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وزارة التعليم العالي و البحث العلمي
MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH
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Department of Letters & Foreign Languages
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Section of English

University Habilitation
Module taught: Research Methodology M211
First Year English Students
BMD
Semester 2

Mr. Abbar Ghalem
Maitre de Conference "B"

Academic Year: 2019-2020

Course Specifications

A/ Course Identification and General Information

- **Course title and code:** Research Methodology M211

- **Year/semester**: 1st year/semester 2

- **Faculty member responsible for the course:** Dr. Abbar Ghalem

- **Course Pre-requisites:** Research Methodology- First semester

- **Coefficient**: 1

- **Weekly Timetable**: **Lecture**: 1.30

- **Assessment: Continuous assessment**: 40% **Exam**: 60%

B/ Course Objectives

On completion of this course students should:

- know the different types of research processes,

- Identify the components of a literature review process

- understand the meaning of design samples,

- understand the methodologies relevant to the collection of accurate secondary and primary data,

- and comprehend the importance of, and approach to, conducting a critical review of literature relevant to the chosen topic.

C/ Course Description

The shortest way of describing the contents of this course is to say that it provides a starting point for the student's research efforts. It introduces the elements of the research process within quantitative, qualitative, and mixed methods approaches. Participants will use these theoretical underpinnings to begin to critically review literature relevant to their field or interests and determine how research findings are useful in forming their understanding of their work

This course is primarily intended to serve as a textbook for first year students. It is hoped that the course shall provide guidelines to all interested in research studies of one sort or the other. It is divided into 6 chapters.

- Chapter 1, entitled "Formulating the research problem", defines the research problem and explains its importance in research.

- Chapter 2, entitled "Extensive literature survey" defines the process literature review and discusses its objectives.

- Chapter 3, entitled "Developing the hypothesis", defines the concept hypothesis and discusses its advantages in research.

- Chapter 4, entitled "Preparing the research design and Determining sample design" discusses two distinguished research processes: research design and research samples.

- Chapter 5, entitled "Collecting and analyzing data" explains the data collection process and how data could be analyzed.

- Chapter 6, entitled "Hypothesis testing" explains how hypothesis is to be tested. It also sheds some light on the importance of hypothesis testing in research.

D/ Course syllabus distribution

<table>
<tr><th colspan="5">Topics to be covered</th></tr>
<tr><th>Chapters</th><th>Objectives</th><th>List of topics</th><th>No. of weeks</th><th>Contact hours</th></tr>
<tr>
<td rowspan="3" style="writing-mode: vertical-rl">**Chapter 1- Formulating the research problem**</td>
<td rowspan="3">On completion of this course students should be able to:
• put the problem in **context** (what do they already know?)
• describe the **precise issue** that the research will address (what do they need to know?)
• show the **relevance** of the problem (why do they need to know it?)
• set the **objectives** of the research (what will they do to find out?)</td>
<td>1.3. Definition of Research Problem
1.4. Theoretical vs. practical problem
1.5. The importance of a research problem
1.6. The purpose of a research problem statement
1.7. Research problem: Context and background
1.8. Research problem: Specificity and relevance</td>
<td>**1**</td>
<td>**1.30**</td>
</tr>
<tr>
<td>1.9. Sources of Problems for Investigation
1.9.1. Deductions from Theory
1.9.2. Interdisciplinary Perspectives
1.9.3. Interviewing Practitioners
1.9.4. Personal Experience
1.9.5. Relevant Literature</td>
<td>**2**</td>
<td>**1.30**</td>
</tr>
<tr>
<td>1.10. Characteristics of a good research problem
1.10.1. The problem can be stated clearly and concisely
1.10.2. The problem generates research questions
1.10.3. It is grounded in theory
1.10.4. It relates to one or more academic fields of study
1.10.5. It has a base in the research literature
1.10.6. It has potential significance/importance
1.10.7. It is doable within the time frame, budget
1.10.8. Sufficient data are available or can be obtained</td>
<td>**3**</td>
<td>**1.30**</td>
</tr>
</table>

Chapter 2- Extensive Literature Review	At the end this chapter students should be able to: • understand the meaning of literature review, • identify the basic components of a literature review, • comprehend the different types of literature review • and undertake (write) extensive literature survey connected with the problem.	2.3. Definition of literature review 2.4. Types of Literature Review 2.4.1. Argumentative Review 2.4.2. Integrative Review 2.4.3. Historical Review 2.4.4. Methodological Review 2.4.5. Systematic Review 2.4.6. Theoretical Review	**4**	**1.30**
		2.5. Literature review Objectives 2.6. Sample of Literature Review	**5**	**1.30**
Chapter 3- Developing the hypothesis	At this of this chapter students should: • understand the meaning of hypothesis in research, • identify the advantages of hypothesis in research, • know how to develop a good hypothesis, • and be able to formulate am effective hypothesis	3.3. Definition of hypothesis 3.4. Objectives of hypothesis 3.5. How to Develop a Good Research Hypothesis 3.6. How to Formulate an Effective Hypothesis	**6**	**1.30**
		3.7. Advantages of good hypothesis 3.8. Use a Checklist 3.9. Examples of a Testable Hypothesis	**7**	**1.30**
Chapter 4- Preparing the research design and determining sample design	At the end of this chapter students should: • be able to understand the meaning of research design and sample design, • to know how to prepare a research design, • to identify the eight (8) types of sample designs	4.3. Research Design 4.3.1. Research design-Definition 4.3.2. Objectives of research design 4.3. 3. Design decisions 4.3. 4. The preparation of the research design	**8**	**1.30**
		4.4.1. Definition of Sample Design 4.4.2. Types of Sample Designs 4.4.2. 1. Deliberate sampling 4.4.2. 2. Simple random sampling	**9**	**1.30**
		4.4.2. 3. Simple random sampling 4.4.2.4. Stratified sampling 4.4.2.5. Quota sampling	**10**	**1.30**

		4.4.2.6. Cluster sampling and area 4.4.2.7. Multi-stage sampling 4.4.2.8. Sequential sampling	**11**	**1.30**
Chapter 5- Collecting and analyzing data	At the end of this chapter students will be able to: • understand the meaning of collecting data and analyzing data • learn the different types of data collection, • learn the different types of survey • to identify the data analysis operations	5.3. Collecting the data 5.3.1. Data Collection-Definition 5.3.2. Types of data collection 5.3. 3. Survey 5.3.3.1. Definition of survey 5.3.3.2. Types of survey	**12**	**1.30**
		5.4. Analysis of data 5.4.1. Definition of data analysis 5.4.2. Data Analysis operations	**13**	**1.30**
Chapter 6- Hypothesis testing	At the end of this chapter students will be able to: • understand the meaning of testable hypothesis • and to know the importance of testable hypothesis.	6.3. Definition of hypothesis testing 6.4. Importance of a Testable Hypothesis 6.5. Types of Hypotheses 6.5.1. The null hypothesis 6.5.2. The alternative hypothesis	**14**	**1.30**
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Table of Contents

Chapter 1

Formulating the research problem

Formulating
a Research Problem

Dr.Srirath Pakdeeronachit

1.1. Introduction

This chapter intends to highlight the importance of the research problem. It sheds some light on two major points: a) the importance of research problem and b) the difference between theoretical and practical problem.

1.2. Learning Objectives

On completion of this course students should be able to:

- put the problem in **context** (what do they already know?)

- describe the **precise issue** that the research will address (what do they need to know?)

- show the **relevance** of the problem (why do they need to know it?)

- set the **objectives** of the research (what will they do to find out?)

1.3. Definition of Research Problem

- A research problem is a specific issue, difficulty, contradiction, or gap in knowledge that you will aim to address in your research.

- A research problem is the fuel that drives the scientific process, and is the foundation of any research method and experimental design, from true experiment to case study.

1.4. Theoretical vs. practical problem

- A problem could be practical aiming at contributing to change.

- It could be theoretical aiming at expanding knowledge.

- A practical problem is an examination in which you do experiments rather than simply writing answers to questions. (Theoretical)

- We make experiment in order to describe the problem and seek to solve it.

1.5. The importance of a research problem

- You need a problem in order to do research that contributes new and relevant insights.

- We don't need to repeat what other people have already said, trying to say too much, or doing research without a clear purpose and justification.

- The research problem is the first step towards knowing exactly what you'll do and why. (Research Proposal)

1.6. The purpose of a research problem statement

- **Introduce the reader to the importance of the topic being studied**. The reader is oriented to the significance of the study and the research questions or hypotheses to follow.
- **Places the problem into a particular context** that defines the parameters of what is to be investigated.
- **Provides the framework for reporting the results** and indicates what is probably necessary to conduct the study and explain how the findings will present this information.

1.7. Research problem: Context and background

- Who does the problem affect?
- Has it been an issue for a long time, or is it a newly discovered problem?
- What research has already been done?
- Have any solutions been proposed?
- What are the current debates about the problem, and what do you think is missing from them?

1.8. Research problem: Specificity and relevance

- What particular place, time and/or people will you focus on?
- What aspects will you not be able to tackle?
- What will be the consequences if the problem is not resolved?
- Whose will benefit from resolving the problem (e.g. the management of an organization or future researchers)?

1.9. Sources of Problems for Investigation

Identifying a problem to study can be challenging, not because there is a lack of issues that could be investigated, but due to pursuing a goal of formulating a socially relevant and

researchable problem statement that is unique and does not simply duplicate the work of others. To facilitate how you might select a problem from which to build a research study, consider these three broad sources of inspiration:

1.9.1. Deductions from Theory

This relates to deductions made from social philosophy or generalizations embodied in life in society that the researcher is familiar with. These deductions from human behavior are then fitted within an empirical frame of reference through research. From a theory, the research can formulate a research problem or hypothesis stating the expected findings in certain empirical situations. The research asks the question: "What relationship between variables will be observed if theory aptly summarizes the state of affairs?" One can then design and carry out a systematic investigation to assess whether empirical data confirm or reject the hypothesis and hence the theory.

1.9.2. Interdisciplinary Perspectives

Identifying a problem that forms the basis for a research study can come from academic movements and scholarship originating in disciplines outside of your primary area of study. A review of pertinent literature should include examining research from related disciplines, which can expose you to new avenues of exploration and analysis. An interdisciplinary approach to selecting a research problem offers an opportunity to construct a more comprehensive understanding of a very complex issue than any single discipline might provide.

1.9.3. Interviewing Practitioners

The identification of research problems about particular topics can arise from formal or informal discussions with practitioners who provide insight into new directions for future research and how to make research findings increasingly relevant to practice. Discussions with experts in the field, such as, teachers, social workers, health care providers, etc., offers the chance to identify practical, "real world" problems that may be understudied or ignored

within academic circles. This approach also provides some practical knowledge which may help in the process of designing and conducting your study.

1.9.4. Personal Experience

Your everyday experiences can give rise to worthwhile problems for investigation. Think critically about your own experiences and/or frustrations with an issue facing society, your community, or in your neighborhood. This can be derived, for example, from deliberate observations of certain relationships for which there is no clear explanation or witnessing an event that appears harmful to a person or group or that is out of the ordinary.

1.9.5. Relevant Literature

The selection of a research problem can often be derived from an extensive and thorough review of pertinent research associated with your overall area of interest. This may reveal where gaps remain in our understanding of a topic. Research may be conducted to:

- 1) fill such gaps in knowledge;
- 2) evaluate if the methodologies employed in prior studies can be adapted to solve other problems; or,
- 3) determine if a similar study could be conducted in a different subject area or applied to different study sample [i.e., different groups of people].

Also, authors frequently conclude their studies by noting implications for further research; this can also be a valuable source of problems to investigate.

1.10. Characteristics of a good research problem

The eight important characteristics of a good research problem are summarized bellow. The list enables one to examine any research problem and see the extent to which it measures up. Obviously, few problems will achieve all ten characteristics but good problems should fulfill most of these requirements. A few words are in order about each of them.

1.10.1. The problem can be stated clearly and concisely

Unless the problem can be stated clearly and concisely it is probably a poor problem or a non-problem. The best way to test the problem statement is to write it into a concise sentence or paragraph and to share it with others. If the problem cannot be stated in a clear paragraph it has difficulties and will not endure as a suitable problem. Of course, it is not easy to express

complex issues in simplistic terms and it may take many weeks and countless drafts before the statement is satisfactory. Good critics are essential. If your spouse or mother cannot understand it, it is probably flaky.

1.10.2. The problem generates research questions

The problem should generate a number of more specific research questions. These turn the problem into a question format and represent various aspects or components of the problem. The research questions make the more general statement easier to address and provide a framework for the research. Formulating these questions can be a challenge, particularly specifying them at the right level of abstraction.

1.10.3. It is grounded in theory

Good problems have theoretical and/or conceptual frameworks for their analysis. They relate the specifics of what is being investigated to a more general background of theory which helps interpret the results and link it to the field.

1.10.4. It relates to one or more academic fields of study

Good problems relate to academic fields which have adherents and boundaries. They typically have journals to which adherents relate. Research problems which do not have clear links to one or two such fields of study are generally in trouble. Without such a field it becomes impossible to determine where, in the universe of knowledge, the problem lies.

1.10.5. It has a base in the research literature

Related to the former points, a well-stated problem will relate to a research literature. Tight problems often relate to a well-defined body of literature, written by a select group of researchers and published in a small number of journals. With some problems, it might at first be difficult to establish the connections and literature base, but there should be a base somewhere.

1.10.6. It has potential significance/importance

This is the important 'so what' question: Who cares once you solve the problem? Assume that you have solved the problem and answered the questions and then ask yourself if you are any further ahead. At the very least, the problem must have importance to the researcher, but ideally it should also be of consequence to others.

1.10.7. It is doable within the time frame, budget

There are logistic factors in terms of your ability actually to carry out the research. There is no point pursuing a problem which is not feasible to research. Do not do a study of education in India unless you have the means to go there and collect data−which may require years to collect. This factor helps explain why few theses relate to longitudinal data. The only exceptions come from research shops where there is a long history of collecting and studying data on a defined population. Terman's study of genius (1954) in which a defined sample was traced over 30 years, is a good example.

