University of El Oued

Faculty of Arts and Languages

Department of Arts and English Language

Research Methodology in Theory and Practice

Course intended to Master One Level

Guided by the Syllabus approved by the Department of Arts and English Language at the University of Eloued

Designed by

Dr. Mohammed NAOUA

Academic Calendar 2021/2022

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Introduction

Research methodology refers to the process of collecting qualitative and qualitative data in a systematic and rigorous way for the purpose of answering questions, finding solutions to problems, and reaching valid and reliable results (Dörnyei, 2007; Goode & Hatt, 1952; Kerlinger, 1973, Nunan, 1992).

In research methodology, two interrelated components need to be highlighted: research and methodology. These, of course, concern the 'what' and the 'how' of the field. Nunan (1992) defines the former as the methodical 'process of inquiry', which builds upon three main constituents. The first includes a question, a problem, or a hypothesis. The second constituent points to the importance of data. However, the third involves the analysis and interpretation of these gathered data. In the same way, The Dictionary of Research Methodology and Statistics in Applied Linguistics [DRMSAL, 2012]) defines research as the systematic process of collecting and analyzing data for the purposes of solving a research problem or answering a question to enable researchers 'obtain a more complete understanding of a situation" (p. 545).

As far as methodology is concerned, this can be viewed as the theory, which tells how to conduct research from the choice of the topic, how to raise the questions and formulate the hypotheses. It extends to the choice of the methods and the way data are collected. Additionally, it offers the techniques for data presentation and analysis.

In this perspective, this handout attempts to equip Master I students at the University of El Oued with the methodology and the instruments, which enable them to conduct scientific research.

In doing so, the researcher organizes this handout into thirteen lectures covering Master I syllabus of research methodology. The majority of these lectures can be subdivided into three or four lessons. Lecture One starts with delimiting the field of research, highlighting its types and describing the instruments with which operational research can be conducted. Lecture Two 'Research Problems' offers scientific definitions to the concept 'problem' and gives practical example, which help learners differentiate between problems and research questions. Lecture Three focuses on 'research questions' and the way they are raised and asked. In Lecture Four, the handout turns to research hypotheses and with their constituent variables. Lecture Five focuses on research variables, providing their types and functions. In Lecture Six, the Handout returns to the provision of hypotheses focusing on dependent and independent variables. Lecture Seven start with data gathering instruments presenting the 'questionnaire' emphasizing its significance, roles, types, and formats. Lecture Eight is of practical type in that it focuses on giving examples on questionnaire items. Lecture Nine talks about the interview method for which it offers descriptions and definitions, types, format and forms. Lecture Ten, turns to the 'observation' highlighting its techniques and significant roles of gathering live data. Lectures Eleven and Twelve respectively offer information on the roles 'mixed research methods' and 'data triangulation' in drawing valid, credible, dependable and reliable results. The Handout concludes with 'Population and Sampling' and Triangulation Lectures, so that learners can have some notions about the way populations are selected and sampled; additionally the lectures attempt to offer some notions on probability and statistics.

Lecture One: Scientific Research

> Scientific research, whether in education, physics, anthropology, molecular biology, or economics, is a continual process of rigorous reasoning supported by a dynamic interplay among methods, theories, and findings. It builds understandings in the form of models or theories that can be tested. Advances in scientific knowledge are achieved by the self-regulating norms of the scientific community over time, not, as sometimes believed, by the mechanistic application of a particular scientific method to a static set of questions (Shavelson and Towne, 2002, p. 2) .

Objectives:

- To get students acquainted with the concepts of scientific research.
- To enable them to differentiate between quantitative and qualitative research
- To distinguish between common sense and scientific thinking
- To distinguish between creative and scientific writing

Before supplying a definition to scientific research, let us first provide words, concepts and phrases which have tight connection with research.

