of resources are located in different places, so you may need to do some detective work to get all of the information for your bibliography. Try looking in these places:

  - the title page of a book, encyclopedia or dictionary
  - the heading of an article
  - the front, second, or editorial page of the newspaper
  - the contents page of a journal or magazine
  - the header (at the top) or footer (at the bottom) of a Web site
  - the *About* or the *Contact* page of a Web site

- When it is time to turn in your Bibliography, type all of your sources into a list. Use the examples in MLA Format Examples or APA Format Examples as a template to insure that each source is formatted correctly.

- List the sources in alphabetical order using the author's last name. If a source has more than one author, alphabetize using the first one. If an author is unknown, alphabetize that source using the title instead.

How to Write a Bibliography and Cite Sources in the Text

A. Do I Need a Bibliography?
B. How to Write a Bibliography
C. How to Cite Sources in the Text
D. When and How to Use Footnotes

Do I Need a Bibliography?

A bibliography is not just "works cited." It is *all* the relevant material you drew upon to write the paper the reader holds.

- If you read any articles or books in preparing you paper, you need a bibliography or footnotes.
- If you cite the arguments of "critics" and "supporters," even if you don't name them or quote them directly, you are likely referring to information you read in books or articles as opposed to information you've gathered firsthand, like a news reporter, and so you need a bibliography.
- If you quote sources and put some of the reference information in the text, you still need a bibliography, so that readers can track down the source material for themselves.
- If you use footnotes to identify the source of your material or the authors of every quote, you DO NOT need a bibliography, UNLESS there are materials to which you do not refer directly (or if you refer to additional sections of the materials you already referenced) that also helped you reach your conclusions. In any event, your footnotes need to follow the formatting guidelines below.

How to Write a Bibliography

These guidelines follow those of the American Psychological Association and may be slightly different than what you're used to, but we will stick with them for the sake of consistency. Notice the use of punctuation. Publication titles may be either *italicized* or underlined, but not both.

Books

Books are the bibliography format with which you're probably most familiar. Books follow this pattern:

Author Last Name, Author First Name. (Publication Year) *Title*. Publisher's City: Publisher. Page numbers.
Alexander, Carol. (2001) ***Market Models: A Guide to Financial Data Analysis.*** New York, NY: John Wiley & Sons. pp. 200-220.

Periodicals

Periodicals remove the publisher city and name and add the title of the article and the volume or issue number of the periodical. Notice article titles are put in quotation marks and only the publication title is italicized or underlined.

Author Last Name, Author First Name. (Publication Date—could be more than a year) "Article Title."*Publication Title, Vol. #*. (Issue #), Page numbers.
Salman, William A. (July-August 1997) "How to Write a Great Business Plan." *Harvard Business Review* 74. pp. 98-108.

Web versions of printed material

Because web sources are time-sensitive, meaning that web content can change day by day, it is important to include the day of retrieval and the URL from which you quoted the material. You include this in a retrieval statement.

The format for online versions of print publications should basically follow the same format as above, meaning if you're referencing an online book, you should follow the book format with the addition of the retrieval statement. If you're referencing an online periodical, you should follow the periodical format with the addition of the retrieval statement.

Note that you should not break the Internet address of the link, even if it requires its own line. Very long URLs, such as those that occur when using an online database, can be shortened by removing the retrieval code. (The retrieval code usually consists of a long string of unintelligible letters and numbers following the end point "htm" or "html." Remove everything that occurs after that point to shorten.)

Author. (Date of Internet Publication—could be more than a year) "Document Title." *Title of Publication*. Retrieved on: Date from Full Web Address, starting with http://

Grant, Linda. (January 13, 1997) "Can Fisher Focus Kodak?" *Fortune*. Retrieved on August 22, 1997 fromwww.pathfinder.com/@@ctQzLAcAQQIIP/fortune/1997/970113/kod.html

The above is just one example of citing online sources. There are more extensive bibliographic guidelines atwww.bedfordstmartins.com/online/cite6.html.

How to Cite Sources in the Text

In-text citations alert readers to cited material and tell them exactly where to go and look. These citations work in conjunction with a bibliography.

- Usually, an in-text citation is a combination of a name (usually the author's) and a number (a year, a page number, or both).
- For Internet sources, use the original publication date, not your retrieval date.
- Internet sources also do not have page numbers, so use your discretion in the format that will direct the reader closest to the relevant section. You can number the paragraphs (abbreviate "par.") or chapters (abbreviate "chap.") or sections (abbreviate "sec.").

- If there is no author listed, the document's title should be used in place of the author's name. Use the entire title but not the subtitle. Subtitles are anything appearing after a colon (:).

Use a signal phrase

A signal phrase alerts the reader to the fact that you are citing another source for the information he or she is about to read.

Myers (1997) reported that "structured decision aids, as a factor in a more structured audit approach, are designed to focus the auditor on relevant information to improve effectiveness, and to improve audit efficiency, by eliminating the time needed to develop or organize individual approaches to the audit problems." (sec. 1, "Introduction")

Note that the date goes with the author; directions within the document go with the quote.

Later on, same source, different section:

According to one study (Myers, 1997), inexperienced auditors from a structured firm will demonstrate higher audit effectiveness in the typical audit situation than inexperienced auditors from an unstructured firm. (sec. 2, "Structure and Audit Effectiveness")

Full parenthetical citation after the material cited

Another method is to end the quote with the full citation:

The primary controversies surrounding the issue of accounting for stock-based compensation include whether these instruments represent an expense that should be recognized in the income statement and, if so, when they should be recognized and how they should be measured. (Martin and Duchac, 1997, Sec. 3, "Theoretical Justification for Expense Recognition")

For long quotes, use a previewing sentence and a parenthetical citation

Long quotes are 40 words or longer and should be single-spaced even in double-spaced papers. The previewing sentence tells the reader what to look for in the quotes (and helps the reader change gears from you to another author).

Martin and Duchac (1997) reiterate the problems with stock-based compensation and accounting issues:

While it is true these estimates generate uncertainties about value and the costs to be recognized, cost recognition should be the fundamental objective and information based on estimates can be useful just as it is with defined benefit pension plans.

Given the similarities between stock based compensation and defined benefit pension costs, an expense should be recognized for employee stock options just as pension costs are recognized for defined benefit pension plans. The FASB agreed with this assessment in their exposure draft on stock based compensation, noting that non-recognition of employee stock option costs produces

financial statements that are neither credible nor representationally faithful. (sec. 2.1, "Recognition of Compensation Cost")

General Formats

Different types of research papers require different citation styles. The Modern Language Association and American Psychological Association styles tend to be the most commonly used when writing research papers in high school or college. Chicago style is the third-most common. Your teacher will tell you which format to use. Regardless of which source you use, format your bibliography so that entries are sorted alphabetically by the author's last name. If there is no author, sort by title. With any reference that is more than a single line long, indent each subsequent line by 1/2 inch. This is called a hanging indent. With all formats, place a single space following all punctuation.

MLA Formatting

MLA style is typically used in humanities research papers, such as linguistics and music. According to the seventh edition of the MLA handbook, you create a works cited page at the end of your paper to serve as your bibliography. A major difference in MLA format from the other styles is that you indicate your medium of publication, such as print, Web or interview. To list a book, write the author's last name, a comma, first name and a period. Type the title of the book in italics and title case, followed by a period. Write the place of publication, a colon, the publisher's name, a comma, the year of publication and a period. At the end, list the medium and finish with a period. For example: Diamond, Jared. Guns, Germs, and Steel: The Fates of Human Societies. New York: Norton, 1999. Print.

APA Formatting

APA style is used in human and behavior sciences, including psychology. According to the sixth edition of the APA handbook, your research should feature a reference page that lists all your citations. This format has a distinctly differently structure and format than the other styles. To list a book in APA format, write the author's last name, a comma, his first and middle initial and a period. Within parentheses, write the year that the book was published. Outside the final parenthesis, place a period. Write the title of the book in italics and sentence case and then insert a period. Type the city and state of publication, a colon, the name of the publisher and end with a period. For example: Casson, L. (2001). Libraries in the ancient world. New Haven, CT: Yale University Press.

Chicago Formatting

The Chicago Manual of Style is the oldest and considered the most comprehensive style guide. It is often used for literature, history or art research papers. According to the 16th edition of the Chicago manual, your research paper should feature a bibliography page. To list a book in Chicago style, write the author's last name, a comma, his first name and a period. Write the book's title in italics and title case followed by a period. Write the city of publication, a colon, the publisher's name, a comma and the year of publication. End with a period. For example: Pollan, Michael. The Omnivore's Dilemma: A Natural History of Four Meals. New York: Penguin, 2006.

7.3 Check your progress

1. How to insert table of contents in Word?

2. How to use indentation?

3. How to format appendices?

4. What is a footnote?

7.1 Answers to check your progress

1. Title page, includes

- Title of dissertation
- Table of Contents
- Formal notices
  - Declaration of Originality
  - Confirmation of ethics clearance
  - Acknowledgements
  - Technical stuff

2. The first chapter in a dissertation is commonly labelled "Introduction" and serves to acquaint the reader with the topic of investigation, its importance for science, and the issues it raises. The Introduction often includes a literature overview, where the author provides short summaries of works relevant for the topic. The goal with this exercise is twofold: to show what is already known about the problem(s) dealt with in the dissertation, and to demonstrate that the doctoral candidate is familiar with the findings in his/her assumed field of expertise.

3. The final chapter of a dissertation is almost inevitably called "Conclusion.. It summarizes the conclusions of the scientific investigation, the solutions to the problems stated in the beginning, suggestions for future research, and practical implications of the findings. This chapter should be relatively short and preferably written in a way that it can stand alone. Avoid copy-pasting sentences from the Abstract and the Introduction.

4. Numbering the sections and subsections in a chapter provides an easy way for cross-referencing. The most common numbering system is the *multiple numeration system*, where the number of each division is preceded by the number(s) of the higher division(s). For instance, the number 3.2 signifies Section 2 in Chapter 3; the number 5.4.2 signifies Subsection 2 in Section 4 in Chapter.

5. There are policy matters to resolve about how much evidence to include in appendices. In general, however, be guided by the common-sense questions;

- What have you already promised will be available in the appendices?
- And what material is a marker likely to want to see, which is not important enough to go in the main text?

In all probability this will mean that you do not have to include original completed questionnaires or complete transcripts of interviews or focus groups, but should include all original statistical calculations in tabular format.

Video or audio material may be included; make sure that it is presented appropriately so that specific sections can easily be accessed.

You may also need to include some primary source material not readily available to a marker; if so, it will need to be redacted and anonymised.

6. The table of contents (often titled just *Contents*) is the first page on which the page number appears (v, vii or ix – depending on whether there is a dedication/epigraph). The table of contents should contain the title and beginning page number of everything that follows it: acknowledgements, book parts, chapters, sections, list of references, etc. If some chapter titles are too long, consider choosing alternative short titles to be used in the table of contents.

7. The list of illustrations contains all illustrations in the dissertation and the page numbers where they can be found. If there are various kinds of illustrations, the list can be divided into parts, such as *Figures, Maps*, etc. The titles of the illustrations need not correspond exactly to the captions printed with the illustrations themselves; you can use shortened titles. The list of Illustrations is usually titled simply *Illustrations*, but appears as *List of Illustrations* in the table of contents.

8. The contents of the back matter are generally supplementary and often non-essential. The back matter of a dissertation comprises the following parts: Appendix, Notes, Bibliography/Reference List.

7.2 Answers to check your progress

1. Page should be numbered consecutively and clearly. No page number should be indicated on title page, supervisors' certificates, declaration and acknowledgement; however pages are to counted from title page. From title page to abstract page Greek numbers should be used. From

main text to end of thesis Indian numerals should be used. All typing should be on right hand pages only.

2. A page of acknowledgements is usually included at the beginning immediately after the Table of Contents. Acknowledgements enable you to thank all those who have helped in carrying out the research. Careful thought needs to be given concerning those whose help should be acknowledged and in what order. The general advice is to express your appreciation in a concise manner and to avoid strong emotive language.

3. These are the basic components of an abstract in any discipline:

1) Motivation/problem statement: Why do we care about the problem? What practical, scientific, theoretical or artistic gap is your research filling?

2) Methods/procedure/approach: What did you actually do to get your results? (e.g. analyzed 3 novels, completed a series of 5 oil paintings, interviewed 17 students)

3) Results/findings/product: As a result of completing the above procedure, what did you learn/invent/create?

4) Conclusion/implications: What are the larger implications of your findings, especially for the problem/gap identified in step 1? However, it's important to note that the weight accorded to the different components can vary by discipline. For models, try to find abstracts of research that is similar to your research.

4. A descriptive abstract indicates the type of information found in the work. It makes no judgments about the work, nor does it provide results or conclusions of the research. It does incorporate key words found in the text and may include the purpose, methods, and scope of the research. Essentially, the descriptive abstract describes the work being abstracted. Some people consider it an outline of the work, rather than a summary. Descriptive abstracts are usually very short—100 words or less.

5. The majority of abstracts are informative. While they still do not critique or evaluate a work, they do more than describe it. A good informative abstract acts as a surrogate for the work itself. That is, the writer presents and explains all the main arguments and the important results and evidence in the complete article/paper/book. An informative abstract includes the information that can be found in a descriptive abstract (purpose, methods, scope) but also includes the results and conclusions of the research and the recommendations of the author. The length varies according to discipline, but an informative abstract is rarely more than 10% of the length of the entire work. In the case of a longer work, it may be much less.

6. All abstracts should include:

- A full citation of the source, preceding the abstract.
- The most important information first.
- The same type and style of language found in the original, including technical language.
- Key words and phrases that quickly identify the content and focus of the work.
- Clear, concise, and powerful language.
- The thesis of the work, usually in the first sentence.
- Background information that places the work in the larger body of literature.
- The same chronological structure as the original work.

7. Following things should not be included in an abstract:

- Do not refer extensively to other works.
- Do not add information not contained in the original work.
- Do not define terms.

7.3 Answers to check your progress

1. In Word, to insert a table of contents, first ensure that the cursor is where you want the table of contents to appear. Once you are happy with this, click 'Insert' on the drop down menu, scroll down to 'Reference,' and then across to 'Index and Tables'.

Click on the 'Table of Contents' tab and you are ready to click OK and go. Open Office is a very similar process but, after clicking 'Insert,' you follow 'Indexes and Tables' and 'Indexes and Tables' again. The table of contents should appear after the title page and after the abstract and keywords, if you use them. As with all academic papers, there may be slight variations from department to department and even from supervisor to supervisor. Check the preferred table of contents format before you start writing the paper, because changing things retrospectively can be a little more time consuming.

2. If a handwritten essay is acceptable to your teacher, remember to double-space all lines, and begin each paragraph with an indentation of 1" from the left margin. Use the width of your thumb as a rough guide.

If you are using a typewriter or word processor on a computer, indent 5 spaces or 1/2" at the beginning of each paragraph. Indent set-off quotations 10 spaces or 1" from the left margin.

If you are NOT indenting, you will start each paragraph flush to the left margin. It is essential that you double-space between lines and quadruple-space between paragraphs. When paragraphs are not indented, it is difficult for a reader to see where a new paragraph begins; hence quadruple-space is called for between paragraphs. Set-off quotations should still be indented 10 spaces or 1" from the left margin.

3. Following are some general guidelines on how to format appendices:

- Appendices may precede or follow your list of references.
- Each appendix begins on a new page.
- The order they are presented is dictated by the order they are mentioned in the text of your research paper.
- The heading should be "Appendix," followed by a letter or number [e.g., "Appendix A" or "Appendix 1"], centered and written in bold type.
- Appendices must be listed in the table of contents [if used].
- The page number(s) of the appendix/appendices will continue on with the numbering from the last page of the text.

4. Footnotes are notes placed at the bottom of a page. They cite references or comment on a designated part of the text above it. For example, say you want to add an interesting comment to a sentence you have written, but the comment is not directly related to the argument of your paragraph. In this case, you could add the symbol for a footnote. Then, at the bottom of the page you could reprint the symbol and insert your comment.

7.9 Conclusion

To conclude, this chapter guides to write dissertation. It tells about how to write certificate page and acknowledgement page. It also provides guidelines to write abstract, content page, appendices and bibliography.

The next chapter deals with the presentation of research.

7.10 Summary

The first chapter in a dissertation is commonly labelled “Introduction” and serves to acquaint the reader with the topic of investigation, its importance for science, and the issues it raises. The Introduction often includes a literature overview, where the author provides short summaries of works relevant for the topic. The goal with this exercise is twofold: to show what is already known about the problem(s) dealt with in the dissertation, and to demonstrate that the doctoral

candidate is familiar with the findings in his/her assumed field of expertise. The final chapter of a dissertation is almost inevitably called "Conclusion." It summarizes the conclusions of the scientific investigation, the solutions to the problems stated in the beginning, suggestions for future research, and practical implications of the findings.

The table of contents (often titled just *Contents*) is the first page on which the page number appears (v, vii or ix – depending on whether there is a dedication/epigraph). The table of contents should contain the title and beginning page number of everything that follows it: acknowledgements, book parts, chapters, sections, list of references, etc.

The list of illustrations contains all illustrations in the dissertation and the page numbers where they can be found. If there are various kinds of illustrations, the list can be divided into parts, such as *Figures, Maps*, etc. The titles of the illustrations need not correspond exactly to the captions printed with the illustrations themselves; you can use shortened titles. The list of Illustrations is usually titled simply *Illustrations*, but appears as *List of Illustrations* in the table of contents.

Page should be numbered consecutively and clearly. No page number should be indicated on title page, supervisors' certificates, declaration and acknowledgement; however pages are to counted from title page. Footnotes are notes placed at the bottom of a page. They cite references or comment on a designated part of the text above it.

7. 11 Field work

Prepare a list of appendices for any subject prescribed in your syllabus.

Chapter VIII

Presentation of Research

8.0 Objectives

Friends, in this chapter we will study how to make presentation of research. This chapter will enable you to:

- Prepare format of your thesis
- How to write logically
- How to write Introductions and Conclusions
- How to present your Findings

8.1 Introduction

Friends, in the last chapter we have studied the various parts of a dissertation.

In this chapter we are going to study how to make an effective presentation of research. This chapter will inform you about how to format your thesis. Also it will help you to present your content logically. It will help you to write your introductions, conclusions and present findings.

8.2 Format of the Thesis

Style and Format

You are required to format and style your thesis in a certain manner.

The following components need to appear in your thesis:

1. Title page
2. Abstract/summary
3. Table of contents
4. Acknowledgements
5. Statement of candidate contribution
6. Main text
7. Bibliography or references
8. Appendices

Title page
You should include:

- Title of your thesis in full
- Your names and degrees
- Discipline (where applicable)
- Year of submission.

If you are enrolled in a degree which has examinable components other than a thesis, you should state: "This thesis is presented in partial fulfillment of the requirements for the [insert name of degree]."

Abstract/ Summary
The abstract or summary should summarise the appropriate headings, aims, scope and conclusion of the thesis in about 300 words, but no more than 700 words.

Acknowledgements

Statement of candidate contribution
If your thesis includes work by others, such as published work with multiple authors, you must include a clear statement of the relative contributions of the student and other parties.

In the case of published work with multiple authors, each author must give permission for you to include it in the thesis, and you and your coordinating supervisor must sign a statement that permission has been obtained.

The statement is included in your Thesis Submission form.

Word Limits

- Ph.D thesis may not exceed 100,000 words, including footnotes but excluding appendices, tables and illustrative matter.
- Master's theses may not exceed 50,000 words, including footnotes but excluding appendices, tables and illustrative matter.
- A thesis that exceeds the word limit must be supported with reasons in writing by the Head of School. If these limits are not exceeded, the length of the thesis is at your discretion, taking into account the advice of your supervisor and Head of School. In some disciplines, Ph.D theses are shorter than 25,000 words.

Volumes

Thesis are not restricted to one volume. Each volume should be no more than 6cm in spine width and 2.5kg in weight.

Layout: type and paper

- Theses should be double or one-and-a-half space typed on international A4 sized paper (weight at least 70gsm for original copy) with a left hand margin of 4cm.
- There should be a 2cm margin on all other edges.
- Typing on both sides is encouraged, and margins should be mirrored accordingly
- For Master's Degree by Research refer to Rules 36 to 40.3 in the Rules for higher degree by research (Master's Degree by Research)
- For Doctor of Philosophy refer to Rules 31 to 35.3 in the Rules for higher degree by research (Doctor of Philosophy)

Tips

- Check that there are no incorrect references, misspellings or typographical errors and that all pages are present and in sequence before your thesis is submitted.
- A thesis may also be presented in the form of a typescript, as a published book or paper, or as a series of papers.

Bibliography or references

- A consistent method of citing references should be used. Most disciplines have recommended standard referencing styles. Your school or supervisor can supply you with information on the style you should use.
- If you are jointly enrolled, you should discuss this with supervisors from both disciplines and come to some arrangement which is acceptable to both disciplines.
- The library has an excellent guide to citations, which lists the various standard types of citations including how to cite internet references.

- You should also ensure all references cited in the text are listed in the bibliography. Your contribution to the thesis must be fully explained-
- For Master's Degree by Research refer to Rules 36 to 40.3 in the Rules for higher degree by research (Master's Degree by Research)
- For Doctor of Philosophy refer to Rules 31 to 35.3 in the Rules for higher degree by research (Doctor of Philosophy)

Appendices

- Copies of your publications may be attached to the thesis as appendices.
- Accompanying material must be securely mounted, with margins as above.
- There are no restrictions on the size of accompanying maps, drawings, musical scores or computer printouts but additional permanent binding charges may apply.

Requirements for the presentation of theses

You must present your thesis according to the regulations set out here.

Please pay close attention to the sequence of material.

Quick guides

These guides present a general overview for formatting your thesis. More detailed rules and exceptions can be found below.

Presentation

Word count: As prescribed by your Board of Studies

- **Paper size:** A4 (297mm x 210mm)
- **Paper weight:** 70 - 100g/m2
- **Margins**
- Left-hand edge > 40mm
- Other edges > 15mm
- **Page numbers:** No nearer the edge of the paper than half the margin width.
- **Font size:** x-height > 1.5mm (approx. 11pt)
- **Line spacing**: at least 1.5

Digital Copy

Format: CD or USB

- **File format:** PDF or format acceptable to the University and appropriate to the medium
- **Label:** The label should detail:

- the title of the thesis (in abbreviated form, if necessary)
- the volume number (where applicable)
- the author's name
- the name of the qualification for which the thesis is submitted (e.g., PhD or MA)
- the year of submission

Binding

Copy for examination:

- Softbound
- **Final copy for deposit:**
- Hardbound or softbound + electronic submission.
- **Not spiralbound** unless a musical score
- **Thickness**: < 70mm per volume (excluding covers)
- **Softbound cover**:
- a copy of the title page, or
- clear plastic so the title page is visible

Hardbound cover:

- The title of the thesis (in an abbreviated form, if necessary.
- the author's name
- the name of qualification for which the thesis is submitted (e.g., PhD, or MA)
- the year of submission
- **Hardbound spine**
  printed along the spine in such a way as to be readable when the volume is lying flat with the front cover uppermost:
- the author's name
- the name of qualification for which the thesis is submitted (e.g., PhD, or MA)
- the name of the department or programme
- the year of submission

Presentation of theses

Theses for the degrees of Ph.D, M.Phil, and MA or MSc (by research) shall be presented in accordance with the requirements set out below.

These requirements refer primarily to printed copies of theses submitted for examination or deposited after the examination. Electronic copies submitted for examination or deposited after the examination shall be identical in presentation to the printed copies submitted or deposited.

- Sequence of material

  Material **must** be arranged in the following sequence:

  1. **Title and subtitle**

     The title page of every volume shall give the following information in the order listed, and on separate lines:

     1. the full title of the thesis and any subtitle;
     2. the total number of volumes, if more than one, and the number of the particular volume;
     3. the full name of the author, followed, if desired, by any qualifications and distinctions;
     4. the qualification for which the thesis is submitted (e.g., PhD or MA);
     5. the name of the University;
     6. the name of the Department or Centre in which the research was conducted;
     7. The month and year the thesis was first submitted for examination.

  2. **Correction sheet**
     Where necessary. (This is a list of corrections to the text as submitted, and not to be confused with the list of corrections for examiners. It is rarely used since the invention of the word-processor).
  3. **Abstract**
     The abstract shall follow the title page. It shall provide a synopsis of the thesis, stating the nature and scope of work undertaken and the contribution made to knowledge in the subject treated. It shall appear on its own on a single page and shall not exceed 300 words in length.
  4. **List of contents**
     It shall list in sequence, with page numbers:
     1. all relevant sub-divisions of the thesis, including the titles of chapters, sections and subsections;
     2. appendices (if any);
     3. the list of abbreviations and other functional parts of the whole thesis;
     4. the list of references;
     5. the bibliography (if any);
     6. the index (if any).

If a thesis consists of more than one volume, the contents of the whole thesis shall be shown in the first volume and the contents of subsequent volumes in a separate contents list in the appropriate volume.

5. **List of tables, illustrations, etc**
6. **List of accompanying material**
7. **Preface**
8. **Acknowledgements**
9. **Author's declaration**
   When submitting the thesis, the author shall draw attention to any material contained in it that has been presented before including the full references for any papers published or under review. If the thesis is based on joint research, the nature and extent of the author's individual contribution shall be stated. The declaration shall follow the acknowledgement, on a separate page and under a separate heading.
10. **Text**
    Divided into chapters, sections, etc.
11. **Appendices**
    Appendices may consist of material of considerable length or of lists, documents, commentaries, tables or other evidence that, if included in the main text, would interrupt its flow. The presentation of appendices, including character size, shall be consistent with the style of the main text.
12. **Definitions**
    Definitions of any terms specific to the thesis, including abbreviations and codes used in illustrations, shall be given.
13. **Glossary**
    Terms that require explanation shall be defined in a glossary, which shall include a key to any abbreviations used. For an abbreviation not in common use, the term shall be given in full at the first instance followed by the abbreviation in brackets.
14. **List of references**
15. **Bibliography**
16. **Index**

Formatting

Quality of reproduction

All copies shall be legible and of good print quality.

Format

The text and, wherever possible, all the material of the thesis, including illustrations, shall be produced on A4-size paper. If in exceptional circumstances, arising out of the content, another format is required for the whole thesis, the author shall seek permission to use a non-A4-size format. Paper used for the text shall be of a substance within the range of 70g/m2 to 100 g/m2.

Production of text

Text may be produced (i) single sided on the front of pages; or (ii) mostly single sided, but occasionally printed on the back (e.g. to allow a diagram to face related text); or (iii) on both sides of the paper, providing the paper is opaque enough to avoid show-through.

Typographic design

For ease of reading, the size of character used in the main text, including displayed matter, shall be not less than 2mm for capitals and 1.5mm for x-height (height of lower-case x). 2mm is the equivalent of approximately 11pt character size, depending on the font in use.

Text should be set with even or proportionate spacing between words. Word division at the ends of lines should be avoided if possible.

In typescript or printout, one-and-a-half line spacing or equivalent shall be used, although double spacing may be used if necessary. Lines that contain mathematical formulae, diacritical marks or strings of capital letters may need additional space. It should be clear when a new paragraph is starting and where matter in the text is being quoted.

Margins

To allow for binding, reading, and reproduction, the margin on the binding edge of the page, i.e. the left-hand edge of the front and the right-hand edge of the back of a page, must be not less than 40mm. Other margins must be not less than 15mm. The character size and line length shall also be taken into account when deciding margin width. Running heads and page numbers should be within the recommended margins at the top and bottom of the page, but no nearer the edge of the paper than half the margin width. The margins around all illustrations and off-prints shall normally be no smaller than those of the text, if they are bound into the thesis.

Headings

Headings shall be used to indicate the hierarchical structure of the text. There should normally be not more than four levels, including the chapter headings as the first level. Each level shall be distinguished from the others by position or typography, or both. The space that precedes and

follows a heading shall be not less than the space between paragraphs. Headings should not normally be centred (except, possibly, for chapter and part headings).

Numbering

Arabic numerals should normally be used for numbering all sequences within a thesis. Page numbers shall be visibly clear of the text. The pages of the thesis shall be numbered in a single sequence beginning with the title page, which shall be counted but not numbered, and including pages that carry tables, illustrations, appendices, etc. The use of blank pages shall be avoided if possible.

The components of material that cannot be bound, e.g. frames of a film, shall be numbered in a manner appropriate to their form, e.g. 'microfiche frame D7'.

Chapters shall be numbered from the start to the finish of the thesis, continuing across volumes if necessary. Appendices shall be numbered in a separate sequence from that used for chapters.

Illustrations shall be numbered consecutively in a single sequence, generally without distinguishing between different kinds of illustration. Tables within the text shall be numbered consecutively in a single sequence, separate from illustrations.

Illustrations

An illustration should normally appear near the first reference made to it in the text. The desirability of grouping illustrations at the back of a volume or in a separate volume shall be considered if they need to be compared with one another, are referred to frequently in the text, or need to be separate because of their nature, e.g. their size or method of production.

