



# RESEARCH METHODOLOGY

A Practical Course Designed for M1 Level (Didactics)

**Instructor: Dr. LEBBAL**  
**Academic Year: 2019/2020**

# Syllabus

**Objectives and expectations of MA research**

**What is a Good research Topic**

**Hints and questions**

**Research problem (selecting/defining/statin g/delimiting and evaluating)**

**Collecting Data (methods and tools) and Sampling (techniques/ size/ population)**

**Revisiting and Implementing prior knowledge on Research**

**Reviewing the Literature (Objectives/How to conduct/Reporting the review)**

**Approaches / methods and strategies(what are they/types/how to select an appropriate approach/method/ Strategy)**

**Hypothesis (Understanding it/ what is its role/ types/ formulating it/ Variables)**

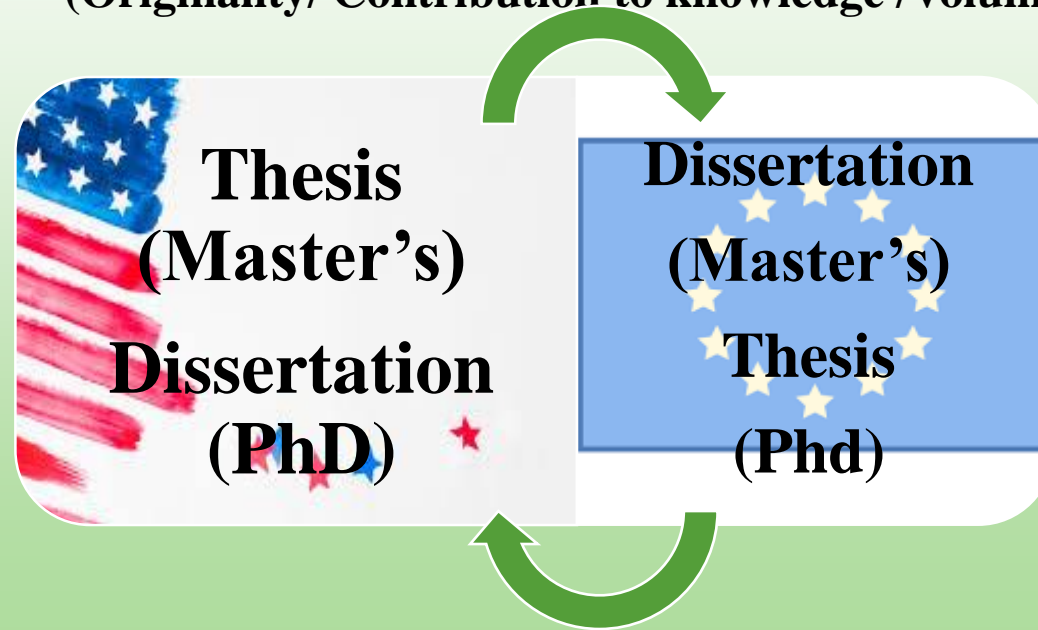
# Suggested Bibliography

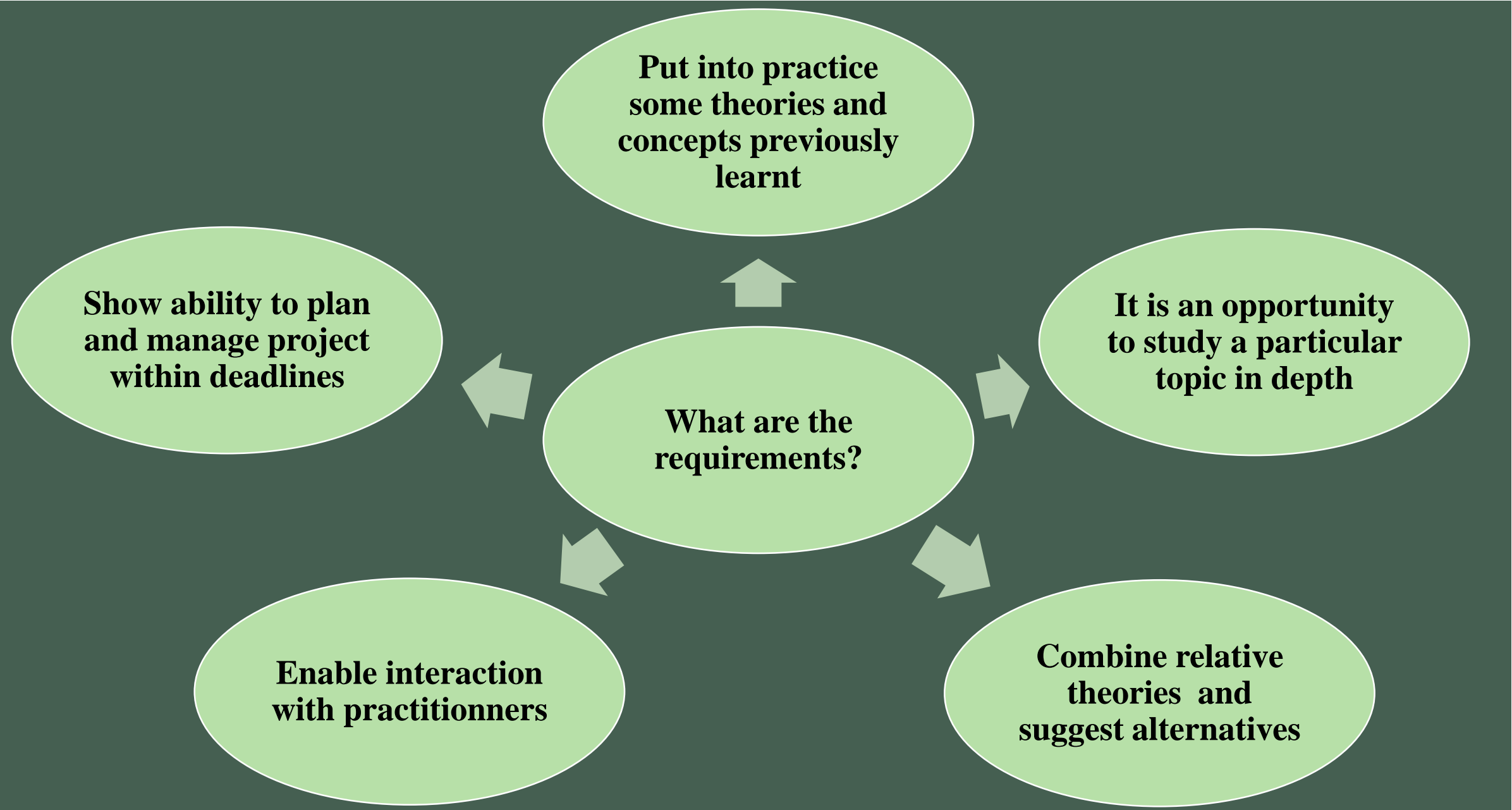
1. **Cohen, L. Lawrence, M., & Morrison, K. (2005). Research Methods in Education (5th edition). Oxford: Oxford University Press.**
2. **Dornyei, Z. (2007). Research Methods in Applied Linguistics. Oxford: Oxford University Press.**
3. **Kumar, R. (2011). Research Methodology: a step-by-step guide for beginners (3rd edition). London, UK: TJ International Ltd, Padstow, Cornwall.**
4. **Singh, Y. K. (2006). Fundamental of Research Methodology and Statistics. New Delhi. New International (P) Limited, Publishers.**

# Unit One: Research at Master's Level

## Dissertation or Thesis ?

(Originality/ Contribution to knowledge /Volume )





# Characteristics of a Good Research

**Systematic**

(structured within well defined set of rules)

**Empirical**

(related to real situations)

**Replicable**

(verifiable in other contexts)

**Logical**

(Logical reasoning of induction/deduction)

