

# HOW TO START YOUR RESEARCH

# Starting Research



What come in your  
mind?





What to  
study?

How to start  
writing?

Does my  
supervisor has  
grant?

What to  
read/find?

I want to study  
this/I want to  
study that?

I want to do  
study what I want  
to study/ I want  
to study what my  
supervisor ask me  
to study?

What do we mean by conducting research?



Research really means doing some work to find the answer to a question.

The question may be relatively simple:

- Eg: What percentage do students improve after using ipad in learning science?

It may also be extremely complex:

- What is the most effective way to improve students' achievement in science?

# Step 1

Find a topic/area of interest

- ⦿ Ready made topic?
- ⦿ New topic?
- ⦿ Familiar topic?
- ⦿ Challenging Topic?

# Narrow Your Topic

## **Ask yourself:**

- ⦿ What you know and you don't you know?
- ⦿ What aspects of your topic interest you: behaviour? Academic achievement? Using of application (software)/module/teaching method?
- ⦿ Population and Respondents?
- ⦿ What kind of information do you need?
- ⦿ Methods?
- ⦿ Instruments?
- ⦿ Statistics?

**Qualitative?**

**Quantitative?**

**Qualitative and Quantitative?**

# Step 2

Learn more about your topic.

- Current?
- Too familiar?
- Can complete within time frame?

# Step 3

Read articles, books, magazines etc

- Method
- Objectives
- Findings

# Chapter 1

# Research Back Ground

Problem

# Objectives, Research Questions and Hypohotesis

- Sampling Technique

- Instrument

- Statistic

## Hypothesis:

- ⦿ A testable prediction which designates the relationship between two or more variables.

## Conceptual definition:

- Description of a concept by relating it to other concepts.

## Operational definition:

- ❑ Details in regards to defining the variables and how they will be measured/assessed in the study.
- ❑ An operational definition is a very specific definition

## Gathering of data:

- ⦿ Consists of identifying a population and selecting samples, gathering information from and/or about these samples by using specific research instruments.
- ⦿ The instruments used for data collection must be valid and reliable.

# Chapter 2

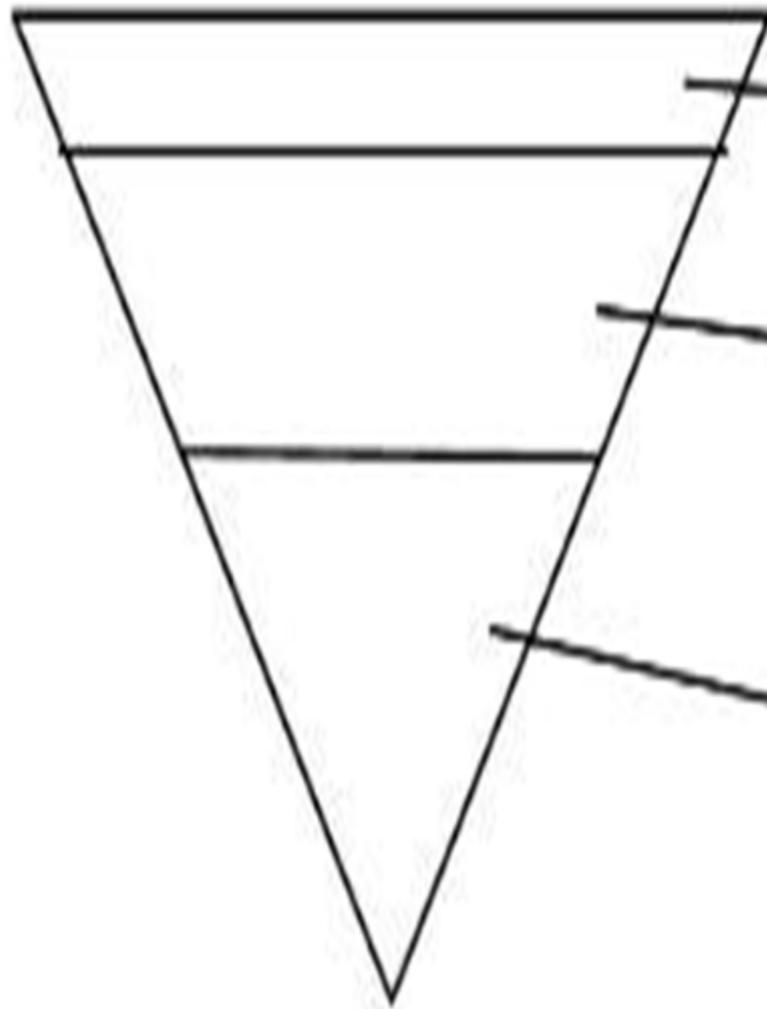
⦿ Read as many as possible but.....