Illustrations shall be of a technical quality that reproduces well.

Every illustration, including appendices and material that cannot be bound, must be included in the list of illustrations with page numbers or other identification.

Each label within an illustration shall be either so positioned that the part it applies to can’t be confused with any other, or linked to the part by a thin line. The lettering shall be large enough and clear enough to remain legible when the illustration is photographed and subsequently copied. A short legend shall appear beneath each illustration.

Photographic prints; large illustrations

Photographic prints shall, if bound with the text, be on medium-weight photographic paper (e.g. paper of a thickness equivalent to that of uncoated paper of substance within the range 70 g/m2 to 100 g/m2) or permanently mounted on A4-size card or substantial paper.

If it is necessary to bind in an illustration on a paper size larger than A4, it shall be produced on paper that can be folded to fit within the thesis. Illustrations shall not be pasted across both pages of an open volume.

Bibliographical references

A bibliographical reference shall be given for every work, published or unpublished, cited in the text. References may be identified by one of two methods, either:

- by numbers typed as superscripts, or, if on the line, in brackets, immediately following the relevant word or phrase in the text; or
- by citing the author's name and the date of publication in brackets immediately following the relevant word or phrase in the text.

The bibliography, if present, shall list all sources referred to or consulted in writing the thesis but not necessarily all material relevant to it. Entries in the bibliography shall be given either in alphabetic order of originators' names or, if the bibliography is long, according to a conventional bibliographical system. A consistent form of presentation shall be used for all bibliographical references throughout the thesis.

Binding

Softbound theses

The thesis shall be bound in such a way that it can be opened fully, for ease of reading.

In general, the thickness of a single volume (excluding covers) should not be more than 70mm.

The thesis shall be securely bound either between card covers (the front cover to be a copy of the title page) or between clear plastic covers. The spine should be taped, and not spiral bound.

Hardbound theses

The thesis shall be bound in such a way that it can be opened fully, for ease of reading.

In general, the thickness of a single volume (excluding covers) should not be more than 70mm.

The thesis shall be bound in cloth covered boards, the binding being of a fixed kind in which leaves are permanently secured.

Lettering on the cover and spine of the thesis shall be large enough to be legible when the volume is on a library shelf. Normally, lettering of 8mm capital height will be required if the lettering is all in capitals and 10mm capital height if capitals and lower case are used.

The front cover shall bear the title of the thesis (in an abbreviated form, if necessary), the author's name, the name of qualification for which the thesis is submitted (e.g., PhD, or MA), and the year of submission.

The spine of the thesis shall bear the author's name, the name of qualification for which the thesis is submitted (e.g., PhD, or MA), the name of the department or programme and the year of submission. This information shall be printed along the spine in such a way as to be readable when the volume is lying flat with the front cover uppermost.

If the thesis consists of more than one volume the front cover and the spine must also bear the number of each volume.

Material that cannot be bound

It may be that the thesis includes material that cannot conveniently be bound near the related text in it, e.g. cassettes, slides, large maps or architectural drawings, large music scores, microform, computer discs or computer printout.

Unbound material causes difficulties in binding and reproduction and is at risk of being lost. Its use should therefore be avoided, if at all possible. If, however, its use is inescapable, it should either: be packaged in such a way that it can be bound with the thesis, e.g. stored in a pocket attached to the inside back cover of the appropriate volume; or be gathered into another volume and stored in a rigid container of the same size and colour as that of the bound thesis. If the material which cannot conveniently be submitted in bound form constitutes the whole of the thesis, it shall be packaged in a rigid container. In every case, the rigid container shall either bear on its front cover the information required for a title page (if softbound) or be constructed of cloth covered boards and lettered on the cover and spine (if hardbound), in accordance with the requirements guidance on the presentation and submission of theses for research degree programmes.

Tips for Writing Your Thesis Statement

1. Determine what kind of paper you are writing:

- An **analytical** paper breaks down an issue or an idea into its component parts, evaluates the issue or idea, and presents this breakdown and evaluation to the audience.
- An **expository** (explanatory) paper explains something to the audience.

- An **argumentative** paper makes a claim about a topic and justifies this claim with specific evidence. The **claim** could be an opinion, a policy proposal, an evaluation, a cause-and-effect statement, or an interpretation. The goal of the argumentative paper is to convince the audience that the claim is true based on the evidence provided.

If you are writing a text that does not fall under these three categories (e.g., a narrative), a thesis statement somewhere in the first paragraph could still be helpful to your reader.

2. Your thesis statement should be specific—it should cover only what you will discuss in your paper and should be supported with specific evidence.

3. The thesis statement usually appears at the end of the first paragraph of a paper.

4. Your topic may change as you write, so you may need to revise your thesis statement to reflect exactly what you have discussed in the paper.

Thesis Statement Examples

Example of an analytical thesis statement:

An analysis of the college admission process reveals one challenge facing counselors: accepting

students with high test scores or students with strong extracurricular backgrounds.

The paper that follows should:

- Explain the analysis of the college admission process
- Explain the challenge facing admissions counselors

Example of an expository (explanatory) thesis statement:

The life of the typical college student is characterized by time spent studying, attending class,

and socializing with peers.

The paper that follows should:

- Explain how students spend their time studying, attending class, and socializing with peers

Example of an argumentative thesis statement:

High school graduates should be required to take a year off to pursue community service projects before entering college in order to increase their maturity and global awareness.

The paper that follows should:

- Present an argument and give evidence to support the claim that students should pursue community projects before entering college

Format of the Thesis

Illustrative materials (such as maps, computer disks and CD's) may be submitted with the thesis. They must either be bound with the thesis or placed in a pocket inside the cover. Extra large or bulky material may be bound separately as an appendix.

Citing of References

There are three principal methods of citing references in a text: footnotes, the author-date and the reference-number system. Consult your supervisor as to the method favoured in your subject area. There are particular rules for each, and it is important to be consistent in the application of the method you decide upon.

Footnotes may be used for purposes other than citing references, namely to provide cross-references, to acknowledge indebtedness and to explain or supplement material that is included in the text.

Bibliographic style is important, and considerable time will be saved if all the necessary data for each citation are collected at the time of consulting the works concerned. Various styles are acceptable; the important point again to remember is that having decided on a particular style, you should retain this style throughout the bibliography. There may be a preferred method within your discipline; check with your supervisor.

Plagiarism

Plagiarism (including being party to someone else's plagiarism) is a form of dishonest practice. It is defined as copying or paraphrasing another's work, whether intentionally or otherwise, and presenting it as one's own.

In practice this means that plagiarism includes:

- any attempt to present as one's own work the work of another (whether of another student or a published authority);

- quoting word-for-word, or near to it, from a source and failing to insert quotation marks around the quoted passage(s). In such cases of direct copying, it it not adequate to merely cite the source;
- using data or interpretative material without acknowledging the sources or the collaborators.

8.3 Logical Writing

Logic in Argumentative Writing

Logic is a formal system of analysis that helps writers invent, demonstrate, and prove arguments. It works by testing propositions against one another to determine their accuracy. People often think they are using logic when they avoid emotion or make arguments based on their common sense, such as "Everyone should look out for their own self interests" or "People have the right to be free." However, unemotional or common sense statements are not always equivalent to logical statements. To be logical, a proposition must be tested within a logical sequence.

How can I make my ideas clearer and more logical?

People who read your writing will find it clear and logical if it is easy to see the structure of your writing, and how it fits together. You can achieve this in several ways:

- Spend time creating **a good plan** for the paragraphs of your text (e.g. essay or report). You need to have a clear idea of what each part of your text is saying, before you can make this structure clear to someone else. (If you like to write several drafts to develop your structure, and then make sure you keep drafting until the structure is clear in your mind.)
- Use the **end of the introduction** to show the reader what structure to expect. (See the Help Yourself page on the structure of an introduction.)
- Use **headings and sub-headings**, (if these are acceptable for your discipline and assignment type), to show the reader what the parts of your text are.
- Use **topic sentences** at the beginning of each paragraph, to show the reader what the main idea is, and to link back to the introduction and/or headings and sub-headings.
- Show the **connections between sentences**. The beginning of each sentence should not be a surprise to the reader, but should link back to the main idea of the paragraph or a previous sentence. For example: "Quantitative methods provide results which are robust and comparable. However *this reliability and robustness* comes at the cost of the richness of findings which qualitative methods can produce."
- Use **conjunctions and linking words** to show the structure of relationships between ideas. For example: however, similarly, for this reason, as a result, on the other hand, moreover, etc.

If you are writing persuasively, to argue in support of **an interpretation or a point of view**:

- Make sure that your text develops a coherent argument: i.e. that all the individual claims work together to support your overall point of view
- Make sure that your reasoning for each claim is clear to the reader
- Ensure that you have evidence for every claim you make

- Use evidence which is convincing and directly relevant

Logic and Argument

A good argument will include:

- a thesis or claim that declares the writer's position on the problem at hand;
- an acknowledgment of other perspectives;
- a set of clearly defined premises that illustrate the argument's line of reasoning;
- evidence that validates the argument's premises;
- a conclusion that convinces the reader that the argument has been soundly and persuasively made.

If your paper has these essential features, then you've probably presented a sound argument. Of course, "probably" isn't good enough for the budding scholar. How can you be *sure* that your argument is sound?

REVIEWING THE GROUNDS OF YOUR ARGUMENT

In crafting an argument, you will make a claim and gather evidence to convince your reader that this claim is valid. Once you've collected the evidence or reasons that support your claim, you'll want to consider whether that evidence is sufficient. In other words, you'll want to be sure that your evidence warrants the claim you're trying to make. You can begin this process by assessing your use of evidence.

HAVE YOU SUPPRESSED EVIDENCE?

Evidence that doesn't serve your argument must be reckoned with, not ignored. Make sure that you aren't dismissing evidence that challenges or undermines your argument.

HAVE YOU MANIPULATED EVIDENCE?

Sometimes we dig up information that can only loosely support our point of view. But we need that information in order to make our argument stand. Is it fair to stretch the information to suit our own purposes? Absolutely not - unless you are going to acknowledge the stretch to the reader, and leave it to him to decide whether your stretch is a fair one.

DO YOU HAVE ENOUGH EVIDENCE?

Review the main points of your argument and consider whether or not each point is convincing based on the evidence alone. Do you find yourself relying on your rhetoric alone to make a point? If you are, you may need to return to your sources for evidence.

DO YOU HAVE TOO MUCH EVIDENCE?

Take a look at your paper. Do your quoted passages outweigh your own prose? If so, perhaps your argument has been buried under the arguments of others. It's likely, too, that your reader will find so much information difficult to wade through. She'll be looking hard for an argument that may in fact be impossible to find.

IS YOUR EVIDENCE CURRENT? CREDIBLE?

It's not that you can't use dated sources in a paper; it's simply that you run the risk of not considering more current information that might challenge your point of view. You've also got to make sure that your evidence comes from a credible source. Remember the dictum, "You can't believe everything you read." This is especially true of information you find online, where anyone can post anything, sometimes without the slightest concern for its validity.

AND FINALLY, IS YOUR EVIDENCE SUFFICIENT TO WARRANT YOUR CLAIM?

Consider why you believe your evidence to be sufficient. Is that evidence based on research? Scholarship? Or is it based on an assumption or commonly held belief? If the latter, you will need to bring this assumption into the light. Sometimes you'll need to provide additional backing (Toulmin's fourth element of argument). The two remaining elements include qualifiers, which determine the conditions under which an argument is true, and rebuttal, which determines the conditions under which an argument is not true. It's important to consider these conditions as well.

AVOIDING LOGICAL FALLACIES

Finally, you may want to consider whether your arguments contain any logical fallacies, or mistakes in reasoning. Some common fallacies are defined below.

1. **Hasty Generalization:** A generalization based on too little evidence, or on evidence that is biased. Example: All men are testosterone-driven idiots. Or: After being in New York for a week, I can tell you: all New Yorkers are rude.
2. **Either/Or Fallacy:** Only two possibilities are presented when in fact several exist. Example: America: love it or leave it. Or: Shut down all nuclear power plants or watch your children and grandchildren die from radiation poisoning.
3. ***Non Sequitur:*** The conclusion does not follow logically from the premise. Example: My teacher is pretty; I'll learn a lot from her. Or: George Bush was a war hero; he'll be willing to stand tough for America.
4. ***Ad Hominem:*** Arguing against the man instead of against the issue. Example: We can't elect him mayor. He cheats on his wife! Or: He doesn't really believe in the First Amendment. He just wants to defend his right to see porno flicks.

5. **Red Herring:** Distracting the audience by drawing attention to an irrelevant issue. Example: How can he be expected to manage the company? Look at how he manages his wife! Or: Why worry about nuclear war when we're all going to die anyway?
6. **Circular Reasoning:** Asserting a point that has just been made. Sometimes called "begging the question." Example: She is ignorant because she was never educated. Or: We sin because we're sinners.
7. **False Analogy:** Wrongly assuming that because two things are alike in some ways, they must be alike in all ways. Example: An old grandmother's advice to her granddaughter, who is contemplating living with her boyfriend: "Why should he buy the cow when he can get the milk for free?"
8. ***Post Hoc, Ergo Propter Hoc:*** The mistake of assuming that, because event *a* is followed by event *b,* event *a* caused event *b.* Example: It rained today because I washed my car. Or: The stock market fell because the Japanese are considering implementing an import tax.
9. **Equivocation:** Equates two meanings of the same word falsely. Example: The end of a thing is its perfection; hence, death is the perfection of life. (The argument is fallacious because there are two different definitions of the word "end" involved in the argument.)

8.1 Check your progress

1. What is the word limit for thesis?

2. What does list of contents comprise of?

3. What should be the typographic design of thesis?

4. How should photographic prints and large illustrations be used in thesis?

5. How should a soft thesis be bound?

6. How should a hard thesis be bound?

7. What is plagiarism?

8. How to make argumentative ideas logical?

9. How to make ideas clear and logical?

10. Enlist common logical fallacies.

8.4 Introductions and Conclusions

Introductions and conclusions play a special role in the academic essay, and they frequently demand much of your attention as a writer. A good introduction should identify your topic,

provide essential context, and indicate your particular focus in the essay. It also needs to engage your readers' interest. A strong conclusion will provide a sense of closure to the essay while again placing your concepts in a somewhat wider context. It will also, in some instances, add a stimulus to further thought. Since no two essays are the same, no single formula will automatically generate an introduction and conclusion for you. But the following guidelines will help you to construct a suitable beginning and end for your essay.

Some general advice about introductions

1. Some students cannot begin writing the body of the essay until they feel they have the perfect introduction. Be aware of the dangers of sinking too much time into the introduction. Some of that time can be more usefully channeled into planning and writing.
2. You may be the kind of writer who writes an introduction first in order to explore your own thinking on the topic. If so, remember that you may at a later stage need to compress your introduction.
3. It can be fine to leave the writing of the introduction for a later stage in the essay-writing process. Some people write their introduction only after they have completed the rest of the essay. Others write the introduction first but rewrite it significantly in light of what they end up saying in the body of their paper.
4. The introductions for most papers can be effectively written in one paragraph occupying half to three-quarters of the first page. Your introduction may be longer than that, and it may take more than one paragraph, but be sure you know why. The size of your introduction should bear some relationship to the length and complexity of your paper. A twenty page paper may call for a two-page introduction, but a five-page paper will not.
5. Get to the point as soon as possible. Generally, you want to raise your topic in your very first sentences. A common error is to begin too broadly or too far off topic. Avoid sweeping generalizations.
6. If your essay has a thesis, your thesis statement will typically appear at the end of your introduction, even though that is not a hard-and-fast rule. You may, for example, follow your thesis with a brief road map to your essay that sketches the basic structure of your argument. The longer the paper, the more useful a road map becomes.

How do I write an interesting, effective introduction?

Consider these strategies for capturing your readers' attention and for fleshing out your introduction:

1. Find a startling statistic that illustrates the seriousness of the problem you will address.
2. Quote an expert (but be sure to introduce him or her first).
3. Mention a common misperception that your thesis will argue *against*.
4. Give some background information necessary for understanding the essay.
5. Use a brief narrative or anecdote that exemplifies your reason for choosing the topic. In an assignment that encourages personal reflection, you may draw on your own experiences; in a research essay, the narrative may illustrate a common real-world scenario.

6. In a science paper, explain key scientific concepts and refer to relevant literature. Lead up to your own contribution or intervention.
7. In a more technical paper, define a term that is possibly unfamiliar to your audience but is central to understanding the essay.

In fleshing out your introduction, you will want to avoid some common pitfalls:

1. Don't provide dictionary definitions, especially of words your audience already knows.
2. Don't repeat the assignment specifications using the professor's wording.
3. Don't give details and in-depth explanations that really belong in your body paragraphs. You can usually postpone background material to the body of the essay.

Some general advice about conclusions

1. A conclusion is not merely a summary of your points or a re-statement of your thesis. If you wish to summarize—and often you must—do so in fresh language. Remind the reader of how the evidence you've presented has contributed to your thesis.
2. The conclusion, like much of the rest of the paper, involves critical thinking. Reflect upon the significance of what you've written. Try to convey some closing thoughts about the larger implications of your argument.
3. Broaden your focus a bit at the end of the essay. A good last sentence leaves your reader with something to think about, a concept in some way illuminated by what you've written in the paper.
4. For most essays, one well-developed paragraph is sufficient for a conclusion. In some cases, a two-or-three paragraph conclusion may be appropriate. As with introductions, the length of the conclusion should reflect the length of the essay.

How do I write an interesting, effective conclusion?

The following strategies may help you move beyond merely summarizing the key points of your essay:

1. If your essay deals with a contemporary problem, warn readers of the possible consequences of not attending to the problem.
2. Recommend a specific course of action.
3. Use an apt quotation or expert opinion to lend authority to the conclusion you have reached.
4. Give a startling statistic, fact, or visual image to drive home the ultimate point of your paper.
5. If your discipline encourages personal reflection, illustrate your concluding point with a relevant narrative drawn from your own life experiences.
6. Return to an anecdote, example, or quotation that you introduced in your introduction, but add further insight that derives from the body of your essay.
7. In a science or social science paper, mention worthwhile avenues for future research on your topic.

How does genre affect my introduction or conclusion?

Be aware that different genres have their own special expectations about beginnings and endings. Some academic genres may not even require an introduction or conclusion. An annotated bibliography, for example, typically provides neither. A book review may begin with a summary of the book and conclude with an overall assessment of it. A policy briefing usually includes an introduction but may conclude with a series of recommendations.

Introductions and Conclusions

Sometimes when we write an essay we forget that we're speaking to someone (a reader). We also forget that the beginning of our essay is technically the first impression that we make on the reader, while the conclusion is our last chance to get the reader's attention. Rather than focusing on writing an essay that is simply "correct" (in terms of grammar, following your assignment requirements, etc.) good writers also consider whether or not they've left a lasting impression on their reader.

Think about it: the movies you've seen and the books you've read, the ones that really stand out in your mind, probably had an intriguing opening and a compelling ending. Your essay topic may not be as exciting as your favorite movie, but that doesn't mean you can't make sure that your ideas stand out in the reader's mind.

The Hook

If you're not sure how to begin and end your essay, consider using what's often called the "hook" technique. The idea behind this method is that if you hook your audience (get their attention) in the beginning of the essay, they'll want to continue reading so that they can find out how everything will turn out in the end.

For example, to use the hook technique you might begin by saying: Students are often surprised to know that many of their instructors were not high-ranking students in their own graduating classes. In fact, one of the well-respected Composition instructors here at Madeup University flunked Freshman English not once, but twice!

Then, you might conclude your essay by saying: Any student at Madeup University will tell you that the teachers who once struggled in their subject area are the most helpful. Remember that Composition teacher who flunked Freshman English twice? That was Mrs. Somebody--a popular Composition teacher and well-liked tutor in the Writing Center on campus. The best guides are those who've experienced the struggle themselves; these teachers truly help students climb toward academic success.

Remember, it is not enough to hook your audience in the beginning. You also have leaded them on a journey that comes back around in your conclusion.

Making the right Impression

Simply put, your introduction and conclusion are the first a last chance you have to grab your reader. They are crucial in the development of trust, likability and agreement.

Below are some helpful hints to get you on your way towards becoming an impression master!

- Write the body paragraphs before you write the introduction and conclusion
    - People often get hung up on how to begin their papers, and this means more time staring at a blank screen getting discouraged. Instead try writing your thesis and your body paragraphs first. Once you have written your body, go back and read over it asking yourself, "What is it I really want to say?" or "How do I want my reader to feel about my topic?"
- Save one or two interesting quotes or insights for your introduction and conclusion
    - Be careful here. Quotes are great, but the reader wants to hear what you have to say about the topic. Sometimes it's better to find a great quote that goes against your position/topic. That way you set yourself up as a real scholar, and you create and interesting "conflict" for your reader from the beginning.
- Catch the reader's attention by beginning with a "hook," then conclude or resolve that concept in your conclusion.
    - Remember, readers aren't going to be interested just because your name is at the top of the paper. The hook is how you show your personality to your audience, and resolving that hook is how you show your intelligence. Like a good person, a good paper should be well- rounded!
- Think about your audience! Demonstrate that you care about their interests, opinions, and ideas in your introduction and conclusion
    - No one cares about someone who doesn't care about them. A carefully thought out introduction shows readers that you as a writer care about their enjoyment and understanding rather than just pontificating ideas.

Introductions

The role of introductions

Introductions and conclusions can be the most difficult parts of papers to write. Usually when you sit down to respond to an assignment, you have at least some sense of what you want to say in the body of your paper. You might have chosen a few examples you want to use or have an idea that will help you answer the main question of your assignment; these sections, therefore, are not as hard to write. But these middle parts of the paper can't just come out of thin air; they need to be introduced and concluded in a way that makes sense to your reader.

Your introduction and conclusion act as bridges that transport your readers from their own lives into the "place" of your analysis. If your readers pick up your paper about education in the autobiography of Frederick Douglass, for example, they need a transition to help them leave behind the world of Chapel Hill, television, e-mail, and *The Daily Tar Heel* and to help them

temporarily enter the world of nineteenth-century American slavery. By providing an introduction that helps your readers make a transition between their own world and the issues you will be writing about, you give your readers the tools they need to get into your topic and care about what you are saying. Similarly, once you've hooked your reader with the introduction and offered evidence to prove your thesis, your conclusion can provide a bridge to help your readers make the transition back to their daily lives. (See our handout on conclusions.)

Why bother writing a good introduction?

You never get a second chance to make a first impression. The opening paragraph of your paper will provide your readers with their initial impressions of your argument, your writing style, and the overall quality of your work. A vague, disorganized, error-filled, off-the-wall, or boring introduction will probably create a negative impression. On the other hand, a concise, engaging, and well-written introduction will start your readers off thinking highly of you, your analytical skills, your writing, and your paper. This impression is especially important when the audience you are trying to reach (your instructor) will be grading your work.

Your introduction is an important road map for the rest of your paper. Your introduction conveys a lot of information to your readers. You can let them know what your topic is, why it is important, and how you plan to proceed with your discussion. In most academic disciplines, your introduction should contain a thesis that will assert your main argument. It should also, ideally, give the reader a sense of the kinds of information you will use to make that argument and the general organization of the paragraphs and pages that will follow. After reading your introduction, your readers should not have any major surprises in store when they read the main body of your paper.

Ideally, your introduction will make your readers want to read your paper. The introduction should capture your readers' interest, making them want to read the rest of your paper. Opening with a compelling story, a fascinating quotation, an interesting question, or a stirring example can get your readers to see why this topic matters and serve as an invitation for them to join you for an interesting intellectual conversation.

Strategies for writing an effective introduction

Start by thinking about the question (or questions) you are trying to answer. Your entire essay will be a response to this question, and your introduction is the first step toward that end. Your direct answer to the assigned question will be your thesis, and your thesis will be included in your introduction, so it is a good idea to use the question as a jumping off point. Imagine that you are assigned the following question:

> *Education has long been considered a major force for American social change, righting the wrongs of our society. Drawing on the Narrative of the Life of Frederick Douglass, discuss the relationship between education and slavery in 19th-century America. Consider the following: How did white control of education reinforce slavery? How did Douglass and other enslaved African Americans view education while they endured slavery? And what role did education play in the acquisition of freedom? Most*

importantly, consider the degree to which education was or was not a major force for social change with regard to slavery.

You will probably refer back to your assignment extensively as you prepare your complete essay, and the prompt itself can also give you some clues about how to approach the introduction. Notice that it starts with a broad statement, that education has been considered a major force for social change, and then narrows to focus on specific questions from the book. One strategy might be to use a similar model in your own introduction—start off with a big picture sentence or two about the power of education as a force for change as a way of getting your reader interested and then focus in on the details of your argument about Douglass. Of course, a different approach could also be very successful, but looking at the way the professor set up the question can sometimes give you some ideas for how you might answer it. (See our handout on understanding assignments for additional information on the hidden clues in assignments.)

Decide how general or broad your opening should be. Keep in mind that even a "big picture" opening needs to be clearly related to your topic; an opening sentence that said "Human beings, more than any other creatures on earth, are capable of learning" would be too broad for our sample assignment about slavery and education. If you have ever used Google Maps or similar programs, that experience can provide a helpful way of thinking about how broad your opening should be. Imagine that you're researching Chapel Hill. If what you want to find out is whether Chapel Hill is at roughly the same latitude as Rome, it might make sense to hit that little "minus" sign on the online map until it has zoomed all the way out and you can see the whole globe. If you're trying to figure out how to get from Chapel Hill to Wrightsville Beach, it might make more sense to zoom in to the level where you can see most of North Carolina (but not the rest of the world, or even the rest of the United States). And if you are looking for the intersection of Ridge Road and Manning Drive so that you can find the Writing Center's main office, you may need to zoom all the way in. The question you are asking determines how "broad" your view should be. In the sample assignment above, the questions are probably at the "state" or "city" level of generality. But the introductory sentence about human beings is mismatched—it's definitely at the "global" level. When writing, you need to place your ideas in context—but that context doesn't generally have to be as big as the whole galaxy!

Try writing your introduction last. You may think that you have to write your introduction first, but that isn't necessarily true, and it isn't always the most effective way to craft a good introduction. You may find that you don't know what you are going to argue at the beginning of the writing process, and only through the experience of writing your paper do you discover your main argument. It is perfectly fine to start out thinking that you want to argue a particular point, but wind up arguing something slightly or even dramatically different by the time you've written most of the paper. The writing process can be an important way to organize your ideas, think through complicated issues, refine your thoughts, and develop a sophisticated argument. However, an introduction written at the beginning of that discovery process will not necessarily reflect what you wind up with at the end. You will need to revise your paper to make sure that the introduction, all of the evidence, and the conclusion reflect the argument you intend. Sometimes it's easiest to just write up all of your evidence first and then write the introduction last—that way you can be sure that the introduction will match the body of the paper.

Don't be afraid to write a tentative introduction first and then change it later. Some people find that they need to write some kind of introduction in order to get the writing process started. That's fine, but if you are one of those people, be sure to return to your initial introduction later and rewrite if necessary.

Open with an attention grabber. Sometimes, especially if the topic of your paper is somewhat dry or technical, opening with something catchy can help. Consider these options:

1. an intriguing example—for example, Douglass writes about a mistress who initially teaches him but then ceases her instruction as she learns more about slavery.
2. a provocative quotation—for example, Douglass writes that "education and slavery were incompatible with each other."
3. a puzzling scenario—for example, Frederick Douglass says of slaves that "[N]othing has been left undone to cripple their intellects, darken their minds, debase their moral nature, obliterate all traces of their relationship to mankind; and yet how wonderfully they have sustained the mighty load of a most frightful bondage, under which they have been groaning for centuries!" Douglass clearly asserts that slave owners went to great lengths to destroy the mental capacities of slaves, yet his own life story proves that these efforts could be unsuccessful.
4. a vivid and perhaps unexpected anecdote—for example, "Learning about slavery in the American history course at Frederick Douglass High School, students studied the work slaves did, the impact of slavery on their families, and the rules that governed their lives. We didn't discuss education, however, until one student, Mary, raised her hand and asked, 'But when did they go to school?' That modern high school students could not conceive of an American childhood devoid of formal education speaks volumes about the centrality of education to American youth today and also suggests the significance of the deprivation of education in past generations."
5. a thought-provoking question—for example, given all of the freedoms that were denied enslaved individuals in the American South, why does Frederick Douglass focus his attentions so squarely on education and literacy?

Pay special attention to your first sentence. Start off on the right foot with your readers by making sure that the first sentence actually says something useful and that it does so in an interesting and polished way.

Be straightforward and confident. Avoid statements like "In this paper, I will argue that Frederick Douglass valued education." While this sentence points toward your main argument, it isn't especially interesting. It might be more effective to say what you mean in a declarative sentence. It is much more convincing to tell us that "Frederick Douglass valued education" than to tell us that you are going to say that he did. Assert your main argument confidently. After all, you can't expect your reader to believe it if it doesn't sound like you believe it!