**Purposive**

# Identifying a Research Problem



avoid topics which are:

1. Too general
2. Too specialized
3. Not worth arguing.

# **Criteria to Consider:**

- 1. Novelty and avoidance of unnecessary duplication.**
- 2. Interest, intellectual curiosity and drive.**
- 3. Training and personal qualifications.**
- 4. Importance for the field.**
- 5. Availability of related literature and resources**
- 6. Special working conditions.**
- 7. Approachability of the sample.**
- 8. Cost.**
- 9. Administrative cooperation.**
- 10. Time factor.**

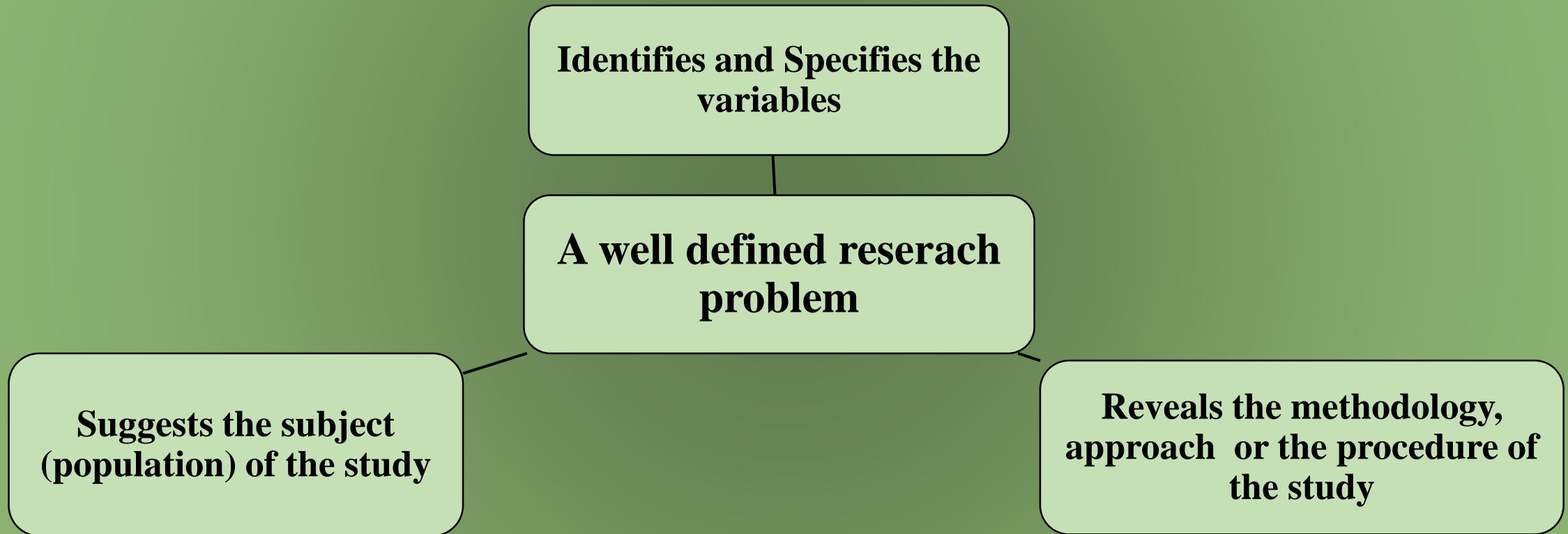


## **Some questions to ask :**

- ✓ **Is the problem really Important ?**
- ✓ **Is the problem interesting to others?**
- ✓ **Is the chosen problem a real problem?**
- ✓ **Am I able to state hypotheses from the problem?**
- ✓ **Do I understand something new from this problem?**
- ✓ **Will I be able to select a sample from which I can target the population?**
- ✓ **Will my proposed data-gathering instruments actually give the information which I want?**
- ✓ **Is the study, including the application of its results, practical?**