1.10.8. Sufficient data are available or can be obtained

In some cases, there are insufficient data to address the problem. Historical persons may have died, archival materials may be lost, or there may be restrictions on access to certain environments. As noted, it is difficult to conduct research on a distant country unless you can go there and collect local data. One under-used approach is to use an existing database. Some data banks have been developed over many years and contain many opportunities for exploration of new questions and issues.

1.11. Chapter review (Practice exercises))

Q 1: Select the correct answer

1. A research………………….. is a specific issue, difficulty, contradiction, or gap in knowledge that you will aim to address in your research.
a- hypothesis
b- design
c- problem
d- sample

2. The foundation of any research method and experimental design, from true experiment to case study is commonly known as the research …………………
a- process
b- design
c- problem
d-hypothesis

3. ……………………….problem aims at contributing to change.

a- Experimental
b-Theoretical
c- Practical
d-Descriptive

4. ……………….. aiming at expanding knowledge.

a- Descriptive
b-Theoretical
c- Practical
d- Experimental

5. A ………………… research is an examination in which you do experiments rather than simply writing answers to questions.

a- Practical
b-Theoretical
c- Descriptive
d- Experimental

6. The research ………………. is the first step towards knowing exactly what you'll do and why.

a- process
b- design
c- problem
d-hypothesis

Q2. Fill in the blanks with the correct words.

1. A research …………………is a specific issue, difficulty, contradiction, or gap in

knowledge that you will aim to address in your research.

2…………………….. problems aimed at contributing to change.

3. ………………………problems aimed at expanding knowledge.

4. Without a well-defined research ………………….you are likely to end up with an

unfocused and unmanageable project

5. You need a ……………….in order to do research that contributes new and relevant

insights.

Q 3. Match column B with column C. Write your answers (in Letters) in the space provided in Column A (Answer).

Column A-Answers	Column B	Column C
	1. We make experiment in order…..	a-….experimental design, from true experiment to case study.
	2. The research problem is the first step…..	b--….with one's own colleagues or with those having some expertise in the matter.
	3. The best way of understanding the problem is to discuss it…..	c-….that you will aim to address in your research.
	4.A research problem is the foundation of any research method and…..	d-….. and pinpoint the exact aspect that your research will address.
	5. The researcher should highlight the current debates about the problem…	e- -…..to describe the problem and seek to solve it.
	6. A research problem is a gap in knowledge….	f-…and what it is missing from them?
	7. The researcher has to find out what is already known about the problem,…..	g-….towards knowing exactly what you'll do and why.

Chapter 2

Extensive literature survey

Literature Review

2.1. Introduction

This chapter explains the second process in research. It deals with the literature review.

2.2. Learning Objectives

At the end this chapter students should be able to:

- understand the meaning of literature review,

- identify the basic components of a literature review,

- comprehend the different types of literature review

- and undertake (write) extensive literature survey connected with the problem.

2.3. Definition of literature review

Literature review is a text of a scholarly paper, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic.

Literature reviews are secondary sources and do not report original experimental work.

The basic components of a literature review include:

- a description of the publication;

- a summary of the publication's main points;

- a discussion of gaps in research;

- an evaluation of the publication's contribution to the topic.

2.4. Types of Literature Review

2.4.1. Argumentative Review

This form examines literature selectively in order to support or refute an argument, deeply imbedded assumption, or philosophical problem already established in the literature. The purpose is to develop a body of literature that establishes a contrarian viewpoint. For example: educational reform and immigration control.

2.4.2. Integrative Review

It is considered a form of research that reviews, critiques, and synthesizes representative literature on a topic in an integrated way. The body of literature includes all studies that address related or identical hypotheses.

2.4.3. Historical Review

Historical reviews are focused on examining research throughout a period of time, often starting with the first time an issue, concept, theory, phenomena emerged in the literature, then tracing its evolution within the scholarship of a discipline. The purpose is to place research in a historical context to show familiarity with state-of-the-art developments and to identify the likely directions for future research.

2.4.4. Methodological Review

A review does not always focus on **what** someone said [content], but **how** they said it [method of analysis]. This approach enables researchers to draw on a wide variety of knowledge ranging from the conceptual level to practical documents. It helps highlight many ethical issues which we should be aware of and consider as we go through our study.

2.4.5. Systematic Review

This form focuses on a very specific empirical question, often posed in a cause-and-effect form, such as "To what extent does A contribute to B?"

2.4.6. Theoretical Review

The purpose of this form is to concretely examine the corpus of theory that has accumulated in regard to an issue, concept, theory, phenomena. The theoretical literature review help establish what theories already exist, the relationships between them, to what degree the existing theories have been investigated, and to develop new hypotheses to be tested. Often this form is used to help establish a lack of appropriate theories or reveal that current theories are inadequate for explaining new or emerging research problems.

2.5. Literature review Objectives

Researcher needs to:

- Examine all available literature to get himself acquainted with the selected problem.

- Review two types of literature: a) the conceptual literature concerning the concepts and theories, and b) the empirical literature consisting of studies made earlier which are similar to the one proposed.

- Undertake (write) extensive literature survey connected with the problem.

- The earlier studies, which are similar to the study in hand, should be carefully studied.

2.6. Sample of Literature Review

There are some emotional factors in foreign language learning which affect our learning abilities. These are mainly thought to be intelligence, motivation, attitudes and anxiety. Among these, anxiety stands out as one of the main influential factors for effective language learning (Horwitz et al. 1986). Foreign Language anxiety, recognized as an affective factor in foreign language learning and normally discussed alongside other individual learner differences (Ellis, 1994), is still considered to be a relatively new and developing area within foreign language research.

Von Worde (2003) described possible causes of language anxiety as major sources of anxiety, that were (a) Non-comprehension, (b) Speaking activities and (c) Error correction (3-4). As regards of (a) Non-comprehension, some students reported feeling nervous when they could not understand what teachers said during delivery as that was too rapid or not use of L1 at all. Concerning (b) Speaking activities, the respondents complained of the apprehension they often suffered in oral classroom activities. They were worried about the opinions of peers and of their instructor, and about being asked to speak in class, even if they had time to prepare their intervention beforehand. As regards of (c) Error correction, students were

worried about being reprimanded (3) for making mistakes, and about being corrected before they had time to finish answering the question, making them unable to concentrate.

This is literature review sample. Read the passage carefully and answer the following questions:

1. Define the research problem which is discussed in the literature review?

………………………………………………………………………………………………

………………………………………………………………………………………………

………………………………………………………………………….

2. What are the main causes discussed by scholars?

………………………………………………………………………………………………

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3. Are there any other causes that you can add to this literature review?

………………………………………………………………………………………………

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………………………………………………………………………….

2.7. Chapter review (Practice exercises)

Q1. Fill in the blanks with the correct words.

1. The ……………………guides the researcher by delimiting the area of research and keeps him/her on the right track.

2. Literature reviews are secondary……………, and do not report new or original experimental work.

3. Researcher needs to review two types of literature: a) the ………………..literature concerning the concepts and theories, and b) the ………………..literature consisting of studies made earlier which are similar to the one proposed.

4. A research…………………is a specific, clear, and testable proposition or predictive statement about the possible outcome of a scientific research study based on a particular property of a population.

5. The……………… indicates the type of data required and the type of methods of data analysis to be used.

Q 2- Select the correct answer

1. Literature ……………….. is a text of a scholarly paper, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic.

a- process
b- hypothesis
c-review
d- design

2. A description of the ………………..is one of the basic components of a literature review.

a- hypothesis
b- publication
c-process
d- experiment

3. The ……………………literature deals with the concepts and theories.

a- empirical
b- fundamental

c- conceptual
d- extensive

4. The ……………literature deals with some studies made earlier which are similar to the one proposed.

a- empirical
b- fundamental
c- conceptual
d- extensive

5. The researcher needs to undertake extensive literature survey connected with the ……………….

a- hypothesis
b- problem
c- research
d- review

6. A research ………………is a specific, clear, and testable proposition or predictive statement about the possible outcome of a scientific research study based on a particular property of a population.

a- hypothesis
b- design
c- problem
d- review

7. A literature review is best defined as:

a- Doing an internet search on a topic and looking through the results.
b- The process of studying published research.
c- The process of studying published research and the written review outlining what literature was reviewed.
d- The written component of a research project that discusses the existing research the researcher reviewed.

8. Why does a researcher conduct a literature review?

a- To familiarize themselves with the field.
b- They are required to by other researchers.
c- They are paid to review it.
d- To reproduce existing research.

9. Why do you need to review the existing literature?

a- You enjoy reading the academic research on your topic.

b- Because without it, you could never reach the required word-count.

c- To find out what is already known about your area of interest.

d- To make sure you have a long list of references.

10. What can a researcher use the literature to achieve?

a- They can demonstrate their competence by referring to prominent writings in the field.

b- They develop their version of the literature in such a way as to show and to lead up to the contribution they will be making in their own project or article.

c- All of the above.

d- They can identify a gap or problem in the literature that corresponds to the research questions.

Q 3- Literature Review

This is a sample text of literature review. Read the text carefully and try and answer the following questions:

Recently, a lot of researches investigating difficulties concerning learning English as second languages put a number of solutions and strategies in order to help EFL learners to overcome the difficulties and improve their language such as:

One of the challenges that English learners face in learning process is cultural differences that often render the learners to feel disturbed; a group of learners master sufficient number of vocabularies, in good command of comprehension. They are, however, unable to understand various expressions and sentences due to cultural differences (Abdullah, 2015).

Each learner holds his/her own unique ability and capacity differentiating them from each other. This belongs to specific skills each learner enjoys in handling their smartness to improve language learning process.

Difficulties of learning a second or foreign language vary from one learner to another, a difference shaped by the ability each learner handles.   (NAE education policy and practice department, 2007)

In addition, when learners try to learn English as a second language, they face lots of difficulties. English has four major skills that are very important to improve English language learning properly; however, it depends on ESL learners to fully master those skills in an effective way.

Personal orientations such as self-confidence and thinking positively help in facilitating the learning process when the orientations mentioned are at issue since they are strongly related to the outcomes of the learning language. Correspondingly, if the English learners hold

confidence and fearlessly make mistakes, they undoubtedly learn from their mistakes (Yee and Zainoalabidin, 2014).

Adas and Bakir (2013) claim that online materials and using English web-sites are preferable methods being effective ways of learning English more appropriately, for these mediums facilitate students' direct communication with native English speakers.

Many scholars have conducted research with reference to second or foreign language learning; some have agreed that environment plays influentially in the process of learning language. It depends on teachers' plans of managing classrooms thereby creating open discussions to instill confidence inside the students to speak language freely, and thus, improve their skills. (Bingol, 2014)

The role of the teacher is obviously important in learning a new language. The task of teaching is not only speaking inside classrooms, but also guiding students, and providing a friendly atmosphere for the learners, means that highly cooperative in facilitating the process of learning English language. (Kannan, 2009) Anxiety, moreover, is another factor that challenge English language learners, decreasing the power of the learner and causing loss of self-confidence. (Banks, 2008) Linking intelligence with second or foreign language learning, some researchers contend that intelligent learners are capable of learning a second or foreign language more successfully. (Brown, 2007)

1. What are the main problems that researchers are discussing in this text?

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2. What are the proposed hypotheses for overcoming these problems?

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Chapter 3

Developing the hypothesis

3.1. Introduction

This chapter explains the concept of hypothesis and discusses its advantages in research.

3.2. Learning Objectives

At this of this chapter students should:

   a- understand the meaning of hypothesis in research,

   b- identify the advantages of hypothesis in research,

   c- know how to develop a good hypothesis,

   d- and be able to formulate am effective hypothesis.

3.3. Definition of hypothesis

A research hypothesis is a specific, clear, and testable proposition or predictive statement about the possible outcome of a scientific research study based on a particular property of a population.

3.4. Objectives of hypothesis

Working hypotheses arise as a result of a-priori thinking about the subject, examination of the available data and material including related studies and the counsel of experts and interested parties.

The hypothesis guides the researcher by delimiting the area of research and keeps him/her on the right track.

It indicates the type of data required and the type of methods of data analysis to be used.

3.5. How to Develop a Good Research Hypothesis

A hypothesis is a statement that introduces a research question and proposes an expected result. It is an integral part of the scientific method that forms the basis of scientific experiments. Therefore, you need to be careful and thorough when building your hypothesis.

A minor flaw in the construction of your hypothesis could have an adverse effect on your experiment.

3.6. How to Formulate an Effective Hypothesis

A testable hypothesis is not a simple statement. It is an intricate statement that needs to offer a clear introduction to a scientific experiment, its intentions, and the possible outcomes. However, there are some important things to consider when building a compelling hypothesis.

1. State the problem that you are trying to solve.
    o   Make sure that the hypothesis clearly defines the topic and the focus of the experiment.
2. Try to write the hypothesis as an if-then statement.
    o   Follow this template: If a specific action is taken, then a certain outcome is expected.
3. Define the variables
    o   In scientific experiments, a hypothesis proposes and examines the relationship between an independent variable and a dependent variables. The effect on the dependent variable (the idea being tested) depends on or is determined by what happens when you change the independent variable (the factor being changed).

Example: The greater number of coal plants in a region (independent variable) increases water pollution (dependent variable). If you change the independent variable (building more coal factories), it will change the dependent variable (amount of water pollution).

3.7. Advantages of good hypothesis

Developing a strong testable hypothesis has few advantages:

a- It compels us to think intensely and specifically about the outcomes of a study

b- It enables us to understand the implication of the question and the different variables involved in the study.

c- It helps us to make precise predictions based on prior research. Hence, forming a hypothesis would be of great value to the research.

3.8. Use a Checklist

As we have stated, a hypothesis is the foundation of your scientific experiment. Before you begin to take the first steps in your experiment, you should make sure that you have a clear testable hypothesis. Using a checklist can help you make sure your experiment is on solid footing.