How to evaluate your introduction draft

Ask a friend to read it and then tell you what he or she expects the paper will discuss, what kinds of evidence the paper will use, and what the tone of the paper will be. If your friend is able to predict the rest of your paper accurately, you probably have a good introduction.

Five kinds of less effective introductions

1. The place holder introduction. When you don't have much to say on a given topic, it is easy to create this kind of introduction. Essentially, this kind of weaker introduction contains several sentences that are vague and don't really say much. They exist just to take up the "introduction space" in your paper. If you had something more effective to say, you would probably say it, but in the meantime this paragraph is just a place holder.

Example: Slavery was one of the greatest tragedies in American history. There were many different aspects of slavery. Each created different kinds of problems for enslaved people.

2. The restated question introduction. Restating the question can sometimes be an effective strategy, but it can be easy to stop at JUST restating the question instead of offering a more specific, interesting introduction to your paper. The professor or teaching assistant wrote your questions and will be reading ten to seventy essays in response to them—he or she does not need to read a whole paragraph that simply restates the question.

Example: Indeed, education has long been considered a major force for American social change, righting the wrongs of our society. The Narrative of the Life of Frederick Douglass discusses the relationship between education and slavery in 19th century America, showing how white control of education reinforced slavery and how Douglass and other enslaved African Americans viewed education while they endured. Moreover, the book discusses the role that education played in the acquisition of freedom. Education was a major force for social change with regard to slavery.

3. The Webster's Dictionary introduction. This introduction begins by giving the dictionary definition of one or more of the words in the assigned question. This introduction strategy is on the right track—if you write one of these, you may be trying to establish the important terms of the discussion, and this move builds a bridge to the reader by offering a common, agreed-upon definition for a key idea. You may also be looking for an authority that will lend credibility to your paper. However, anyone can look a word up in the dictionary and copy down what Webster says—it may be far more interesting for you (and your reader) if you develop your own definition of the term in the specific context of your class and assignment, or if you use a definition from one of the sources you've been reading for class. Also recognize that the dictionary is also not a particularly authoritative work—it doesn't take into account the context of your course and doesn't offer particularly detailed information. If you feel that you must seek out an authority, try to find one that is very relevant and specific. Perhaps a quotation from a source reading might prove better? Dictionary introductions are also ineffective simply because they are so overused.

Example: Webster's dictionary defines slavery as "the state of being a slave," as "the practice of owning slaves," and as "a condition of hard work and subjection."

4. The "dawn of man" introduction. This kind of introduction generally makes broad, sweeping statements about the relevance of this topic since the beginning of time. It is usually very general (similar to the place holder introduction) and fails to connect to the thesis. You may write this kind of introduction when you don't have much to say—which is precisely why it is ineffective.

Example: Since the dawn of man, slavery has been a problem in human history.

5. The book report introduction. This introduction is what you had to do for your elementary school book reports. It gives the name and author of the book you are writing about, tells what the book is about, and offers other basic facts about the book. You might resort to this sort of introduction when you are trying to fill space because it's a familiar, comfortable format. It is ineffective because it offers details that your reader already knows and that are irrelevant to the thesis.

Example: Frederick Douglass wrote his autobiography, Narrative of the Life of Frederick Douglass, An American Slave, in the 1840s. It was published in 1986 by Penguin Books. In it, he tells the story of his life.

How should the Introduction be organized?

Introductions in the Humanities

Whereas in the sciences there is a high probability of a consensus between the reader and the writer, writers in the humanities frequently address a situation in which there is little consensus. So, introductions should convince your reader to pay attention to what you are saying and add to the credibility of your argument.

You can "hook" your reader a number of different ways. You could engage your reader by presenting an exciting, controversial, or shocking piece of information that relates to your argument. For example "Canada's life expectancy is 81; whereas Malawi's is 48. This disparity points to the extreme consequences of disproportionate access to health care in developing countries."

Another strategy is to quote a well-known, respected authority in the subject area you are writing about; for example, "Richard Florida argues 'Access to talented and creative people is to modern business what access to coal and iron ore was to steelmaking.' In other words, culture and creativity are important to a functioning economy."

A third strategy is to state common claims, defined terms, or accepted positions on a topic and then challenge them. For example, "It is widely assumed that Edith Wharton wrote for the upper classes; her own status as New York socialite as well as the cultural milieu she represented in her novels is seen as a testament to this. However, when examining the tragic life of Lily Bart it is clear that her social criticism extends beyond the upper classes."

It is very important, however, to avoid grand or universal statements. An introduction provides an insight, but it should not be too broad or vague. And, importantly, this insight must be something that you can prove. Avoid the "Humankind has always needed…" or "Since the beginning of time…" statements. Unlike the earlier examples of ways to "hook" your readers – which are specific and focused on the specific essay topic, these statements are neither useful nor provable.

Once you have "hooked" your reader you should include the following in your introduction:

1. **Context and key terms that allow the reader to follow your argument and initiate a thought process about the specifics that will be discussed in the essay.** You may include:

The time period and geographic area examined.
The paradigm, models or theories used.
The name, title, and date of work examined (novel, play, artwork, etc.).
Definitions of terms which you will use often, even if the words are common. Consider whether you are using the terms differently or in a specific way, whether they have multiple definitions, or whether defining them will allow for more critical thinking about the essay argument. For example, words like technology or feminism may have different meanings in different contexts.

Again, be as specific and clear as possible. Notice the difference between the examples below. Example 1 is less specific and focuses on summarizing more than Example 2, which aims not just to introduce the topic but to make an argument about that topic.

Example 1: Catherine Parr Traill and Susanna Moodie both travelled in Upper Canada during the
Thesis:

Your clear, concise statement of what you are arguing and why it is important. The thesis directs the organization and supporting arguments of the paper.

Make sure it can be argued and that it answers the "so what?" or the reason why your argument is important to people who know something about your field. It is important to keep in mind that your thesis is an argument, not an observation. Try using the following examples to help form your thesis:

This paper will argue by demonstrating that.
By examining it will become clear that.

For example: The detailed pioneer travel narratives of Catharine Parr Traill and Susanna Moodie reveal the transgression of female boundaries within Upper Canadian society, defying the image of the traditional domesticated British woman and challenging dominant Victorian ideologies of separate male and female spheres.

This thesis is specific enough to be effectively proven in an essay. It also considers implications of the argument: how the lives of two women lead to discussions of Upper Canadian society and Victorian ideologies.

2. **Directive statement: outlines the order of the points you will use to prove your thesis.**

For example: By describing women's changing roles within the home and their interactions with the land, Parr Traill's and Moodie's writing demonstrates that pioneer gentlewomen moved beyond the restrictive Victorian notions of femininity; that they did so was vital to their survival and to the success of the family unit in nineteenth century Upper Canada.

This statement clearly outlines two points of focus within Parr Traill's and Moodie's writing—women's changing roles and interactions with the land—giving the reader a sense of what to expect in the paragraphs to follow.

What to Avoid in an Introduction

- Including information that does not relate to your thesis
- Not explaining the link between the information and your thesis. (If everything in your introduction is relevant and relates to your thesis, it will set up a clear, strong argument for your essay.)
- Using generalizations that cannot be supported. Using words like all, throughout, always, and never, or phrases like "since the beginning of time" are often difficult to prove. If you suspect your claim might be too general, try asking yourself what kind of evidence would be needed to support it; if the answer is beyond reasonable expectations, then your claim is too general
- Asking questions that you do not answer. Instead of asking a rhetorical question such as "How could women survive in a harsh physical environment if they were also bound to strict tenets of dress and manners?" turn these kinds of questions into statements, such as "In a harsh physical environment such as the Canadian wilderness, it was infeasible for women to adhere to the strict tenets of Victorian dress and manners."

What is a Conclusion? Why is it Important?

Not all papers have a formal conclusion, but most will have a paragraph or two that reinforces the argument.

In both the sciences and the humanities, the conclusion is the last section of an essay, where the argument and supporting points are reiterated and solidified for the reader, but most importantly where the wider implications of the argument are discussed. A conclusion should extend outward; it should:

- Summarize the argument and supporting points
- Give a sense of completeness and clarity

- Indicate why your paper was important or interesting by linking it to, or evaluating it in, a greater context or significance
- Indicate what has been learned

How Should the Conclusion be organized?

Unlike the introduction, the conclusion should begin by reiterating what is most specific: your thesis and supporting points. It should move beyond this to discuss the thesis argument in a larger context. The elements of a conclusion should follow this order:

1. Restatement of thesis: using different words, remind the reader of what your essay argued.
2. Summary of supporting arguments: review how you proved your argument.
3. The significance of the argument in a larger context: link the essay to an importance beyond the limits of your essay. You may want to: Discuss how your thesis argument contributes to a wider context. This could be the context of the course or discipline as a whole. Indicate what can be learned from the essay

- Suggest other possible approaches or solutions
- Suggest where further research should happen
- Refer back to a metaphor or quotation used in the introduction and discuss its implications
- Try to address the question "If what I have argued is true, then what does this mean?"
- Ending: indicates to the reader that the essay has come to an end. Make sure your final statement flows logically from the rest of your conclusion. Do not leave the reader expecting more

For example:
Regardless of class, Upper Canada represented a new society beyond the ordinary comprehension of the British citizen. Thus when 655,747 people left the shores of Britain between 1831 and 1841, many had no idea what awaited them in the New World. Those strongly influenced by the sensible and liberal moralities of the Victorian era were shocked at the primitive Canadian society that greeted them off the ship. While some hurried back to Britain when life in Upper Canada proved hard, many families fronted by strong women such as Catharine Parr Traill and Susanna Moodie stayed to take their chances in the liberating isolation of the backwoods. "Let [women] at once cast aside all vain oppositions and selfish regrets and hopefully look to their future as to a land of promise," Parr Traill proclaimed in The Canadian Settler's Guide. Indeed, Parr Traill and Moodie represent a larger movement of strong women who challenged Victorian gender ideologies and to lead to the establishment of a new society in Upper Canada.

This example discusses of the significance of the argument in a larger context, placing the lives of the two women examined in the paper in a greater historical context of the migration of a group of British people to Canada. It ends by mentioning the future, which suggests that the event discussed was part of a larger process and led to further outcomes, and indicates a sense of completion.

What to Avoid in a Conclusion

In order to make sure your conclusion is effective, be sure to watch out for:

Providing only a summary. The conclusion should do more than simply restate the thesis. It should continue to make the reader think

Rhetorically rich, but meaningless statements. For example, "Critical and conflicting research highlights that there is a lot of information yet to gather and analyse before we can fully understand this topic." This sentence does not actually tell your reader anything

Introducing new evidence. This requires more explanation and analysis, and makes it difficult to give a sense of completion

8.5 Presentation of Findings

Things you'll need

- Knowledge of your audience
- Time to practise your presentation

1. **Know your audience in advance**

Know who is there, their interests/jobs/methodological bugbears, and their names. It's great in a Q&A when a presenter responds to a question and begins with the name of the person who asked.

2. **Tailor your presentation to that audience**

Surprisingly, many don’t do this and just present 'their research' and expect people to want to think through why it is relevant

3. **Highlight the context**

If there is a policy or practice context, highlight this - more so than theoretical/methodological context (though you should briefly allude to these to highlight you know your onions).

4. **Policy or practice recommendations**

If there are policy or practice recommendations, you must draw these out - at the end of the day, people in these organisations are using research-based evidence as a means to making decisions - so help them make those decisions.

5. **Include recommendations that are actionable and that help your audience**

Don’t just have recommendations that say 1) we need to do more research and 2) my research has highlighted that this issue needs more funds. Both are acceptable as part of wider recommendations; the latter needs to explain how funds would be spent and on what.

6. Time and practise what you do

If you have a 10m slot, pace out the sections (context/meat/conclusions) so that you don’t spend 8m on context and then overrun.

7. Avoid powerpointlessness

Focus should be you, not your over-detailed slides. When I see someone with a 10m slot and 20 slides I groan (NB: #guilty). Just because a paragraph has a bullet point in front of it, it doesn’t mean it is a bullet point. Try www.prezi.com as a ppt alternative. Its cool. Here's my attempt at a prezi.

8. Visualise your data: try infographics!

Look at manyeyes and informationisbeautiful for inspiration. If you've got data tables, make sure they are legible from 10ft! If you put your data tables on google docs it also means your audience can then access them.

9. Keep it simple

This is difficult, but keeps it simple, avoid jargon. People will probably only remember 3 points at the most.

10. Don't conclude its all just about the methodology you have used

From my experience, people don’t want to be told that different methods produce different results, that the evidence is inconclusive - ie all the richness that researchers care about. Hopefully you can bring this out in the Q&A.

11. Before and after

The actual 'presentation' is only part of it. Put your slides on www.slideshare.net or your blog so that afterwards people can get them and comment on them. Ask them for questions in advance. Connect with them on www.LinkedIn.com afterwards.

Writing and Presenting Your Findings

The key to successfully writing your paper is organization (writing skills help, too!). Here are some tips that may be helpful:

- You should have a clear idea of your research hypothesis by now. Make sure that this is stated clearly at the beginning of your paper (or presentation).
- Summarize the articles you have collected, identifying the main points. If you have made a photocopy of an article or book chapter, highlight the sentences or paragraphs that are most applicable to your topic.
- Start writing the sections that are clearest to you (these don't always have to be written in order). Provide background information and then add your supporting ideas.
- Once you start writing you will be able to identify areas where you still need more information. You can then develop a new targeted search strategy to retrieve more information. Your concepts may be much narrower than at the beginning stages of your research.
- Make sure that you have the correct citations for all of your resources (don't wait until the last minute on this one).

The format of your writing will differ depending on the expectations for the research.

It is important to provide information on where you obtained the information that was used in your research.

Cite your references

An important part of presenting your research is to acknowledge the sources you used to gather the information. One way of organizing your references is to use bibliographic management software. This software allows you to create your own files of references and can assist you in formatting them according to the publication style you are using. Three of the most popular programs are *ProCite*, *Reference Manager* and *EndNote*.

Papers that are written by students for courses at MSASS must adhere to the format created by the American Psychological Association (APA). Copies of the print version of ***The Publication Manual of the American Psychological Association*** are on reserve in the Harris Library.

Note: Don't forget to spell-check and proofread your document. You need to do both. They are NOT the same thing.

Stages of analysis and interpretation of findings
Establishing the trustworthiness of information
Presentation of findings
Implementation of findings

Stages of analysis and interpretation of findings

There are four main stages in the analysis and interpretation of qualitative information. These are discussed in more detail in several text books including Patton (1986, 1990), Miles and Huberman (1994), and Silverman (1994). Here, we shall concentrate more on the practical tasks, rather than on theoretical issues.

Descriptive Analysis

Descriptionanalysis of qualitative information is closely linked, hence the phrase descriptive analysis. This includes some description of the purpose of the study, the study site, and people involved which is normally presented in the introductory sections of a report. However, descriptive analysis focuses on the information gathered in relation to how it was gathered, where, and by whom. This involves reviewing the information, identifying links, patterns, and common themes, arranging the facts in order, and presenting them as they are, without adding any comments on their significance. This is usually presented in the Results section of a study report. The order in which the results are presented may be chronological, following the order in which the facts were obtained; or hierarchical, in order of their relative importance to the heart of the investigation. The introductory description and the descriptive analysis (results) sections of a study report should enable you to answer basic questions. For example:

Introductory Sections

• Where was the study conducted? What are the physical and climatic conditions in which people live?

• When was the study conducted? Why?

• What were the study aims, objectives, and intended outputs?

• Who conducted the study? Which methods/tools were used? Why?

• How did people participate in the study? Which ethnic, language or other groups were involved? How does the level of participation achieved in your study compare with your project's general ethos concerning (community) participation?

Results Section

The information gathered consists of:

• by method/tool of investigation used;
• by cluster of hygiene practices;
• by any other relevant order?

Sufficient detail should be included in the descriptive analysis to enable the reader to see the investigative steps you have followed, how you made methodological decisions or changes of direction and why. Remember that the facts have to be presented clearly, coherently, and fully before they can be interpreted. A very important feature of the descriptive analysis is the checking and crosschecking of information in order to establish the quality or trustworthiness of the findings. We shall deal with this separately in detail in "Establishing the Trustworthiness of Information."

Interpretation

The second stage is to determine what the results mean and how significant they are in the specific context to which they belong. The reasons behind certain hygiene practices and to what extent they are influenced by sociocultural factors can be teased out when the study team's multiple perspectives are brought to bear on the results. Wider issues concerning our understanding of the links between hygiene practices and health can also be explored in the light of the findings.

The following are some of the questions for the study team to answer when interpreting the study results:

• What do the results mean?
• Why did the results turn out the way they did?
• What are possible explanations of the results?
• Have all the *why* questions been answered? Do some of them require further investigation?

The interpretation of findings should ideally reflect the comments and suggestions made by members of the study population(s) during the feedback sessions that are built into the use of investigative and analytical methods/tools, such as those described in Chapters 5 and G. This will help minimize the biases that can creep into the interpretation of results, making sure that they are not separated from the context in which information was gathered (see Box 24).

Judgment

Descriptive analysis and interpretation of results ultimately lead to judging the findings as positive or negative or both, and stating the reasons why. The values of the study team and other stakeholders are brought to bear on the study findings. For example, the findings may show what is good, bad, desirable, or undesirable in the way the project has promoted improved water supply, sanitation, and hygiene/health, in the way people have responded to external interventions and why. The question to be answered here is:

• What is the significance of the findings to the various stakeholders in this particular setting?

• to your project?
• to the study population?
• to applied researchers interested in the links between particular hygiene practices and health?

The interpretation and judgment of results are usually presented in the *Discussion* section of a report. It is important to strike a fair balance between the positive and negative aspects of the findings. For example, positive findings should be emphasized without brushing over negative ones. Similarly, negative findings should not only be listed, but discussed in a way that explores possible practical solutions or feasible remedies. The discussion section should be followed by the conclusions which may be presented in the same section or separately under *Conclusions*.

Recommendations

The fourth stage is to draw some recommendations for action to be taken on the basis of the analysis, interpretation, and judgment of study findings. The *Recommendations* section of a report normally follows the discussion and conclusions and should address the following questions.

• What are the implications of the findings, based on your analysis, interpretation, and judgments? What are the implications?

• for your particular project?
• for other projects that may be interested to learn from your findings?
• for any other interested parties, such as researchers?

• What should be done by your project and other stakeholders on the basis of the analysis, interpretation, and judgment of your study results?

The more the different concerned parties or stakeholders are involved in the interpretation and judgment of the study results, the easier it will be for you to reflect their interests in the recommendations. Practical and feasible suggestions should be clearly included in the recommendations.

Presenting the findings

- Article | publicly viewable

An important part of your research is disseminating your findings. You do this in your thesis and published papers, of course, but there are many other ways you can share your results.

To think about: How do you share? What do you share? What can you release? Who do you share with? How do you protect your rights to your findings?

Writing up

Writing up your research and presenting it as your thesis/dissertation is a key part of any research studies just like writing up your research for publication is central to much academic work.

Audio and video

A range of **word processing** tools exist and you may well have a favourite. Each one has a large set of features that can help you create and manage your document(s) in convenient ways. Learning about the advanced features of your word processing tool is a good way to make your work easier and save time.

Including **references** and referencing appropriately is of considerable concern.

By using a reference management system you can make it easier both to keep track of your references and include them in your writing. Many bibliographic tools can be used together with

a word processor to simplify including references in your text and generating the bibliography in the correct format(s).

Bad writing and bad practice can lead to **plagiarism**.

Publishing your research may not be your prime objective when you start your research degree. It is, however, an important part of building an academic career and something you need to consider.

Audio and video

If you want to present your findings as audio or video, you have to create the resources and also make sure that you can disseminate them in a suitable way.

Podcasting is an increasingly popular way to make audio and video files available.

You can also publish media files on your website or distribute them via some file-sharing solution.

Newsfeeds

Newsfeeds is a way of delivering short pieces of information using Web technology. They are usually used where new material is available relatively frequently and to a greater extent for research groups or projects rather than individual research.

Blogs

A blog will allow you to publish what you want to say online in a quick and simple way, using text, sound, images, video. You can opt to allow readers of your blog to comment on your posts.

Conferences

Academic conferences are an important channel for disseminating your research and establishing yourself in the research community. Many conferences also publish conference proceeding where you can get your paper published. Conference proceedings are also a useful source of information about new and ongoing research, and you can identify what conferences are relevant to you by exploring previous proceedings.

Conferences are often advertised and calls for papers distributed on subject-specific mailing lists.

Presentations

Presentation tools are probably better known by their most famous exemplar, Microsoft's PowerPoint. In addition to text, graphs and pictures you can include sound, movies and links to websites and control how the various items are displayed. An alternative is Prezi - a web-based

presentation application where you create your presentation by adding objects to a virtual sheet and run the presentation by zooming in on different parts of it.

Learning to use any presentation tool is not only about creating and running the presentation slides or similar. You should also think about what you put on the slides and how you present what you want to say in a professional and effective way.

Podcasting

Podcasting is a method for distributing multimedia files, such as MP3 audio files and video files, over the Internet, for playback on mobile devices and personal computers.

Storing and manipulating digital images

To be able to include images when presenting your findings, you need digital images, either to paste into your written presentation or to use with other tools such as slide shows or blogs.

8.2 Check your progress

1. What strategies should be applied to make your introduction effective?

2. What are the don'ts to be taken care of while writing an introduction?

3. What strategies should be implemented in writing an effective conclusion?

4. What strategies should be implemented while presenting findings?

8.1 Answers to check your progress

1. Ph.D theses may not exceed 100,000 words, including footnotes but excluding appendices, tables and illustrative matter.

Master's theses may not exceed 50,000 words, including footnotes but excluding appendices, tables and illustrative matter.A thesis that exceeds the word limit must be supported with reasons in writing by the Head of School. If these limits are not exceeded, the length of the thesis is at your discretion, taking into account the advice of your supervisor and Head of School. In some disciplines, Ph.D theses are shorter than 25,000 words.

2. It shall list in sequence, with page numbers:

    1. all relevant sub-divisions of the thesis, including the titles of chapters, sections and subsections;

2. appendices (if any);
3. the list of abbreviations and other functional parts of the whole thesis;
4. the list of references;
5. the bibliography (if any);
6. the index (if any).

If a thesis consists of more than one volume, the contents of the whole thesis shall be shown in the first volume and the contents of subsequent volumes in a separate contents list in the appropriate volume.

3. For ease of reading, the size of character used in the main text, including displayed matter, shall be not less than 2mm for capitals and 1.5mm for x-height (height of lower-case x). 2mm is the equivalent of approximately 11pt character size, depending on the font in use.Text should be set with even or proportionate spacing between words. Word division at the ends of lines should be avoided if possible. In typescript or printout, one-and-a-half line spacing or equivalent shall be used, although double spacing may be used if necessary. Lines that contain mathematical formulae, diacritical marks or strings of capital letters may need additional space. It should be clear when a new paragraph is starting and where matter in the text is being quoted.

4. Photographic prints shall, if bound with the text, be on medium-weight photographic paper (e.g. paper of a thickness equivalent to that of uncoated paper of substance within the range 70 g/m2 to 100 g/m2) or permanently mounted on A4-size card or substantial paper.If it is necessary to bind in an illustration on a paper size larger than A4, it shall be produced on paper that can be folded to fit within the thesis. Illustrations shall not be pasted across both pages of an open volume.

5. The soft bound thesis shall be bound in such a way that it can be opened fully, for ease of reading.In general, the thickness of a single volume (excluding covers) should not be more than 70mm.The thesis shall be securely bound either between card covers (the front cover to be a copy of the title page) or between clear plastic covers. The spine should be taped and not spiral bound.

6. The hard bound thesis shall be bound in such a way that it can be opened fully, for ease of reading. In general, the thickness of a single volume (excluding covers) should not be more than 70mm.The thesis shall be bound in cloth covered boards, the binding being of a fixed kind in which leaves are permanently secured. Lettering on the cover and spine of the thesis shall be large enough to be legible when the volume is on a library shelf. The front cover shall bear the title of the thesis (in an abbreviated form, if necessary), the author's name, the name of qualification for which the thesis is submitted (e.g., PhD, or MA), and the year of submission.

The spine of the thesis shall bear the author's name, the name of qualification for which the thesis is submitted (e.g., PhD, or MA), the name of the department or programme and the year of submission. This information shall be printed along the spine in such a way as to be readable when the volume is lying flat with the front cover uppermost. If the thesis consists of more than one volume the front cover and the spine must also bear the number of each volume.

7. Plagiarism is defined as copying or paraphrasing another's work, whether intentionally or otherwise, and presenting it as one's own. In practice this means that plagiarism includes:

- any attempt to present as one's own work the work of another (whether of another student or a published authority);
- quoting word-for-word, or near to it, from a source and failing to insert quotation marks around the quoted passage(s). In such cases of direct copying, it not adequate to merely cite the source;
- using data or interpretative material without acknowledging the sources or the collaborators.

8. Logic is a formal system of analysis that helps writers invent, demonstrate, and prove arguments. It works by testing propositions against one another to determine their accuracy. People often think they are using logic when they avoid emotion or make arguments based on their common sense, such as "Everyone should look out for their own self interests" or "People have the right to be free." However, unemotional or common sense statements are not always equivalent to logical statements. To be logical, a proposition must be tested within a logical sequence.

9. People who read your writing will find it clear and logical if it is **easy to see the structure** of your writing, and how it fits together. You can achieve this in several ways:

- Spend time creating **a good plan** for the paragraphs of your text (e.g. essay or report). You need to have a clear idea of what each part of your text is saying, before you can make this structure clear to someone else. (If you like to write several drafts to develop your structure, then make sure you keep drafting until the structure is clear in your mind.)
- Use the **end of the introduction** to show the reader what structure to expect. (See the Help Yourself page on the structure of an introduction.)
- Use **headings and sub-headings**, (if these are acceptable for your discipline and assignment type), to show the reader what the parts of your text are.
- Use **topic sentences** at the beginning of each paragraph, to show the reader what the main idea is, and to link back to the introduction and/or headings and sub-headings.
- Show the **connections between sentences**. The beginning of each sentence should not be a surprise to the reader, but should link back to the main idea of the paragraph or a previous sentence. For example: "Quantitative methods provide results which are robust and comparable. However *this reliability and robustness* comes at the cost of the richness of findings which qualitative methods can produce."
- Use **conjunctions and linking words** to show the structure of relationships between ideas. For example: however, similarly, for this reason, as a result, on the other hand, moreover, etc.

If you are writing persuasively, to argue in support of **an interpretation or a point of view**:

- Make sure that your text develops a coherent argument: i.e. that all the individual claims work together to support your overall point of view
- Make sure that your reasoning for each claim is clear to the reader
- Ensure that you have evidence for every claim you make
- Use evidence which is convincing and directly relevant.

10. Some common logical fallacies are enlisted below:

10. **Hasty Generalization:** A generalization based on too little evidence, or on evidence that is biased. Example: All men are testosterone-driven idiots. Or: After being in New York for a week, I can tell you: all New Yorkers are rude.
11. **Either/or Fallacy:** Only two possibilities are presented when in fact several exist. Example: America: love it or leave it. Or: Shut down all nuclear power plants or watch your children and grandchildren die from radiation poisoning.
12. ***Non Sequitur:*** The conclusion does not follow logically from the premise. Example: My teacher is pretty; I'll learn a lot from her. Or: George Bush was a war hero; he'll be willing to stand tough for America.
13. ***Ad Hominem:*** Arguing against the man instead of against the issue. Example: We can't elect him mayor. He cheats on his wife! Or: He doesn't really believe in the First Amendment. He just wants to defend his right to see porno flicks.
14. **Red Herring:** Distracting the audience by drawing attention to an irrelevant issue. Example: How can he be expected to manage the company? Look at how he manages his wife! Or: Why worry about nuclear war when we're all going to die anyway?
15. **Circular Reasoning:** Asserting a point that has just been made. Sometimes called "begging the question." Example: She is ignorant because she was never educated. Or: We sin because we're sinners.
16. **False Analogy:** Wrongly assuming that because two things are alike in some ways, they must be alike in all ways. Example: An old grandmother's advice to her granddaughter, who is contemplating living with her boyfriend: "Why should he buy the cow when he can get the milk for free?"
17. ***Post Hoc, Ergo Propter Hoc:*** The mistake of assuming that, because event *a* is followed by event *b,* event *a* caused event *b.* Example: It rained today because I washed my car. Or: The stock market fell because the Japanese are considering implementing an import tax.
18. **Equivocation:** Equates two meanings of the same word falsely. Example: The end of a thing is its perfection; hence, death is the perfection of life. (The argument is fallacious because there are two different definitions of the word "end" involved in the argument.)