# Narrowing down the Problem

- **Defining the exact problem is an important phase in the research process (a problem clearly stated is already a well established research plan)**



- **A proper definition of a problem will enable the researcher to be on the right track; whereas, an ill-defined problem may create hurdles (Kothari, 1990).**



- **Never use ambivalent words**
- **Be brief but comprehensive.**
- **Be clear in explaining your assumptions**
- **The problem should have a practical implementation .**
- **The definition or statement of the problem should have certain rationale.**

# Unit Two: The Research Proposal

- **A research proposal is a concise and coherent summary of your proposed research.**
- **It should set out the central issues or questions a researcher intend to address.**
- **It should outline the general area of study within which the research falls, referring to the current state of knowledge and any recent debates on the topic, as well as the originality of the proposed research.**
- **A well-written research proposal attests for the aptitude of the candidate to carry out a research project as it demonstrates his/her ability to communicate complex ideas clearly, concisely and critically.**
- **In addition, the proposal also helps matching the researcher's area of interest with the field of inquiry of the supervisor .**

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# Different Research Formats

<b>Popular citation and Research Formats (in Humanities)</b>	<b>Modern Language Association</b>	<b>American Psychological Association</b>	<b>Chicago Style</b>
<b>Research Fields which Adopt them</b>	<ol style="list-style-type: none"><li>1. Literary Studies</li><li>2. Communication Studies</li><li>3. Theological Studies</li></ol>	<ol style="list-style-type: none"><li>1. Psychology</li><li>2. Education</li><li>3. Linguistic Studies</li><li>4. Business and Economics</li></ol>	<ol style="list-style-type: none"><li>1. Philosophy</li><li>2. History</li><li>3. Arts History</li><li>4. Anthropology</li></ol>

# **The Research Proposal Format (For Educational and Linguistic Studies)**

## **I. Background of the Research (Research Context):**

- 1. It should constitute an introductory section, gradually moving from general to more specific elements.**
- 2. it outlines the historical development in the literature as it led to the chosen research topic,**
- 3. It Identifies the main GAPS and MISSING elements which need to be addressed (thus , account for the significance and rationale of the reserach topic).**

## **II. Statement of the Problem**

- 1. It is the exact area of concern, the gap in the existing knowledge , or a « deviation in the norm and standard which point to the need for further understanding and investigation »**
- 2. A good statement of the problem should point to : 1. « The Ideal », 2. « The reality », 3. « The consequence »**

### • III. The Research Questions:

1. A clear statement of what the research is about.

2. Types of research questions:

Types of research questions	How it is formulated
Descriptive research	What are the characteristics of X?
Comparative research	What are the differences and similarities between X and Y?
Correlational research	What is the relationship between variable X and variable Y?
Exploratory research	What are the main factors in X? What is the role of Y in Z?
Explanatory research	Does X have an effect on Y? What is the impact of Y on Z? What are the causes of X?
Evaluation research	What are the advantages and disadvantages of X? How well does Y work? How effective or desirable is Z?
Action Research	How can X be achieved? What are the most effective strategies to improve Y?

## **IV. Hypothesis and Assumption**

## **V. Rationale of the Study**

## **VI. Significance of the Study**

## **VII. Aim and Objectives**

## **VIII. Operational Definition**

## **IX. Delimitations of the Research**

## **X. Research Methodology Design**

### **1. Approach**

### **2. Method**

### **2. Participants**

### **3. Data Gathering Tools**

## **XI. Organization of the research**



# The Approach

**How to choose the appropriate approach? (Hughes, 2010)**

- ❖ **The research questions , and the direction they suggest (Width or depth)**
- ❖ **Whether the objective of the research is to quantify (numerals) or in-deph analyzing a phenomenon,**
- ❖ **Personal preferences and profile of the researcher**
- ❖ **Taking into consideration the differences between the main characteristics of each approach and what do they offer,**