Here are some important questions to ask:

1. Is the language clear and focused?

2. Does the hypothesis introduce the research topic?

3. Does the hypothesis include both an independent and dependent variable? Are they easy to identify?

4. Can the hypothesis be tested through experimentation?

5. Does the hypothesis explain what you expect to happen during your experiment?

This is an excellent list to refer to before you begin an experiment. It can help you identify weaknesses in your hypothesis and revise it if necessary.

What are your experiences with building hypotheses for scientific experiments? What challenges did you face? How did you overcome these challenges? Please share your thoughts with us in the comments section.

3.9. Examples of a Testable Hypothesis

All the following hypotheses are testable. It's important, however, to note that while it's possible to say that the hypothesis is correct, much more research would be required to answer the question "*why* is this hypothesis correct?"

a- *Students who attend class have higher grades than students who skip class.* This is testable because it is possible to compare the grades of students who do and do not skip class and then analyze the resulting data. Another person could conduct the same research and come up with the same results.

b- *People exposed to high levels of ultraviolet light have a higher incidence of cancer than the norm.* This is testable because it is possible to find a group of people who

have been exposed to high levels of ultraviolet light and compare their cancer rates to the average.

c- *If you put people in a dark room, then they will be unable to tell when an infrared light turns on.* This hypothesis is testable because it is possible to put a group of people into a dark room, turn on an infrared light, and ask the people in the room whether or not an infrared light has been turned on.

3.10. Chapter review (Practice exercises)

Q 1. Choose the correct answer

1. The ………………. guides the researcher by delimiting the area of research and keeps

him/her on the right track.

a- problem
b- research
c- hypothesis
d- data

2. A hypothesis is a statement that introduces a research ……………. and proposes an
expected result.

a- process
b- problem
c-question
d- review

3. A hypothesis indicates the type of ………….. required and the type of methods of data

analysis to be used.

a- problem
b- research
c- hypothesis
d- data

4. A …………..hypothesis is a specific, clear, and testable proposition or predictive statement

about the possible outcome of a scientific research study based on a particular property of a

population.

a- theoretical
b- practical
c- research
d- review

5. A good hypothesis enables us to understand the implication of the question and the

different ……………..involved in the study.

a- problems

b- processes

c- variables

d- data

Q 2. Say whether the following statements are false (F) or true (T).

T/F	Statements
	1. The hypothesis cannot be tested through experimentation.
	2. The hypothesis introduces the research topic.
	3. The hypothesis does not explain what the researcher expects to happen during his/her experiment.
	4. The helps us to make precise predictions based on prior research.
	5. The hypothesis proposes and examines the relationship between an independent variable and a dependent variables.
	6. The hypothesis does not clearly define the topic and the focus of the experiment.
	7. A minor flaw in the construction of your hypothesis could have an adverse effect on your experiment.
	8. Working hypotheses arise as a result of a-priori thinking about the subject.
	9. A testable hypothesis is a very simple statement.
	10. The hypothesis is the foundation of any scientific experiment

Chapter 4

Preparing the research design and Determining sample design
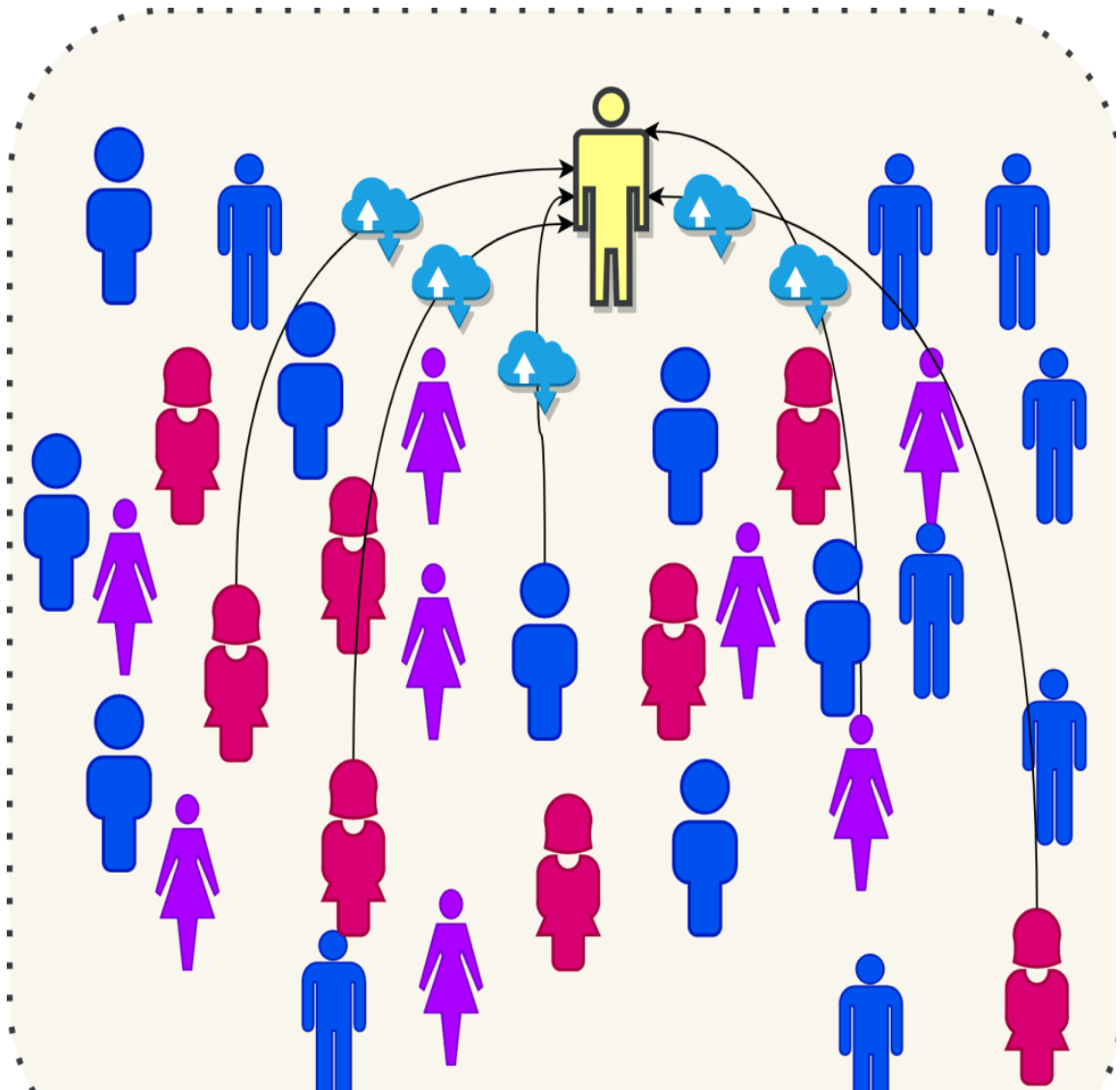
4.1. Introduction

This chapter intends to highlights two research processes: a) preparing the research design and b) determining sample design.

4.2. Learning Objectives

At the end of this chapter students should:

    a- be able to understand the meaning of research design and sample design,

    b- to know how to prepare a research design,

    c- to identify the eight (8) types of sample designs

4.3. Research Design

4.3.1. Research design- Definition

According to Kerlinger

- *Research design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions.*

According to Green and Tull

- *A research is the specification of methods and procedures for acquiring the information needed.*

- It is the framework (plan) of **research** methods and techniques chosen by a researcher.

- In simple words it is the general plan of how you will go about your research.

4.3.2. Objectives of research design

- Research design aims at facilitating the smooth conduct of the various research operations.

- For example, economical and attractive construction of house we need a blueprint (or what is commonly called the map of the house) well thought out and prepared by an expert architect, similarly we need a research design or a plan in advance of data collection and analysis for our research project.

4.3. 3. Design decisions

The design decisions happen to be in respect of:

- What is the study about?

- Why is the study being made?

- Where will the study be carried out?

- What type of data is required?

- Where can the required data be found?

- What periods of time will the study include?

- What will be the sample design?

- What techniques of data collection will be used?

4.3. 4. The preparation of the research design

In order to prepare the research design we need:

A- the means of obtaining the information;

B- the availability and skills of the researcher and his staff (if any);

C- the time available for research; and

D- the cost factor relating to research, i.e., the finance available for the purpose

4.4. Determining sample design

4.4.1. Definition of Sample Design

- A sample design is a definite plan determined before any data are actually collected for obtaining a sample from a given population.

- All the items under consideration in any field of inquiry constitute a 'universe' or 'population'.

- The plan to select 12 of a city's 200 drugstores in a certain way constitutes a sample design.

4.4.2. Types of Sample Designs

There are eight (8) types of sample designs.

4.4.2. 1. Deliberate sampling
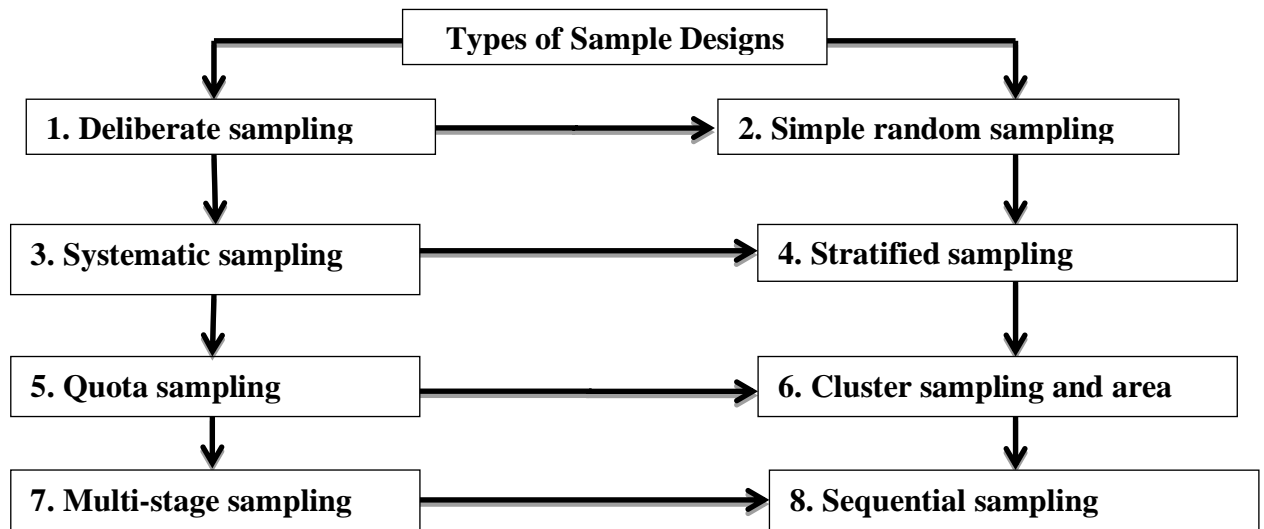
Purposive Sampling
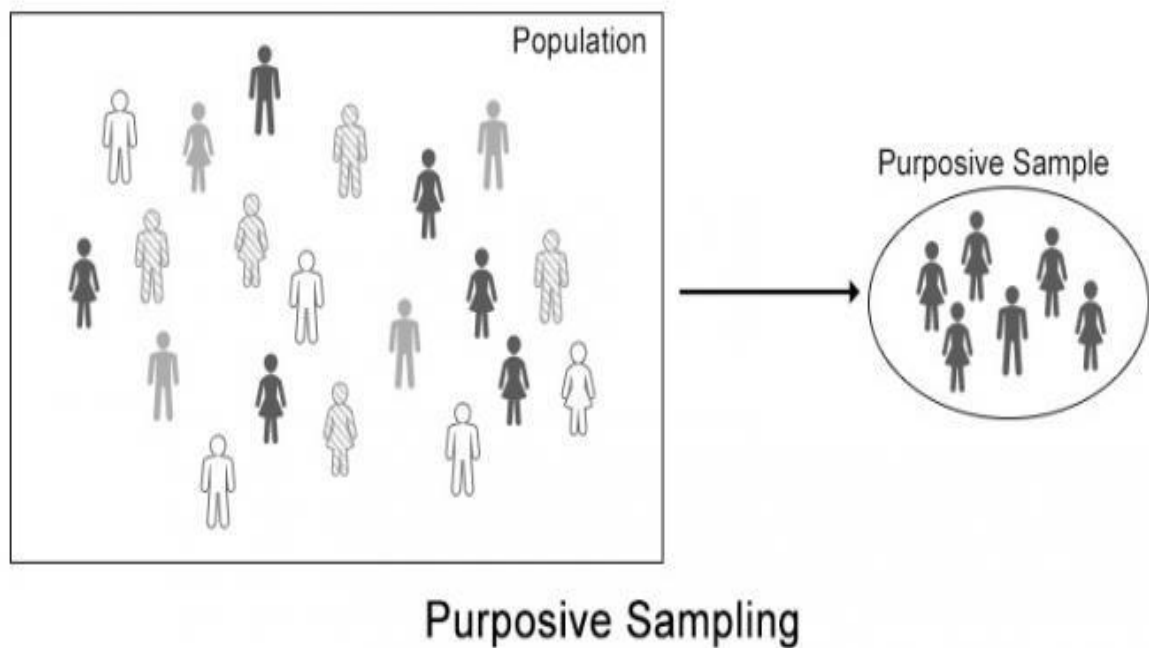
Deliberate : If you do something that is **deliberate**, you planned or decided to do

it beforehand, and so it happens on purpose rather than by chance.

Sampling means a representation of things in a group or a concept.

 It is also known as _purposive or non-probability sampling._

samples are based on the subjective judgment of the researcher rather than random selection

It involves purposive or deliberate selection of particular units of the universe for constituting

a sample which represents the universe.

It represents two types: convenience sample and judgment sample.

A/ Convenience sample:

Definition

Convenience: The state of being able to proceed with something without difficulty.

When population elements are selected for inclusion in the sample based on the ease of access.