8.2 Answers to check your progress

1.Consider these strategies for capturing your readers' attention and for fleshing out your introduction:

1. Find a startling statistic that illustrates the seriousness of the problem you will address.

2. Quote an expert (but be sure to introduce him or her first).

3. Mention a common misperception that your thesis will argue *against*.
4. Give some background information necessary for understanding the essay.
5. Use a brief narrative or anecdote that exemplifies your reason for choosing the topic. In an assignment that encourages personal reflection, you may draw on your own experiences; in a research essay, the narrative may illustrate a common real-world scenario.
6. In a science paper, explain key scientific concepts and refer to relevant literature. Lead up to your own contribution or intervention.
7. In a more technical paper, define a term that is possibly unfamiliar to your audience but is central to understanding the essay.

2. In fleshing out your introduction, you will want to avoid some common pitfalls:

1. Don't provide dictionary definitions, especially of words your audience already knows.

2. Don't repeat the assignment specifications using the professor's wording.

3. Don't give details and in-depth explanations that really belong in your body paragraphs. You can usually postpone background material to the body of the essay.

3.The following strategies may help you move beyond merely summarizing the key points of your essay and writing a good conclusion:

1. If your essay deals with a contemporary problem, warn readers of the possible consequences of not attending to the problem.
2. Recommend a specific course of action.
3. Use an apt quotation or expert opinion to lend authority to the conclusion you have reached.
4. Give a startling statistic, fact, or visual image to drive home the ultimate point of your paper.
5. If your discipline encourages personal reflection, illustrate your concluding point with a relevant narrative drawn from your own life experiences.
6. Return to an anecdote, example, or quotation that you introduced in your introduction, but add further insight that derives from the body of your essay.
7. In a science or social science paper, mention worthwhile avenues for future research on your topic.

4. While presenting findings following strategies should be implemented:

1. Know your audience in advance

Know who is there, their interests/jobs/methodological bugbears, and their names. It's great in a Q&A when a presenter responds to a question and begins with the name of the person who asked.

2. Tailor your presentation to that audience

Surprisingly, many don't do this and just present 'their research' and expect people to want to think through why it is relevant

3. **Highlight the context**

If there is a policy or practice context, highlight this - more so than theoretical/methodological context (though you should briefly allude to these to highlight you know your onions).

4. **Policy or practice recommendations**

If there are policy or practice recommendations, you must draw these out - at the end of the day, people in these organisations are using research-based evidence as a means to making decisions - so help them make those decisions.

5. **Include recommendations that are actionable and that help your audience**

Don't just have recommendations that say 1) we need to do more research and 2) my research has highlighted that this issue needs more funds. Both are acceptable as part of wider recommendations; the latter needs to explain how funds would be spent and on what.

6. **Time and practise what you do**

If you have a 10m slot, pace out the sections (context/meat/conclusions) so that you don't spend 8m on context and then overrun.

7. **Avoid powerpointlessness**

Focus should be you, not your over-detailed slides. When I see someone with a 10m slot and 20 slides I groan (NB: #guilty). Just because a paragraph has a bullet point in front of it, it doesn't mean it is a bullet point. Try www.prezi.com as a ppt alternative. Its cool. Here's my attempt at a prezi.

8. **Visualise your data: try infographics!**

Look at manyeyes and informationisbeautiful for inspiration. If you've got data tables, make sure they are legible from 10ft! If you put your data tables on google docs it also means your audience can then access them.

9. **Keep it simple**

This is difficult, but keeps it simple, avoid jargon. People will probably only remember 3 points at the most.

10. **Don't conclude its all just about the methodology you have used**

From my experience, people don't want to be told that different methods produce different results, that the evidence is inconclusive - ie all the richness that researchers care about. Hopefully you can bring this out in the Q&A.

11. Before and after

The actual 'presentation' is only part of it. Put your slides on www.slideshare.net or your blog so that afterwards people can get them and comment on them. Ask them for questions in advance. Connect with them on www.LinkedIn.com afterwards.

8.6 Conclusion

This chapter has acquainted with the presentation of research. It tells about how to format the thesis. Also it has guided about using logic in one's content. It has given guidelines about how to write introductions, conclusions and presenting research findings.

8.7 Summary

A thesis shall list in sequence, with page numbersall relevant sub-divisions of the thesis, including the titles of chapters, sections and subsections;appendices (if any);the list of abbreviations and other functional parts of the whole thesis;the list of references;the bibliography (if any);the index (if any).If a thesis consists of more than one volume, the contents of the whole thesis shall be shown in the first volume and the contents of subsequent volumes in a separate contents list in the appropriate volume.

The soft bound thesis shall be bound in such a way that it can be opened fully, for ease of reading.In general, the thickness of a single volume (excluding covers) should not be more than 70mm.The hard bound thesis shall be bound in such a way that it can be opened fully, for ease of reading.In general, the thickness of a single volume (excluding covers) should not be more than 70mm.The thesis shall be bound in cloth covered boards, the binding being of a fixed kind in which leaves are permanently secured.

Plagiarism is defined as copying or paraphrasing another's work, whether intentionally or otherwise, and presenting it as one's own.

Logic is a formal system of analysis that helps writers invent, demonstrate, and prove arguments. It works by testing propositions against one another to determine their accuracy.

8.8 Field work

Try to find out the difference between the formats of a thesis of a language research and natural sciences research.

Chapter IX

Writing Styles

9.0 Objectives

Friends, in this chapter we will study the writing styles to be used in research. This chapter will help you to discuss:

- How to write bibliography by using standard style sheets
- How to write a short research paper
- How to write a short dissertation

9.1 Introduction

Friends, in the last chapter we have studied how to make research presentation. In this chapter we are going to examine critically the writing styles that are used in research. It will guide to use standard style sheets in writing bibliography. Also it will guide to write short research papers and short dissertations.

9.2Writing Bibliography Using Standard Style Sheets

MLA Referencing

MLA Citation Style

The MLA (Modern Language Association) style is most commonly used to write papers and cite sources within the liberal arts and humanities. The following examples are based on the MLA Handbook for Writers of Research Papers (7th ed. 2009).

MLA uses a two-part system of citation:
In-text citation: short parenthetical citations, embedded within the text of the essay itself.

1) A "Works Cited" list that follows up these references with fuller
2) Details of the sources, in an alphabetically ordered list.

This includes both primary and secondary texts you used in writing your assignment. All entries in the Works Cited page must correspond to the works cited in your main text.

NB:

- Titles of whole books, plays, films and artworks should be in italics. In the context of using End Note, this style is referred to MLA-italics.
- Titles of chapters, articles, essays and poems that are part of longer works should be in 'quotation marks" with no italics.
- 'Title case' should be used: ie capitalize each word in the titles of articles, books, etc, but do not capitalize articles (the, an), prepositions, or conjunctions unless one is the first word of the title or subtitle: *Gone with the Wind*, *The Art of War*, *There Is Nothing Left to Lose*.

In-text citation

The usual information includes in an in-text citation is (Author-surname page-number) - no commas and no 'p.' or 'pg' is needed. The reference appears in brackets at the end of the sentence that contains the quotation from or reference to your source. Punctuation comes after the citation. A full reference to the resource is included in the Works Cited page at the end of the essay. For example:

Material found in indirect source:
If you mention the name of the author in the context of your sentence, or it is obvious that you are continuing with discussing the same source, you may not have to provide the surname in citation again, or even (if it is from the same page as an immediately prior citation) the page number again.
With some electronic sources, you will have page numbers to refer to (especially PDF format files), but if the source isn't paginated, don't worry about providing page numbers in the in-text citation for that source.
If you are dealing with more than one source by the same author, include a short version of the title of the text within the citation to help distinguish between the sources. For example:
"Montaigne's understanding of the potential for barbarity within "civilisation" is portrayed, for instance, in examining the relative associations with ostentatious transport ("Of Coaches" 439-445), perfume and cosmetics used to cover commonplace stench ("Of Smells" 213), and the primitive understanding of medicine in the France of his day ("Of Experience" 520-522)."

Works Cited

Your essay should conclude with a Works Cited list (a full list of works consulted). Entries are listed alphabetically by the author's last name (or, for entire edited collections, editor names). Author names are written last name first; middle names or middle initials following the first name.
If you have cited more than one work by a particular author, order the entries alphabetically by title, and use three hyphens in place of the author's name for every entry after the first.
If there is no author, place the item by the first letter of its title, ignoring 'A' and 'The.'
For every entry, you should determine the medium of publication. Most entries will likely be listed as Print or Web sources, but other possibilities may include Film, CD-ROM, or DVD.

Books

Books with one author
Winterson, Jeanette. *Oranges Are Not the Only fruit*. New York: Atlantic Monthly Press, 1987. Print.

Books with 2 to 3 authors
Reverse the name of the first author only.
Kuiper, Koenraad and W. Scott Allan. *An Introduction to English Language: Word, Sound, and Sentence.* New York: Palgrave Macmillan, 2004. Print.

Books with more than 3 authors
The name of the first author should be given, followed by *et al* ("and others") eg Quirk, Randolph, et al. Print.
OR
give all names in full, in the order in which they appear on the title page.

Book prepared by an editor
Austen, Jane. *Sense and Sensibility.* Ed. Claudia Johnson. New York: Norton, 2001. Print.

Translated Book
Hildegard of Bingen. *Selected Writings*. Trans. Mark Atherton. New York: Penguin, 2001. Print.

Book with no author
Use the title of the book.
eg *The New English Bible*. NY: Oxford University Press, 1972. Print.

Entire Online Book
Give the publication information for the original book. Add the electronic publication information where available eg date of electronic publication. Include the URL or DOI**.**
Nesbit, Edith. *Ballads and Lyrics of Socialism.* London*:* The Fabian Society*,* 1908. *Victorian Womens Writers Project*. Web. 4 Oct. 2010.
http://webapp1.dlib.indiana.edu/vwwp/view?docId=VAB7021.

Frost, Robert. *North of Boston*. 2nd ed. New York: Henry Holt and Co., 1915. *Google Books*. Web. 30 June 2009.

Book Chapters and Sections

Essay published in a collection
Mancoff, Debra N. "To Take Excalibur: King Arthur and the Construction of Victorian Manhood". *King Arthur: A Casebook,* ed. Edward D. Kennedy. New York: Garland, 1996. 257-80. Print.

Work in an Anthology
Wendt, Albert. "The Balloonfish and the Armadillo." *The Picador Book of Contemporary New Zealand Fiction*. Ed. Fergus Barrowman. 153-169. Print.

Introduction, Forward, or Preface
Drabble, Margaret. Introduction to *Middlemarch,* by George Eliot. New York, Bantam, 1985. vii-xvii. Print.

Multi-volume sets
Work published as part of a multi-volume series
Ruskin, John. *The Stones of Venice*. In *Works*, vols 9-11. Print.
_____ *The Works of John Ruskin*, ed. E.T. Cook and Alexander Wedderburn. 39 vols. London: George Allen, 1903-12. Print.

[Also an example of citing another work by the same author]

Part of an Online Book
Matz, Jessie. "Postcolonial Modernity", in *The Modern Novel: A Short Introduction*, Blackwell Publishing Ltd, Oxford, UK: Web. 25 Feb. 2008. doi: 10.1002/9780470776155. ch8.

Reference Books

Frequently updated, well-known reference title: brief
"Noon." Def. 4b. *The Oxford English Dictionary*. 2nd. ed. 1989. Print.
Specialised /lesser known reference title: in full
"Epic". *Oxford Dictionary of the Renaissance.* Oxford; New York: Oxford University Press, 2003. Print.

Article from an online encyclopedia
"Canterbury Tales, The." *The Oxford Companion to English Literature*. Ed. Margaret Drabble. Oxford University Press, 2000. Oxford Reference Online. Web. 11 July 2005.

Entry from the OED Online
"magazine, *n.*" *OED Online*. June 2003. Oxford University Press. Web. 10 Dec. 2004.

(The first date is the OED entry date; the second is the access date)

Entry from Grove Music Online
Talbot, Michael. "Vivaldi, Antonio." *Grove Music Online*. *Oxford Music Online*. Web. 18 Jan. 2010.

Journal Articles

Enclose the title of the article in quotation marks. Italicize the title of the journal.

Journal article
Mayer, Jed. "Germinating Memory: Hardy and Evolutionary Biology." *Victorian Review* 26.1 (2000): 82-97. Print.

Reprinted article
Barnard, Rita. "Dream Topographies: J.M. Coezee and the South African Pastoral." South Atlantic Quarterly 93.1 (1994): 33-58. Rpt. in *Contemporary Literary Criticism*. Ed. Jeffrey Hunter. Vol. 117. Detroit: Gale, 1999. 65-74.
Print.

Film, DVD or video recording

Jackson, Peter, et al. *The Lord of the Rings, the Fellowship of the Ring*. Special extended DVD ed. United States: New Line Home Entertainment: New Line Cinema, 2002.

Broadcast
Welles, Orson, dir. "The War of the Worlds." By H.G. Wells. Adapt. Howard Koch. *Mercury Theatre on the Air*. CBS Radio. WCBS, New York, 30 Oct. 1938. Radio.

Web sites

Macrae-Gibson, O. D. "Christ and Satan." *The Complete Corpus of Anglo-Saxon Poetry.* Web. 14 July 2005.
NB: URL is no longer required.

Lectures

If it is necessary to cite from a lecture your in-text citation would follow the standard form, and you'd have two possibilities for the bibliography citation, dependent on whether you are citing the lecture as delivered or the lecture in note form, archived, for example, on Learn.
Examples of a lecture and the lecture notes online:
Armstrong, Philip. "Humanism and the Rise of the Essay (II)." U of Canterbury. Christchurch, N.Z. 2 March 2012. Lecture.
Or
Armstrong, Philip. "Humanism and the Rise of the Essay (II)." U of Canterbury. Christchurch, N.Z. 2 March 2012. Lecture. *ENGL201, The Essay and Beyond: Learn website.* U of Canterbury, 2012. Web. 2 May 2012.

Plagiarism

Plagiarism is unacceptable. It involves the copying of material verbatim from any source without quotation and attribution or the lifting of ideas from any source without attribution. Material reproduced verbatim must appear inside quotation marks and must be properly attributed in the notes; paraphrased or modified material must be properly attributed in the notes. The modification of material by altering one or two words in a passage does not avoid plagiarism; take the time to rework in your own words material derived from elsewhere. Remember that writing a bad paper using your own words and ideas is far better than writing a good one using the words and ideas of someone else. One suggestion for avoiding inadvertent echoing of your texts and sources: close all books when writing, and consult them only for specific facts or direct quotes.

Matters of Style

You will find below suggestions for dealing with common problems in the writing of papers in history.

1. Capitalization

Capitalize *sections* North, East, South, and West, but not *directions* north, east, south, and west. Capitalize lake, river, and mountains, when used with a single object, but lower case in the plural: thus, Lake Trasimeno, the Rubicon River, and the Pyrenees Mountains, but lakes Trasimeno and di Bracciano, the Rubicon and Tiber rivers, and the Pyrenees and Apennine mountains. In like fashion, write Prince Edward County and the Democratic Party, but Prince Edward and Buckingham counties and the Democratic and Republican parties.

Capitalize proper names. Capitalize Negro or African-American, Indian or Native American, Hispanic, Asian, Oriental, and Caucasian, but not black, red, yellow, or white when referring to race.

Write King Ferdinand and Queen Isabella, but the king and queen of Spain, and the king and queen; Pope Boniface VIII (*never* the 8th), the pope, the papacy; Frederick, Lord North, prime minister of England, Lord North, the prime minister, the North ministry; the Roman Empire, the empire under Trajan, the empire; the Pyramids (but the Egyptian pyramids), the Sphinx, the Leaning Tower of Pisa; the Augustan Age, the Christian Era, the Renaissance; ancient Greece, the Golden Age of Athens, the Hellenistic Age; the Han Dynasty, the Han and Ch'in dynasties; the Forbidden City; Parliament, an early parliament; the House of Lords and House of Commons; Cortez (Spain); Reichstag (Germany); Estates General (France). Some identifying names of historical events are capitalized, e.g. the Fall of Rome and the Reign of Terror, but latter-day appellations, such as the age of steam, the space age, and the nuclear age, are sometimes left in lower case. In the latter case, make your choice and *be consistent* throughout.

Write President William Clinton, president of the United States, the president, the presidency, the White House; Madeline Albright, secretary of state, Secretary Albright, the secretary of state; United States Congress, Congress, congressional; House of Representatives, the House, the

lower house; United States Senate, the Senate, the upper house; David Hastert, Speaker of the House of Representatives, Congressman Hastert, the congressman from Illinois, the representative, the Speaker of the House; Phil Gramm, senator from Texas, Senator Gramm, the senator from Texas, the senator; the United States Supreme Court, the Supreme Court, the Court; William Rehnquist, chief justice of the United States, Chief Justice Rehnquist, the chief justice, Justice Clarence Thomas; General John Shelton, chairman of the Joint Chiefs of Staff, the general; George W. Bush, governor of the state of Texas, Governor Bush, the governor; the Legislature of Texas, the Texas legislature; The Texas Supreme Court, the state supreme court. Always capitalize the words Republican and Democrat when the reference is to a political party or a member thereof, but lower case when the reference is to political principles; thus, President Clinton not only belongs to the Democratic Party, he is also democratic in his thinking.

Write Oregon State, but the state of Oregon; New York City, but the city of New York; Massachusetts Bay Colony, but the colony at Massachusetts Bay. Write the British colonies, the thirteen colonies; the Northwest Territory, the territory of Indiana; the Hudson River valley, the Kansas prairie.

2. Numbers

Put numbers that cannot be written in two words in Arabic numerals. Thus, six, thirty-five, five thousand, but 243 and 4,156. Hyphenate compound numbers from twenty-one to ninety-nine. Round numbers may be spelled out, e.g., two thousand, twenty-five hundred, twelve-hundred-word essay; write large round numbers in figures and units, e.g., 10.5 billion, 4.3 trillion. If one number in a series must be written in Arabic numerals, write all of them that way: there were 30 armored vehicles, 75 tanks, 101 personnel carriers, and 1,450 soldiers in the column. *Always* write out a number when it occurs at the beginning of a sentence (or rewrite the sentence). One hundred fifteen men and 112 women will graduate this year (This year 115 men and 112 women will graduate). Exceptions to these rules occur in such cases as 44 B.C., page 12, table 17, 45 cubic yards, 35mm film, 5 percent. Use commas to separate thousands, except in reference to street numbers and pages. Thus, 5,141,300 people, but 1019 Main Street and page 1213.

Sums of money that cannot be written in two words should be rendered in figures: twenty-five cents and five dollars, but $21.50 and $185.00; six pounds or threepence, but £14 19s. 6d. or £14.19.6. Very large sums may be written in figures and units: $3.5 trillion or £456 billion.

3. Quotations

Quotations should be used with care. Too often they become a substitute for the hard work of doing one’s own writing and, indeed, one’s own thinking. Insert quotations when they add something that might otherwise be lost. Only a quotation, for example, can adequately illustrate the rapier wit of John Randolph of Roanoke, who once told an acquaintance he did not like: "Sir, you remind me of a rotten mackerel in the moonlight—you shine and you stink."

Be accurate in the use of quotations. It is never correct to alter a quotation without notifying the reader. Indicate the omission of a word or phrase with an ellipsis (three alternately spaced periods): thus, "the three congressmen . . . could not agree"; if the omission follows the end of a

sentence, place the ellipsis after the period. . . . The omission of an entire paragraph from a particularly long quotation is indicated by a row of periods across the page.

Words, phrases, and explanations inserted in a quotation must be placed in [brackets]. Errors of fact, spelling, grammar, punctuation, and the like that appear in quoted material should be indicated by [*sic*] so that such errors will not be attributed to you.

Long quotations (fifty words or more) should be indented and typed single-spaced without quotation marks. Place periods and commas "inside quotation marks," but "colons and semicolons outside"; that is the way it is done.

4. Series

Separate items in a series from each other with a comma: the colors chosen for the flag were red, white, and blue. When items in the text are enumerated, the numbers are placed in parentheses and the items separated by commas. Thus, three factors influenced the president's final decision: (1), (2) and (3).

5. Italics

Italics are commonly used for emphasis, for foreign words and phrases, for ship names, and for titles of books, works of art, musical compositions, and the like. Thus, if someone offers to sell you the U.S.S. *Arizona* or a copy of *The City of God* autographed by Saint Augustine himself, *always keep in mind* the old rule of *caveat emptor*. Italics may be omitted in the case of foreign words and phrases that are found in common English usage. If you choose for emphasis to italicize a portion of a quotation, the fact should be cited in the endnote with the notation "italics mine" or "emphasis mine" in parentheses. If your word-processing program will not produce italics, indicate them by underlining.

6. Dates

Either the standard or the military form for rendering dates is acceptable so long as the writer remains consistent. Thus, July 2, 1776, or 2 July 1776. Write July 2, not July 2nd; twentieth century, in the eighties, during the forties and fifties, but in the 1920s; write that the Romans conquered Britain in the first century A.D., but that William the Conqueror landed in England in 1066 A.D.

7. Abbreviations

Take care in using abbreviations. Write out United States, the names of the several states, and the names of days and months. Abbreviations are common when referring to well-known organizations such as the National Association for the Advancement of Colored People (NAACP), but always write the name out in the first instance and place the abbreviation after it

in parentheses; thereafter the abbreviation alone, in this case the NAACP, may be used.

8. References to Persons

The first reference to an individual should provide the full name; later references, particularly if the individual is well known, may be by surname only. If an individual is or was generally known by a particular name, use it. Thus John C. Calhoun, or John Randolph of Roanoke. In reference to titled individuals, use the title and full name on the first citation; thereafter the title alone is sufficient. Thus, Arthur Wellesley, the Duke of Wellington, and John Murray, the fourth Earl of Dunmore; thereafter, the Duke of Wellington, or Wellington, and the Earl of Dunmore, Governor Dunmore, or Dunmore. Do not use Mr. in formal writing: it does not aid in identification since all men are Mr. Use Miss or Ms., only when the name does not clearly show the sex.

End Matter

Formal papers in history must provide endnotes and a list of works cited. Notes are ordinarily placed in a separate section at the end of the paper, but they may be placed at the bottom of individual pages if desired. The *inclusion in the text of the paper of notes in parentheses, however, is NOT to be used.* Notes should be numbered sequentially throughout as in (1) below.

The list of works cited is placed in a separate section following the endnotes (or following the text if footnotes are used).

Examples of acceptable standard forms for rendering end-matter entries are given below. See (3) below for a list of standard abbreviations.

Endnotes

[Book, single author]

[1]Henry Kissinger, *Diplomacy* (New York: Simon and Schuster, 1994), 221-26.

[Second citation of the same source, no other citations intervening]

[2]Ibid., 267.

[Book, two or three authors]

[3]Elbridge Rowles, Trevor Weed, and Brighton Jones, *The Elizabethan Explorers* (Boston: Little, Brown and Company, 1948), 133.

[Book, more than three authors]

[4]Bellemy Moore et al., *A History of China* (New York: Random House, 1969), 15.

[Edited multi-volume work, name of author(s) appearing in title]

[5]E. G. R. Taylor, ed., *The Original Writings of the Two Richard Hakluyts,* 2 vols. (London: The Hakluyt Society, 1935),I, 13-17.

[Edited work, name of author(s) not appearing in title]

[6]Richard Hakluyt, *Diverse Voyages Touching the Discovery of America and the Islands Adjacent,* ed. J. W. Jones (London: The Hakluyt Society, n.d.), 13-15.

[Book, edition other than the first]

[7]George B. Tindall and David Shi, *America: A Narrative History,* 3rd ed. rev. (New York: W. W. Norton, 1992), 231.

[Short-title reference to a source cited earlier, other citations intervening]

[8]Hakluyt, *Diverse Voyages,* 102.

[Chapter or section of a composite work]

[9]Austin Lane Poole, "The Emperor Conrad II," *The Cambridge Medieval History,* 8 vols., ed. Henry M. Gwatkin et al. (New York: The Macmillan Co., 1911-1936), III, chap. 11, 253.

[Periodical article]

[10]Charles G. Sellers, Jr., "Who Were the Southern Whigs?" *The American Historical Review,* LIX (January 1954), 335.

[Periodical article, foreign]

[11]Carlos Pi Sunyer, "La ultima fase de la vida del General Miranda," *Boletin de la Academia Nacional de la Historia* (Caracas), XXXVI, No. 142 (abril-junio 1953), 195.

[Newspaper citation]

[12]*New York Times,* April 16, 1912; *Boston Globe,* April 17, 1912, quoting the *New York Times,* April 17, 1912.

[Newspaper citation, foreign]

[13]*Gazette nationale ou Moniteur universel* (Paris), 18 floréal an II (May 7, 1794); cited hereafter as *Moniteur.*

[Government publication]

[14]U. S., Congress, Senate, *Congressional Globe,* 39 Cong., 2 Sess. (1867), 39, pt. 9:9504.

[Government publication]

[15]Great Britain, *Hansard's Parliamentary Debates,* 3 ser., 249 (1879): 614-628.

[Legal citations]

[16]*Bridge*s v.*California*, 314 U.S. 252 (1941).

[17]*Mississippi* v. *Johnson*, 4 Wall 475 (1867).

[Classical citations]

[18]Augustine *De civitate Dei* 20.2.

[OR]

[19]Augustine *City of God* 20.2.

[20]Aristotle *Nichomachean Ethics* 1177b31.

[21]Homer *Odyssey* 9.266-71.

[22]Plato *Republic* 360E-361B.

[Biblical citations]

[23]Gen. 25:19-26:2; 2 Kings 11:12; Ruth 3:1-18.

[Encyclopedia entry]

[24]*Encyclopaedia Britannica,* 11th ed., s.v. "Prayers for the Dead."

[Unpublished work]

[25]Edwin A. Miles, "Jacksonian Democracy in Mississippi, 1817-1837" (Unpublished doctoral dissertation, the University of North Carolina, Chapel Hill, 1954), 77.

[Electronic media--physical entity]

[26]Robert F. Green, *Fields of Dreams: The Big Book of Baseball Statistics, 1860-1998* [CD-ROM] (Cooperstown, NY: Baseball Publishing Co., 1998).

[Electronic Media--Internet]

[27]"The Third Virginia Charter, March 12, 1612," *AMDOCS: Documents for the Study of American History* (University of Kansas); available from http://odur.let.rug.n/~usa/D/1601-1650/virginia/chart03.htm; Internet; accessed 14 January 1999.

OR

[28]"The Riches of Vicksburg," *Southern Living*, 1998 [magazine on-line]; available from http://southern-living.com/travel/vicksburg.html; Internet; accessed 14 January 1999.

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2. Sample Bibliographical Entries

Depping, George B., ed. *Correspondance administrative sous le règne de Louis XIV.* 4 vols. Paris: Imprimerie Impériale, 1850-1855.

Ebenezer, J. B., and Scrooge, William. *A Life of Charles Dickens.* 2 vols. London: The Tower Press, 1932.

Hakluyt, Richard. *Diverse Voyages Touching the Discovery of America and the Islands Adjacent.* Edited by J. W. Jones. London: The Hakluyt Society, n. d.

Miles, Edwin A. "Jacksonian Democracy in Mississippi, 1817-1837." Unpublished doctoral dissertation, University of North Carolina, Chapel Hill, 1954.

New York Times, 1912.

Poole, Austin Lane. "The Emperor Conrad II," *The Cambridge Medieval History.* 8 vols. Edited by Henry M. Gwatkin et al. (New York: The Macmillan Co., 1911-1936), III, 253-271.

Rowles, Elbridge; Weed, Trevor; and Jones, Brighton. *The Elizabethan Explorers.* Boston: Little, Brown and Co., 1948.

Sellers, Charles G., "Who Were the Southern Whigs?" *The American Historical Review,* LIX (January 1954), 335-376.

Taylor, E. G. R., ed. *The Original Writings of the two Richard Hakluyts.* 2 vols. London: The Hakluyt Society, 1935.

U. S., Congress. *Congressional Globe.* 39 Cong., 2 Sess., 1867.

3. **Standard Abbreviations**
English Abbreviations

abr., [abridged]

b. [born, brother]

B.C.E. [before the Christian Era; or Before Current Era]

B.C. [before Christ]

C.E. [Christian Era; or Current Era.]

comp. [compiler, compiled by]

ed. [editor, edited by]

n.d. [no date (of publication)]

n.p. [no place (of publication)]

pseud. [pseudonym of]

trans. [translated, translated by; translator]

Latin Abbreviations

A.D. [*anno Domini,* in the year of our Lord]

ca. [*circa*, about, approximately]

cf. [*confer,* compare]

et al. [*et alii,* and others]

ibid. [*ibidem,* in the same place]

id. [*idem,* the same]

i.e. [*id est,* that is]

inf. [*infra,* below]

MS (*pl.* MSS) [*manuscriptum, -a*, manuscript, manuscripts]

pass. [*passim,* throughout]

q.v. [*quod vide,* which see]

sup. [*supra,* above]

s.v. [*sub verbo, sub voce,* under the word]

ut sup. [*ut supra,* as above]

vs. or v. [*versus,* against]

viz. [*videlicet,* namely]

9.3 Writing a short Research Paper

Writing a Research Paper

There will come a time in most students' careers when they are assigned a research paper. Such an assignment often creates a great deal of unneeded anxiety in the student, which may result in procrastination and a feeling of confusion and inadequacy. This anxiety frequently stems from the fact that many students are unfamiliar and inexperienced with this genre of writing. Never fear—inexperience and unfamiliarity are situations you can change through practice! Writing a research paper is an essential aspect of academics and should not be avoided on account of one's anxiety. In fact, the process of writing a research paper can be one of the more rewarding experiences one may encounter in academics. What is more, many students will continue to do research throughout their careers, which is one of the reasons this topic is so important.