# Comparison Between the Qualitative and the Quantitative Approaches

QUANTITATIVE (FIXED)	QUALITATIVE (FLEXIBLE)
ADVANTAGES	ADVANTAGES
❖ Data collected is presented in the form of numerals and statistics	❖ An inductive process which allows for a more thorough exploration of small samples
❖ Requires the controllability of the extraneous variables	❖ More prolific when investigating complex phenomena (better for addressing « how » and « why » questions)
❖ Requires operational definitions to eliminate all ambiguities	❖ It gives voice to « the insider's perspective »
❖ It allows generalizations	❖ It allows interpretive analysis (themes, patterns)
DISADVANTAGES	DISADVANTAGES
❖ fails to account for individual experiences	❖ More delicate to manipulate (less directed and flexible as to the findings)
❖ it does not give room to « unexpected » findings (predetermined, as opposed to the emerging qualitative approach)	❖ Considered as less objective

## The Method

**Content-analysis**

**Historical**

**Ethnographic**

**Survey**

**Experimental**

**Quasi-  
experimental**

**Correlational**

## Corresponding Approach

**Qualitative**

**Qualitative**

**Qualitative**

**Qualitative/  
Quantitative**

**Quantitative**

**Quantitative**

**Quantitative**

## Properties

"the systematic reading of a body of texts, images, and symbolic matter, not necessarily from an author's or user's perspective" (Krippendorff, 2004).

«attempts to systematically recapture the complex nuances, the people, meanings, events, and even ideas of the past that have influenced and shaped the present, relying on primary and secondary sources". (Berg & Lure, 2012, p. 305 )

"the study of people in their own environment through the use of methods such as participant observation and face-to-face interviewing."

“questioning individuals on a topic or topics and then describing their responses” (questionnaire + interview)

«An experiment is a study in which the researcher manipulates the level of some independent variable and then measures the outcome” (all variables are controlled)

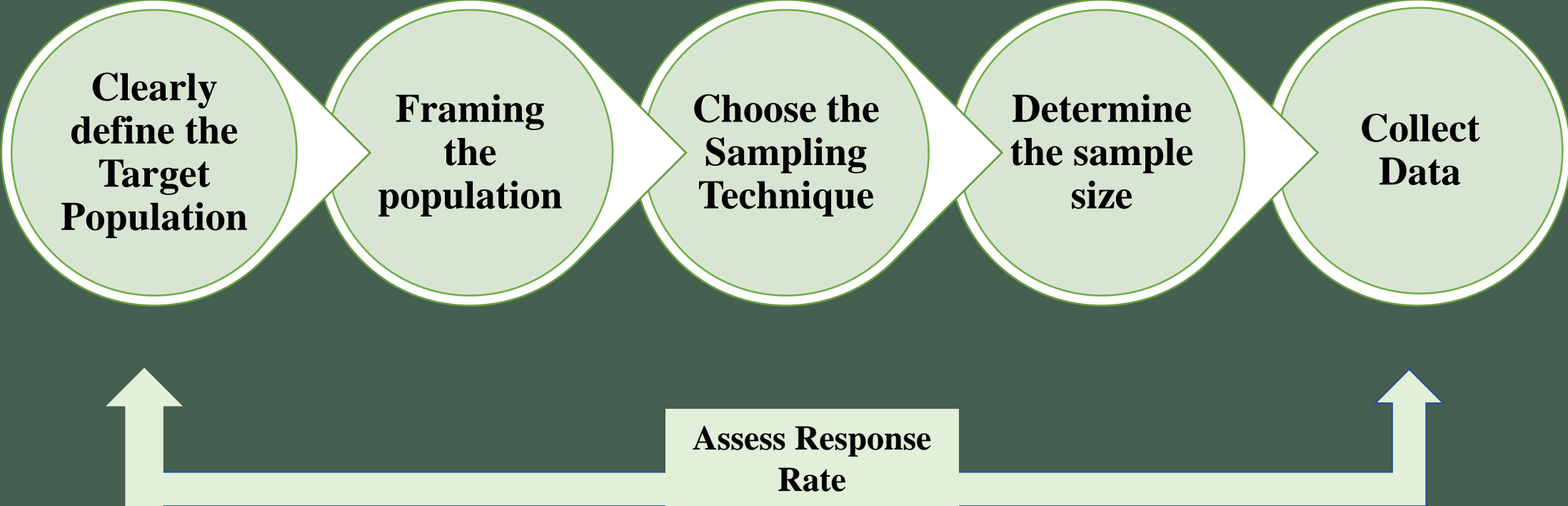
« control/ experimental groups are not randomly distributed »