Example: If a researcher wishes to collect data from gasoline buyers, he may select a fixed number of petrol stations and may conduct interviews at these stations.

Such a procedure may give very biased (subjective) results particularly when the population is not homogeneous.

B/ Judgment sample:
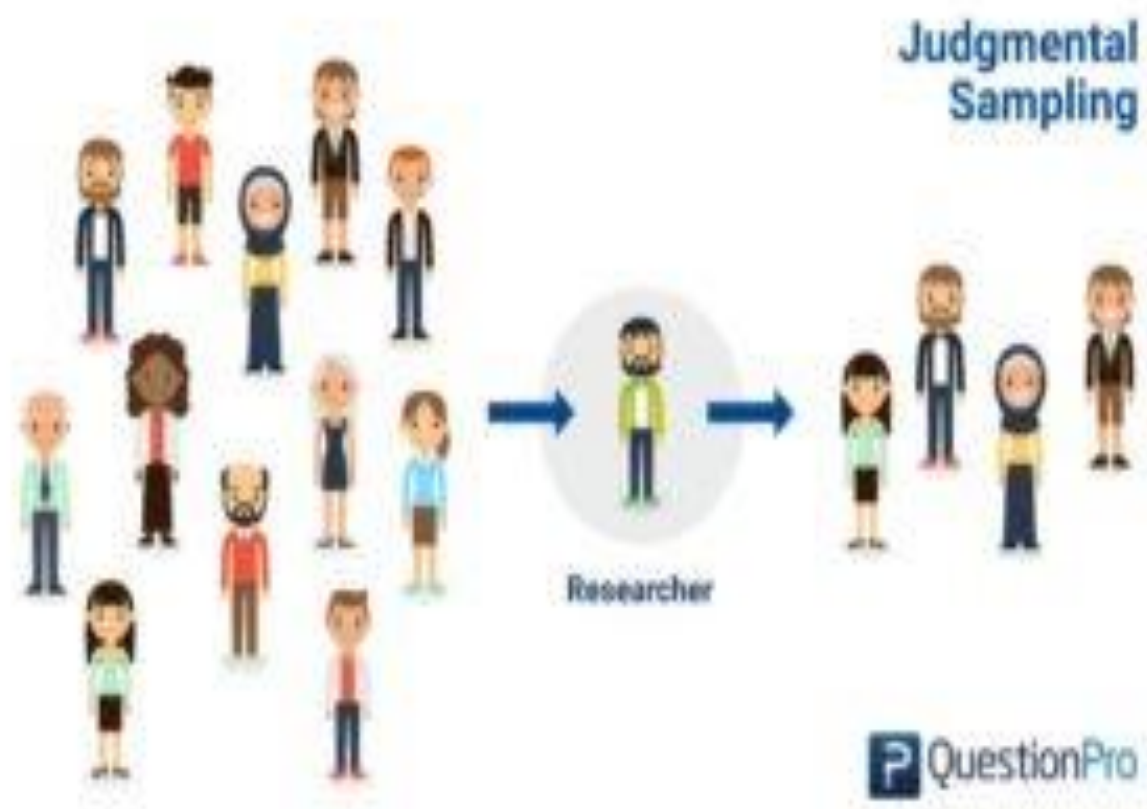
Definition

It is also known as *purposive sampling*. The researcher selects units to be sampled based on their knowledge and professional judgment. The researcher's judgment is used for selecting items which he considers as representative of the population.

Example: The teacher selects some college students in order to see their attitudes towards the new method of teaching.

4.4.2. 2. Simple random sampling

Simple Random Sampling

Definition

It is known as chance sampling or probability sampling. In this method, each sampling unit of the population has an equal chance of being selected in the sample.

Example: if we have to select a sample of 300 items from a universe of 15,000 items, then we can put the names or numbers of all the 15,000 items on slips of paper and conduct a lottery. This procedure gives each item an equal probability of being selected.

4.4.2. 3. Systematic sampling

Systematic
Sampling
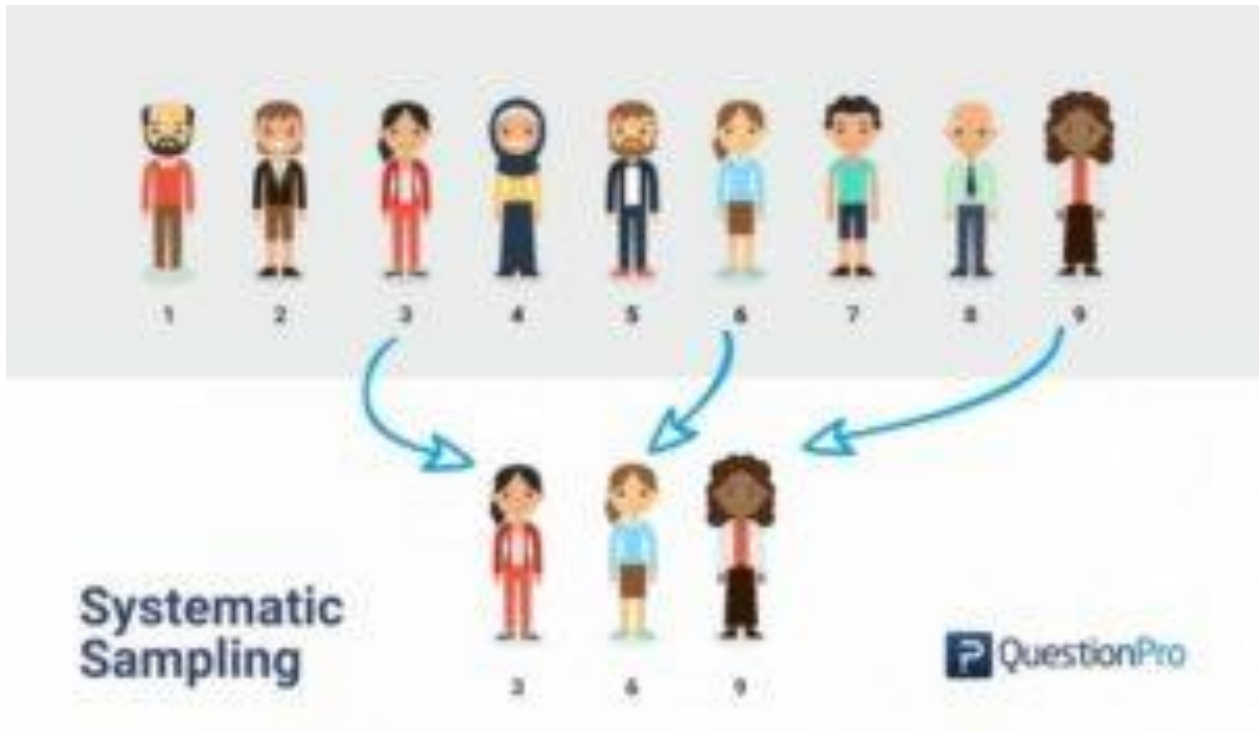
Example: To select every 15th name on a list, every 10th house on one side of a street and so on.

Randomness is usually introduced into this kind of sampling by using random numbers to pick up the unit with which to start.

The selection process starts by picking some random point in the list and then every nth element is selected until the desired number is secured.

Example: Students' motivation towards learning English

Selecting students from the attendance list, say 5,10, 15, 20…..

4.4.2.4. Stratified sampling

Stratified Random Sampling

- The population is divided into a number of sections called strata. A sample is drawn independently from each stratum using a simple random method.

- The population is stratified (divided) into a number of strata and sample items are selected from each stratum.

- The items selected from each stratum are based on simple random sampling the entire procedure.

- Example: Study of the American English.

- American people are white, black, Chinese….

4.4.2.5. Quota sampling
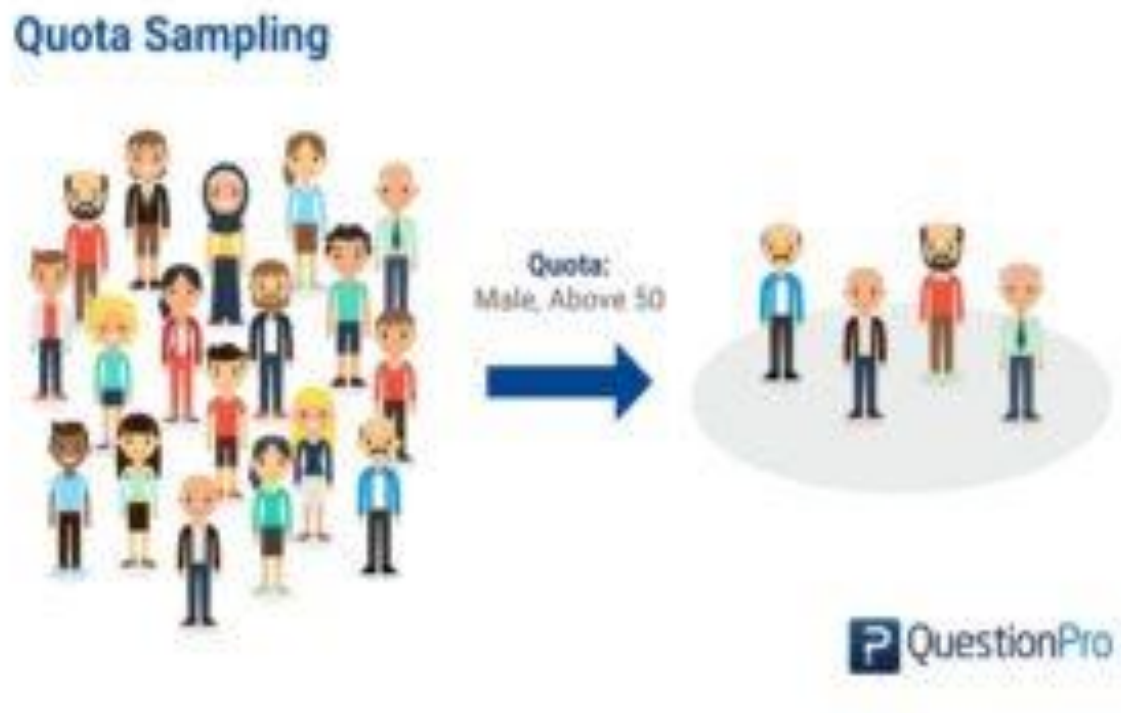
Quota: Fixed number

It is a non-probability sampling technique .

An equal number of sample is selected.

Example:

100 samples are selected all from Tiaret, Sidi Bel-Abbes, Blida., and Bechar.

4.4.2.6. Cluster sampling and area

Cluster Sampling

Definition of cluster

"A group of similar things that are close together, sometimes surrounding something:

Have a look at the cluster of galaxies in this photograph.

https://dictionary.cambridge.org/dictionary/english/cluster

With *cluster sampling*, the researcher divides the population into separate groups, called *clusters*. Then, a simple random *sample* of *clusters* is selected from the population.

Example: Suppose some departmental store wishes to sample its credit card holders. It has issued its cards to 15,000 customers. The sample size is to be kept say 450. For cluster

sampling this list of 15,000 card holders could be formed into 100 clusters of 150 card holders each. Three clusters might then be selected for the sample randomly.

For example, a researcher wants to survey (to make research on) academic performance of high school students in Spain.

He/She can divide the entire population (population of Spain) into different clusters (cities).

Then the researcher selects a number of clusters depending on his/her research through simple or systematic random sampling.

Then, from the selected clusters (randomly selected cities) the researcher can either include all the high school students as subjects or he/she can select a number of subjects from each cluster through simple or systematic random sampling.

Area Sampling

Definition

It is often talked about when the total geographical area of interest happens to be big one.

We first divide the total area into a number of smaller non-overlapping areas, generally called geographical clusters, then a number of these smaller areas are randomly selected, and all units in these small areas are included in the sample.

It is helpful where we do not have the list of the population concerned.

It also makes the field interviewing more efficient since interviewer can do many interviews at each location.

4.4.2.7. Multi-stage sampling
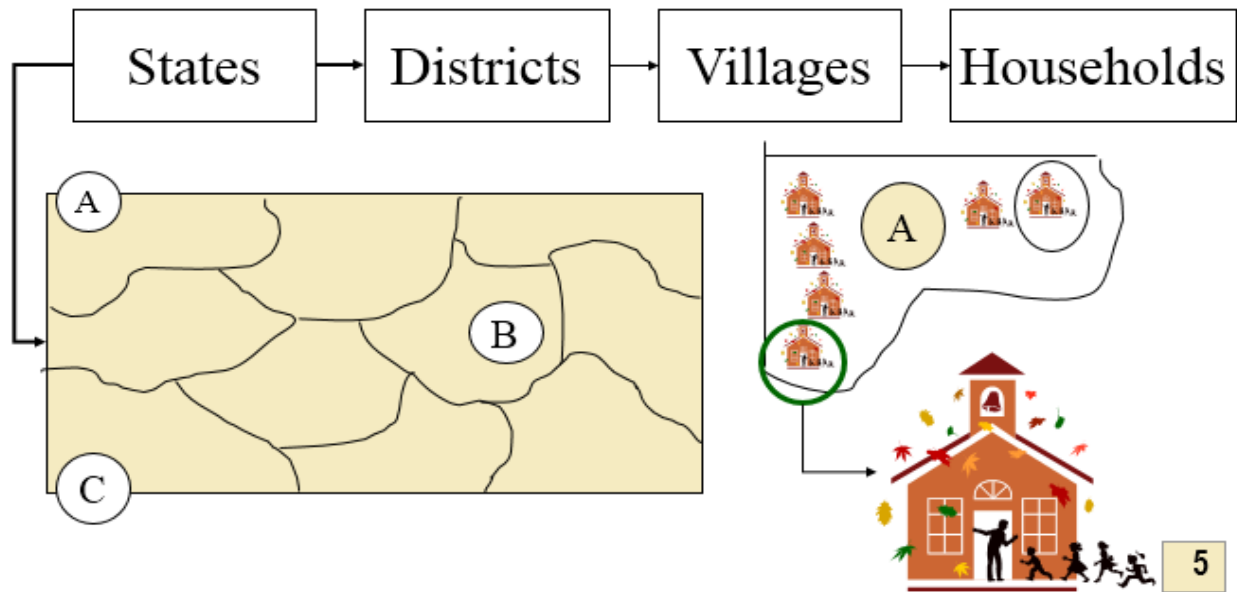
Multistage sampling divides large populations into stages to make the sampling process more practical. A combination of stratified sampling or cluster sampling and simple random sampling is usually used.