Becoming an experienced researcher and writer in any field or discipline takes a great deal of practice. There are few individuals for whom this process comes naturally. Remember, even the most seasoned academic veterans have had to learn how to write a research paper at some point in their career. Therefore, with diligence, organization, practice, a willingness to learn (and to make mistakes!), and, perhaps most important of all, patience, a student will find that she can achieve great things through her research and writing.

Following sections are related to the process of writing a research paper:

- **Genre**- This section will provide an overview for understanding the difference between an analytical and argumentative research paper.
- **Choosing a Topic**- This section will guide the student through the process of choosing topics, whether the topic be one that is assigned or one that the student chooses himself.
- **Identifying an Audience**- This section will help the student understand the often times confusing topic of audience by offering some basic guidelines for the process.
- **Where Do I Begin**- This section concludes the handout by offering several links to resources at Purdue, and also provides an overview of the final stages of writing a research paper.

Genre and the Research Paper

Research: What it is

A research paper is the culmination and final product of an involved process of research, critical thinking, source evaluation, organization, and composition. It is, perhaps, helpful to think of the research paper as a living thing, which grows and changes as the student explores, interprets, and evaluates sources related to a specific topic. Primary and secondary sources are the heart of a research paper, and provide its nourishment; without the support of and interaction with these sources, the research paper would morph into a different genre of writing (e.g., an encyclopedic article).

Research: What it is not

A research paper is not simply an informed summary of a topic by means of primary and secondary sources. It is neither a book report nor an opinion piece nor an expository essay consisting solely of one's interpretation of a text nor an overview of a particular topic. Instead, it is a genre that requires one to spend time investigating and evaluating sources with the intent to offer interpretations of the texts, and not unconscious regurgitations of those sources. The goal of a research paper is not to inform the reader what others have to say about a topic, but to draw on what others have to say about a topic and engage the sources in order to thoughtfully offer a unique perspective on the issue at hand. This is accomplished through two major types of research papers.

Two major types of research papers

Argumentative research paper:

The argumentative research paper consists of an introduction in which the writer clearly introduces the topic and informs his audience exactly which stance he intends to take; this stance is often identified as the thesis statement. An important goal of the argumentative research paper is persuasion, which means the topic chosen should be debatable or controversial. For example, it would be difficult for a student to successfully argue in favor of the following stance.

Cigarette smoking poses medical dangers and may lead to cancer for both the smoker and those who experience secondhand smoke.

Perhaps 25 years ago this topic would have been debatable; however, today, it is assumed that smoking cigarettes is, indeed, harmful to one's health. A better thesis would be the following.

Although it has been proven that cigarette smoking may lead to sundry health problems in the smoker, the social acceptance of smoking in public places demonstrates that many still do not consider secondhand smoke as dangerous to one's health as firsthand smoke.

In this sentence, the writer is not challenging the current accepted stance that both firsthand and secondhand cigarette smoke is dangerous; rather, she is positing that the social acceptance of the latter over the former is indicative of a cultural double-standard of sorts. The student would support this thesis throughout her paper by means of both primary and secondary sources, with the intent to persuade her audience that her particular interpretation of the situation is viable.

Analytical research paper:

The analytical research paper often begins with the student asking a question (a.k.a. a research question) on which he has taken no stance. Such a paper is often an exercise in exploration and evaluation. For example, perhaps one is interested in the Old English poem *Beowulf*. He has read the poem intently and desires to offer a fresh reading of the poem to the academic community. His question may be as follows.

How should one interpret the poem *Beowulf*?

His research may lead him to the following conclusion.

Beowulf is a poem whose purpose it was to serve as an exemplum of heterodoxy for tenth- and eleventh-century monastic communities.

Though his topic may be debatable and controversial, it is not the student's intent to persuade the audience that his ideas are right while those of others are wrong. Instead, his goal is to offer a critical interpretation of primary and secondary sources throughout the paper--sources that should, ultimately, buttress his particular analysis of the topic. The following is an example of what his thesis statement may look like once he has completed his research.

Though *Beowulf* is often read as a poem that recounts the heroism and supernatural exploits of the protagonist Beowulf, it may also be read as a poem that served as an exemplum of heterodoxy for tenth- and eleventh-century monastic communities found in the Danelaw.

This statement does not negate the traditional readings of *Beowulf*; instead, it offers a fresh and detailed reading of the poem that will be supported by the student's research.

It is typically not until the student has begun the writing process that his thesis statement begins to take solid form. In fact, the thesis statement in an analytical paper is often more fluid than the thesis in an argumentative paper. Such is one of the benefits of approaching the topic without a predetermined stance.

Choosing a Topic

The first step of any research paper is for the student to understand the assignment. If this is not done, the student will often travel down many dead-end roads, wasting a great deal of time along the way. Do not hesitate to approach the instructor with questions if there is any confusion. A clear understanding of the assignment will allow you to focus on other aspects of the process, such as choosing a topic and identifying your audience.

Topic

A student will often encounter one of two situations when it comes to choosing a topic for a research paper. The first situation occurs when the instructor provides a list of topics from which the student may choose. These topics have been deemed worthy by the instructor; therefore, the

student should be confident in the topic he chooses from the list. Many first-time researchers appreciate such an arrangement by the instructor because it eliminates the stress of having to decide upon a topic on their own.

However, the student may also find the topics that have been provided to be limiting; moreover, it is not uncommon for the student to have a topic in mind that does not fit with any of those provided. If this is the case, it is always beneficial to approach the instructor with one's ideas. Be respectful, and ask the instructor if the topic you have in mind would be a possible research option for the assignment. Remember, as a first-time researcher, your knowledge of the process is quite limited; the instructor is experienced, and may have very precise reasons for choosing the topics she has offered to the class.

The second situation occurs when the instructor simply hands out an assignment sheet that covers the logistics of the research paper, but leaves the choice of topic up to the student. Typically, assignments in which students are given the opportunity to choose the topic require the topic to be relevant to some aspect of the course; so, keep this in mind as you begin a course in which you know there will be a research paper near the end. That way, you can be on the lookout for a topic that may interest you. Do not be anxious on account of a perceived lack of authority or knowledge about the topic chosen. Instead, realize that it takes practice to become an experienced researcher in any field.

Methods for choosing a topic

Thinking early leads to starting early. If the student begins thinking about possible topics when the assignment is given, she has already begun the arduous, yet rewarding, task of planning and organization. Once she has made the assignment a priority in her mind, she may begin to have ideas throughout the day. Brainstorming is often a successful way for students to get some of these ideas down on paper. Seeing one's ideas in writing is often an impetus for the writing process. Though brainstorming is particularly effective when a topic has been chosen, it can also benefit the student who is unable to narrow a topic. It consists of a timed writing session during which the student jots down—often in list or bulleted form—any ideas that come to his mind. At the end of the timed period, the student will peruse his list for patterns of consistency. If it appears that something seems to be standing out in his mind more than others, it may be wise to pursue this as a topic possibility.

It is important for the student to keep in mind that an initial topic that you come up with may not be the exact topic about which you end up writing. Research topics are often fluid, and dictated more by the student's ongoing research than by the original chosen topic. Such fluidity is common in research, and should be embraced as one of its many characteristics.

Identifying an Audience

The concept of audience can be very confusing for novice researchers. Should the student's audience be her instructor only, or should her paper attempt to reach a larger academic crowd? These are two extremes on the pendulum-course that is audience; the former is too narrow of an

audience, while the latter is too broad. Therefore, it is important for the student to articulate an audience that falls somewhere in between.

It is perhaps helpful to approach the audience of a research paper in the same way one would when preparing for an oral presentation. Often, one changes her style, tone, diction, etc., when presenting to different audiences. So it is with writing a research paper.

The instructor should be considered only one member of the paper's audience; he is part of the academic audience that desires students to investigate, research, and evaluate a topic. Try to imagine an audience that would be interested in and benefit from your research.

For example: if the student is writing a twelve page research paper about ethanol and its importance as an energy source of the future, would she write with an audience of elementary students in mind? This would be unlikely. Instead, she would tailor her writing to be accessible to an audience of fellow engineers and perhaps to the scientific community in general. What is more, she would assume the audience to be at a certain educational level; therefore, she would not spend time in such a short research paper defining terms and concepts already familiar to those in the field. However, she should also avoid the type of esoteric discussion that condescends to her audience. Again, the student must articulate a middle-ground.

The following are questions that may help the student discern further her audience:

- Who is the general audience I want to reach?
- Who is most likely to be interested in the research I am doing?
- What is it about my topic that interests the general audience I have discerned?
- If the audience I am writing for is not particularly interested in my topic, what should I do to pique its interest?
- Will each member of the broadly conceived audience agree with what I have to say?
- If not (which will likely be the case!) what counter-arguments should I be prepared to answer?

Remember, one of the purposes of a research paper is to add something new to the academic community, and the first-time researcher should understand her role as an initiate into a particular community of scholars. As the student increases her involvement in the field, her understanding of her audience will grow as well. Once again, practice lies at the heart of the thing.

Where do I begin?

There is neither template nor shortcut for writing a research paper; again, the process is, amongst other things, one of practice, experience, and organization, and begins with the student properly understanding the assignment at hand.

As many college students know, the writer may find himself composing three quite different research papers for three quite different courses all at the same time in a single semester. Each of these papers may have varying page lengths, guidelines, and expectations.

Therefore, in order for a student to become an experienced researcher and writer, she must not only pay particular attention to the genre, topic, and audience, but must also become skilled in researching, outlining, drafting, and revising.

Research

Outlining

Outlining is an integral part of the process of writing.

Drafting

Drafting is one of the last stages in the process of writing a research paper. No drafting should take place without a research question or thesis statement; otherwise, the student will find himself writing without a purpose or direction. Think of the research question or thesis statement as a compass. The research the student has completed is a vast sea of information through which he must navigate; without a compass, the student will be tossed aimlessly about by the waves of sources. In the end, he might discover the Americas (though the journey will be much longer than needed), or—and what is more likely—he will sink.

Revising, Editing, Proofreading

Revising is the process consisting of:

- Major, sweeping, changes to the various drafts of a project
- An evaluation of word choice throughout the project
- The removal paragraphs and sometimes, quite painfully, complete pages of text
- Rethinking the whole project and reworking it as needed

Editing is a process interested in the general appearance of a text, and includes the following:

- Analysis of the consistency of tone and voice throughout the project
- Correction of minor errors in mechanics and typography
- Evaluation of the logical flow of thought between paragraphs and major ideas

This process is best completed toward the final stages of the project, since much of what is written early on is bound to change anyway.

Proofreading is the final stage in the writing process, and consists of a detailed final reread in order to find any mistakes that may have been overlooked in the previous revisions.

Write clearly

1. Write at a level that's appropriate for your audience.

"Like a pigeon, something to admire as long as it isn't over your head." Anonymous

2. Use the active voice. It's clearer and more concise than the passive voice.

Instead of: An increased appetite was manifested by the rats and an increase in body weight was measured.
Write: The rats ate more and gained weight.

3. Use the first person.

Instead of: It is thought
Write: I think

Instead of: The samples were analyzed
Write: I analyzed the samples

4. Avoid dangling participles.

"After incubating at 30 degrees C, we examined the petri plates." (You must've been pretty warm in there.)

Write succinctly

1. Use verbs instead of abstract nouns

Instead of: take into consideration
Write: consider

2. Use strong verbs instead of "to be"

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

3. Use short words.

> *"I would never use a long word where a short one would answer the purpose. I know there are professors in this country who 'ligate' arteries. Other surgeons tie them, and it stops the bleeding just as well."*
> *Oliver Wendell Holmes, Sr .*

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

4. Use concise terms.

Instead of:	**Write:**
prior to	before
due to the fact that	because
in a considerable number of cases	often
the vast majority of	most
during the time that	when
in close proximity to	near
it has long been known that	I'm too lazy to look up the reference

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

"The conjunction 'and' commonly serves to indicate that the writer's mind still functions even when no signs of the phenomenon are noticeable." Rudolf Virchow, 1928

Check your grammar, spelling and punctuation

1. Use a spellchecker, but be aware that they don't catch all mistakes.

"When we consider the animal as a hole,..." Student's paper

2. Your spellchecker may not recognize scientific terms. For the correct spelling, try Biotech's Life Science Dictionary or one of the technical dictionaries on the reference shelf in the Biology or Health Sciences libraries.

3. Don't, use, unnecessary, commas.

4. Proofread carefully to see if you any words out.

9.1 Check your progress

1. How to mention indirect sources in references?

2. Enumerate the rules of capitalization.

3. What are the rules of writing numbers?

4. What are the rules of using italics?

5. What are the rules of writing dates?

6. Which sections are related to research paper?

7. What is a research paper?

8. What is an argumentative research paper?

9. What is an analytical research paper?

10. What is revising, editing and proofreading?

9.4 Writing a short Dissertation

How to write a dissertation

A good dissertation will:

- have a clear objective, based on a well worked out thesis or central question.
- be well planned and widely researched.
- show that the student has a good grasp of relevant concepts and is able to apply these in their own work.
- include analysis, critical evaluation and discussion, rather than simple description.
- contain consistent and correct referencing.
- be structured and expressed in an appropriate academic way.
- show your tutors that you have learnt something on the course and have been able to use this to produce a well argued extended piece of academic work.

A mediocre dissertation will:

- have a very general or unclear title.
- be poorly planned, with a narrow field of research.
- rely heavily on source material, with little or no attempt to apply this to the student's aims.
- be mostly descriptive.
- contain little or no referencing, perhaps in an incorrect format.
- be poorly structured, with possible plagiarism of source material.
- not convince your tutors that you have learnt much.

Some tips on how to produce a good dissertation

Your topic

Start thinking early on about what you would like to write about. Consult as soon as possible with your supervisor for advice on the expected scope of your dissertation. Remember that you will not simply be writing about "IT in Primary Education", but instead will be focusing on specific aspects, perhaps trying to solve a problem, querying currently held beliefs, or arguing a particular case or "thesis." Your final title may instead be something like:

A computer for every pupil?
A critical analysis of the over-reliance on Information Technology in current UK Primary Education.

Planning and research

Your dissertation is a major commitment and will be a long way to deciding your final award. It is obviously very important, therefore, to plan meticulously.

Work out a timetable and stick to it. You really have no excuse to leave things to the last minute. There will always be problems: difficulties in obtaining books or materials; delays in receiving replies to letters or questionnaires; temperamental printers and floppy disks; mysterious dissertation-eating dogs. You must allow for these, however: none is an excuse for not handing in your work on time.

In consultation with your supervisor, draw up an initial reading list, making sure that this is wide-ranging, relevant and as up-to-date as possible. Approach this reading with specific questions in mind; if not, you will waste a lot of valuable time reading irrelevant information.

If you're going to include some sort of survey or questionnaire, make this as wide as possible, but remember that companies and organisations are swamped with this sort of thing and the response rate will probably be very disappointing.

Most of your writing will probably need redrafting several times, and you must carefully proofread everything you write, or perhaps get someone else to do this for you. Any revisions needed will of course take time; as well the binding of your finished dissertation, if this is necessary.

Structure of dissertation

A basic framework would be:

Title page
Title, your name, course name, date, name of supervisor

Abstract
One paragraph summarising the whole dissertation

Acknowledgements
Thanks to those who have assisted you

Table of contents
Chapters and/or sections & sub-sections with page numbers

Table of figures
If appropriate

Introduction
A presentation of your question/problem/thesis, with a brief outline of the structure of your work

Main body/discussion
The facts, evidence, analysis, evaluation and discussion. All very well structured: arts/social sciences tending towards paragraphs; sciences/engineering towards sections; business a mixture of the two.

Conclusion/findings
Where you bring it all together, stating very clearly your answer to your central question and if appropriate making recommendations, suggestions etc.

Bibliography
A complete list of your sources correctly formatted.

Appendices
Any information not central to your main text or too large to be included:
for example, complete questionnaires, copies of letters, maps etc.

Other sections you may be asked to include could be terms of reference, procedure, methodology, executive summary, literature review or recommendations.

Avoid footnotes, unless you're using a numerical referencing system. Avoid too many brackets. Use bold and italics sparingly and consistently. Avoid underlining. Avoid using "etc."

Content and style

Your dissertation is a piece of academic work; an intellectual achievement. You are not expected to produce something completely original, but instead, should show understanding of key issues and theories; evidence of thought and insight; critical analysis and evaluation, and a demonstration that you have been able to research a topic within your professional domain and present your findings appropriately. Simple description is not enough, and will result in a low mark.

You should write in an appropriate academic style, avoiding colloquialisms, contractions, phrasal verbs and vagueness. You do not need, however, to use long, over-formal vocabulary: you should aim at all times for clear and concise expression.

You should normally avoid too much personal language ("I", "my" etc), although opinions on this vary. As a rule of thumb, only use it when you are describing what you actually did and when you are expressing personal opinions, probably in your conclusion. Don't refer to yourself as "we" unless you are describing some sort of group work, and don't refer to yourself as "the author": it's pompous and confusing.

Avoid using “he/she”, “her/his” etc. The best way to avoid this and still be non-sexist is to make the subject plural whenever possible. (For example, “Teachers should always be in control of their class”.)

In your conclusion, don’t start undermining your work by apologizing for poor results or complaining about lack of time. Always be positive. If there were problems, analyze these objectively in an appropriate place. Any research has weaknesses; they’re part of the process.

Sentences should be well-punctuated, complete but not over-long. Paragraphs should be adequately developed, with normally at least five or six sentences. You should use linking words or phrases to guide your reader through your writing. Make sure all figures are integrated into your text and referred to.

And remember to consistently and correctly make references to your sources.

Referencing

Acknowledgement of your sources is a vital and integral part of the academic process. If you do not do this, particularly at dissertation/postgraduate level, you could be accused of plagiarism.

By the time you do your dissertation you should be very clear on how to do this.

Little or no referencing and a short bibliography indicate little research carried out, a generally un-academic approach and maybe even copying from source material.

Extensive referencing and bibliography indicate wide research, a correct approach and the use of these sources as evidence to back up the student’s argument.

Writing a literature review

Your dissertation is a substantial piece of written work that ideally should conform to a number of academic conventions. One of the most important of these academic conventions is the literature review. In short, the literature review is a discussion or 'review' of secondary literature that is of general *and* central relevance to the particular area under investigation.

Often students ask how long a literature review should be. This is a difficult question given that the total length of your dissertation might be anything from five to twelve thousand words. Obviously your supervisor may be able to give some indication of the approximate length of your literature review. However, don't become pre-occupied with word length; the main thing is that your literature review should capture the general and specific aspects of the literature of your subject.

Why is a literature review necessary?

The literature review is an important device in your dissertation as it performs a number of related functions:

1. It demonstrates to whoever reads the dissertation that the author of the work has read widely and is aware of the range of debates that have taken place within the given field. It provides the proof that you have more than a good grasp of the breadth and depth of the topic of the dissertation - your dissertation gives you the opportunity to show off how clever you are! The literature review is a great place to start, because it should demonstrate that you know what you are talking about because you have read everything that is relevant to your dissertation.
2. It can provide the rationale for the research question in the study. This can be done by highlighting specific gaps in the literature – questions that have not been answered (or even asked), and areas of research that have not been conducted within your chosen field. In this way the literature review can provide a justification of your own research.
3. It can allow you to build on work that has already been conducted. For example you might adopt a similar methodological or theoretical approach in your work to one that exists within the literature, yet place your actual emphasis elsewhere. In this way you are building on work that has already been conducted by adopting similar strategies and concepts, yet focusing the question on something that interests you.
4. It helps to define the broad context of your study, placing your work within a well defined academic tradition. Poor dissertations often fail to relate to broader debates within the academic community. They may have a well defined research question, yet without placing this question in the appropriate context, it can lose its significance. The literature review therefore can add weight to your question by framing it within broader debates within the academic community.

How do I 'do' a literature review?

Writing a literature review is not as simple as at first it may seem. What follows is a step by step guide on how to go about conducting and presenting your literature review.

1. Generate a list of references

The first stage of your literature review is to collect a list of literature that is relevant to your study.

2. Make sense of your reading

Once you have a list of references for your dissertation, you now have to access and read this material. This is time consuming because you will be reading a large amount of material. Once you start you might find that some literature is of little relevance to your study. This is something that many researchers and dissertation students go through and is often a necessary part of the process. It is better to read something that is not central to your dissertation than miss something that might be an important and relevant contribution to the field.

Make notes about the central themes and arguments of the book, chapter or article. These notes can then be incorporated into the finished version of your literature review. Try and get a sense of the theoretical perspective of the author, this will be of use when you organise and present your literature review. Also, emphasise the way in which the piece of literature you are reading

seeks to set itself apart from other literature. Importantly, start to think critically about the piece you are reading; ask: what is this person trying to say and why? How is it different from the way others have dealt with this issue? This critical component is very important as it demonstrates that you are engaging with relevant literature in an appropriate manner and that you can discriminate between different perspectives and approaches that exist within your chosen field.

3. Organisation and presentation

Once you have generated a large number of notes around your reading you might start to feel overwhelmed by the literature. In terms of the organisation and presentation of your literature review, it is worth dividing your review into two main areas: general reading and literature that is of central importance. You will also need to further divide the literature into specific areas relevant to your study for e.g. theories and concepts; policy analysis; empirical studies and so-on. What follows are some general guidelines on how you might do this.

General texts

It will be clear that some of the reading you have done is of more relevance than others. It is important, however, that you do not discard the less relevant work; instead this can form the broad background of your discussion of the more relevant literature within your field. For example you may mention different authors that have dealt with a question related to your field but may not be central to it. Highlight these in broad terms, state how these works have impacted on your particular area. You need not go into great detail about these more general works, but by highlighting these works you are demonstrating your awareness of the scope and limits of your study and how it touches upon other areas of study.

Central texts

Once you have discussed the range of literature that is only of general interest to your study, you can then go into more detail on the literature that more sharply focuses on the questions that are of interest to you. Devote more detail to these particular works as they are more important to your topic. Indeed they may highlight the gap in the literature that exists that you seek to fill; they may provide the basis on which you seek to build, or they might be works which require some critique from your particular perspective.

Writing the Methods section

This must clearly identify the epistemological (i.e. your stance on what should pass as acceptable knowledge) basis of the study and demonstrate a good working knowledge of the methods to be employed. It should include good coverage of the process of the fieldwork and indicate how the analysis was undertaken. As well as covering the ethical issues it should also contain an element of reflection on the research process.

Writing the Findings section

Many students confuse findings with discussion and it is important to keep them separate. The findings are often presented in charts and tables (even from qualitative data). Verbatim references to participants' comments are particularly helpful. It is important to ensure that findings are truly analysed, rather than described. Finding ways of cross relating the findings is therefore important.

Writing the Discussion

Traditionally, the discussion links findings to the literature presented in the literature review. There are arguments for extending the coverage of literature in this section but only in exceptional circumstances. The discussion should be precisely that: an opportunity to raise the different voices of interest in the research question and to explore the findings in the light of the literature and different perspectives within it.

Writing the Conclusion

The main chapters of your dissertation will have focused on particular topics or issues. For example, each chapter may have focused discussion on a particular text. Alternatively, you may have structured your work so that each chapter is devoted to discussion of a particular aspect of your overall topic. The conclusion offers the opportunity to review your work as a whole, to identify the points of comparison and contrast the various texts you have examined, and to show that, in the process of your study, you have developed a more precise, critical understanding of the way they deal with your topic. This is also an appropriate place for you to point to the limitations of small-scale research of this kind and to indicate possible avenues for researchers to address the issues in the future.

Final draft

The process of preparing your dissertation for submission begins with a careful final drafting of all your chapters and sections. Here you have the opportunity:

- To ensure that your argument is clearly developed from sentence to sentence and from paragraph to paragraph.
- To check the accuracy of your spelling and punctuation - do not rely on spellchecker software!
- To make sure that your sentences are well constructed and that you are expressing yourself clearly, precisely and fluently.
- To ensure that you have not contradicted or repeated yourself.

You need to check that your quotations from and references to both primary and secondary texts are clearly and consistently identified. You will check that your bibliography is properly presented and contains all sources cited throughout your work.

Summary

- Abstracts of sections and of the dissertation as a whole will help to focus your writing and direct your thoughts.
- Set yourself deadlines for drafting chapters. Agree these with your supervisor if you think that will motivate you.
- Depending on the rules and regulations of your own institution, give your supervisor drafts of chapters as you write them, and try to be responsive to criticism. Revise chapters as soon as you get them back.
- Read through each completed chapter. Check that your argument flows logically.
- Even if you write the introduction last, write it as if you have yet to find the answers to your questions. Don't give away the ending!
- Finally, check that the title refers accurately to the finished dissertation. If it does not - change the title!

Follow some basic rules:

1. Type or word-process your dissertation - do not write it out.
2. Use double line spacing for your own writing.
3. Use single line spacing for indented quotations (and footnote these!)
4. Number the pages.
5. Include a title page and a table of contents.

Key Questions

- How long is your dissertation going to be?
- Have you mapped out the content of each of your chapters?
- In what order will the content flow best?
- Is your evaluation doing its job? Likewise, is your conclusion suitably conclusive?
- Is the order of the chapters logical and coherent, will it make sense to the reader?
- Are the beginning, middle and end clear?
- Do your sentences and paragraphs make sense?
- Do you know someone else who can proof-read the dissertation for you?
- Have you allowed enough time to proof-read properly?

Short Research Papers: How to Write Academic Essays

Such papers typically **do not** require that you build a complex argument, or offer your personal evaluation of a text, or aim for poetic effects. You will have the chance to get more intellectually daring later on, but for now — unless your instructor has told you otherwise — just stick to the basics.

1. Plan to Revise

2. Choose a Narrow Topic
3. Use Sources Appropriately

4. Avoid Distractions

1. Plan to Revise

Even a very short paper is the result of a process.

- You start with one idea, you test it, and you hit on something better.
- You might end up somewhere unexpected. If so, that's good — it means you learned something.
- If you're only just starting your paper, and it's due tomorrow, you have already robbed yourself of your most valuable resource — time.

Showcase your best insights at the beginning of your paper.

You won't know what your best ideas are until you've written a full draft. Part of revision involves identifying strong ideas and making them more prominent, while identifying filler and other weak material, and pruning it away to leave more room to develop your best ideas.

- It's normal, in a rough draft, to hit on a really good idea about two-thirds of the way through your paper.
- But an academic paper is not a mystery novel.
- A rushed or bored reader will not have the patience to hunt for clues. A thesis statement that includes a clear reasoning blueprint (see "Blueprinting: Planning Your Essay") will help your reader identify and follow your ideas.

When you submit, **the title, the introduction, and the conclusion should match**. (I am amazed at how many students overlook this simple step.)

2. Choose a Narrow Topic

A short research paper assigned in the first month of class is not the proper occasion for you to tackle huge issues, such as, "Was *Hamlet* Shakespeare's Best Tragedy?" or "Women's Struggle for Equality" or "How to Eliminate Racism." You won't be graded down simply because you don't have all the answers right away. The trick is to **zoom in on one tiny little part of the argument**.

3. Use Sources Appropriately

Unless you were asked to write an opinion paper or a reflection statement, for short papers assigned early in the semester, your professor probably expects you to **draw a topic from the assigned readings (if any)**.

- **S**ome students frequently get this **backwards** — they write the paper first, then "look for quotes" from sources that agree with the opinions they've already committed to. (That's

not really doing research to learn anything new — that's just looking for confirmation of what you already believe.)
- **S**tart with the readings, but don't pad your paper with summary.
- **M**any students try doing most of their research on the Internet. Depending on your topic, the Internet may simply not have good sources available.
- **G**o ahead and surf as you try to narrow your topic, but remember: you still need to cite whatever you find.

Back up your claims by **quoting reputable sources**. If you write "Recent research shows that…" or "Many scholars believe that…" you are making a claim. You will have to back it up with authoritative evidence. This means that the body of your paper must include references to the specific page numbers where you got your outside information.

Avoid using words like "always" or "never," since all it takes is a single example to the contrary to disprove your claim. Likewise, be careful with words of causation and proof. For example, consider the claim that television causes violence in kids. The evidence might be that kids who commit crimes typically watch more television than kids who don't. But… maybe the reason kids watch more television is that they've dropped out of school, and are unsupervised at home. An unsupervised kid might watch more television, and also commit more crimes — but that doesn't mean that the television is the cause of those crimes.