«a type of nonexperimental research in which the researcher measures two variables and assesses the statistical relationship (i.e., the correlation) between them with little or no effort to control extraneous variables”

## **Participants (population, sample and sampling technique)**

- **The concept of sampling has been introduced with a view to make the research findings economical and accurate (Singh, 2006).**
- **Because the purpose of drawing a sample from a population is to obtain information concerning that population, it is extremely important that the individuals included in a sample constitute a representative cross section of individuals in the population. Samples must be representative if you are to be able to generalize with reasonable confidence from the sample to the population.**
- **‘A sample refers to the technique or the procedure the researcher would adopt in selecting items for the sample. Sample design may as well lay down the number of items to be included in the sample i.e., the size of the sample’ (Kathari, 1980, p.56).**
- **‘Sampling is the process of selecting a few (a sample) from a bigger group (the sampling population) to become the basis for estimating or predicting the prevalence of an unknown piece of information, situation, or outcome regarding the bigger group. A sample is a subgroup you are interested in’ (Kumar, 2011).**

# Sampling Process Steps



# Sampling Techniques

**Probability sampling**

**Non-probability sampling**

**Simple Random Sample**

**Systematic Sample**

**Convenience Sample**

**Purposive (judgment) Sample**

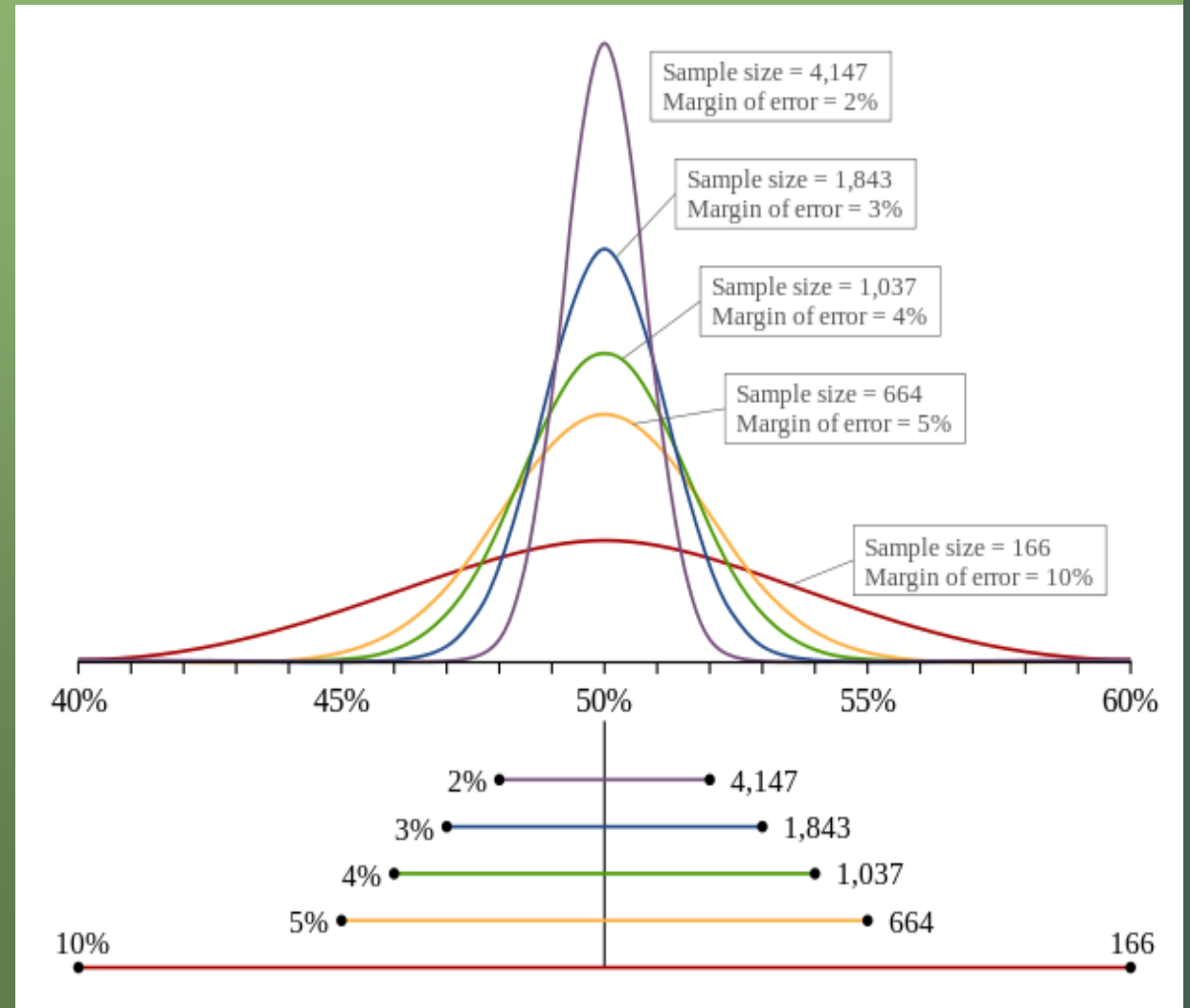
**Stratified Sample**

**Cluster Sample**


**Quota Sample**

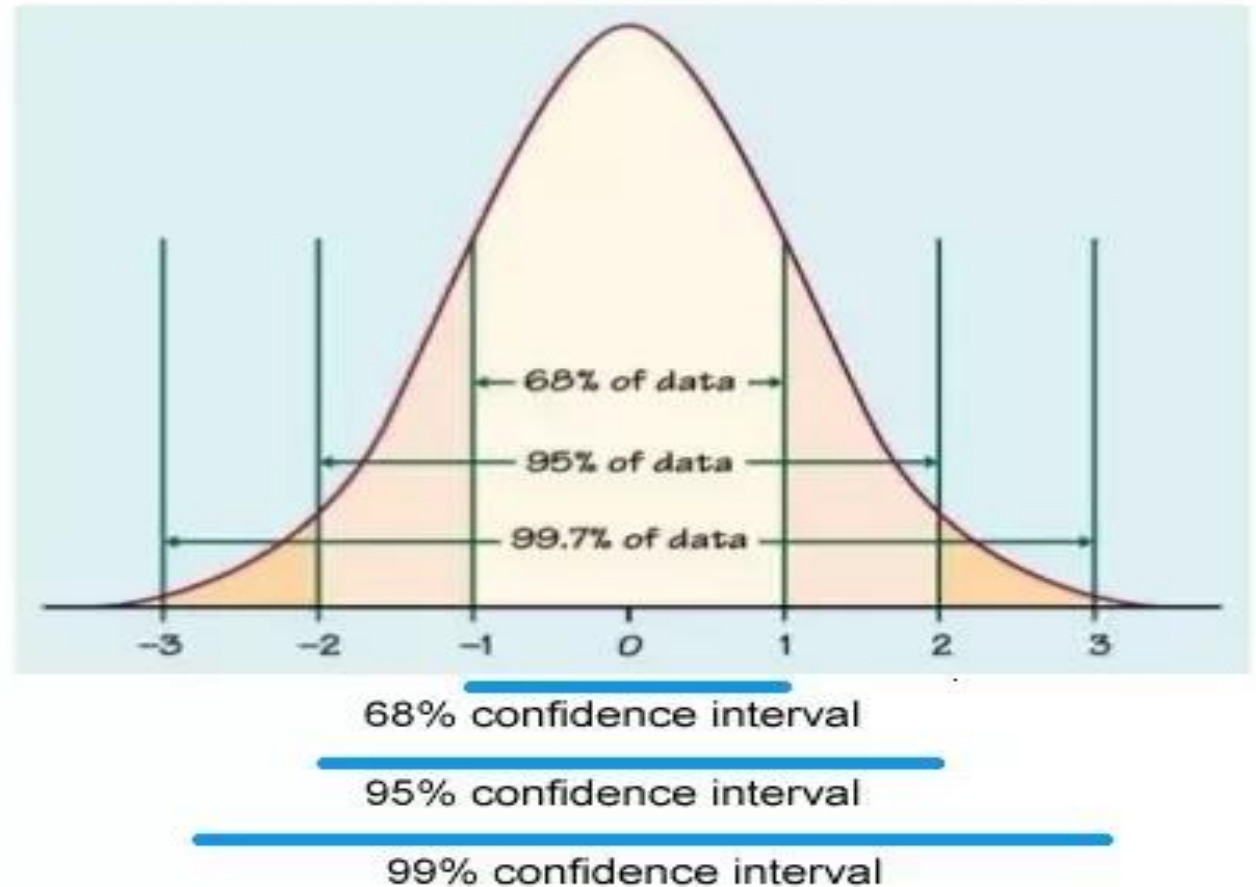
# Calculating the Representative Sample

- **1. Determine the Margin of Error:**
- The margin of error (confidence interval) is a percentage that indicates how close your sample results will be to the true value of the overall population discussed in your study.
- The smaller the margin of error  
➡ The more accurate the result.
- The larger the margin of error  
➡ less confidence level
- The margin of error usually appears as  $\pm n \%$



## • 2 . Set your Confidence Level:

- Confidence level is closely related to the margin of error. This value measures your degree of certainty regarding how well a sample represents the overall population within your chosen margin of error.
- choosing a confidence level of 95% allows you to claim that you 95% certain that your results accurately fall within your chosen margin of error.
- A larger confidence level  a greater degree of accuracy.
- The most common confidence levels are: 90% confident, 95% confident, and 99% confident.





### 3. Specify your Standard Deviation:

- it is a measure of the amount of variation or dispersion of a set of values.
- A low standard deviation indicates that the values tend to be close to the mean (also called the expected value) of the set, while a high standard deviation indicates that the values are spread out over a wider range.