This technique extends to a considerably large geographical area like an entire country.

We select large primary sampling units such as states, then districts, then towns and finally certain families within towns.

If the technique of random-sampling is applied at all stages, the sampling procedure is described as multi-stage random sampling.

For example: If the government wants to take a sample of 10,000 households residing in Gujarat state. At the first stage, the state can be divided into the number districts, and then few districts can be selected randomly. At the second-stage, the chosen districts can be further sub-divided into the number of villages and then the sample of few villages can be taken at random. Now at the third-stage, the desired number of households can be selected from the

villages chosen at the second stage. Thus, at each stage the size of the sample has become smaller and the research study has become more precise.

4.4.2.8. Sequential sampling
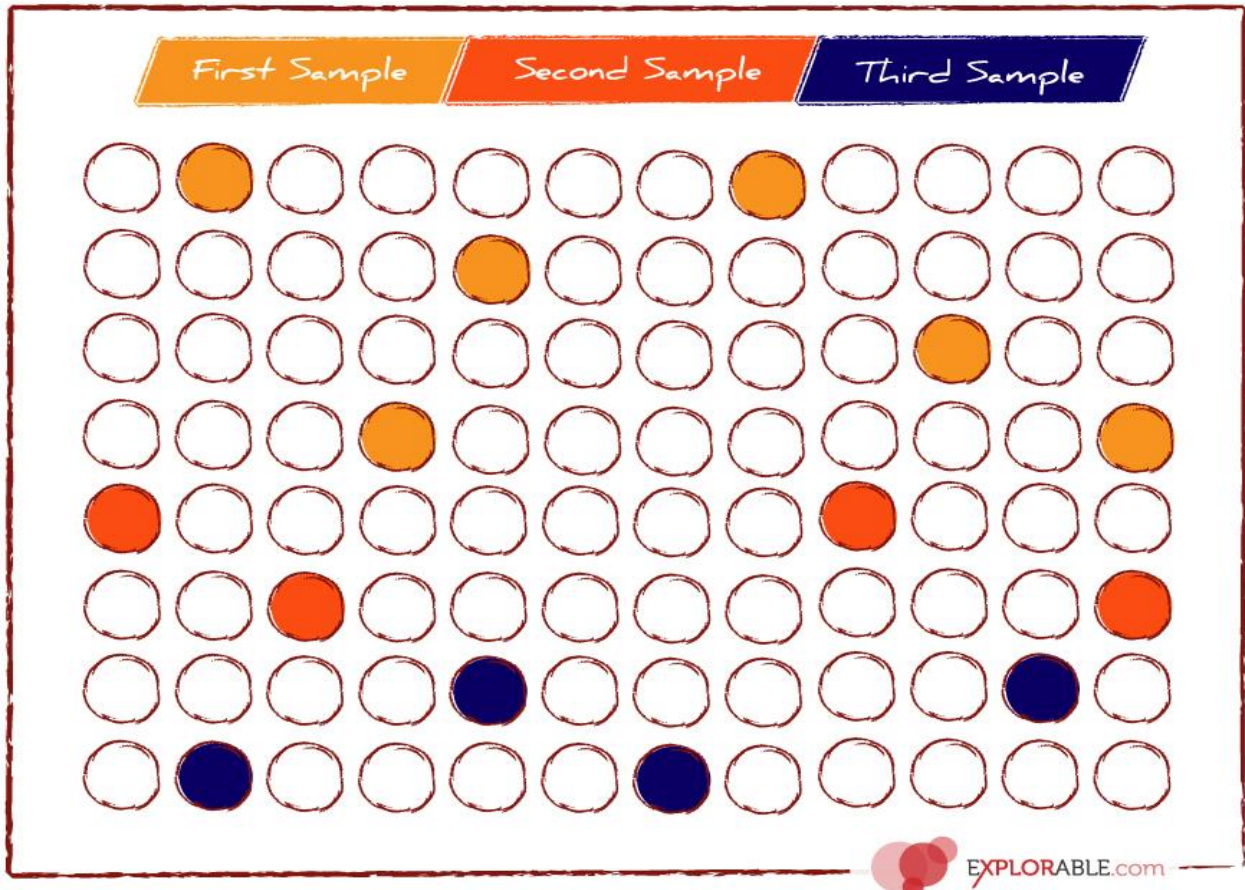
This is somewhat a complex sample design where the ultimate size of the sample is not fixed in advance.

This method is designed for two clear choices. For example:

Is the heat in a system above or below a critical level? Heat is measured in one part of the system to see if it has reached the critical level. If the heat is close to the critical level, but not over it, resample and repeat the calculations.

Should I spray pesticide or not? Pests could be counted on a plant. If there are a large number of pests, spray pesticide. If there are a small number of pests, do not spray pesticide. If there are a middling number of pests, sample another plant.

4.5. Chapter review (Practice exercises)

Chapter review 1

Q 1- Select the correct answer

1. This lesson aims at:

a- Preparing the research design
b- Determining sample design
c- Both a &b
d- Explaining the types of sample designs

2. There are ………………types of sample designs

a- 10
b- 4
c- 8
d- 11

3. Research design aims at:

a- facilitating the smooth conduct of the various research operations

b- specifying the methods and procedures for acquiring the information needed

c- Both a& b

d- Defining the types of sample designs

4. Research design is …

a- a definite plan determined before any data are actually collected for obtaining a sample from a given population.

b- the general plan of how you will go about your research

c- the strategy of investigation conceived so as to obtain answers to research questions.

d- Both b&c

5. A design is a ………… or specification for the construction of an object or system or for the implementation of an activity or process.

a-plan

b- strategy

c- structure

d- All

6. A ……………. is a group of people, objects, or items that are taken from a larger population for measurement.

a- design

b- structure

c- sample

e- All

7. A sample means …………………

a- technique

b- universe

c-population

d- Both b & c

8. The ………….. may be individuals, groups of people, organizations, or even objects

a- population

b-universe

c-sample

d- All

Q 2: Match Column B with column A. Write your answers (letters) in the space provided in column A

Column A	Column B	Column C
	1. In order to prepare the research design we need …	a-… before any data are actually collected for obtaining a sample from a given population.
	2. The plan to select 12 of a city's 200 drugstores in a certain way……	b- ……the various research operations.
	3. we need a research design or a plan in advance…..	c-………..acquiring the information needed
	4. According to Kerlinger Research design is the plan, structure and strategy of investigation…….	d-…….the time available for research.
	5. A research design the framework (plan)	e- .....constitutes a sample design.

	of research methods……..	
	6. All the items under consideration in any field of inquiry …….	f-….. will go about your research.
	7. Research design aims at facilitating the smooth conduct of….	g-…… conceived so as to obtain answers to research questions.
	8. According to Green and Tull A research is the specification of methods and procedures for…..	h-…. of data collection and analysis for our research project.
	9. A research design is the general plan of how you…….	i-….. and techniques chosen by a researcher.
	10. A sample design is a definite plan determined….	j- …..constitute a 'universe' or 'population'.

Chapter review 2

Q 1- Select the correct answer

1. Deliberate means :

a- intentional

b- done on purpose

 c-planned

d- All

2. Sampling means:

a- Specimen

b- Example

c- Selection

d- All

3. If you do something that is deliberate, it means it is….

a- done on purpose

b- done by chance

c- planned beforehand

d- Both A and C

4. Samples are selected…

a- Subjectively

b- Randomly

c- Purposefully

d- Both A and C

5. Convenience means …

a- Deliberate

b- Objective

c- Planned

d- suitable and acceptable

6. Such a procedure may give very biased results particularly when the population is not homogeneous. <u>Biased</u> means….

a- based on personal opinion

b- based on subjective judgment

c- deliberate

d- Both A and B

7. Such a procedure may give very biased results particularly when the population is not homogeneous. <u>Homogeneous</u> means…

a- Similar and same

b- Subjective

c- Analogous

d- Both A and C

8. Judgment means …..

a- According to someone's objective decision

b- According to someone's opinion

c- According to someone's biased decision

d- Both A and B

9. The researcher selects units to be sampled based on their knowledge and professional judgment. This sampling technique is known as ….

a-purposive sampling

b- deliberate sampling

c- Judgmental sampling

d- ALL

10. Judgment sampling is known as ……

a- purposive sampling

b- Non-probability sampling

c- Simple random sampling

d- Both A and B

11. …………….. is a non-probability sampling technique where the researcher selects units to be sampled based on their knowledge and professional judgment.

a- judgmental sampling

b- convenience sampling

c- simple random sampling

d- systematic sampling

12. The sample is selected from elements of a population that are easily accessible. A readily available group of individuals is used. It is known as….

a- convenience sampling

b- accidental sampling

c- haphazard sampling

d- ALL

13. ……………is known as chance sampling or probability sampling.

a-Judgmental sampling

b- Simple random sampling

c- Convenience sampling

d- Systematic sampling

14. Randomness is usually introduced into this kind of sampling by using random numbers to pick up the unit with which to start. It is ……….

a- Judgmental sampling

b- Simple random sampling

c- Convenience sampling

d- Systematic sampling

15. The selection process in ……………….. starts by picking some random point in the list and then every nth element is selected until the desired number is secured.

a- Judgmental sampling

b- Simple random sampling

c- Convenience sampling

d- Systematic sampling

16. Simple random sampling is known as …………………

a- systematic sampling

b- chance sampling

c- probability sampling.

d- Both B and C

17. In …………………… the population is divided into a number of sections called strata. A sample is drawn independently from each stratum using a simple random method.

a- stratified sampling

b- Simple random sampling

c- Convenience sampling

d- Systematic sampling

18. ……………. is a non-probability sampling technique where the assembled sample has the same proportions of individuals as the entire population with respect to known characteristics, traits or focused phenomenon.

a- Stratified sampling

b- Quota sampling

c- Systematic sampling

d- Simple random sampling

19. Deliberate sampling consists of two types: _____

a- Quota sampling and convenience sampling

b- Convenience and judgment sampling

c- convenience and systematic sampling

e- judgment and simple random sampling

20. A teacher puts students' names in a hat and chooses without looking to get a sample of students. Which sampling methods this example refers to?

a- Deliberate sampling

b- Simple random sampling

c- Quota sampling

d- Systematic sampling

21. A student council surveys 100 students by getting random samples of 25 freshmen, 25 sophomores, 25 juniors, and 25seniors. Which sampling methods this example refers to?

a- Deliberate sampling

b- Simple random sampling

c- Quota sampling

d- Systematic sampling

22. A researcher polls people as they walk by on the street. Which sampling methods this example refers to?

a- convenience sampling

 b- Simple random sampling

c- Quota sampling

d- Systematic sampling

23. A principal takes an alphabetized list of student names and picks a random starting point. Every 20th student is selected to take a survey. Which sampling methods this example refers to?

a- Deliberate sampling

b- Simple random sampling

c- Quota sampling

d- Systematic sampling

24. Which sampling method you consider as bad? Choose the best answer

a- convenience sampling

 b- Simple random sampling

c- Quota sampling

d- Systematic sampling

25. Which sampling methods you consider as good? Choose the best answer

a- convenience sand simple random sampling

 b- Simple random sampling and systematic sampling

c- Systematic and convenience sampling

d- simple random, systematic and stratified sampling

Q 2- Say whether the following statement are true (T) or false (F).

T/F	Statements
	1. In stratified random sampling the population is first split into groups. The overall sample consists of some members from every group. The members from each group are chosen randomly
	2. In systematic sampling each individual is chosen entirely by chance and each member of the population has an equal chance, or probability, of being selected.
	3. In quota sampling the population is first divided into subgroups (or strata) who all share a similar characteristic.
	4. A stratified sample guarantees that members from each group will be represented in the sample, so this sampling method is good when we want some members from every group
	5. Convenience sampling is perhaps the easiest method of sampling, because participants are selected based on availability and willingness to take part.
	6. In convenience sample the researcher chooses a sample that is readily available in some non-random way
	7. Systematic sampling is often more convenient than simple random sampling, and it is easy to administer.
	8. In simple random sampling every member and set of members has an equal chance of being included in the sample. Technology, random number generators, or some other sort of chance process is needed to get a simple random sample.
	9. Convenience sampling relies on the judgment of the researcher when choosing who to ask to participate.
	10. Random samples are usually fairly representative since they don't favor certain members.

Q 3: Match Column B with column A. Write your answers (letters) in the space provided in column A

Column A	Column B	Column C
	1. In a simple random sample, every member of the population …..	a-…. and you want to ensure that every characteristic is proportionally represented in the sample.
	2. Systematic sampling is similar to simple random sampling,	b- …. who happen to be most accessible to the researcher.
	3. stratified sampling is appropriate when the population has mixed characteristics, ….	c-….. but there is no way to tell if the sample is representative of the population, so it can't produce generalizable results.
	4. A convenience sample simply includes the individuals ……	d-… has an equal chance of being selected.
	5. In systematic sampling Every member of the population is listed with a number,….	e-…. you use random or systematic sampling to select a sample from each subgroup.
	6. To conduct simple random sampling you can use tools like random number generators or…..	f-….. that is most useful to the purposes of the research.
	7. In stratified sampling you need you calculate how many people should be sampled from each subgroup. Then…..	g-…. random sampling or representative sampling.
	8. Convenience sampling is an easy and inexpensive way to gather initial data,……	h-…. but instead of randomly generating numbers, individuals are chosen at regular intervals.
	9. Purposive sampling involves the researcher using their judgment to select a sample …..	i-… other techniques that are based entirely on chance.
	10. Probability sampling is also referred to as …..	j- but it is usually slightly easier to conduct.