Conceptualization of Research

In the research methodology course, students are likely to encounter terms like investigation – analysis – inquiry – formulating and testing hypotheses - solutions to problems – answers to questions – description- explanation – experimentations, prediction – establishing facts – reaching new conclusions – using techniques and methods – crediting sources, collecting data, data analyses, which make the course sound difficult, complex and even unapproachable. "such technical terms and images all suggest that research is something

that only experts can do [However,] with a bit of care and lots of common sense all of us can conduct investigations that yield valuable results" (Dörnyei, 2007, p.15).

Definition of Research

Research means "trying to find answers to questions….by conducting one's own data based …investigation, which involves collecting some sort of information (or data) and then drawing some conclusion from it" (Dörnyei, 2007, pp. 15&16). For Nunan (1992), research is a systematic process of inquiry consisting of three elements, or components: (1) a question, problem, or hypothesis, (2) data, and (3) analysis and interpretation of data (p. 232). The Dictionary of Research Methodology and Statistics in Applied Linguistics (2012) defines research the "systematic process of collecting and analyzing data that will investigate a research problem or question, or help researchers obtain a more complete understanding of a situation" (p. 545).

> On their part, Ostle and Mensing (1975 as cited in Kothari, 2004) conceptualize this process as the:
>
> inquiry into the nature of, the reasons for, and the consequences of any particular set of circumstances, whether these circumstances are experimentally controlled or recorded just as they occur. Further, research implies the researcher is interested in more than particular results; he is interested in the repeatability of the results and in their extension to more complicated and general situations" (p. 9).

The goal of research is to describe, explain, or predict present or future phenomena. On its part, the New Oxford American Dictionary (2001) takes research as "the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions" (1448).

Scientific research can be seen as the "systematic, controlled, empirical, and critical investigation of natural phenomena guided by theory and hypotheses about the presumed relations among phenomena" (Kerlinger, 1975, p.10). By systematic and controlled, we mean that the examination of phenomena is well-organized, sequential, well-ordered, tightly disciplined to the point that scientists "can have critical confidence in research outcomes" (p.10).

Principles of Scientific Research

The main principles of research seek to:

1) link research to relevant theory

2) use methods that permit direct investigation of the question

3) provide a coherent and explicit chain of reasoning

4) replicate and generalize across studies

5) disclose Research to Encourage Professional Scrutiny and Critique (Shavelson and Towne (2002, pp. 2-5)

Qualities of Research

The main attributes of scientific research allow the latter to be:

- Systematic: Does the study follow clear procedural rules?
- Controlled:
- Logical: Does the study proceed in a clear step-by-step fashion, from question formation to data collection and analysis?
- Tangible: Are data collected from the red world?
- Replicable: Could an independent researcher reproduce the study?
- Reductive: Does the research establish patterns and relationships among individual variables, facts, and observable phenomena? (Brown, 1988; Nunan, 2001)

Types of Research

Different types of research can be identified in the literature of research methodology. We can, for instance, cite quantitative vs qualitative, experimental, quasi-experimental, descriptive, and analytic, applied vs fundamental, Conceptual vs. Empirical and so on. In this section, we intend to mention the most renowned types (The qualities of quantitative and qualitative research are included in Table .

Quantitative Research

This type of research involves the collection of data in the form of numerical values for which numerical analysis is implemented. The most significant feature in quantitative research is that " numbers result from the process, whether the initial data collection produced numerical values, or whether non-numerical values were subsequently converted to numbers as part of the analysis process, as in content analysis" (Angrosino. 2007, p 4).

Comprehensive Definition of Qualitative Research

Qualitative research is concerned with qualitative phenomena, such as in the exploration of participants' opinions and attitudes, in observing their behaviour, or in considering their experiences in life (Bazeley & Jackson, 2013). This type is defined as the:

> process of inquiry aimed at understanding human behavior by building complex, holistic pictures of the social and cultural settings in which such behavior occurs. It does so by analyzing words rather than numbers, and by reporting the detailed views of the people who have been studied. Such inquiry is conducted in settings where people naturally interact, as opposed to specially designed laboratories or clinical! experimental settings. Qualitative research seeks to understand the what, how, when, and where of an event or an action in order to establish its

meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions (Berg, 2004 as cited in Creswell, 1998, pp. 14-16).