You don't need to cite common facts or observations, such as "a circle has 360 degrees" or "8-tracks and vinyl records are out of date," but you would need to cite claims such as "circles have religious and philosophical significance in many cultures" or "the sales of 8-track tapes never approached those of vinyl records."

Don't waste words referring directly to "quotes" and "sources."

If you use words like "in the book *My Big Boring Academic Study*, by Professor H. Pompous Windbag III, it says" or "the following quote by a government study shows that…" you are wasting words that would be better spent developing your ideas.

In the book *Gramophone, Film, Typewriter*, by Fredrich A. Kittler, it talks about writing and gender, and says on page 186, "an omnipresent metaphor equated women with the white sheet of nature or virginity onto which a very male stylus could inscribe the glory of its authorship." As you can see from this quote, all this would change when women started working as professional typists.

The "it talks about" and "As you can see from this quote" are weak attempts to engage with the ideas presented by Kittler. "In the book… it talks" is wordy and nonsensical (books don't talk).

MLA style encourages you to **expand fewer words introducing your sources**, and more words developing your own ideas. MLA style involves just the author's last name, a space (*not* a comma), and then the page number. Leave the author's full name and the title of the source for the Works Cited list at the end of your paper. Using about the same space as the original, see how MLA style helps an author devote more words to developing the idea more fully:

Before the invention of the typewriter, "an omnipresent metaphor" among professional writers concerned "a very male stylus" writing upon the passive, feminized "white sheet of nature or virginity." By contrast, the word "typewriter" referred to the machine as well as the female typist who used it.

Avoid Distractions

Stay On Topic

It's fairly normal to sit and stare at the computer screen for a while until you come up with a title, then pick your way through your topic, offering an extremely broad introduction.

- You might also type in a few long quotations that you like.
- After writing generalities and just poking and prodding for page or two, **you will eventually hit on a fairly good idea**.
- You will pursue it for a paragraph or two, perhaps throwing in another quotation.
- By then, you'll realize that you've got almost three pages written, so you will tack on a hasty conclusion.

- At the very least, you ought to **rewrite your title and introduction to match your conclusion**, so it looks like the place you ended up was where you were intending to go all along. You probably won't get an A, because you're still submitting two pages of fluff; but you will get credit for recognizing whatever you actually did accomplish.
- To get an A, you should delete all that fluff, **use the "good idea" that you stumbled across as your new starting point**, and keep going. Even "good writers" have to work — beefing up their best ideas and shaving away the rest, in order to build a whole paper that serves the good idea, rather than tacking the good idea on at the end and calling it a day.

Avoid Glittering Generalities

Broad, sweeping statements ("In our society today" or "It is a growing problem that…") may make a short paper seem grander and more substantial, but the flashy words won't fool your instructor.

> Throughout the ages, mankind has found many uses for salt. Ancient tribes used it to preserve meat; around the world it adds flavor to food; the Bible uses it as a symbol of zest for life. Salt became such an important part of people's diet that a way was needed to allow early nomads to carry salt with them on their perilous travels; such a device ideally also helped ancient gormandizers to distribute portions of the precious flavor enhancer onto their foods. Thus was born the salt shaker.
> (Some writers appear to believe that the introduction should provide a sort of cosmic overview; however, you are not required to stun and amaze your professors. Just do the assignment.)

In a similar vein, resist the urge to call the Great Depression the "saddest chapter in American history," or T.S. Eliot "the most famous modern poet." If your paper does not actually examine all chapters in American history, or all famous modern poets, such a vague claim adds nothing to your argument.

Don't Patronize the Great

Don't waste time talking about why Shakespeare is a genius, or why Napoleon is important to history, or why *The Great Gatsby* is the greatest American novel ever written. After ten, twenty or maybe forty years of study, few professors will claim to be able to answer such huge questions in three or four pages. They won't expect you to do so, either, after only a couple of weeks of classes!

Don't Summarize [Excessively]

Your professor already knows what's in the assigned readings. Unlike high school, where you got credit for proving to your teacher that you actually did the assigned readings, in college, the assigned readings are not nearly as important as what you do with them. Summarizing the plot is an easy way to knock off half of a page, and summarizing a book chapter that focuses on your topic is an easy way to frame an argument, but your professor knows that it requires much more mental effort to apply what you learned, to analyze a situation, to synthesize opposing viewpoints, to evaluate an argument. Summarizing is, by comparison, a very simple intellectual task.

Don't Inflate Your Prose

Simplify. Most first drafts are about 50% deadwood.

What is a dissertation?

A dissertation is an extended piece of writing of between ten and twenty thousand words on a topic set by a department or one chosen by the student him or herself. It is usually divided into chapters and may contain headings and sub-headings, but these are not normally numbered as in a report.

The title of your dissertation

Getting this right is more crucial than you may think. If you decide on a title which is too vague, you run the risk of the dissertation lacking focus or cohesion and not making any specific points worthy of note.

Construct a title which forces you to concentrate on something in particular, ask a specific question or make
a specific comparison.

You could have a two-part title where the first part, the main title, is short and perhaps rather general in nature but the second part very focused, picking up a particular aspect of the main title.

Alternatively, make the main title enigmatic, cryptic or apparently contradictory, followed by a sub-title which begins to explain what it is all about. This will make the reader curious to read more.

Abstract

This is a short summary, usually about 300 words in length, of the contents of the dissertation and perhaps its conclusions. Abstracts are filed in a database so that those searching for information of interest to them can see quickly whether or not your work will be of any use to them.

Despite the fact that it is placed at the beginning of the work, it is much easier - and will save you a great deal of trouble - if it is written last of all; that way, you can ensure that the contents of the abstract exactly match the contents of the dissertation.

Research

In order to prepare the literature review and to conduct further research into your chosen topic, you will need to search for relevant information. You may also need to conduct experiments or studies involving questionnaires and/or interviews. Time and care are needed for this process.

Your supervisor is the person who will advise on how to conduct studies - the form of the study, its scope, how to choose representative samples of respondents, any ethical issues, how to write questions to yield the kind of information required, the format of the questionnaire and so on.

Literature review

A literature review summarises what has already been written about your topic so that:

- You do not repeat work already done.
- The reader is able to distinguish between your work and ideas and those of others.
- There is a basis from which your own study can begin and, hopefully, which you can extend.
- You can demonstrate that you have read and understood the work already carried out and are therefore in a better position to continue study in that area.

How well you are able to do this section may depend on your title:

Too vague or all-encompassing = too much material to sift through

Too focused or specialised = too little information to review.

As a general rule, it is best to start your literature review looking at the bigger picture and then increasingly focus onto the specific aspects you are interested in.

Select those works or studies which are most relevant or the most important or recent or those which give a historical perspective. Do this carefully so that the review will provide a balanced reflection of past and/or current knowledge on the subject and decide with your supervisor how long this review needs to be (it is commonly about 25% of your word count).

Each chosen source should be described briefly along with the conclusions they reached. You should then show how the literature relates to your chosen area of research. It is important to show that you have understood and can discuss work previously done or theories proposed by others.

Remember to keep a full list for your reference list/bibliography.

Time management

It is a good idea to plan your time as well as the dissertation itself and a good starting point is to ask "When is the deadline?"

Allow at least a couple of weeks between completion and the deadline.

Do not forget to leave time for proofreading, revising and binding especially as the latter cannot usually be done immediately at certain times of the year.

Once the dissertation itself is planned, allocate time for each task. Write down your plan so you can refer to it from time to time - this will help to motivate you and keep you on track. The rest is will-power and dedication.

Writing and saving

All students now write their dissertations using a word processor. It can be a good idea **initially** to create a separate file for each section; this will save you the tedium of having to scroll around a long document, and means only a small section may be lost if a file gets corrupted. You can join the documents up at the end to ensure the easy creation of tables of contents etc.

It is essential that you make backup copies of your files. **Just saving it on a USB drive is a dangerous gamble.**

Presentation

The way the dissertation is to be set out on the page will be described in the departmental handbook. If not, ask your tutor or supervisor.

Normally there will be a minimum left and right margin, the left probably wider than the right to allow for the binding process if needed. The type will be in 12 point (minimum 10 point) and in an acceptable font, usually some form of Times New Roman or Arial. The document will be in either double or 1½ line spacing and printed on one side of the paper only, with each page numbered.

It will comprise the following parts, in this order:

1. Title page (according to a prescribed format given by your department, usually in the form " [Title of dissertation] being a dissertation in partial fulfillment of the degree of [name of degree] in the University of Hull [date]" or similar - check carefully with your department, followed by your name)
2. Possibly an Acknowledgements page which thanks those who have helped you in all kinds of ways to compose your dissertation
3. List of chapters, sections, etc. and their page numbers (table of contents).
4. List of any abbreviations, acronyms or other specialist terminology or references (if any)
5. List of Figures and/or photographs (if any)
6. List of Appendices (if any)
7. The main body of the dissertation, with each chapter titled and begun on a new page
8. A reference list
9. (Possibly) a bibliography
10. Appendices

Reference list and bibliography

These are not the same.

- A reference list is a list of all the works from which you have quoted or which you have specifically referred to in the dissertation.
- A bibliography is a list of all works you have read or part-read during the preparation of the dissertation, including those to which you have not made any reference at all, but which have helped you formulate your ideas or given you further information.

Sometimes, departments allow you to combine the two - check this with your supervisor.

Proofing and editing

This is an essential part of the process and should be done **very** carefully. Remember, you may be writing this for publication so it must be correct. Proofing is checking for errors of spelling, punctuation, grammar and syntax. Editing is correcting or improving the style of the text and ensuring that there are no factual errors.

Writing up your dissertation or research report

Chapter 1: Introduction

Chapter 2: Literature review

Chapter 3: Methodology

Chapter 4: Results and discussion

Chapter 5: Conclusion

At the end of the whole work there should be a full bibliography or reference list, depending on the requirements of your department. Any appendices should come after the full bibliography/references.

The longest chapters will be the Literature review and Methodology. The Introduction and Conclusion chapters will be short.

Some students find that they need to include additional chapters. For example, a student writing about a specific industry may need to provide a separate chapter on that industry for context setting before discussing the specifics of the research work. You may also be asked to include an Abstract. You will probably want to acknowledge those who helped you or participated in your research. And do not forget to address ethical issues.

Chapter 1: Introduction

Make sure that the readers of your work will be able to find the answers to these questions in Chapter 1:

- What was the purpose of the research?
- How was the topic chosen?
- What were the main aims and objectives of the research?
- What is the scope of the research project? (If your dissertation/project is focused on one particular group, industry or technology you might include introductory remarks here.)
- What were the limitations of the work?
- How is the text arranged in the dissertation/project?
- Is there anything particular to note that will make it easier for the person reading your dissertation/project to follow the work (e.g. about the format of referencing, layout of charts/tables)?

If you wrote a good proposal you should be able to use this as the basis for your introduction. Remember that this is the introduction to your project, and not an introduction to the topic of your project.

Chapter 2: Literature review

- provide an introductory paragraph which explains what is discussed in the chapter and why it is necessary to include this as part of the dissertation/project
- demonstrate that you conducted a *thorough* literature search and have read *widely*
- demonstrate that you have read *up to date* material
- summarise what you have read *thematically* (and not author by author)
- highlight *trends* in the discussion of your topic; for example over time, by geography, by sector
- comment on the *value* of what you have read (without discussing the actual topic)
- organise your findings from the literature review to fit in with the *main themes* of your research project
- identify *gaps* or *anomalies* in the literature
- demonstrate that you *assimilated and understood* what you have read and what you have written

Chapter 3: Methodology

The Methodology chapter is used to justify the choice of methods employed during the research project. You need to demonstrate that you understand that there are various options for conducting research. For this reason you will need to refer back to the notes you took in any research methods classes that you have attended, as well as textbooks and/or articles on research methods. Although much of the methodology chapter focuses on data collection, it is also worth acknowledging the techniques used for the other activities related to the research project: literature searching, sampling or case study selection, data analysis.

Check with your supervisor if you are unsure as to whether all the hints given below apply to your project. Make sure that the answers to the questions below can be found in Chapter 3.

Introduction to Chapter 3

- What does this chapter discuss?
- Why is it necessary to include this discussion in the dissertation/project?

Discussion of literature search technique

- Which secondary sources were used to identify material for Chapter 2?

Discussion of data required

- What was the purpose of collecting and analysing the data?
- Why was it interesting/ useful to look at this topic?
- Can you summarise the basic questions the research set out to answer in a few straightforward statements?
- What role did the findings of the literature review have in determining the data collection requirements?

- Did you need to collect quantitative or qualitative data? Why/why not?

Discussion of alternative methods of data collection

- Which methods might have been appropriate for data collection (observation, questionnaire, etc.)?
- What are the advantages and disadvantages of each of these methods of data collection with reference to your own research project? (This may be best summarised as a table.)

Discussion of the question content and data required

- For each of the basic research statements given in "data required" explain how questions asked of the sample generated the data required.
- Can you use elements of the literature review to strengthen your arguments for using certain questions (e.g. because there are gaps in the literature)?
- Did you take any decisions to limit the scope of data collection and, if so, why?

Discussion of the format of the questionnaire(s)/ interview(s)

- Why were the questions presented in the order you chose?
- How did the design of the research instrument help/impede data collection for you as the researcher?

Discussion of the phrasing of the questions

- Why is it important to take care in phrasing question?
- What methods did you use to ensure that the phrasing of questions was effective in eliciting useful replies?

Discussion of the response formats

- How many different response formats did you use? Why did you use them?
- What are the advantages and disadvantages of each response format you used in your questionnaire?

Discussion of data collection method

- How were the interviews conducted/questionnaires distributed and returned?

Discussion of sample

Note that this applies if you distributed a questionnaire or have based your work on case studies.

- What is sampling theory?
- Why is it important to research design?

- What are the different methods of sampling? What are their advantages and disadvantages?
- Which sampling method did you use for this survey?
- Why did you choose this method?
- How did you determine the size of your sample?

Note on data analysis technique

- Were the data collected analysed manually or by computer?
- If analysed by computer, which package was used?

Review of the methodology used for the research

- Did you encounter any problems with the methodology implemented? What were these?
- How could you have avoided these problems?
- If you were to run the project again what improvements would you make to the methodological approach adopted?
- How did your method rate for reliability and validity?

Chapter 4: Results and discussion

- provide an introductory paragraph which explains what is discussed in the chapter
- discuss your results with reference to the findings of the literature review. This will necessitate a degree of repetition, which can be minimised by good cross referencing. The reader expects you to match your own results against what was established in the literature review. From this you should make comments and draw conclusions.
- write thematically. In the majority of cases this means following a structure determined by the arrangement of themes in the literature review (and replicated in Chapter 1 in the section on the aims and objectives of the research, and the basic questions given in Chapter 3 in the discussion of data required.) It is not very sophisticated to take each questionnaire question and summarise the results the answers give you. Your questionnaire was designed so that the surveyed population was able to answer the questions: it was not designed to provide you with a thematic framework.
- add value to the results with your own comments
- highlight and provide analysis of any new themes that have emerged from your own research
- recommendations

Chapter 5: Conclusion

This should be a conclusion to the whole project (and not just the research findings). Check that your work answers the following questions:

- Did the research project meet its aims (check back to introduction for stated aims)?
- What are the main findings of the research?
- Are there any recommendations?

- Do you have any conclusions on the research process itself?
- Where should further research be focused?

Bibliography/References

Your bibliography or reference list should be set out following a recognised standard such as "Harvard", "APA" or "numerical footnoting."

Appendices

Appendices generally follow after the bibliography, but again check with your department. They should be used for genuine purposes; for example, to provide a copy of the research instrument. Appendices should not be used as a dumping ground for material that you have not managed to incorporate into the main text. You may also be required to adhere to a word count.

9.2 Check your Progress

1. What does a good dissertation consist of?

2. What does a mediocre dissertation consist of?

3. What role does planning and research play in dissertation writing?

4. What is the structure of dissertation?

5. What should be avoided in the content of a dissertation?

6. Why is literature review important in dissertation?

7. What does Introduction chapter consist of?

8. What does Chapter 2 Literature Review consist of?

9. What does findings chapter consist of?

10. What does Conclusion chapter consist of?

9.1 Answers to check your progress

1. If you mention the name of the author in the context of your sentence, or it is obvious that you are continuing with discussing the same source, you may not have to provide the surname in citation again, or even (if it is from the same page as an immediately prior citation) the page number again. With some electronic sources, you will have page numbers to refer to (especially PDF format files), but if the source isn't paginated, don't worry about providing page numbers in the in-text citation for that source. If you are dealing with more than one source by the same

author, include a short version of the title of the text within the citation to help distinguish between the sources.

2. Capitalize *sections* North, East, South, and West, but not *directions* north, east, south, and west. Capitalize lake, river, and mountains, when used with a single object, but lower case in the plural: thus, Lake Trasimeno, the Rubicon River, and the Pyrenees Mountains, but lakes Trasimeno and di Bracciano, the Rubicon and Tiber rivers, and the Pyrenees and Apennine mountains.

Capitalize proper names. Capitalize Negro or African-American, Indian or Native American, Hispanic, Asian, Oriental, and Caucasian, but not black, red, yellow, or white when referring to race.

Write King Ferdinand and Queen Isabella, but the king and queen of Spain, and the king and queen; Pope Boniface VIII (*never* the 8th), the pope, the papacy; Frederick, Lord North, prime minister of England, Lord North, the prime minister, the North ministry; the Roman Empire, the empire under Trajan, the empire; the Pyramids (but the Egyptian pyramids), the Sphinx, the Leaning Tower of Pisa; the Augustan Age, the Christian Era, the Renaissance; ancient Greece, the Golden Age of Athens, the Hellenistic Age; the Han Dynasty, the Han and Ch'in dynasties; the Forbidden City; Parliament, an early parliament; the House of Lords and House of Commons; Cortez (Spain); Reichstag (Germany); Estates General (France).

Write President William Clinton, president of the United States, the president, the presidency, the White House; Madeline Albright, secretary of state, Secretary Albright, the secretary of state; United States Congress, Congress, congressional; House of Representatives, the House, the lower house; United States Senate, the Senate, the upper house.

Write Oregon State, but the state of Oregon; New York City, but the city of New York; Massachusetts Bay Colony, but the colony at Massachusetts Bay. Write the British colonies, the thirteen colonies; the Northwest Territory, the territory of Indiana; the Hudson River valley, the Kansas prairie.

3. Put numbers that cannot be written in two words in Arabic numerals. Thus, six, thirty-five, five thousand, but 243 and 4,156. Hyphenate compound numbers from twenty-one to ninety-nine. Round numbers may be spelled out, e.g., two thousand, twenty-five hundred, twelve-hundred-word essay; write large round numbers in figures and units, e.g., 10.5 billion, 4.3 trillion. If one number in a series must be written in Arabic numerals, write all of them that way: there were 30 armored vehicles, 75 tanks, 101 personnel carriers, and 1,450 soldiers in the column. *Always* write out a number when it occurs at the beginning of a sentence. One hundred fifteen men and 112 women will graduate this year. Exceptions to these rules occur in such cases as 44 B.C., page 12, table 17, 45 cubic yards, 35mm film, 5 percent. Use commas to separate thousands, except in reference to street numbers and pages. Thus, 5,141,300 people, but 1019 Main Street and page 1213. Sums of money that cannot be written in two words should be rendered in figures: twenty-five cents and five dollars, but $21.50 and $185.00; six pounds or threepence, but £14 19s. 6d. or £14.19.6. Very large sums may be written in figures and units: $3.5 trillion or £456 billion.

4. Italics are commonly used for emphasis, for foreign words and phrases, for ship names, and for titles of books, works of art, musical compositions, and the like. Thus, if someone offers to sell you the U.S.S. *Arizona* or a copy of *The City of God* autographed by Saint Augustine himself, *always keep in mind* the old rule of *caveat emptor*. Italics may be omitted in the case of foreign words and phrases that are found in common English usage. If you choose for emphasis to italicize a portion of a quotation, the fact should be cited in the endnote with the notation "italics mine" or "emphasis mine" in parentheses. If your word-processing program will not produce italics, indicate them by underlining.

5. Either the standard or the military form for rendering dates is acceptable so long as the writer remains consistent. Thus, July 2, 1776, or 2 July 1776. Write July 2, not July 2nd; twentieth century, in the eighties, during the forties and fifties, but in the 1920s; write that the Romans conquered Britain in the first century A.D., but that William the Conqueror landed in England in 1066 A.D.

6. Following sections are related to the process of writing a research paper:

- **Genre**- This section will provide an overview for understanding the difference between an analytical and argumentative research paper.
- **Choosing a Topic**- This section will guide the student through the process of choosing topics, whether the topic be one that is assigned or one that the student chooses himself.
- **Identifying an Audience**- This section will help the student understand the often times confusing topic of audience by offering some basic guidelines for the process.
- **Where Do I Begin**- This section concludes the handout by offering several links to resources at Purdue, and also provides an overview of the final stages of writing a research paper.

7. A research paper is the culmination and final product of an involved process of research, critical thinking, source evaluation, organization, and composition. It is, perhaps, helpful to think of the research paper as a living thing, which grows and changes as the student explores, interprets, and evaluates sources related to a specific topic. Primary and secondary sources are the heart of a research paper, and provide its nourishment; without the support of and interaction with these sources, the research paper would morph into a different genre of writing.

8. The argumentative research paper consists of an introduction in which the writer clearly introduces the topic and informs his audience exactly which stance he intends to take; this stance is often identified as the thesis statement. An important goal of the argumentative research paper is persuasion, which means the topic chosen should be debatable or controversial.

9. The analytical research paper often begins with the student asking a question (a.k.a. a research question) on which he has taken no stance. Such a paper is often an exercise in exploration and evaluation. Though his topic may be debatable and controversial, it is not the student's intent to persuade the audience that his ideas are right while those of others are wrong. Instead, his goal is

to offer a critical interpretation of primary and secondary sources throughout the paper--sources that should, ultimately, buttress his particular analysis of the topic.

10. Revising is the process consisting of:

- Major, sweeping, changes to the various drafts of a project
- An evaluation of word choice throughout the project
- The removal paragraphs and sometimes, quite painfully, complete pages of text
- Rethinking the whole project and reworking it as needed

Editing is a process interested in the general appearance of a text, and includes the following:

- Analysis of the consistency of tone and voice throughout the project
- Correction of minor errors in mechanics and typography
- Evaluation of the logical flow of thought between paragraphs and major ideas

This process is best completed toward the final stages of the project, since much of what is written early on is bound to change anyway.

Proofreading is the final stage in the writing process, and consists of a detailed final reread in order to find any mistakes that may have been overlooked in the previous revisions.

9.2 Answers to check your progress

1. **A good dissertation consists of:**

- have a clear objective, based on a well worked out thesis or central question.
- be well planned and widely researched.
- show that the student has a good grasp of relevant concepts and is able to apply these in their own work.
- include analysis, critical evaluation and discussion, rather than simple description.
- contain consistent and correct referencing.
- be structured and expressed in an appropriate academic way.
- show your tutors that you have learnt something on the course and have been able to use this to produce a well argued extended piece of academic work.

2. A mediocre dissertation consists of:

- have a very general or unclear title.
- be poorly planned, with a narrow field of research.
- rely heavily on source material, with little or no attempt to apply this to the student's aims.
- be mostly descriptive.
- contain little or no referencing, perhaps in an incorrect format.
- be poorly structured, with possible plagiarism of source material.
- not convince your tutors that you have learnt much.

3. Work out a timetable and stick to it. You really have no excuse to leave things to the last minute. There will always be problems: difficulties in obtaining books or materials; delays in receiving replies to letters or questionnaires; temperamental printers and floppy disks; mysterious dissertation-eating dogs. You must allow for these, however: none is an excuse for not handing in your work on time. In consultation with your supervisor, draw up an initial reading list, making sure that this is wide-ranging, relevant and as up-to-date as possible. Approach this reading with specific questions in mind; if not, you will waste a lot of valuable time reading irrelevant information. If you're going to include some sort of survey or questionnaire, make this as wide as possible, but remember that companies and organisations are swamped with this sort of thing and the response rate will probably be very disappointing. Most of your writing will probably need redrafting several times, and you must carefully proofread everything you write, or perhaps get someone else to do this for you. Any revisions needed will of course take time; as well the binding of your finished dissertation, if this is necessary.

4. A basic framework of a dissertation would be:

Title page
Title, your name, course name, date, name of supervisor

Abstract
One paragraph summarising the whole dissertation

Acknowledgements
Thanks to those who have assisted you

Table of contents
Chapters and/or sections & sub-sections with page numbers

Table of figures
If appropriate

Introduction
A presentation of your question/problem/thesis, with a brief outline of the structure of your work

Main body/discussion
The facts, evidence, analysis, evaluation and discussion. All very well structured: arts/social sciences tending towards paragraphs; sciences/engineering towards sections; business a mixture of the two.

Conclusion/findings
Where you bring it all together, stating very clearly your answer to your central question and if appropriate making recommendations, suggestions etc.

Bibliography
A complete list of your sources correctly formatted.

Appendices
Any information not central to your main text or too large to be included:
for example, complete questionnaires, copies of letters, maps etc.

Other sections you may be asked to include could be terms of reference, procedure, methodology, executive summary, literature review or recommendations.

Avoid footnotes, unless you're using a numerical referencing system. Avoid too many brackets. Use bold and italics sparingly and consistently. Avoid underlining. Avoid using "etc."

5. You should write in an appropriate academic style, avoiding colloquialisms, contractions, phrasal verbs and vagueness. You do not need, however, to use long, over-formal vocabulary: you should aim at all times for clear and concise expression. You should normally avoid too much personal language ("I", "my" etc), although opinions on this vary. As a rule of thumb, only use it when you are describing what you actually did and when you are expressing personal opinions, probably in your conclusion. Don't refer to yourself as "we" unless you are describing some sort of group work, and don't refer to yourself as "the author": it's pompous and confusing. Avoid using "he/she", "her/his" etc. The best way to avoid this and still be non-sexist is to make the subject plural whenever possible. In your conclusion, don't start undermining your work by apologizing for poor results or complaining about lack of time. Always be positive. If there were problems, analyze these objectively in an appropriate place. Any research has weaknesses; they're part of the process.

Sentences should be well-punctuated, complete but not over-long. Paragraphs should be adequately developed, with normally at least five or six sentences. You should use linking words or phrases to guide your reader through your writing. Make sure all figures are integrated into your text and referred to.

6. The literature review is an important device in your dissertation as it performs a number of related functions:

1. It demonstrates to whoever reads the dissertation that the author of the work has read widely and is aware of the range of debates that have taken place within the given field. It provides the proof that you have more than a good grasp of the breadth and depth of the topic of the dissertation - your dissertation gives you the opportunity to show off how clever you are! The literature review is a great place to start, because it should demonstrate that you know what you are talking about because you have read everything that is relevant to your dissertation.
2. It can provide the rationale for the research question in the study. This can be done by highlighting specific gaps in the literature – questions that have not been answered (or even asked), and areas of research that have not been conducted within your chosen field. In this way the literature review can provide a justification of your own research.
3. It can allow you to build on work that has already been conducted. For example you might adopt a similar methodological or theoretical approach in your work to one that exists within the literature, yet place your actual emphasis elsewhere. In this way you are

4. It helps to define the broad context of your study, placing your work within a well defined academic tradition. Poor dissertations often fail to relate to broader debates within the academic community. They may have a well defined research question, yet without placing this question in the appropriate context, it can lose its significance. The literature review therefore can add weight to your question by framing it within broader debates within the academic community.

7. Make sure that the readers of your work will be able to find the answers to these questions in Chapter 1:

- What was the purpose of the research?
- How was the topic chosen?
- What were the main aims and objectives of the research?
- What is the scope of the research project? (If your dissertation/project is focused on one particular group, industry or technology you might include introductory remarks here.)
- What were the limitations of the work?
- How is the text arranged in the dissertation/project?
- Is there anything particular to note that will make it easier for the person reading your dissertation/project to follow the work (e.g. about the format of referencing, layout of charts/tables)?

If you wrote a good proposal you should be able to use this as the basis for your introduction. Remember that this is the introduction to your project, and not an introduction to the topic of your project.

8. Chapter 2: Literature review provides

- an introductory paragraph which explains what is discussed in the chapter and why it is necessary to include this as part of the dissertation/project
- demonstrate that you conducted a *thorough* literature search and have read *widely*
- demonstrate that you have read *up to date* material
- summarise what you have read *thematically* (and not author by author)
- highlight *trends* in the discussion of your topic; for example over time, by geography, by sector
- comment on the *value* of what you have read (without discussing the actual topic)
- organise your findings from the literature review to fit in with the *main themes* of your research project
- identify *gaps* or *anomalies* in the literature
- demonstrate that you *assimilated and understood* what you have read and what you have written

9. Chapter 4: Results and discussion consists of:

- provide an introductory paragraph which explains what is discussed in the chapter

- discuss your results with reference to the findings of the literature review. This will necessitate a degree of repetition, which can be minimised by good cross referencing. The reader expects you to match your own results against what was established in the literature review. From this you should make comments and draw conclusions.
- write thematically. In the majority of cases this means following a structure determined by the arrangement of themes in the literature review (and replicated in Chapter 1 in the section on the aims and objectives of the research, and the basic questions given in Chapter 3 in the discussion of data required.) It is not very sophisticated to take each questionnaire question and summarise the results the answers give you. Your questionnaire was designed so that the surveyed population was able to answer the questions: it was not designed to provide you with a thematic framework.
- add value to the results with your own comments
- highlight and provide analysis of any new themes that have emerged from your own research
- recommendations

10. Chapter 5: Conclusion consists of:

This should be a conclusion to the whole project (and not just the research findings). Check that your work answers the following questions:

- Did the research project meet its aims (check back to introduction for stated aims)?
- What are the main findings of the research?
- Are there any recommendations?
- Do you have any conclusions on the research process itself?
- Where should further research be focused?