Q 4. *Fill in the blanks with the correct words from the word bank below*

1. The ………………….. is the entire group that you want to draw conclusions about.

2. The ……………….. is the specific group of individuals that you will collect data from.

3. In stratified sampling, the groups are called ………………...

4. A ……………………sample is made up of people who are easy to reach.

5. ……………….sampling is based on the intention or the purpose of study.

6. ………………sampling is where the population is divided into strata (or subgroups) and a

random sample is taken from each subgroup.

7. Randomness is usually introduced into ……………..sampling by using random numbers to pick up the unit with which to start.

8. Simple random sampling is known as chance sampling or ………………sampling.

9. ……………..sampling involves purposive or deliberate selection of particular units of the universe for constituting a sample which represents the universe.

10. Deliberate sampling represents two types: convenience sample and ………………..sample.

Chapter review 3

Q 1- Write the type of sample design for each of the following examples.

Types of sample designs	Examples
1.	The **Australian Bureau of Statistics** divides cities into "collection districts", then blocks, then households. Each stage uses random sampling, creating a need to list specific households only after the final stage of sampling.
2.	In a city, the list of all the individual persons staying in the houses may be difficult to obtain or even maybe not available but a list of all the houses in the city may be available. So every individual person will be treated as sampling unit and every house will be a cluster.
3.	3. Consider a sample of 100,000 health claims, from 1,000 different hospitals, all of which are stored in file cabinets onsite. After sample selection, investigators will have to travel to every hospital that stores the sampled claims. Assuming a sample of 1,000 claims, using simple random sampling or stratified random sampling may result in 1,000 different hospital visits (potentially across many widespread locations) to investigate a single claim at each hospital, which would result in very high travel costs, evaluating one claim per visit. In the extreme, each sampled claim would require its own trip.
4.	Dr. John Hamilton made a **survey on drug use in high schools** used three stage sampling: geographic areas, followed by high schools within those areas, followed by senior students in those schools.
5.	A researcher wants to survey academic performance of high school students in Spain. 1. He can divide the entire population (population of Spain) into different clusters (cities). 2. Then the researcher selects a number of clusters depending on his research through simple or systematic random sampling. 3. Then, from the selected clusters (randomly selected

	cities) the researcher can either include all the high school students as subjects or he can select a number of subjects from each cluster through simple or systematic random sampling.
6.	If the government wants to take a sample of 10,000 households residing in Gujarat state. At the first stage, the state can be divided into the number districts, and then few districts can be selected randomly. At the second-stage, the chosen districts can be further sub-divided into the number of villages and then the sample of few villages can be taken at random. Now at the third-stage, the desired number of households can be selected from the villages chosen at the second stage. Thus, at each stage the size of the sample has become smaller and the research study has become more precise.
7.	Suppose some departmental store wishes to sample its credit card holders. It has issued its cards to 15,000 customers. The sample size is to be kept say 450. For cluster sampling this list of 15,000 card holders could be formed into 100 clusters of 150 card holders each. Three clusters might then be selected for the sample randomly.

Q 2- Say whether the following statement are true (T) or false (F).

T/F	Statements
	1. Sequential sampling is somewhat a complex sample design where the ultimate size of the sample is not fixed in advance.
	2. With sequential sampling, the researcher divides the population into separate groups, called clusters.
	3. If travel costs between clusters are high, cluster sampling may be more cost-effective than the other methods.
	4. Sequential sampling is hardly representative of the entire population.
	5. Multistage sampling is similar to cluster sampling, except that it involves picking a sample from within each chosen cluster, rather than including all units in the cluster.
	6. Area or geographical sampling can be specified as the most popular version of cluster sampling.
	7. Cluster sampling can be cheaper than other sampling plans – e.g. fewer travel expenses, administration costs.
	8. Multistage sampling divides large populations into stages to make the sampling process more practical
	9. With cluster sampling, the smaller the size of the clusters the better is.
	10. If the technique of random-sampling is applied at all stages, the sampling procedure is described as multi-stage random sampling.

Q 3: Match Column B with column A. Write your answers (letters) in the space provided in column A

Column A	Column B	Column C
	1. Multi-stage sampling extends to a considerably…..	a- …..gaining a vital insight into the study that he is currently pursuing.
	2. Area sampling makes the field interviewing more efficient since …..	b-…. as wars, famines and natural disasters.
	3. Cluster sampling is a group of similar things that are close together ….	c- …. large geographical area like an entire country.
	4. Cluster sampling usually provides less precision than	d- … the population into groups (or clusters).
	5.The sequential sampling gives the researcher limitless chances of fine tuning his research methods and ….	e-…. each sampling unit is a collection or a group of elements.
	6. Cluster sampling is used to estimate high mortalities in cases such …..	f-…. interviewer can do many interviews at each location.
	7. If the technique of random-sampling is applied at all stages, ….	g- …. sometimes surrounding something
	8. A cluster sample is a probability sample in which …..	h- …. either simple random sampling or stratified sampling.
	9. Multistage sampling is a type of sampling which involves dividing….	i-…. participants representing the population and their inclusion in the sample group.
	10. Cluster sampling involves identification of cluster of	j- ….the sampling procedure is described as multi-stage random sampling

Q 4. Fill in the blanks with the correct words from the word bank below

1. ………………..sampling is the taking of samples in stages using smaller and smaller sampling units at each stage

2. ………………sampling is often talked about when the total geographical area of interest happens to be big one.

3. Multistage sampling is an extension of …………………sampling.

4. With cluster sampling, the researcher divides the population into separate groups, called ……………….

5. In …………………sampling, a sequence of one or more samples is taken from a group.

6. ………………..sampling involves partitioning the population into separate groups called clusters.

7. ………………sampling is a form of sampling in which the clusters that are selected are drawn from maps rather than listings of individuals, groups, institutions or whatever.

8. ……………..sampling is a sampling technique that uses fractions of the earth's surface as primary sampling units.

9. ………………. sampling is a method that makes the most of groups or clusters in the population that correctly represent the total population in relation to the characteristic that we wish to measure.

10. In statistics, multistage sampling is the taking of……………….. in stages using smaller and smaller sampling units at each stage.

Chapter 5

Collecting and analyzing data

5.1. Introduction

This chapter introduces two interrelated research processes: a) collecting data and b) analyzing the data. Each process is clearly defined.

5.2. Learning objectives

At the end of this chapter students will be able to:

   a- understand the meaning of collecting data and analyzing data

   b- learn the different types of data collection,

   c- learn the different types of survey

   d- to identify the data analysis operations

5.3. Collecting the data

5.3.1. Data Collection-Definition

Data collection is the systematic approach to gathering and measuring information from a variety of sources to get a complete and accurate picture of an area of interest.

Data definition: Data means *information* or *knowledge.*

There are several ways of collecting the appropriate data which differ considerably in context of money costs, time and other resources at the disposal of the researcher.

5.3.2. Types of data collection

A/ Primary data (primary source):   Data can be collected either through experiment or through survey (the researcher is the first person to obtain the data).

B/ Secondary data (secondary source): The researcher obtains the data that has already been collected by other sources, such as data (information) disseminated (published) in a scientific journal), those which have already been collected and analyzed by someone else.

5.3. 3. Survey

5.3.3.1. Definition of survey

A research method used for collecting data from a pre-defined group of respondents to gain information and insights on various topics of interest.

5.3.3.2. Types of survey
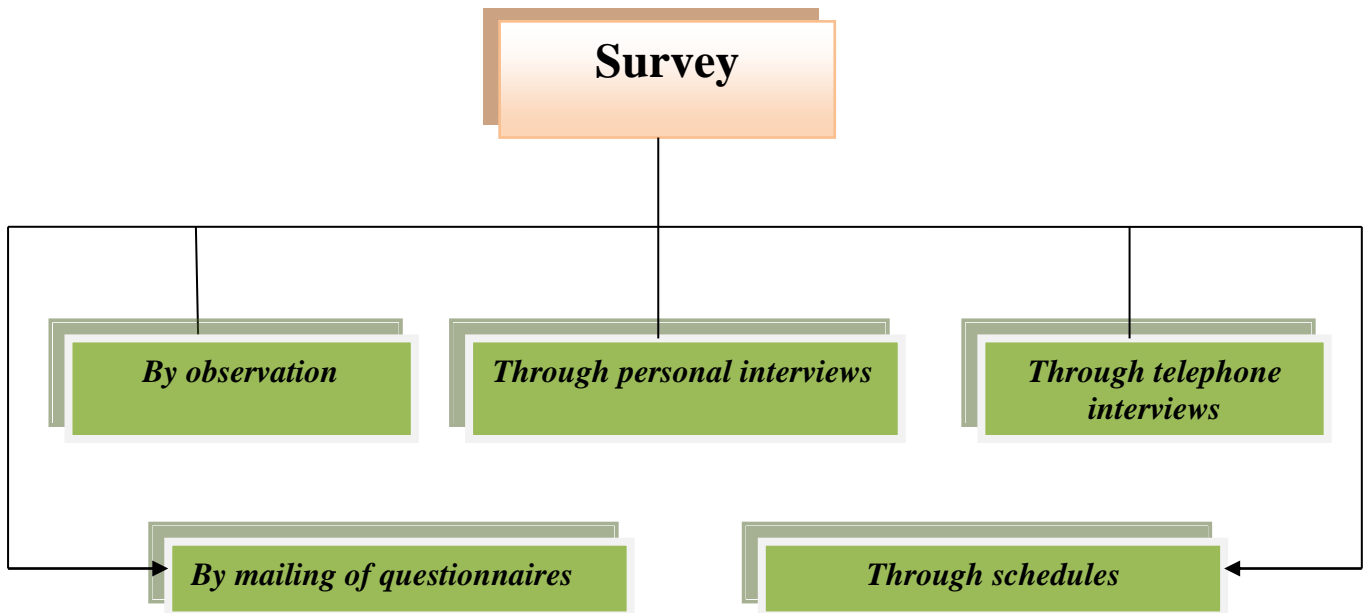
A *schedule* is a structure of a set of questions on a given topic which are asked by the interviewer or investigator personally. It contains direct questions as well as questions in tabular form. Schedules include open-ended questions and close-ended questions.

5.4. Analysis of data

5.4.1. Definition of data analysis

Data analysis is the process of collecting and organizing data in order to draw helpful conclusions from it.

The analysis of data requires a number of closely related operations such as:

5.4.2. Data Analysis operations
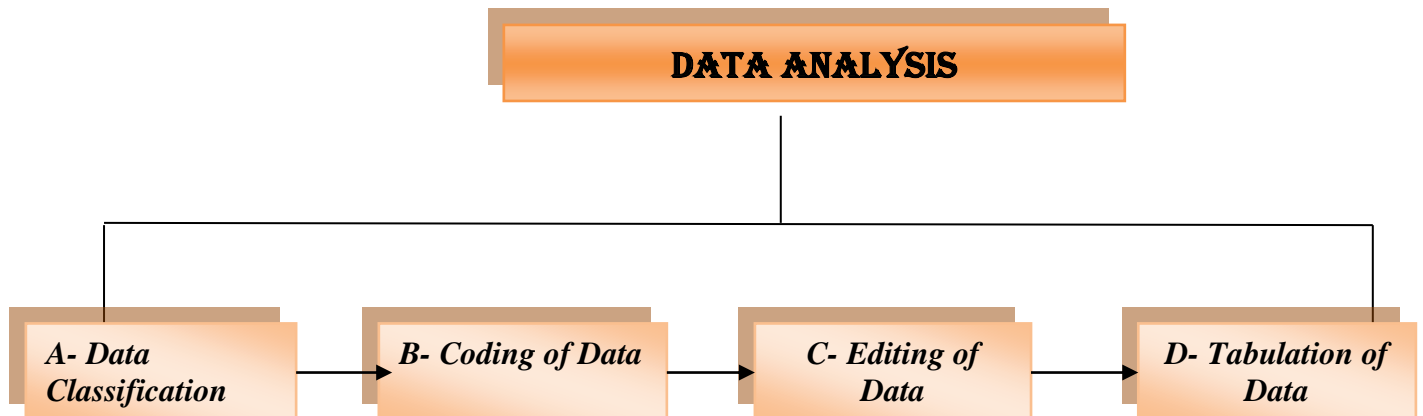
A- Data Classification

It is the process of organizing **data** into categories that make it easy to retrieve, sort and store for future use.

B- Coding of Data

In the social sciences, coding is an analytical process in which data, in both quantitative form (such as questionnaires results) or qualitative form (such as interview transcripts are categorized to facilitate analysis.

C- Editing of Data

The process involving the review and adjustment of collected survey **data**.

Example: Data collected through questionnaire and schedules may have answers which may not be ticked at proper places, or some questions may be left unanswered.

The researcher has to take a decision as to how to edit it.

D- Tabulation of Data

After editing, which ensures that the information on the schedule is accurate and categorized in a suitable form, the data are put together in some kinds of tables and may also undergo some other forms of statistical analysis.

5.5. Chapter review

Q 1- Say whether the following statement are true (T) or false (F).

T/F	Statements
	1. Interviews require good interviewing skills.
	2. Observations give insight into interactions between individuals and their physical and social settings.
	3. The term "primary data" refers to data you collect yourself, rather than data you gather after another party initially recorded it.
	4. Secondary data is information obtained directly from the source.
	5. Good data collection requires a clear process to ensure the data you collect is clean, consistent, and reliable.
	6. A telephone interview survey, also called as a face-to-face survey, is a survey method that is utilized when a specific target population is involved.
	7. Telephone interview surveys are used to probe the answers of the respondents and at the same time, to observe the behavior of the respondents, either individually or as a group
	8. Face-to-face interview surveys are considerably more expensive than paper-and-pencil questionnaire surveys.
	9. A telephone survey is one of the survey methods used in collecting data either from the general population or from a specific target population
	10. A personal interview survey is also called as a face-to-face survey

Q 2. Fill in the blanks with the correct words from the word bank below

1. ………………………..is the process involving the review and adjustment of collected survey data.