Table1: Qualitative Vs Quantitative Vs Research

Qualitative Research	Quantitative Research
Advocating use of qualitative methods	Advocating use of quantitative methods
Concerned with understanding human behaviour from the actors own frame of reference	Seeks facts or causes of social phenomena without regard to the subjective states of the individuals
Naturalistic and uncontrolled observation	Obtrusive and controlled measurement
Subjective	Objective
Close to the data: the 'insider' perspective	Removed from the data:the 'outsider' perspective
Grounded, discovery-oriented, exploratory, expansionist, and inductive.	Ungrounded, verification-oriented, confirmatory, reductionist, inferential, and hypothetical-deductive
Process-oriented	Outcome-oriented
Valid: 'real', 'rich', and 'deep' data	Reliable: 'hard', and replicable data
Ungeneralisable: single case studies	generalisable: multiple case studies
Assumes a dynamic reality	Assumes a stable reality

Reichardt and Cook, as included in Nunan, 1992, p. 4

Experimental Research

Experimental Research attempts to identify the cause-and-effect relationships by conducting controlled psychological experiments.

> The experimental research approach is a quantitative approach designed to discover the effects of presumed causes. The key feature of this approach is that one thing is deliberately varied to see what happens to something else (i.e., to determine the effects of presumed causes). This is something that people do all the time. For example, individuals try different diets or exercise to see if they will lose weight. Others might get an education to see if that will lead to a better job. As you can see, both scientists and nonscientists use experimentation to try to identify causal relationships. However, scientific experimentation differs from practical experimentation in that the scientist makes a deliberate attempt to make observations that are free of bias and that have controlled for extraneous variables. Both approaches attempt to identify causal relationships (Christensen, Johnson & Turner, 2015, p. 59).

Research Methodology Vs Research Methods

The following paragraphs are intended to provide concise definitions to research methodology and research methods for the reason of lifting the ambiguity between these two terms so that students can make a right conceptualization of each.

Definition of Research Methodology

Let us first start with Harding (1987) who defines methodology as “a theory and analysis of how research does or should proceed” (p. 3). This means that this methodology stems out of a theory, which clearly explains how research is done and how it sequentially proceeds. For Kummar (2008) Research methodology can be seen as a "science of studying how research is done scientifically. In it, we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them" (p.5).

On its part, the *Sage Dictionary of Social Research Methods* (2006) calls research methodology as the 'philosophy of methods'. This is because its covers two main constituents "epistemology and ontology". The former…..strives at justifying the soundness and dependability of the research findings and its conclusions. The latter concerns itself with "establishing the objects about which questions may validly be asked and conclusions may be drawn" (p. 175).

Now, building upon the above-mentioned definitions one can conclude that research methodology:

> refers to the theory that outlines how research is systematically conducted starting from the problem identification and concluding with its findings and conclusions. This involves the conceptualization and statement of the problem, hypotheses formulation, specifying the relevant survey methods, defining the appropriate population and data gathering tools with ethical

considerations; and stating the criteria for analyzing data and presenting the research results" (Naoua, 2016, p.6).

Research Methods

When we call research methodology as the theory, which tells how research is systematically conducted; research methods can be defined as the techniques that we use in conducting this research. In other words, the methods form one the instruments that methodology implements in conducting research.

Research Methods vs Data Gathering Tools

For the sake of clarity reasons and for the purpose of lifting any type of ambiguity regarding the use of terms, this course intends to use the term 'method' specifically for the techniques used in conducting the research, such as the descriptive method, the historical method, the experimental method and so on. However, the phrase 'data gathering tools/instruments (not methods) will be used for the instruments the researcher used to collect his data, such as the interview, the questionnaire, the test, the schedule and so on.

Definition of Research Methods

Research methods refer to the behaviour and instruments used in selecting and constructing research technique. A method is a particular research technique or way to gather evidence about a phenomenon. Methods are the specific research tools we use in research projects to gain fuller understanding of phenomena.