9.5 Conclusion

Overall, in this chapter we have learnt about the writing styles that are used in research. It tells us how to write bibliography by using standard style sheets. It also directs on how to write short research papers and short dissertations.

The next chapter deals with the major concerns in the thesis.

9.6 Summary

Italics are commonly used for emphasis, for foreign words and phrases, for ship names, and for titles of books, works of art, musical compositions, and the like. A research paper is the culmination and final product of an involved process of research, critical thinking, source evaluation, organization, and composition. It is, perhaps, helpful to think of the research paper as a living thing, which grows and changes as the student explores, interprets, and evaluates sources related to a specific topic. Primary and secondary sources are the heart of a research paper, and provide its nourishment; without the support of and interaction with these sources, the research paper would morph into a different genre of writing.

Editing is a process interested in the general appearance of a text, and includes analysis of the consistency of tone and voice throughout the project, correction of minor errors in mechanics and typography and evaluation of the logical flow of thought between paragraphs and major ideas.

Proofreading is the final stage in the writing process, and consists of a detailed final reread in order to find any mistakes that may have been overlooked in the previous revisions.

A good dissertation has a clear objective, based on a well worked out thesis or central question. It is well planned and widely researched. It includes analysis, critical evaluation and discussion, rather than simple description. It contains consistent and correct referencing. It should be structured and expressed in an appropriate academic way.
You should write in an appropriate academic style, avoiding colloquialisms, contractions, phrasal verbs and vagueness. You do not need, however, to use long, over-formal vocabulary: you should aim at all times for clear and concise expression. You should normally avoid too much personal language ("I", "my" etc), although opinions on this vary. In your conclusion, don't start undermining your work by apologizing for poor results or complaining about lack of time. Always be positive. Any research has weaknesses; they're part of the process.

Sentences should be well-punctuated, complete but not over-long. Paragraphs should be adequately developed, with normally at least five or six sentences. You should use linking words or phrases to guide your reader through your writing. Make sure all figures are integrated into your text and referred to.

9.7 Field work

Prepare bibliography by using standard style sheets described in this chapter of any subject prescribed in your syllabus.

Chapter X

Major Concerns in the Thesis

10.0 Objectives

Friends, in this chapter we are going to study the major concerns in the thesis. The study of this chapter will enable you to:

- Discuss about quotations and to acknowledge the sources
- How to write footnotes and endnotes
- How to guard against plagiarism

10.1 Introduction

Friends, in the last chapter we have studied about the writing styles in research. We have studied about how to write bibliography using standard sheets. Also the chapter has described how to write short research papers and short dissertations.

The present chapter informs about how to use quotations and how to acknowledge the sources used in research. It also tells about how to write footnotes and endnotes. Lastly, it tells about how to guard against plagiarism.

10.2 Quotations and Acknowledging the Sources

Citing sources

One of the most important aspects of academic writing is making use of the ideas of other people. This is important as you need to show that you have understood the materials that you have studied and that you can use their ideas and findings in your own way. In fact, this is an essential skill for every student. For this reason, any academic text you read or write will contain the voices of other writers as well as your own.

In your writing, however, the main voice should be your own and it should be clear what your point of view is in relation to the topic or essay question. The object of academic writing is for you to say something for yourself using the ideas of the subject, for you to present ideas you have learned in your own way. The emphasis should be on working with other people's ideas, rather than reproducing their words. If your view is not clear, you will be told you have not answered the question or something similar. It is essential therefore that it must always be clear whose voice is speaking.

There are two main ways in which you can show your view:

negatively
- lack of mention of any other writer

positively
- first person pronouns ("I")
- comments and evaluations ("two major drawbacks", "of no great merit", " as X insightfully states",)

It will always be assumed that the words or ideas are your own if you do not say otherwise. When the words or ideas you are using are taken from another writer, you must make this clear. If you do not do this and use another person's words or ideas as if they were your own, this is plagiarism and plagiarism is regarded as a very serious offence.

The ideas and people that you refer to need to be made explicit by a system of citation. The object of this is to supply the information needed to allow a user to find a source.

You need to acknowledge the source of an idea unless it is common knowledge in your subject area. It is difficult sometimes to know whether something is common knowledge in your subject or needs acknowledging. The object of academic writing is therefore for you to present your ideas in your own way. To help you do this, however, you will need to use the ideas of other people and when you do this, and you need to say where the words and ideas are from.

There are several reasons for this:

1. You need to show that you are aware of the major areas of thought in your specific subject. This allows you to show how your contribution fits in, by correcting previous research, filling gaps, adding support or extending current research or thinking.
2. You need to support the points you are making by referring to other people's work. This will strengthen your argument. The main way to do this is to cite authors that agree with the points you are making. You can, however, cite authors who do not agree with your points, as long as you explain why they are wrong. Do not make a statement that will cause your reader to ask, "Who says?"
3. If you are a student, you need to show that you have read and understood specific texts. You need to show that you have read around the subject, not just confined your reading to one textbook or lecture notes.
4. You must not use another person's words or ideas as your own so you need to say where they are from.

You usually do this by reporting the works of others in your own words. You can either paraphrase if you want to keep the length the same, summarise if you want to make the text shorter or synthesize if you need to use information from several sources. Do not forget, though, that the central line of argument, the main voice, should be your own. This means that you will need to comment on or evaluate any other works that you use. If you do not do this, you will be accused of being too descriptive, of not being critical or analytical enough, or of not producing a clear argument.

When to Cite Sources

You'll discover that different academic disciplines have different rules and protocols concerning when and how to cite sources, a practice known as "citation." For example, some disciplines use footnotes, whereas others use parenthetical in-text citations; some require complete bibliographic information on all works consulted, whereas others require only a list of "Works Cited." As you decide on a concentration and begin advanced work in your department, you'll need to learn the particular protocols for your discipline.

The five basic principles described below apply to all disciplines and should guide your own citation practice. Even more fundamental, however, is this general rule: **when in doubt, cite**. You'll certainly never find yourself in trouble if you acknowledge a source when it's not absolutely necessary; it's always preferable to err on the side of caution and completeness. Better still, if you're unsure about whether or not to cite a source, ask your professor or preceptor for guidance before submitting the paper or report.

1. Quotation

Any verbatim use of a source, no matter how large or small the quotation, must be placed in quotation marks or, if longer than three lines, clearly indented beyond the regular margin. The quotation must be accompanied, either within the text or in a footnote, by a precise indication of the source, identifying the author, title, place and date of publication (where relevant), and page

numbers. Even if you use only a short phrase, or even one key word, you must use quotation marks in order to set off the borrowed language from your own, and you must cite the source.

2. Paraphrase

Paraphrase is a restatement of another person's thoughts or ideas in your own words, using your own sentence structure. A paraphrase is normally about the same length as the original. Although you don't need to use quotation marks when you paraphrase, you absolutely do need to cite the source, either in parentheses or in a footnote. If another author's idea is particularly well put, quote it verbatim and use quotation marks to distinguish his or her words from your own. Paraphrase your source if you can restate the idea more clearly or simply, or if you want to place the idea in the flow of your own thoughts—though be sure to announce your source in your own text ("Albert Einstein believed that…") and always include a citation. Paraphrasing does not relieve you of the responsibility to cite your source.

3. Summary

Summary is a concise statement of another person's thoughts or ideas in your own words. A summary is normally shorter than the original — a distillation of the source's ideas. When summarizing other people's ideas, arguments, or conclusions, you must cite your sources — for example, with a footnote at the end of each summary. Taking good notes while doing your research will help you keep straight which ideas belong to which author. Good note-taking habits are especially important when you're reviewing a series of interpretations or ideas on your subject.

4. Facts, Information, and Data

Often you'll want to use facts or information to support your own argument. If the information is found exclusively in a particular source, you must clearly acknowledge that source. For example, if you use data from a scientific experiment conducted and reported by a researcher, you must cite your source, probably a scientific journal or a website. Or if you use a piece of information discovered by another scholar in the course of his or her own research, you must cite your source. But if the fact or information is generally well known and accepted—for example, that Woodrow Wilson served as president of both Princeton University and the United States, or that Avogadro's number is 6.02×10^{23}—you do not need to cite a source. Note that facts are different from ideas: facts may not need to be cited, whereas ideas must always be cited. Deciding which facts or pieces of information require citation and which are common knowledge, and thus do not require citation, isn't always easy. For example, finding the same fact or piece of information in multiple sources doesn't necessarily mean that it counts as common knowledge. Your best course of action in such a case may be to cite the most credible or authoritative of the multiple sources. Refer to a later section in this booklet, "Not-So-Common Knowledge," for more discussion of how to determine what counts as common knowledge. But remember: when in doubt, cite.

5. Supplementary Information

Occasionally, especially in a longer research paper, you may not be able to include all of the information or ideas from your research in the body of your own paper. In such cases, insert a note offering supplementary information rather than simply providing basic bibliographic information (author, title, place and date of publication, and page numbers). In such footnotes or endnotes, you might provide additional data to bolster your argument, or briefly present an alternative idea that you found in one of your sources, or even list two or three additional articles on some topic that your reader might find of interest. Such notes demonstrate the breadth and depth of your research but not essential, information or concepts without interrupting the flow of your own paper.

Additional claims or analysis of your own that you want to include in your essay without distracting readers from the central line of argument may also appear in footnote form. In these cases, the footnote will not include a citation because the ideas or findings presented belong to you.

In all of the cases above, the standards of academic integrity require both citing the source in the text of your essay and its incorporation into your bibliography. To be clear, it is not enough to simply list a source in your bibliography if it deserves explicit citation in the essay's body. Failure to provide that citation may result in being charged with plagiarism.

Citing - APA style

There are two ways in which you can refer to, or cite, another person's work: a) by reporting or b) by direct quotation.

a) Reporting

This simply means reporting the other writer's ideas into your own words. You can either paraphrase if you want to keep the length the same or summarise if you want to make the text shorter. There are two main ways of showing that you have used another writer's ideas:

Integral

According to Peters (1983) evidence from first language acquisition indicates that lexical phrases are learnt first as unanalysed lexical chunks.Evidence from first language acquisition indicating that lexical phrases are learnt first as unanalysed lexical chunks was given by Peters (1983).

OR *non-integral*

Evidence from first language acquisition (Peters, 1983) indicates that lexical phrases are learnt first as unanalysed lexical chunks.Lexical phrases are learnt first as unanalysed lexical chunks (Peters, 1983).

If you want to refer to a particular part of the source:

According to Peters (1983, p. 56) evidence from first language acquisition indicates that lexical phrases are learnt first as unanalysed lexical chunks.

(At end of essay)

References

Peters, A (1983). *The units of language acquisition.* Cambridge: Cambridge University Press.

b) Direct Quotation

Occasionally you may want to quote another author's words exactly. For example:

Hillocks (1982) similarly reviews dozens of research findings. He writes, "The available research suggests that teaching by written comment on compositions is generally ineffective" (p. 267).

(At the end of essay)

References

Hillocks, G. (1982). The interaction of instruction, teacher comment, and revision in teaching the composing process. *Research in the Teaching of English, 16,* 261-278.

If you do so, keep the quotation as brief as possible and quote only when it is necessary. You must always have a good reason for using a quote - and feeling unable to paraphrase or summarise is never a good reason. The idea of an essay is for you to say something for yourself using the ideas of the subject; you present ideas you have learned in your own way. The emphasis should be on working with other people's ideas, not reproducing their words. Your paper should be a synthesis of information from sources, expressed in your own words, not a collection of quotations. Any quote you use should not do your job for you, but should add something to the point you are making. The quote should support your point, by quoting evidence or giving examples or illustrating, or add the weight of an authority. It should not repeat information or disagree with your point.

Reasons for using quotations:

1. quote if you use another person's words: you must not use another person's words as your own;
2. you need to support your points, quoting is one way to do this;
3. quote if the language used in the quotation says what you want to say particularly well.

Reasons for not using quotations:

1. do not quote if the information is well-known in your subject area;
2. do not use a quotation that disagrees with your argument unless you can prove it is wrong;

3. do not quote if you cannot understand the meaning of the original source;
4. do not quote if you are not able to paraphrase the original;
5. do not use quotations to makeyour points for you; use them to support your points.

If you decide to use a quotation, you must be very careful to make it clear that the words or ideas that you are using are taken from another writer.

This can be done in several ways, either integral or non-integral:

Widdowson (1979, p. 5) states that "there is a good deal of argument in favour of extending the concept of competence to cover the ability to use language to communicative effect."

According to Widdowson (1979),"there is a good deal of argument in favour of extending the concept of competence to cover the ability to use language to communicative effect" (p. 5).

According to Widdowson, "there is a good deal of argument in favour of extending the concept of competence to cover the ability to use language to communicative effect" (1979, p. 5).

According to one researcher, "there is a good deal of argument in favour of extending the concept of competence to cover the ability to use language to communicative effect" (Widdowson, 1979, p. 5).

(In all cases at the end of essay)

References

Widdowson, H. G. (1979). *Explorations in applied linguistics*. Oxford: Oxford University Press.

When you are using a direct quotation of a single phrase or sentence, quotation marks should be used around the words, which must be quoted exactlyas they are in the original. However, note the following:

1. You may wish to omit some of the author's original words that are not relevant to your writing. In this case, use three dots (...) to indicate where you have omitted words. If you omit any of the author's original words, make sure you do not change the meaning.

He stated, "The 'placebo effect,' ... disappeared when behaviours were studied in this manner" (Smith, 1982, p. 276), but he did not clarify which behaviours were studied.

2. If you need to insert material (additions or explanations) into a quotation, use brackets, ([...]).

Smith (1982) found that "the placebo effect, which had been verified in previous studies, disappeared when [his own and others'] behaviours were studied in this manner" (p. 276).

3. If the material quoted already contains a quotation, use single quotation marks for the original quotation (‘...’).

He stated, "The ‘placebo effect,’ ... disappeared when behaviours were studied in this manner" (Smith, 1982, p. 276), but he did not clarify which behaviours were studied.

4. If the direct quotation is long - more than two or three lines, it should be indented as a separate paragraph with no quotation marks.

According to Smith (1982, p. 276):
The "placebo effect," which had been verified in previous studies, disappeared when behaviours were studied in this manner. Furthermore, the behaviours were never exhibited again, even when real drugs were administered. Earlier studies were clearly premature in attributing the results to the placebo effect.

(In all cases at end of essay)

References

Smith, G. (1982). The placebo effect. *Psychology Today, 18,* 273-278.

Secondary sources

In all cases, if you have not actually read the work you are referring to, you should give the reference for the secondary source - what you have read. In the text, you should then use the following method:

According to Jones (as cited in Smith, 1982, p. 276), the ....

(At end of essay)

References

Smith. G. (1982). The placebo effect. *Psychology Today, 18,* 273-278.

Language

Reporting - Paraphrasing and Summarising

Reporting uses paraphrase and summary to acknowledge another author's ideas. You can extract and summarise important points, while at the same time making it clear from whom and where you have got the ideas you are discussing and what your point of view is. Compare, for example:

Brown (1983, p. 231) claims that a far more effective approach is ...

Brown (1983, p. 231) points out that a far more effective approach is ...

A far more effective approach is ... (Brown, 1983, p. 231)

The first one is Brown's point of view with no indication about your point of view. The second one is Brown's point of view, which you agree with, and the third is your point of view, which is supported by Brown.

Here are some more expressions you can use to refer to someone's work that you are going to paraphrase:

If you agree with what the writer says.

The work of X indicates that ...

The work of X reveals that ...

The work of X shows that ...

Turning to X, one finds that ...

Reference to X reveals that ...

In a study of Y, X found that ...

As X points out, ...

As X perceptively states, ...

As X has indicated, ...

A study by X shows that ...

X has drawn attention to the fact that ...

X correctly argues that ...

X rightly points out that ...

X makes clear that ...

If you disagree with what the writer says.

X claims that ...

X states erroneously that ...

The work of X asserts that ...

X feels that ...

However, Y does not support X's argument that ...

If you do not want to give your point of view about what the writer says.

According to X...

It is the view of X that ...

The opinion of X is that ...

In an article by X, ...

Research by X suggests that ...

X has expressed a similar view.

X reports that ...

X notes that ...

X states that ...

X observes that ...

X concludes that ...

X argues that ...

X found that ...

X discovered that ...

Quoting

Sometimes you may want to quote an author's words exactly, not paraphrase them. If you decide to quote directly from a text, you will need an expression to introduce it and quotation marks will need to be used:

As X said/says, "... ..."

As X stated/states, "... ..."

As X wrote/writes, "... ..."

As X commented/comments, "... ..."

As X observed/observes, "... ..."

As X pointed/points out, "... ..."

To quote from X, "... ..."

It was X who said that "... ..."

This example is given by X: "... ..."

According to X, "... ..."

X claims that, "... ..."

X found that, "... ..."

The opinion of X is that, "... ..."

Concluding

After quoting evidence you reach a conclusion:

The evidence seems to indicate that...

It must therefore be recognised that...

The indications are therefore that...

It is clear therefore that ...

Thus it could be concluded that...

The evidence seems to be strong that...

On this basis it may be inferred that...

Given this evidence, it can be seen that...

Footnotes and endnotes

Footnotes and endnotes are also ways of acknowledging the sources of any material quoted, summarised or paraphrased on any page of a submitted work. Footnotes and endnotes are intended to refer readers to exact pages of the works listed in the reference list.

How should any material quoted, summarised or paraphrased be referenced using footnotes or endnotes?

Insert a number (either in brackets or slightly above the line) in your text at the end of the sentence or immediately following a direct quotation or idea that is being used from a source. For footnotes, the information about the source of each numbered reference is given at the bottom of each page of your text. With endnotes this information is given in a list at the end of your work.

Categories of Common Knowledge

Widely known facts

Widely known scientific and historical facts—such as the molecular structure of water (H_2O), or that Andrew Jackson was the Seventh President of the United States—generally count as common knowledge. You can include such facts in your writing without citation and without fear of committing plagiarism. Other facts that count as common knowledge—for instance, that Franz Boas, the distinguished American ethnologist, held the first academic appointment in anthropology in the United States—are widely known to some groups of people (professional anthropologists) but perhaps not to you. Nevertheless, you would not have to cite the fact about Boas, since it is common knowledge in the sense that no particular individual discovered this information (say, through archival research at Columbia University, where Boas taught). On the other hand, as soon as your discussion becomes more specific and puts forth assertions that would be the product of an individual's thought, research, or analysis, you do have to cite. For example, if you read Sean Wilentz's book *Andrew Jackson* and wrote a paper in which you repeated Wilentz's claim that Andrew Jackson believed his Indian removal policy would protect Indians rather than harm them, you would need to cite Wilentz as the source of this idea.

Ideas or interpretations are usually not considered common knowledge, unless they are very widely held.

Ideas or interpretations generally do not count as common knowledge. If you read in R.A.C. Parker's history of World War II that British Prime Minister Neville Chamberlain did not have to agree to the 1938 Munich Pact with Hitler, and that he could have chosen an alternate path, you would need to acknowledge the source, since this judgment is Parker's theory rather than a widely agreed upon fact. (Historians disagree on the factors that led Chamberlain to agree to sign on to the Munich Pact.) Some interpretations or opinions (rather than facts) have entered the realm of common knowledge and need not be cited. If you were to introduce the claim that culture provides a means by which humans adapt to their environments, you would not need to cite a source for this claim, since it is almost universally held by anthropologists. But, if you were unsure that this was the consensus view among anthropologists, you would be best served simply to cite the source. On the whole, opinions or interpretations do not enter the realm of common knowledge as easily as historical or scientific facts.

Verbatim language drawn from a source is rarely common knowledge, unless the formulation is widely known

You must always provide a citation for quotations you use in your writing. The only—and rare—exceptions to this rule concern well-known quotations that have entered the realm of common knowledge. For example, if you were writing a paper about President Obama's Inaugural Address, you would need to cite your source for any quotations you used from the speech. However, if in the course of that paper you compared one of President Obama's lines to this very well-known phrase from John F. Kennedy's Inaugural Address, "Ask not what your country can do for you—ask what you can do for your country," you would not need to provide a citation for that one phrase. However, if you were to analyze Kennedy's speech substantively and quote additional lines, then you would need to cite anything you quoted from his speech so that your readers could confirm the original language of the speech. If you are not sure whether a quotation is common knowledge, cite it.

10.3 Footnotes and Endnotes

Definition

Endnote
Note citing a particular source or making a brief explanatory comment placed at the end of a research paper and arranged sequentially in relation to where the reference appears in the paper.

Footnote
Note citing a particular source or making a brief explanatory comment placed at the bottom of a page corresponding to the item cited in the corresponding text above.

Structure and Writing Style

Advantages of Using Endnotes

- Endnotes are less distracting to the reader and allows the narrative to flow better.
- Endnotes don't clutter up the page.
- As a separate section of a research paper, endnotes allow the reader to read and contemplate all the notes at once.

Disadvantages of Using Endnotes

- If you want to look at the text of a particular endnote, you have to flip to the end of the research paper to find the information.
- Depending on how they are created [i.e., continuous numbering or numbers that start over for each chapter], you may have to remember the chapter number as well as the endnote number in order to find the correct one.
- Endnotes may carry a negative connotation much like the proverbial "fine print" or hidden disclaimers in advertising. A reader may believe you are trying to hide something by burying it in a hard-to-find endnote.

Advantages of Using Footnotes

- Readers interested in identifying the source or note can quickly glance down the page to find what they are looking for.
- It allows the reader to immediately link the footnote to the subject of the text without having to take the time to find the note at the back of the paper.
- Footnotes are automatically included when printing off specific pages.

Disadvantages of Using Footnotes

- Footnotes can clutter up the page and, thus, negatively impact the overall look of the page.
- If there are multiple columns, charts, or tables below only a small segment of text that includes a footnote, then you must decide where the footnotes should appear.
- If the footnotes are lengthy, there's a risk they could dominate the page, although this issue is considered acceptable in legal scholarship.

Things to keep in mind when considering using either endnotes or footnotes in your research paper:

1. **Footnotes are numbered consecutively throughout a research paper, except for those notes accompanying special material** (e.g., figures, tables, charts, etc.). Numbering of footnotes are "superscript"--arabic numbers typed slightly above the line without periods, parentheses, or slashes. They can follow all punctuation marks except dashes. In general, to avoid interrupting the continuity of the text, footnote numbers are placed at the end of the sentence, clause, or phrase containing the quoted or paraphrased material.

2. **Depending on the writing style used in your class, endnotes may take the place of a list of resources cited** in your paper or they may represent non-bibliographic items, such as comments or observations, followed by a separate list of references to the sources you cited and arranged alphabetically by the author's last name. If you are unsure about how to use endnotes, consult with your professor.

3. **In general, the use of footnotes in most academic writing is now considered a bit outdated** and has been replaced by endnotes, which are much easier to place in your paper, even with the advent of word processing programs. However, some disciplines, such as law and history, still predominantly utilize footnotes. Consult with your professor about which form to use and always remember that, whichever style of citation you choose, apply it consistently throughout your paper.

To conclude, always think critically about the information you place in a footnote or endnote. Ask yourself, is this supplementary or tangential information that would otherwise disrupt the flow of the text or is this essential information that I should integrate into the main text? If you are not sure, it's better to work it into the text. Too many notes implies a disorganized paper.

Footnotes vs. Endnotes: When to Use Them

The topic of footnotes vs. endnotes involves deciding where to place supplemental or citation information. Both types of notes may be required in place of using in-text citations, or either type can be used in conjunction with in-text citations. If using footnotes or using endnotes is not a requirement, you may elect to use either.

Both footnotes and endnotes are used to note the following information:

- Bibliographical information
- Copyright permission
- Explanatory information:
- Supplemental (but related) information
- Sources to explore a topic further
- Expansion on a specific idea or thought
- Background information

The biggest difference between footnotes and endnotes is where the notes are placed. Footnotes appear at the bottom of the page for any notes that apply to each specific page; endnotes appear collectively at the end of a paper, starting on a separate page and labeled as "Endnotes."

Similarities between footnotes and endnotes

While the location differs for each, footnotes and endnotes have a few things in common.

- Both references are placed at the end of the sentence, phrase or quotation in which they appear to minimize the interruption in the flow of your words.
- Both are noted with consecutive, superscript numerals.
- Both require the matching numeral to appear at the beginning of the actual footnote or endnote.

If you are not required to use or prohibited from using footnotes or endnotes, you can evaluate which suits your purposes better. For some papers under specific guidelines or instructor instructions, you may be able to use endnotes or footnotes in place of a list of references. Footnotes are mostly considered outdated, but some fields or instructors require their use.

When using footnotes and using endnotes, use care to format them properly. The specific formatting depends on the official style guide you are required to follow. Think critically about every piece of information for which you use these types of notes. For supplemental information, ask yourself if the information is disruptive or not closely related enough to keep it in the body of the text or if the information is vital enough to put directly in the text. When you are not sure, include the information in the text. As with anything, the overuse of footnotes or endnotes hurts the strength of your research.

10.4 Guarding against Plagiarism

Avoiding Plagiarism

According to the definition given in the 1997 New Webster's Encyclopedic Dictionary of the English Language, plagiarism is "the unauthorized use of the language and thoughts of another author and the representation of them as one's own" (508).

To avoid plagiarism, all students must document sources properly using Footnotes, Endnotes, or Parenthetical References, and must write a Bibliography, References, or Works Cited page and place it at the end of the research paper to list the sources used. Of the three ways to document sources - Footnotes, Endnotes, and Parenthetical References, the simplest is using Parenthetical References, sometimes referred to as Parenthetical Documentation or Parenthetical Citations.

Most word processors have superscript, Footnote and Endnote capability. If you are required to use Footnotes or Endnotes, it is well worth the effort to master this feature on the computer a few days before your paper is due.

If you use Parenthetical References you only need to put a short reference enclosed in parentheses immediately after the citation, then list the sources cited in your Bibliography, Works Cited or References page at the end of your paper.

If you use Footnote references, you must have numerically superscripted Footnote references at the foot of the same page where your citations are located, plus you must add a Bibliography, Works Cited, or References page at the end of your paper.

If you use Endnote references, your citation within the text of your paper is the same as your Footnote citation, but you must list your Endnote references at the end of your paper in superscripted numerical order on a separate page entitled *Endnotes*. You must still add a Bibliography, Works Cited or References page after your *Endnotes* page.

Do not be tempted to get someone else to write your research paper, hand in the same essay to two or more different teachers, or purchase instant essays from the Web. Do not download information from CD-ROMs or someone else's original work off the Internet and directly incorporate such information into your essay without paraphrasing and acknowledging its source. A page entitled *Works Cited*, *References*, or *Bibliography* at the end of your paper is an absolute must for any serious research paper.

How to avoid Plagiarism

Plagiarism is the unethical practice of using words or ideas (either planned or accidental) of another author/researcher or your own previous works without proper acknowledgement. Considered as a serious academic and intellectual offense, plagiarism can result in highly negative consequences such as paper retractions and loss of author credibility and reputation. It is currently a grave problem in academic publishing and a major reason for retraction of research papers.

It is thus imperative for researchers to increase their understanding about plagiarism. In some cultures, academic traditions and nuances may not insist on authentication by citing the source of words or ideas. However, this form of validation is a prerequisite in the global academic code of conduct. Non-native English speakers face a higher challenge of communicating their technical content in English as well as complying with ethical rules. The digital age too affects plagiarism. Researchers have easy access to material and data on the internet which makes it easy to copy and paste information.

Guard yourself against plagiarism, however accidental it may be. Here are some effective tips to avoid plagiarism.

1. Paraphrase

- Do not copy–paste the text verbatim from the reference paper. Instead, restate the idea in your own words.
- Understand the idea(s) of the reference source well in order to paraphrase correctly.
- Examples on good paraphrasing can be found here (https://writing.wisc.edu/Handbook/QPA_paraphrase.html)

2. Quoting – Use quotes to indicate that the text has been taken from another paper. The quotes should be exactly the way they appear in the paper you take them from.

3. Identify what does and does not need to be cited

- Any words or ideas that are not your own but taken from another paper need to be cited.
- Cite Your Own Material—if you are using content from your previous paper, you must cite yourself. Using material you have published before without citation is called self-plagiarism.
- The scientific evidence you gathered after performing your tests should not be cited.
- Facts or common knowledge need not be cited. If unsure, include a reference.