- ① Why write a literature review?
- ② What is a literature review?
- ③ How do I get started?
- ④ Searching for sources

# Why trouble yourself to write a literature review?

- ① New discoveries don't materialise out of nowhere
- ① They build upon the findings of previous experiments and investigations.
- ① A literature review shows how the investigation you are conducting fits with what has gone before and puts it into context.

- ① A literature review demonstrates to your reader that you are able to:
- ② Understand and critically analyse the background research
- ③ Select and source the information that is necessary to develop a context for your research



Broad Issues

Studies which related to your research

Studies that directly related to your study

- ① First briefly explain the broad issues related to your investigation; you don't need to write much about this, just demonstrate that you are aware of the breadth of your subject.
- ② Then narrow your focus to deal with the studies that overlap with your research.
- ③ Finally, hone in on any research which is directly related to your specific investigation. Proportionally you spend most time discussing those studies which have most direct relevance to your research.

- ◎ Know you are looking for
- ◎ Be focus
- ◎ Keep your sources
- ◎ Know PA format
- ◎ Don't just copy paste
- ◎ Has a smooth flow

Note down all your initial thoughts on the topic. You can use a spidergram or list to help you identify the areas you want to investigate further. It is important to do this before you start reading so that you don't waste time on unfocussed and irrelevant reading.

# Searching for sources

- ① It's easy to think that the best way to search for texts is to use the Internet - to 'Google it'.
- ② There are useful online tools that you may use, like Google Scholar.
- ③ However, for most literature reviews you will need to focus on academically authoritative texts like academic books, journals, research reports, government publications.
- ④ Searching Google will give you thousands of hits, few of them authoritative, and you will waste time sorting through them.

# How do I get started?

Start by identifying what you will need to know to inform your research:

- ⦿ What research has already been done on this topic?
- ⦿ What are the sub-areas of the topic you need to explore?
- ⦿ What other research (perhaps not directly on the topic) might be relevant to your investigation?
- ⦿ How do these sub-topics and other research overlap with your investigation?

# Chapter 3

# Research Method

- The goal of the research process is to produce new knowledge or deepen understanding of a topic or issue.

There three main forms:

- ⦿ Exploratory research, which helps to identify and define a problem or question.
- ⦿ Constructive research, which tests theories and proposes solutions to a problem or question.
- ⦿ Empirical research, which tests the feasibility of a solution using empirical evidence.

# Qualitative

- ① Understanding of human behaviour and the reasons that govern such behaviour.
- ① Asking a broad question and collecting data in the form of words, images, video etc that is analyzed searching for themes.

- ◎ This type of research aims to investigate a question without attempting to quantifiably measure variables or look to potential relationships between variables.
- ◎ It is viewed as more restrictive in testing hypotheses because it can be expensive and time consuming, and typically limited to a single set of research subjects.

# Interviews

- ⦿ Enable face to face discussion with human subjects.
- ⦿ have to decide whether you will take notes (distracting), tape the interview (accurate but time consuming) rely on your memory (foolish) or write in their answers (can lead to closed questioning for time's sake).
- ⦿ If you decide to interview you will need to draw up an interview schedule of questions which can be either *closed* or *open* questions, or a mixture of these.

- ⦿ Closed questions tend to be used for asking for and receiving answers about fixed facts such as name, numbers, and so on. They do not require speculation and they tend to produce short answers.
- ⦿ With closed questions you could even give your interviewees a small selection of possible answers from which to choose. (If you do this you will be able to manage the data and quantify the responses quite easily).

What is the problem with closed questions?

Answer:

- they limit the response the interviewee can give and do not enable them to think deeply or test their real feelings or values.