3. A……………………….. is a structure of a set of questions on a given topic which are asked by the interviewer or investigator personally

3. The process of organizing data into categories that make it easy to retrieve, sort and store for future use is known as……………………………………….

4. ………………………….is an analytical process in which data are categorized to facilitate analysis.

5. ………………………is a way to gather data by watching people, events, or noting physical characteristics in their natural setting. It can be overt (subjects know they are being observed) or covert (do not know they are being watched).

6. ……………………is a research method used for collecting data from a pre-defined group of respondents to gain information and insights on various topics of interest

7. A ……………………. is a research instrument consisting of a series of questions for the purpose of gathering information from respondents.

8. The process of placing classified *data* into tabular form is known as ………………..

9. ………………………interviewing can be quite cost effective as opposed to other methods such as in person**.**

10. …………………..interview is a data collection method when the interviewer communicates with the respondent on the telephone in accordance with the prepared questionnaire.

Q 3 – Choose the correct answer

1. The process involving the review and adjustment of collected survey data is known as ……..

a- editing of Data

b- tabulation of data

c- data Classification

d- coding of Data

2. The process of organizing data into categories that make it easy to retrieve, sort and store for future use is called……

a- coding of data

b- editing of data

c- data classification

d- tabulation of data

3. …………….is an analytical process in which data, in both quantitative form (such as questionnaires results) or qualitative form (such as interview transcripts are categorized to facilitate analysis.

a- Editing

b- Coding

c- Tabulation

d- Classification

4. Data ……………. is the process of collecting and organizing data in order to draw helpful conclusions from it.

a- collection

b- analysis

c- tabulation

d- classification

5. A …………………is a structure of a set of questions on a given topic which are asked by the interviewer or investigator personally.

a- questionnaire

b- schedule

c- interview

d- survey

6. A ……………… research method used for collecting data from a pre-defined group of respondents to gain information and insights on various topics of interest.

a- questionnaire

b- schedule

c- interview

d- survey

7. Data …………………. is the systematic approach to gathering and measuring information from a variety of sources to get a complete and accurate picture of an area of interest.

a- tabulation

b- collection

c- classification

d- analysis

8. ……………… contains direct questions as well as questions in tabular form.

a- schedule

b- questionnaire

c- survey

d- interview

9. A……………………. includes open-ended questions and close-ended questions.

a- schedule

b- questionnaire

c- survey

d- observation

10. The data are put together in some kinds of tables and may also undergo some other forms of statistical analysis. This process is known as …….

a- coding of data

b- editing of data

c- data classification

d- tabulation of data

Chapter 6

Hypothesis testing
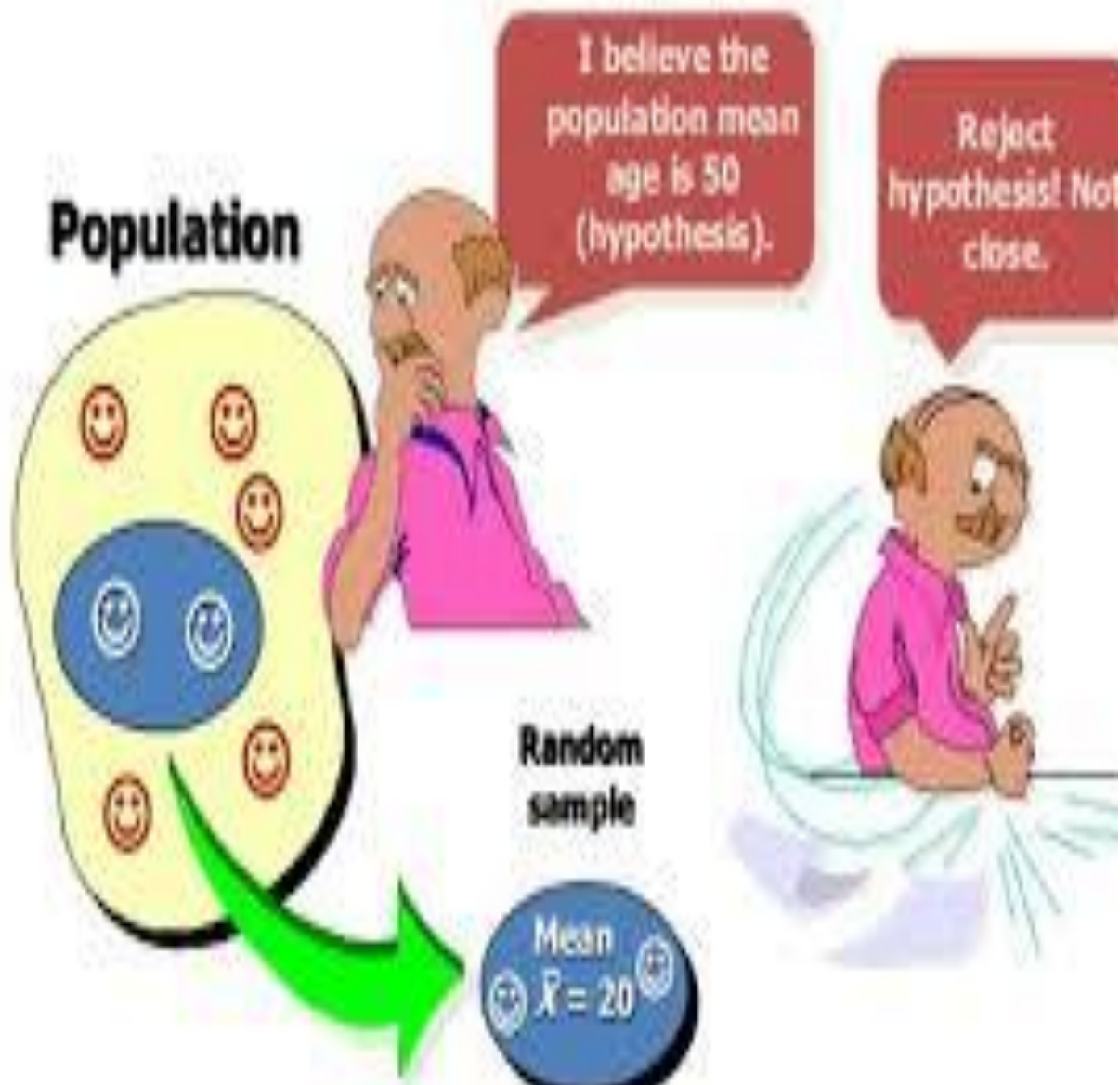
6.1. Introduction

This chapter intends to bring to light the importance of hypothesis testing in research.

6.2. Learning Objectives

At the end of this chapter students will be able to:

a- understand the meaning of testable hypothesis
b- and to know the importance of testable hypothesis.

6.3. Definition of hypothesis testing

A testable hypothesis is a hypothesis that can be proved or disproved as a result of experimentation.

It is a way for you to test the results of a survey or experiment to see if you have meaningful results.

Example: You might run an experiment and find that a certain drug is effective at treating headaches. But if you can't repeat that experiment, no one will take your results seriously

Hypothesis-testing will result in either accepting the hypothesis or in rejecting it.

6.4. Importance of a Testable Hypothesis

To devise and perform an experiment using the scientific method, you need to make sure that your hypothesis is testable. To be considered testable, some essential criteria must be met:

1. There must be a possibility to prove that the hypothesis is true.

2. There must be a possibility to prove that the hypothesis is false.

3. The results of the hypothesis must be reproducible.

Without these criteria, the hypothesis and the results will be vague. As a result, the experiment will not prove or disprove anything significant.

6.5. Types of Hypotheses

The test starts with an observation – the "null hypothesis". Results gathered during and after testing will continue to support the null hypothesis until there is sufficient data to support an "alternative hypothesis".

6.5.1. The null hypothesis

It is the statement about the population parameter that is assumed to be true unless there is convincing evidence to the contrary.

The null hypothesis, H_0 is the commonly accepted fact; it is the opposite of the alternative hypothesis. Researchers work to reject, nullify or disprove the null hypothesis.

Researchers come up with an alternate hypothesis; one that they think explains a phenomenon, and then work to reject the null hypothesis.

The word "null" in this context means that it's a commonly accepted fact that researchers work to *nullify*. It doesn't mean that the statement is null itself! (Perhaps the term should be called the "nullifiable hypothesis" as that might cause less confusion).

Example:

Null hypothesis, H_0: The world is flat.

6.5.2. The alternative hypothesis

It is a statement about the population parameter that is contradictory to the null hypothesis, and is accepted as true only if there is convincing evidence in favor of it.

It is a statement of **"No Difference"**. It is a statement we are testing in order to determine whether or not that statement is true. The observed difference is purely by chance and there is no special cause for the difference.

Example:

The world is round.

6.6. How to test a hypothesis

A hypothesis is a statement regarding what you believe might happen. These are the steps you'll want to take to see if your suppositions stand up:

State your null hypothesis. The null hypothesis is a commonly accepted fact. It's the default, or what we'd believe if the experiment was never conducted. It's the least exciting result, showing no significant difference between two or more groups. Researchers work to nullify or disprove null hypotheses.

State an alternative hypothesis. You'll want to prove an alternative hypothesis. This is the opposite of the null hypothesis, demonstrating or supporting a statistically significant result. By rejecting the null hypothesis, you accept the alternative hypothesis.

Determine a significance level. This is the determiner, also known as the alpha (α). It defines the probability that the null hypothesis will be rejected. A typical significance level is set at 0.05 (or 5%). You may also see 0.1 or 0.01, depending on the area of study.

If you set the alpha at 0.05, then there is a 5% chance you'll find support for the alternative hypothesis (thus rejecting the null hypothesis) when, in truth, the null hypothesis is actually true and you were wrong to reject it.

In other words, the significance level is a statistical way of demonstrating how confident you are in your conclusion. If you set a high alpha (0.25), then you'll have a better shot at supporting your alternative hypothesis, since you don't need to find as big a difference between your test groups. However, you'll also have a bigger chance at being wrong about your conclusion.

Calculate the p-value. The p-value, or calculated probability, indicates the probability of achieving the results of the null hypothesis. While the alpha is the significance level you're trying to achieve, the p-level is what your actual data is showing when you calculate it. A low p-value offers stronger support for your alternative hypothesis.

Draw a conclusion. If your p-value meets your significance level requirements, then your alternative hypothesis may be valid and you may reject the null hypothesis. In other words, if your p-value is less than your significance level (e.g., if your calculated p-value is 0.02 and your significance level is 0.05), then you can reject the null hypothesis and accept your alternative hypothesis.

6.7. Hypothesis Testing Example

Vitamin C

Is it true that vitamin C has the ability to cure or prevent the common cold? Or is it just a myth? There's nothing like an in-depth experiment to get to the bottom of it all. A potential hypothesis test could look something like this:

Null hypothesis - Children who take vitamin C are no less likely to become ill during flu season.

Alternative hypothesis - Children who take vitamin C are less likely to become ill during flu season.

Significance level - The significance level is 0.05.

P-value - The p-value is calculated to be 0.20.

Conclusion - After providing one group with vitamin C during flu season and the other with a placebo, you record whether or not participants got sick by the end of flu season. After conducting your statistical analysis on the results, you determine a p-value of 0.20. That is above the desired significance level of 0.05, and thus you fail to reject the null hypothesis. Based on your experiment, there is no support for the (alternative) hypothesis that vitamin C can prevent colds.

6.8. The popularity of Hypothesis Testing

Hypothesis Testing is the process of using statistical tests to determine if the observed differences between two or more samples is statistically significant or not.

From a practical point of view, hypothesis testing allows to collect sample sizes and make decisions based on facts and it takes away the decisions based on gut feeling or experience or common sense. You have statistical proof of whatever you "feel" or "think" is right.

6.9. Chapter review

Q1: Choose the correct answer

1. A testable hypothesis is a hypothesis that can be proved or disproved as a result of experimentation.

a- Process
b- problem
c- research
d- hypothesis

2. A ………………….. is the statement about the population parameter that is assumed to be true unless there is convincing evidence to the contrary.

a- null hypothesis
b- alternative hypothesis
c- research
d- problem

3. A ……………………is a statement about the population parameter that is contradictory to the null hypothesis, and is accepted as true only if there is convincing evidence in favor of it.

a- research
b- alternative hypothesis
c- null hypothesis
d- problem

4. In ………………………the observed difference is purely by chance and there is no special cause for the difference.

a- null hypothesis
b- alternative hypothesis
c- Significance level
d- P-value

5. Hypothesis Testing is the …………………… of using statistical tests to determine if the observed differences between two or more samples is statistically significant or not.

b- process
c- level
d-value

6. Hypothesis Testing is a way for you to test the ………………. of a survey or experiment to see if you have meaningful results.

a- P-value
b-significance level
c- results

d-null hypothesis

7. To be considered testable, some essential criteria must be met. Select only what is wrong.

a- There must be a possibility to prove that the hypothesis is true.
b- There must be a possibility to prove that the hypothesis is false.
c- There must be a possibility to prove that there is a real problem.
d- The results of the hypothesis must be reproducible.

Q 2: Say whether the following statements are true (T) or false (F).

T/F	Statements
	1. To devise and perform an experiment using the scientific method, you need to make sure that your hypothesis is testable.
	2. Hypothesis testing is used to assess the plausibility of a hypothesis by using sample data.
	3. The alternative hypothesis is usually a hypothesis of equality between population parameters; e.g., a null hypothesis may state that the population mean return is equal to zero.
	4. The alternative hypothesis is usually the hypothesis that sample observations result purely from chance.
	5. Statisticians follow a formal process to determine whether to reject a null hypothesis, based on sample data. This process is called **hypothesis testing.**
	6. In order to undertake hypothesis testing you need to express your research hypothesis as a null and alternative hypothesis.
	7. Hypothesis testing is useful to the extent that if we cannot reject a null hypothesis, we should abandon the strategy.
	8. A testable hypothesis is a hypothesis that can only be proved as a result of experimentation.
	9. Hypothesis-testing always results in accepting the null hypothesis.
	10. In testing your hypothesis there must be a possibility to prove that the hypothesis is either true or false.