- Standard deviation is most commonly represented by the lower case Greek letter sigma  $\sigma$ , for the population standard deviation, or the Latin letter s, for the sample standard deviation.

• Formula: 
$$\sigma = \sqrt{\frac{\sum_i^n (x_i - \bar{x})^2}{n-1}}$$
 Where:

- $x_i = I$  random variable
- $\bar{X}$  = Mean of the sample
- $n$  = number of variables in the sample

#### 4. Find your Z-score.

The Z-score is a constant value automatically set based on your confidence level. It indicates the "standard normal score," or the number of standard deviations between any selected value and the average/mean of the population.

- You can calculate z-scores by hand, look for an online calculator, or find your z-score on a z-score table. Each of these methods can be fairly complex, however.
- Since confidence levels are fairly standardized, most researchers simply memorize the necessary z-score for the most common confidence levels:
  1. 80% confidence => 1.28 z-score
  2. 85% confidence => 1.44 z-score
  3. 90% confidence => 1.65 z-score
  4. 95% confidence => 1.96 z-score
  5. 99% confidence => 2.58 z-score

## 5. Calculate your Representative Sample

$N$  = Population size

$z$  = z-score

$e$  = margin of error

$p$  = standard of deviation

$$\text{Sample Size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left( \frac{z^2 \times p(1-p)}{e^2 N} \right)}$$