4. Manage your citations

- Maintain records of the sources you refer to. Use citation software like EndNote or Reference Manager to manage the citations used for the paper
- Use multiple references for the background information/literature survey. For example, rather than referencing a review, the individual papers should be referred to and cited.

5. Plagiarism Checkers: You can use various plagiarism detection tools such as iThenticate or eTBLAST to check for any inadvertent plagiarism in your manuscript.

6. Keeping Accurate Records

Keeping good records is essential to help you guard against plagiarism. Your records may take the form of note cards, bibliographic cards, a research log, or even photocopies of articles or pages. Whenever you consult a source, make a habit of writing down all the relevant information, from the details about the source to the notes you have taken from it. Always note

whether you are quoting, paraphrasing, or summarizing information you found or even thinking about the information. If you photocopy a source, be sure you preserve the correct bibliographic information and page numbers.

Using carefully organized note cards can also help you guard against plagiarism and even help you develop your own ideas while you are researching. Here are some guidelines for using note cards:

- Use 4-by-6 cards for taking notes—they accommodate longer notes.
- Write in ink—pencil often smudges and becomes unreadable.
- Write only a single idea on each note card. If your notes require more than one card, staple them together. Staple personal-comment note cards to the source card to which they refer.
- Write the source of the note in the upper-left corner of the card and the topic, context, or general heading in the upper-right corner.
- Use note cards for summaries, paraphrases, quotations, and personal comments.
- You will also want to make note cards with your personal comments to help you recall what you were thinking when you were researching. Personal comments can be your questions, ideas, and conclusions, explanations of terms or ideas, clarification of an issue, or even new ideas. In general, you should record any information used to identify and differentiate editions of a work. In addition, to provide an exact reference to the original work, you must note exact page numbers for both quotations and paraphrasing.

Remember the main reasons you are keeping accurate records: first, you are acknowledging your sources; and second, you are giving your readers a path to those sources so they can understand and evaluate your thinking.

In summary, here is the information usually required to provide a path to your sources:

- author's last name and first name or initials
- title of the source
- date of publication, along with the edition, if appropriate
- publisher and location
- page number(s) of material cited

For journal articles, you must record the author's name, the title of the article, the name of the journal in which it appears, the volume and issue numbers, the inclusive pages of the article, and the date of the journal issue.

- Keep accurate records of the sources you use, noting all the pertinent information about each source and whether you have quoted from it, summarized it, paraphrased it, or commented on it.
- Your records should include the author's last name and first name or initials, the title and edition of the source, the date of publication, the publisher and location, and the page number(s) of material cited.

- Clearly understand how to quote, paraphrase, and summarize information you borrow and understand how to integrate this information into your paper.

Let us turn now to the techniques needed to write academic papers without plagiarism - to avoid "inadvertent" plagiarism. The basic principles are very simple:

- you must **document all use of sources** in your paper, whether or not you quote the sources word for word;
- such **documentation** must be **in the standard form for your discipline**;
- the documentation must be supported by a **complete bibliography in standard form for your discipline**.

Unlike the principles, the details are rather complicated, and they differ from discipline to discipline. The method for getting the details correct is as follows:

- buy **the style manual for your discipline**, study the relevant chapters (those on **documentation** and on **the preparation of bibliographies**), and keep it close at hand, **like a reference book** - like a good dictionary, say;
- get the right form of **documentation** for your discipline by **finding the right model in the style manual** for your discipline, **and following that model**;
- get right the **form of the bibliography** by **following the style manual for your discipline**.

In the modern world, the problem of finding the right model is complicated by the fact that we have such a large variety of sources of information available to us. In the humanities, for example, there are **more than fifty** different kinds of sources of information available to the researcher. Each kind requires a different form of documentation and of bibliography entry. You should understand that there are good reasons for these differences, the main objects being to save other researchers' time and to minimise the possibility of error.

Types of Plagiarism:

•The natures of some forms of plagiarism are obvious. It is unethical toturn in a paper ordeliver a speech that you bought off the Internet, paid someone to write for you, copied froma book in the library, copied off the internet, or got from afriend. When someone steals anentire project from one source, it'swhat Stephen Lucas (2001) has calledglobal plagiarism.

•However, there are other types of plagiarism that you should be aware of and on guardagainst. Patchwork plagiarismis when someone edits togethertwo or more different sourcesand presents the result as his or her own work. The resulting paper or speech is a"patchwork" of others' ideas (Lucas, 2001). Finding and editing together other informationdoes not constitute authorship. So, if you "construct" your paper or speech by cutting and pasting together paragraphsand sentences from several different sources and do notacknowledge each and every source, it counts as plagiarism. Always acknowledge the original author whenyou use someone else's words or ideas, no matter how long or how short the passage you are borrowing from may be.Furthermore, the structure and organization of the work shouldbe yours. You should decide what the main points are and how they should be linked together. Even if you're writing a research paper or

giving a speech that reports on information gathered by others, the overall effect should be a unique reflection of your perspective of the topic.
•Finally, there's incremental plagiarism. This is when the bulk of the project is yours and the organization is yours, but passages or bits of information have been taken from others' work without being acknowledged. A reader or listener has no way of knowing where these bits came from or that they were not your original ideas (Lucas, 2001). It is also plagiarism if youincorporate small bits of people's ideas, works, or information into a project withoutcrediting them.Again, please make sure you acknowledge each of the sources that contributed to your work.

There are two parts to citing sources:

1) The first part isin-text citations. In-text citations are labels that are inserted next to each piece of information that comes from another source. In APA style, the in-text citation is made up of the year the original source was published and the name or names of the author(s).
2) The second part is theworks citedorreference list. This is an alphabetized list of all the sources that are cited in the paper. It is attached to the end ofthe paper. The list contains not only the author's name and the publication date, but alsoinformation like the book or article title and the publisher. It should include all the information that a reader needs to find the original source. Webpages should also be includedin this list (and you need to provide more than just the URL to cite them properly.) The idea is that readers who want to follow up ona piece of information they read in your paper can use the in-text citation to find the appropriate entry in the reference list.The reference list, in turn, would allow them to find the original book, article, or webpage. There are specific rules about the type of information thatis put into a reference list for different types of sources and about how this information is formatted.

If you use the samewords as the original author it is called a direct quotationand you must communicate this to your readers. If you are using another person's words,but fail to indicate that you are doing so, it counts as plagiarism even if you include a parenthetical reference at the end of the passage. It is considered to be "stealing"someone else's prose.

10. 1Check your progress

1. Why there is a need to cite sources?
2. What are the rules for citing facts, data and information?
3. What are the reasons for using quotations and for not using quotations?
4. What are the advantages and disadvantages of using endnotes?
5. What are the advantages and disadvantages of using footnotes?
6. What are the similarities between footnotes and endnotes?
7. How to avoid plagiarism?
8. How to use notecards?

10. 1Answers to check your progress

1. There are several reasons to cite sources:

1. You need to show that you are aware of the major areas of thought in your specific subject. This allows you to show how your contribution fits in, by correcting previous research, filling gaps, adding support or extending current research or thinking.
2. You need to support the points you are making by referring to other people's work. This will strengthen your argument. The main way to do this is to cite authors that agree with the points you are making. You can, however, cite authors who do not agree with your points, as long as you explain why they are wrong. Do not make a statement that will cause your reader to ask, "Who says?"
3. If you are a student, you need to show that you have read and understood specific texts. You need to show that you have read around the subject, not just confined your reading to one textbook or lecture notes.
4. You must not use another person's words or ideas as your own so you need to say where they are from.

2.Often you'll want to use facts or information to support your own argument. If the information is found exclusively in a particular source, you must clearly acknowledge that source. For example, if you use data from a scientific experiment conducted and reported by a researcher, you must cite your source, probably a scientific journal or a website. Or if you use a piece of information discovered by another scholar in the course of his or her own research, you must cite your source. But if the fact or information is generally well known and accepted—for example, that Woodrow Wilson served as president of both Princeton University and the United States, or that Avogadro's number is 6.02×10^{23}—you do not need to cite a source. Note that facts are different from ideas: facts may not need to be cited, whereas ideas must always be cited. Deciding which facts or pieces of information require citation and which are common knowledge, and thus do not require citation, isn't always easy. For example, finding the same fact or piece of information in multiple sources doesn't necessarily mean that it counts as common knowledge. Your best course of action in such a case may be to cite the most credible or authoritative of the multiple sources. Refer to a later section in this booklet, "Not-So-Common Knowledge," for more discussion of how to determine what counts as common knowledge. But remember: when in doubt, cite.

3.**Reasons for using quotations:**

1. quote if you use another person's words: you must not use another person's words as your own;

2. you need to support your points, quoting is one way to do this;
3. quote if the language used in the quotation says what you want to say particularly well.

Reasons for not using quotations:

1. do not quote if the information is well-known in your subject area;
2. do not use a quotation that disagrees with your argument unless you can prove it is wrong;
3. do not quote if you cannot understand the meaning of the original source;
4. do not quote if you are not able to paraphrase the original;

5. do not use quotations to makeyour points for you; use them to support your points.

4.**Advantages of Using Endnotes**

- Endnotes are less distracting to the reader and allows the narrative to flow better.
- Endnotes don't clutter up the page.
- As a separate section of a research paper, endnotes allow the reader to read and contemplate all the notes at once.

Disadvantages of Using Endnotes

- If you want to look at the text of a particular endnote, you have to flip to the end of the research paper to find the information.
- Depending on how they are created [i.e., continuous numbering or numbers that start over for each chapter], you may have to remember the chapter number as well as the endnote number in order to find the correct one.
- Endnotes may carry a negative connotation much like the proverbial "fine print" or hidden disclaimers in advertising. A reader may believe you are trying to hide something by burying it in a hard-to-find endnote.

5. Advantages of Using Footnotes

- Readers interested in identifying the source or note can quickly glance down the page to find what they are looking for.
- It allows the reader to immediately link the footnote to the subject of the text without having to take the time to find the note at the back of the paper.
- Footnotes are automatically included when printing off specific pages.

Disadvantages of Using Footnotes

- Footnotes can clutter up the page and, thus, negatively impact the overall look of the page.
- If there are multiple columns, charts, or tables below only a small segment of text that includes a footnote, then you must decide where the footnotes should appear.
- If the footnotes are lengthy, there's a risk they could dominate the page, although this issue is considered acceptable in legal scholarship.

6.While the location differs for each, footnotes and endnotes have a few things in common.

- Both references are placed at the end of the sentence, phrase or quotation in which they appear to minimize the interruption in the flow of your words.
- Both are noted with consecutive, superscript numerals.
- Both require the matching numeral to appear at the beginning of the actual footnote or endnote.

7. Following are some of the ways to avoid plagiarism:

1. Paraphrase

- Do not copy–paste the text verbatim from the reference paper. Instead, restate the idea in your own words.
- Understand the idea(s) of the reference source well in order to paraphrase correctly.
- Examples on good paraphrasing can be found here (https://writing.wisc.edu/Handbook/QPA_paraphrase.html)

2. Quoting – Use quotes to indicate that the text has been taken from another paper. The quotes should be exactly the way they appear in the paper you take them from.

3. Identify what does and does not need to be cited

- Any words or ideas that are not your own but taken from another paper need to be cited.
- Cite Your Own Material—if you are using content from your previous paper, you must cite yourself. Using material you have published before without citation is called self-plagiarism.
- The scientific evidence you gathered after performing your tests should not be cited.
- Facts or common knowledge need not be cited. If unsure, include a reference.

4. Manage your citations

- Maintain records of the sources you refer to. Use citation software like EndNote or Reference Manager to manage the citations used for the paper
- Use multiple references for the background information/literature survey. For example, rather than referencing a review, the individual papers should be referred to and cited.

5. Plagiarism Checkers: You can use various plagiarism detection tools such as iThenticate or eTBLAST to check for any inadvertent plagiarism in your manuscript.

6. Keeping Accurate Records

Keeping good records is essential to help you guard against plagiarism. Your records may take the form of note cards, bibliographic cards, a research log, or even photocopies of articles or pages. Whenever you consult a source, make a habit of writing down all the relevant information, from the details about the source to the notes you have taken from it. Always note whether you are quoting, paraphrasing, or summarizing information you found or even thinking about the information. If you photocopy a source, be sure you preserve the correct bibliographic information and page numbers.

8.Here are some guidelines for using note cards:

- Use 4-by-6 cards for taking notes—they accommodate longer notes.
- Write in ink—pencil often smudges and becomes unreadable.

- Write only a single idea on each note card. If your notes require more than one card, staple them together. Staple personal-comment note cards to the source card to which they refer.
- Write the source of the note in the upper-left corner of the card and the topic, context, or general heading in the upper-right corner.
- Use note cards for summaries, paraphrases, quotations, and personal comments.
- You will also want to make note cards with your personal comments to help you recall what you were thinking when you were researching. Personal comments can be your questions, ideas, and conclusions, explanations of terms or ideas, clarification of an issue, or even new ideas. In general, you should record any information used to identify and differentiate editions of a work. In addition, to provide an exact reference to the original work, you must note exact page numbers for both quotations and paraphrasing.

10.5 Conclusion

Overall, in this chapter we have studied about how to use quotations in research and how to acknowledge the sources used in research. This chapter has also discussed why and how to use footnotes and endnotes. It has guided against how to guard your research against plagiarism.

10.5 Summary

There are several reasons to cite sources. You need to show that you are aware of the major areas of thought in your specific subject. You need to support the points you are making by referring to other people's work. This will strengthen your argument. If you are a student, you need to show that you have read and understood specific texts. You must not use another person's words or ideas as your own so you need to say where they are from.

You need to use quotations if you use another person's words: you must not use another person's words as your own;you need to support your points, quoting is one way to do this;quote if the language used in the quotation says what you want to say particularly well.

Endnotes are less distracting to the reader and allow the narrative to flow better.Endnotes don't clutter up the page.As a separate section of a research paper, endnotes allow the reader to read and contemplate all the notes at once.

Readers interested in identifying the source or note can quickly glance down the page to find in footnotes what they are looking for.It allows the reader to immediately link the footnote to the subject of the text without having to take the time to find the note at the back of the paper.Footnotes are automatically included when printing off specific pages.

To avoid plagiarismDo not copy–paste the text verbatim from the reference paper. Instead, restate the idea in your own words.Understand the idea(s) of the reference source well in order to paraphrase correctly.Use quotes to indicate that the text has been taken from another paper. The quotes should be exactly the way they appear in the paper you take them from.Any words or ideas that are not your own but taken from another paper need to be cited.Cite Your Own

Material—if you are using content from your previous paper, you must cite yourself. Using material you have published before without citation is called self-plagiarism.The scientific evidence you gathered after performing your tests should not be cited.Facts or common knowledge need not be cited. If unsure, include a reference.Maintain records of the sources you refer to. Use citation software like EndNote or Reference Manager to manage the citations used for the paper. Use multiple references for the background information/literature survey. For example, rather than referencing a review, the individual papers should be referred to and cited.You can use various plagiarism detection tools such as iThenticate or eTBLAST to check for any inadvertent plagiarism in your manuscript. Keeping good records is essential to help you guard against plagiarism. Your records may take the form of note cards, bibliographic cards, a research log, or even photocopies of articles or pages.

10.7 Field work

Prepare footnotes and endnotes for any subject prescribed in your syllabus.

QUESTION BANK

A. Answer the following questions:

1. What are the various steps involved in conducting research?
2. What are the qualities of a good researcher?
3. What are the methods of collecting primary data?
4. What are the methods of collecting secondary data?
5. Enumerate the various kinds of variables.
6. How to select an appropriate research topic?
7. What are pre-experimental designs?
8. What are post test designs?
9. What factors need to be considered while formulating a research problem?
10. How to prepare a bibliography for background reading?
11. How to adopt an appropriate research methodology?
12. How to write a clear statement of purpose?
13. Why is a strong theory base necessary in research?
14. What are effective analytical techniques?
15. What are the various methods of classifying data?
16. How to arrive at appropriate generalizations and interpretations?
17. How to write a good conclusion?
18. Explain in detail the various parts of a dissertation.
19. How to write a good abstract?
20. How to write bibliography?
21. Write in detail the format of a research thesis.
22. How to write logically in research?
23. What are the strategies of writing a good introduction?

24. How to make good presentation of findings?

25. What are the types of research papers?

26. How to write a short dissertation?

27. How to write academic essays?

28. How to avoid plagiarism?

B. Write short notes on:

1. Concept of research

2.Investigation

3. Exploration

4. Hypothesis

5. Results and findings

6. Variables

7. Various experimental designs

8. Pre-test vs post-test designs

9. Importance of review of literature

10. Defining aims and objectives in research

11. Importance of scope and limitations in research

12.Kinds of research in English Literature

13. Kinds of research in English Linguistics

14. Quantitative research in linguistics

15. Qualitative research in linguistics

16. Source documentation

17. Methods to draw insights from data

18. Preparation of chapter wise design

19. Importance of Conclusion
20. Certificate page
21. Acknowledgment page
22. Types of Abstracts
23. Content page
24. Appendices
25. Endnotes
26. Footnotes
27. Rules of binding thesis
28. Importance of Introduction
29. MLA Citation Style
30. Rules of Capitalization
31. Use of numbers
32. Rules of using quotations
33. Acknowledgment of Sources
34. Types of plagiarism

Reference Books

1. Ali, A. (1990). Approaches to Educational Research: analysis, criticisms and relevance. Perspectives in Educational Research and National Development (Vol. 1) Onitsha, Summer Educational Publishers Limited.
2. Altman DG. Practical Statistics for Medical Research. London, UK: Chapman & Hall, 1991.
3. Andrejevic, M. (2004). Reality TV: The work of being watched.
4. Angelsen, Arild and Ussif Rashid Sumaila. *Hard Methods for Soft Policies: Environmental and Social Cost-benefit Analysis*. Bergen, Norway: Michelsen Institute, 1995.
5. Australian Department of Finance. *Handbook of Cost-benefit Analysis*. Canberra: 1991.
6. Belli, P. *Guide to Economic Appraisal of Development Projects*. Washington, D.C.: World Bank, 1996.
7. Bentkover, J.D., V.T. Covdlo and J. Mumpower. *Benefits Assessment: The State of the Art*. Dordrecht, Holland: D. Reidel Publishing Co., 1986.
8. Bowling, A. 1997. Research methods in health: Investigating health and health services. Place Published: Open University Press.
9. B.Nastasi, and S. Schensul. 2005. Contributions of qualitative research to the validity of intervention research. *Journal of School Psychology* 43 (3): 177-195.
10. Barbour, R. 2001. Education and debate. *British Medical Journal* 322 (7294): 1115-1117.
11. Behn, R.D. and J.W. Vaupel. *Quick Analysis for Busy Division Makers*. New York: Basic Books, 1982.
12. Buffa, E.S. and J.S. Dyer. *Management Science Operations Research: Model Formulation and Solution Methods*. New York: John Wiley and Sons, 1977.
13. Bazeley, P. (2013). *Qualitative data analysis: Practical strategies.* New York, NY: SAGE.
14. Brown, M. & Hale, K. (2014). *Applied research methods in public & nonprofit organizations.* Hoboken, NJ: Wiley.
15. Best, J.W. (1970). *Research in education.* New Jersey: Prentice-Hall Inc.
16. Hawe, P., Degeling, D., Hall, J. (1990) Evaluating Health Promotion: A Health Worker's Guide, MacLennan & Petty, Sydney.
17. Taket A. 2010. In Liamputtong L (ed). Research methods in health: Foundations for evidence-based practice. Oxford University Press: South Melbourne.
18. Hanson WE, JW Creswell, VL Plano Clark, KS Petska and JD Creswell. Mixed Methods Research Designs in Counseling Psychology. Journal of Counseling Psychology, 2005, Vol. 52, No. 2, 224–235.
19. Leech, NL and AJ. Onwuegbuzie. A typology of mixed methods research designs. 2009. Qual Quant 43:265–275.
20. Greene, J. C., &Caracelli, V. J. (2003). Making paradigmatic sense of mixed methods practice. In A. Tashakkori& C. Teddlie (Eds.), Handbook of mixed methods in social and behavioral research (pp. 91–110).Thousand Oaks, CA: Sage.
21. Curtis, L., J. Springett, and A. Kennedy. 2001. Evaluation in Urban Settings: the challenge of healthy cities. In *Evaluation in Health Promotion: principle and perspectives*, edited by I. Rootman and M. Goodstadt: World Health Organization Regional Office for Europe.

Semester IV Section II

GENERAL GUIDELINES FOR THE PROJECT

Dear Students, for many courses, the tasks like project and assignments are compulsory as per UGC norms.

Students, in assignments you work on question- answers and activities, similarly the structure of projects too is same. The project will carry 100 marks and this itself glorifies its importance. Therefore the scope of projects is larger than that of assignments and other activities. Students are expected to do extra or additional reading other than their syllabus. The projects are an indispensable and compulsory part of your curriculum.

With this guidance, list of the subjects for the project is attached. Students should write the project in readable handwriting, make an individual file for it and submit it as per the submission dates provided to them.

THE STRUCTURE OF THE PROJECT

Tilak Maharashtra Vidyapeeth, Pune

M.A. (English)

Project writing

Name of the Subject:

Academic Year:

Name of the Project:

Name of the Student:

P.R.N Number:

Name of the Guide:

Contents:

Introduction: In this part, the student should explain why he/ she has chosen particular subject for the project.

Main Project:

Conclusion:

List of the Reference Books:

TILAK MAHARASHTRA VIDYAPEETH, PUNE

MASTER OF ARTS (M.A.) ENGLISH

PROJECT ACTIVITY

NOTE: Attempt any one of the following project assignments.

A project should be of 40-50 pages (single sided)

Each project has 100 marks.

How to Brainstorm Writing Ideas for Projects

The best way initially is to write down a broad topic to research and then list any information relevant to that topic. It doesn't matter how insignificant the piece of information may seem, list it. Then go through and see what interesting conclusions you can make from the information. Looking at gender, how are males portrayed versus females? Looking at genre, how is the gothic novel different from a formal realism novel?

Putting things out on paper is the best way to get it all out in the open and free your mind that's jumbled with information. Once it's on paper, you can actually look at it all and piece it all into one neat picture (through words of course) that anyone can understand. Without doing this, it's like trying to put together a puzzle with all of the pieces turned down, so you aren't sure which ones actually go together.

Following are the topics for the Project:

1. Study any one of the novels of Shashi Deshpande and prepare a project on the gender roles portrayed in it. How are the roles of men and women portrayed in the novel? Are they distinctly different? Do they have equal rights? What gender expectations do they follow or fight against?

Take into consideration the following points while writing the project:

- Introduction to Shashi Deshpande and her writings
- Her writings as a feminist
- Background of the novel you have chosen
- Role of female characters in the novel
- Comparison of male and female characters
- Overall evaluation of gender roles in the novel

2. Make a comparison between novel and drama as a genre. How does each genre tell its story? What are the differences and similarities between the two? Is one more effective than the other?

Take into consideration the following points while writing the project:

- Trace the origins and development of drama as a literary form
- Trace the origins and development of novel as a literary form
- Differences between both the genres
- Similarities between both the genres
- Your evaluation about which is more effective

3. Study Chinua Achebe's novel, The Animal Farm. What issues in politics does this novel address? Discrimination? Rights? Equality?

Take into consideration the following points while writing the project:

- Introduction to Chinua Achebe
- The political background of the novel
- Impact of Russian politics
- Animal allegory
- Political symbolism in characterization, setting and narrative techniques
- Does it raise the question of rights and equality?
- Your overall evaluation of the novel

4. Choose any two characters from any novel or drama from your syllabus and compare and contrast them. This can be between characters in the same work or two different ones. How are their differences and similarities important to the literary work?

Take into consideration the following points while writing the project:

- Characterization as an art
- Background of the author and his work you have selected
- Comment on the characterization in the selected work
- Differences between the chosen characters
- Similarities between the chosen characters
- Your impression about the chosen characters in the literary work

5. Compare and contrast the poetry of William Wordsworth and John Keats.Since they belong to the same Romantic age, try to find out the similarities and differences between the two poets.

Take into consideration the following points while writing the project:

- Background of William Wordsworth and John Keats
- Factors that influenced and shaped the poetic talents of both the poets
- Influence of the age on both of them
- Recurrent themes, symbols and imagery in their poems
- Similarity in their poems
- Differences in their poems
- Overall impression about the poetry of both the poets

6. Try to find out the recurrent symbols as per the critical essay of Northrop Frye's "The Archetypes of Literature" in any of the literary works you have studied.

Take into consideration the following points while writing the project:

- Background to Northrop Frye's essay
- What is archetype?
- The Inductive and Deductive methods
- Enlist the recurrent symbols and imagery enlisted by Northrop Frye
- Background of the selected literary work
- Trace the symbol and imagery in the chosen work
- Conclude by commenting on the recurrence of imagery and symbols

7. Evaluate the historical backgrounds of any of the five plays of William Shakespeare. Try to analyse how Shakespeare has used historical sources for writing his plays.

Take into consideration the following points while writing the project:

- Shakespeare and his dramatic art
- His awareness of history
- How he harnessed historical sources for writing his plays
- Give a background of the plays you have chosen
- One by one trace the historical sources of the plays you have chosen
- Enlist the changes made in the historical sources by Shakespeare to enhance the aesthetic pleasure of his plays
- The greatness of Shakespeare as one of the best dramatist of the world.

8. Examine how the Southern Renaissance and American Civil War had an impact on the American English Literature.

Take into consideration the following points while writing the project:

- What is Southern Renaissance?
- background of the Civil War
- Impact of both on the politics and culture of America
- Impact on poetry, drama, novel and literature in general
- Evaluate the overall impact

9. Examine the Indianness reflected in the writings of the Indian English writers. You can include the poets as well as prose writers.

Take into consideration the following points while writing the project:

- Distinctness of Indian English Literature
- Reflection of Indian culture and life in Indian English Literature
- Trace the origin and development of Indian English poetry
- Trace the origin and development of Indian English prose
- Give relevant examples of writers and their works
- Conclude by enumerating the uniqueness of Indian English Literature

10. In view of Aristotle's theory of Catharsis, examine any literary work which shows Catharsis of its characters.

Take into consideration the following points while writing the project:

- Aristotle as a literary critic
- His theory of Catharsis
- The effect of this theory on literary works and writers
- Background of the literary work you have chosen
- Impact of Catharsis on the literary work you have chosen

11. Compare and contrast the female characters in at least five plays of William Shakespeare.

Take into consideration the following points while writing the project:

- Shakespeare as a dramatist
- General impression about the portrayal of female characters in Shakespeare's plays
- The perspective of contemporary audience about the female characters
- Background of the plays you have chosen
- Similarities and differences in the female characters of the selected plays

- Overall impression about the female characters

12. Study the autobiography, My Experiments with Truth by Mahatma Gandhi and enlist the important incidents of his life which changed the course of his life. Trace his journey from being Mohandas to Mahatma.

Take into consideration the following points while writing the project:

- Mahatma Gandhi as a writer
- Background to this autobiography
- Enlist the incidents of his life which left a deep impact on him
- His journey from a common man to a national leader
- Overall impression about Mahatma Gandhi

13. Analyse the narrative techniques of any novel which you found interesting.

Take into consideration the following points while writing the project:

- What do you mean by narrative technique?
- Enlist the various narrative techniques
- Background of the chosen novel
- Comment on the narrative techniques of the chosen novel
- Comment on the effectiveness and appropriateness of the narrative technique
- Contribution of the narrative technique on the literary appeal and popularity of the novel

14. When you study the poetry collection, Jejuri by Arun Kolhatkar, you realise that the poet is a good observer as well as a researcher. Analyse what qualities of a good researcher you find in Arun Kolhatkar.

Take into consideration the following points while writing the project:

- Background of Jejuri poems
- Arun Kolhatkar as a bilingual poet
- What are the qualities of a good researcher?
- With relevant examples from Jejuri poems, enlist the qualities of a good researcher
- Overall impression of Arun Kolhatkar as a poet and researcher

15. Compare and contrast T. S. Eliot's theory of Impersonality with William Wordsworth's theory of poetry and qualifications of a poet.

Take into consideration the following points while writing the project:

- T. S. Eliot as a critic
- William Wordsworth as a critic
- Eliot's Theory of Impersonality
- Wordsworth's definition and aim of poetry and qualifications of a poet
- Disparity between both the critics and their theory
- Your evaluation of both the critics

Attempt the project with the help of the following points:

- Cover page
- Contents
- Introduction: The explanation of the chosen subject should be given by the subject.
- Name of the chosen literary work with the author's name, publication company, publisher's name, editor's information, place, period and edition, pages etc (the entire bibliographical information)
- Information about the author and his inspiration behind that respective literary work you have chosen.
- Personal response about the understanding of the literary work, individual suffrage (opinion) about the evaluation of the work (evaluated opinion).
- Introduction, Conclusion and list of reference books are mandatory to be mentioned in the project.