Final Exam Sample

Q 1: Fill in the blanks with the correct words. (5 marks)

1. A research……………………….. is a specific issue, difficulty, contradiction, or gap in knowledge that you will aim to address in your research.
2. …….………………………problem aims at contributing to change.
3. A ………………… research is an examination in which you do experiments rather than simply writing answers to questions.
4. A description of the ………………………..is one of the basic components of a literature review.
5. The ……….………………………literature deals with the concepts and theories.
6. A research ………………….………………is a specific, clear, and testable proposition or predictive statement about the possible outcome of a scientific research study based on a particular property of a population.
7. Data …………………… is the process of collecting and organizing data in order to draw helpful conclusions from it.
8. …………………..hypothesis is a statement about the population parameter that is contradictory to the null hypothesis, and is accepted as true only if there is convincing evidence in favor of it.
9. A ………………………….. is a group of people, objects, or items that are taken from a larger population for measurement
10. Research ……………………………….is the general plan of how you will go about your research

Q 2: Choose the correct answer (10 marks)

1. A research………………….. is a specific issue, difficulty, contradiction, or gap in knowledge that you will aim to address in your research.
a- hypothesis
b- design
c- problem
d- sample
2. The foundation of any research method and experimental design, from true experiment to case study is commonly known as the research ………………….
a- process
b- design
c- problem
d-hypothesis
3. ……………………….problem aims at contributing to change.
a- Experimental
b-Theoretical
c- Practical
d-Descriptive

4. ……………... aiming at expanding knowledge.
a- Descriptive
b-Theoretical
c- Practical
d- Experimental
5. A ……………… research is an examination in which you do experiments rather than simply writing answers to questions.
a- Practical
b-Theoretical
c- Descriptive
d- Experimental
The research ………………. is the first step towards knowing exactly what you'll do and why.
a- process
b- design
c- problem
d-hypothesis
7. A description of the ………………...is one of the basic components of a literature review.
a- hypothesis
b- publication
c-process
d- experiment
8. The ………………………literature deals with the concepts and theories.
a- empirical
b- fundamental
c- conceptual
d- extensive
9. ……………reviews focus on examining research throughout a period of time.

a- empirical
b- fundamental
c- Historical
d- extensive
10. The researcher needs to undertake extensive literature survey connected with the ……………….
a- hypothesis
b- problem
c- research
d- review
11. A research ………………is a specific, clear, and testable proposition or predictive statement about the possible outcome of a scientific research study based on a particular property of a population.
a- hypothesis
b- design
c- problem
d- review

12. A sample means …………………
a- technique
b- universe
c-population
d- Both b & c

13. A ……………. is a group of people, objects, or items that are taken from a larger population for measurement.
a- design
b- structure
c- sample
d- All

14. The ………………. guides the researcher by delimiting the area of research and keeps him/her on the right track.
a- problem
b- research
c- hypothesis
d- data

15. A hypothesis indicates the type of …………... required and the type of methods of data analysis to be used.
a- problem
b- research
c- hypothesis
d- data

16. A good ………………. compels us to think intensely and specifically about the outcomes of a study.
a- problem
b- research
c- hypothesis
d- data

17. Research …………………...is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions.
a-hypothesis
b- problem
c- design
d-data

18. A ………………. design is a definite plan determined before any data are actually collected for obtaining a sample from a given population.
a- research
b-theoretical
c- good
d-sample

19. ………………………… is the state of being able to proceed with something without difficulty.
a- Deliberate
b- Convenience
c- Sampling
d- Randomness

20. ……………………... means a group of similar things that are close together, sometimes surrounding something.
a- Cluster
b- Convenience
c- Sampling
d- Quota

Q 3: Define the following research concepts (5 marks)

1. Research problem
……………………………………………………………………………………………
……………………………………………………………………………………………
2. Practical research
……………………………………………………………………………………………
……………………………………………………………………………………………
3. Literature review
……………………………………………………………………………………………
……………………………………………………………………………………………
4. Integrative review
……………………………………………………………………………………………
……………………………………………………………………………………………
5. Theoretical literature
……………………………………………………………………………………………
……………………………………………………………………………………………
…………………………………………

Answer Key

📖 Chapter 1- Formulating the research problem

Q 1: Select the correct answer

1. c- problem	2. c- problem
3. c- Practical	4. b-Theoretical
5. A-Practical	6. c-problem

Q2. Fill in the blanks with the correct words.

1. problem	2. Practical
3. Theoretical	4. problem
5. problem	

Q3. Match column B with column C. Write your answers (in <u>Letters</u>) in the space provided in <u>Column A</u> (Answer).

1.e	2.g	3.b	4.a	5.f
6.c	7.d			

📖 Chapter 2-Extensive literature survey

Q1. Fill in the blanks with the correct words.

1. hypothesis	2. sources	3. conceptual/ empirical	4. hypothesis	5. hypothesis

Q 2- Select the correct answer

1. c	2.b	3.c	4.a	5.b
6. a	7.d	8.d	9.c	10.d

Q 3- Literature Review

This is a sample text of literature review. Read the text carefully and try and answer the following questions:

1. **What are the main problems that researchers are discussing in this text?**

Difficulties concerning learning English as second languages

A- cultural differences that often render the learners to feel disturbed; a group of learners master sufficient number of vocabularies, in good command of comprehension.

B- Problems of mastering the language four skills

C- Anxiety, moreover, is another factor that challenge English language learners, decreasing the power of the learner and causing loss of self-confidence.

2. What are the proposed hypotheses for overcoming these problems?

A- Personal orientations such as self-confidence and thinking positively help in facilitating the learning process when the orientations mentioned are at issue since they are strongly related to the outcomes of the learning language

B- online materials and using English web-sites are preferable methods being effective ways of learning English more appropriately, for these mediums facilitate students' direct communication with native English speakers.

C- Creating open discussions to instill confidence inside the students to speak language freely, and thus, improve their skills.

D- Teacher's role: Providing a friendly atmosphere for the learners, means that highly cooperative in facilitating the process of learning English language.

E- Linking intelligence with second or foreign language learning.

📖 Chapter 3-Developing the hypothesis

Q 1. Choose the correct answer

1.C	2.C	3.D	4.C	5.C

Q 2. Say whether the following statements are false (F) or true (T).

1.F	2.T	3.F	4.T	5.T
6.F	7.T	8.T	9.F	10.T

📖 Chapter 4-Preparing the research design and Determining sample design

Test 1
Q 1- Select the correct answer

1.c	2.c	3.c	4.d
5.d	6.c	7.d	8.d

Q 2: Match Column B with column A. Write your answers (letters) in the space provided in column A

1.d	2.e	3.h	4.g	5.i
6.j	7.b	8.c	9.f	10.a

Test 2
Q 1- Select the correct answer

1.d	2.d	3.d	4.d	5.d
6.d	7.d	8.d	9.d	10.d
11.a	12.d	13.b	14.d	15.d
16.d	17.a	18.b	19.b	20.b
21.b	22.a	23.d	24.a	25.d

Q 2- Say whether the following statement are true (T) or false (F).

1.T	2.F	3. F	4.T	5.T
6.T	7.T	8.T	9.F	10.T

Q 3: Match Column B with column A. Write your answers (letters) in the space provided in column A

1.d	2.j	3. a	4.b	5.h
6.i	7.e	8.c	9.f	10.g

Q 4. Fill in the blanks with the correct words from the word bank below

1. **population**	2. **sample**	3. **strata**	4. **convenience**	5. Purposive
6. **Stratified**	7. **Systematic**	8. **probability**	9. **Deliberate**	10. **judgment**

Test 3

Q 1- Write the type of sample design for each of the following examples.

1. Multistage sampling	2. Area sampling	3. Multistage sampling	4. Multistage sampling	5. Cluster sampling
6. Multistage sampling	7. Cluster sampling			

Q 2- Say whether the following statement are true (T) or false (F).

1.T	2.F	3.T	4.T	5.T
6.T	7.T	8.T	9.T	10.T

Q 3: Match Column B with column A. Write your answers (letters) in the space provided in column A

1.C	2.F	3.G	4.H	5.A
6.B	7.J	8.E	9.D	10.I

Q 4. Fill in the blanks with the correct words from the word bank below

1. Multistage	**2.** Area	**3.** cluster	**4.** clusters.	**5.** sequential
6. Cluster	**7.** Area	**8.** Area	**9.** . Cluster	**10.** samples

📖 Chapter 5-Collecting and analyzing data

Q 1- Say whether the following statement are true (T) or false (F).

1. T	2. T	3. T	4. F	5. T
6. F	7. F	8. *T*	9. T	10. T

Q 2. Fill in the blanks with the correct words from the word bank below

1. Editing of	2. schedule	3. data	4. Coding	5. Observation

Data		classification		
6. Survey	**7. questionnaire**	*8. tabulation*	**9. Telephone**	**10. Telephone**

Q 3 – Choose the correct answer

1. a	2. c	3. b	4. b	5. b
6. d	**7. b**	**8.** *a*	**9. a**	**10. d**

📖 Chapter 6- Hypothesis Testing

Q1: Choose the correct answer

1.d	2.a	3.b	4.b	5.b	6.c	7.c

Q 2: Say whether the following statements are true (T) or false (F).

1.T	2.T	3.F	4.F	5.T
6.T	7.T	8.F	9.F	10.T

📖 Final Exam sample

Q 1: Fill in the blanks with the correct words

1. problem	2. Practical	3. Practical	4. publication	5. conceptual
6 hypothesis	**7. analysis**	**8. Alternative**	**9.sample**	**10.desihn**

Q 2: Choose the correct answer (10 marks)

1. c (problem)	2. c (problem)	3. c (practical)	4. b (Theoretical)	5. a (practical)
6.c (problem)	7.b (publication)	8. c (conceptual)	9. C (Historical)	10. b (problem)
11. a (hypothesis)	12. d (both b&c)	13. c(sample)	14. c(hypothesis)	15. d (data)
16.c (hypothesis)	17. c (design)	18.c (sample)	19. b (convenience)	20. a (cluster)

Q 3: Define the following research concepts

1. Research problem
- ▪ A research problem is a specific issue, difficulty, contradiction, or gap in knowledge that you will aim to address in your research.
- • A research problem is the fuel that drives the scientific process, and is the foundation of any research method and experimental design, from true experiment to case study

2. Practical research

A practical research is an examination in which you do experiments rather than simply writing answers to questions.

3. Literature review

Literature review is a text of a scholarly paper, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic.

4. Integrative review
It is considered a form of research that reviews, critiques, and synthesizes representative literature on a topic in an integrated way.

5. Theoretical literature
The purpose of this form is to concretely examine the corpus of theory that has accumulated in regard to an issue, concept, theory, phenomena.

Bibliographie

- Anol Bhattacherjee, 2012. *Social Science Research : Principles, Methods, and Practices* Creative Commons Contributions, Zurich

- Baschwitz Bertrand, (M. A.), *Comment me documenter ?*, Bruxelles, De Boeck, 2009., coll. « Guide pratique. Former et se former ».

- Creswell J.W. (2003) *Research Design*: *Qualitative, quantitative, and mixed methods Approaches T*housand *Oaks.C*.A :Sage

- Creswell J.W. (2005) *Educational Research*: Planning, conducting, and evaluating *quantitative and Qualitativ Research Upper Saddle River,NJ : Merrill Prentice Hall*

- Creswell, J. W. (2008). Educational Research: Planning, conducting, and evaluating quantitative and qualitative research (3rd ed.). Upper Saddle River: Pearson.

- Dalcq, (A.E.), et a. *Lire, comprendre, écrire le français scientifique*, Bruxelles, De Boeck Université, 1999.

- Dawson C. (2002) Practical Research Methods: A user-friendly Guide to Mastering Research Techniques & Projects. New Age International Ed.

- Ferreol, (G.) et FLAGEUL, (N.), *Méthodes et techniques de l'expression orale et écrite*, Paris, Armand Colin, 1996, coll. « Cursus ».

- Goddard, W & Melville, S. (2004). Research Methodology: An Introduction. Lansdowne: Juta and Company Ltd.

- Gorden B.D. & Clyde A.P. (1997). Writing the Doctoral Dissertation. Amazon France.

- Griselin, (M.), et a., *Guide de la communication écrite. Savoir rédiger, illustrer et présenter rapports dossiers, articles, mémoires et thèses*, Paris, Dunod, 1999.

- Kate L.T. (2013). A Manual for Writers of Term Papers, Theses and Dissertations. Fifth Ed. Cambridge University Press.

- Khan L. (2011). Research Methodology. Oxford. Oxford University Press.

- Lester J. D. (1990). Writing Research Papers: A complete Guide. Cambridge University Press.

- Mary-Claire V.L. (1992). A Handbook for Scholars. Amazon France.

- Pannerselvam R. (2004). Research Methodology: PHI Learning PVT Ltd.

- Pochet, (B.), *Méthodologie documentaire. Rechercher, consulter, rédiger à l'heure d'Internet*, 2e éd. Bruxelles, De Boeck, 2005.

- Ronald R.P. (1997). Basic Research Methods for Librarians. Oxford Ltd.

- Schostak J. & Schostak J. F. (2013). Writing Research Critically: Developing the Power to Make a Difference. Cambridge University Press.

- Shields, Patricia and Rangarjan, N. 2013. A Playbook for Research Methods: Integrating Conceptual Frameworks and Project Management. [1]. Stillwater, OK: New Forums Press

- Shuttleworth, Martyn (2008). " Definition of Research". Explorable. Explorable.com. Retrieved 14 August 2011.

- Volland-Nail, (P.), *Formation des "jeunes" chercheurs à la communication scientifique écrite*, Nouzilly, INRA. Unité de Physiologie de la Reproduction des Mammifères Domestiques, 1996.