Advantage of Open Question?

- ① you could elicit an almost endless number of responses and give us a very good idea of the variety of ideas and feelings people have, it would enable them to think and talk for longer and so show their feelings and views more fully.

# Disadvantage of Open Question?

- Difficult to quantify the results.
- Need to read all the comments through and to categorise them after received them, or merely report them in their diversity and make general statements, or pick out particular comments if they seem to fit purpose of research.

# If you decide to use interviews

- ⦿ Identify sample.
- ⦿ Draw up a set of questions that seem appropriate to what you need to find out.
- ⦿ Do start with some basic closed questions (name etc.).
- ⦿ Don't ask leading questions.
- ⦿ Try them out with a colleague .
- ⦿ Pilot them, then refine the questions so that they are genuinely engaged with your research object.
- ⦿ Contact your interviewees and ask permission, explain the interview and its use.
- ⦿ Carry out interviews and keep notes/tape.
- ⦿ Transcribe.
- ⦿ Thematically analyse results and relate these findings to others from your other research methods.

# Quantitative

- ① Systematic empirical investigation of quantitative properties and phenomena and their relationships.
- ① Asking a narrow question and collecting numerical data to analyze utilizing statistical methods.

- ① The quantitative research designs are experimental, correlational, and survey (or descriptive).
- ① Statistics derived from quantitative research can be used to establish the existence of associative or causal relationships between variables

# Questionnaires

- Easy option as a way of collecting information
- Actually rather difficult to design
- The response rate is nearly always going to be a problem (low) unless you have ways of making people complete them and hand them in on the spot.

- ⦿ If given a choice of response on a scale 1-5, respondent will usually opt for the middle point and often tend to miss out subsections to questions.
- ⦿ You need to take expert advice in setting up a questionnaire, ensure that all the information about the respondents which you need is included and filled in, and ensure that you actually get them returned.
- ⦿ Expecting people to pay to return postal questionnaires?
- ⦿ Lengthy questionnaire?

# Questionnaire – some tips

- Identify your research questions
- Identify your sample
- Draw up a list of appropriate questions and try them out with a colleague
- Pilot them
- Ensure questions are well laid out and it is clear how to 'score them' (tick, circle, delete)
- Ensure questions are not leading and confusing
- Code up the questionnaire so you can analyse it afterwards
- Gain permission to use questionnaires from your sample
- Ensure they put their names or numbers on so you can identify them but keep real names confidential
- Hand them out/post them with reply paid envelopes
- Ensure you collect in as many as possible
- Follow up if you get a small return

Using quantitative and  
qualitative research methods  
together

This is a common approach and helps you to 'triangulate'

- EG. to back up one set of findings from one method of data collection underpinned by one methodology, with another very different method underpinned by another methodology.
- Example, giving out a questionnaire (normally quantitative) to gather statistical data about responses, and then follow with interviewing (normally qualitative). selected members of your questionnaire sample.

# Observational Method

- With the observational method (sometimes referred to as field observation) animal and human behaviour is closely observed. There are two main categories of the observational method — naturalistic observation and laboratory observation.

# Case Study Method

- ⦿ Case study research involves an in-depth study of an individual or group of individuals.
- ⦿ Case studies often lead to testable hypotheses and allow us to study rare phenomena.
- ⦿ Case studies should not be used to determine cause and effect, and they have limited use for making accurate predictions.

# Survey Method

- In survey method research, participants answer questions administered through interviews or questionnaires.

- ◎ Another consideration when designing questions is whether to include open-ended, closed-ended, partially open-ended, or rating-scale questions.

Aware of Plagiarism

# Issues of Plagiarism

- **What is Plagiarism**

*Plagiarism* is presenting the words or ideas of someone else as your own without proper acknowledgment of the source.

When you work on a research paper you will probably find supporting material for your paper from works by others. It's okay to use quote people and use their ideas, but you do need to correctly credit them. Even when you summarize or paraphrase information found in books, articles, or Web pages - you must acknowledge the original author

# Hands-on Activity

Try to come out with  
a topic and write :

- i. Problem of statement
- ii. Objectives
- iii. Research questions
- iv. Methodology  
(Briefly)