Practice: Summarizing Questions on Lecture one

How can we define scientific research?

List the main principles of scientific research.

List the main key terms related to research.

Mention the principal qualities of scientific research.

Research can be divided into several types. What are they?

Contrast between qualitative and quantitative research. Then mention the suitability of each type.

In what aspects does the experimental research differ from the descriptive one?

Highlight the main qualities of experimental research.

List the main differences between research methodology and research methods.

Lecture Two: The Research Problem

> Galileo **formulated the problem** of determining the velocity of light, but he did not solve it. **The formulation of a problem is often more essential than its solution, which may be merely a matter of mathematical or experimental skill.** To raise new questions, new possibilities, to regard old questions from a new angle, requires creative imagination and marks real advance in science (Einstein & Infeld, 1938, p. 95, [our emphasis]).

Objectives: By the end of the lecture, students will be able to:

a- state research problems.
b- delimit the scope of research problems.
c- identify the constituent parts of problem
d- distinguish between declarative and interrogative problems
e- know the problem variable
f- state operations problems

Defining the Concept of Research Problem

A research problem refers "to some difficulty which a researcher experiences in the context of either a theoretical or practical situation and wants to obtain a solution for the same" (Kothari, 2004, p.24). This implies that the research problem can be viewed as some difficulty that researchers, students, scientist may encounter during the course of their research in a given field and for which they seek to find a solution. Unlike other problems that we usually encounter and do our best to avoid, or go beyond, in research, the role of the academic community is to work for finding solutions to these difficulties.

For the *Dictionary of Research Methodology and Statistics in Applied Linguistics* [DRMSAL, 2012]:

> A problem can be anything that a person finds unsatisfactory or unsettling, a difficulty of some sort, a state of affairs that needs to be changed, anything that is not working as well as it might. Problems involve areas of concern to researchers, conditions they want to improve, difficulties they want to eliminate, questions for which they seek answers (p. 549).

Turning now to Kerlinger (1973) who attempts to restrict the criteria of research problems so that they would not be coincided with definitions of problems other than the ones we experience in research. For the author a problem "is an interrogative sentence, or statement [that] asks: What relations exist between two or more variables? The answer is what is being taught in the research. A problem in most cases will have two or more variables" (p.16).

Kerlinger's restriction of the scope of research problems helps freshmen researchers and students in the way a problem is required to be stated, or "Statement of the Problem" in that problematic sentences, or issues that do not relate between two or more variables cannot be considered as research problems.

Difference between Neutral Topics and Research Problems

Consider the following statements and questions, which seem to bear problematic issues and concerns. However, because these problems or difficulties do not relate between two or more variable, research methodologist do not consider them as "research problems" (Goode & Hatt, 1952; Kerlinger, 1973):

- How do you perceive the rise of children kidnapping?
- How is medical oxygen, vital for COVID-19 patients' life?

- The spread of drug addiction amongst youngsters
- Islamophobia in Europe
- Anti-Islamic law in France
- Low achievement at the Algerian University
- Road accidents in Algeria
- The Phenomenon of incorporating children in begging
- Enforced disappearance of persons in conflict areas.
- The rise of the crimes against humanity in the world
- Child labor in poor countries
- Homelessness in big cities
- Civil rights and racial discrimination
- Gender Inequality
- Persecution against rival religious groups in India
- Deportation or forcible transfer of population is war crime
- Internet Crimes Against Children
- Trafficking Passwords is a crime
- Police brutality against black people in the USA is still on the rise
- Covid-19 can spread through, coughing sneezing, speaking, singing, breathing, shaking hands, or touching contaminated surface.
- In big cities, many people have been subject to violent robberies
- Myanmaran laws discriminate against the Rohingya, infringing on their freedom of movement, education and employment.

As we have previously stated, the examination of the above-list of topics suggests that each of these statements/questions bears some type of problem. Since these do not relate

between variables, we cannot consider them as research problems. Instead, they can be considered as topics worth to be researched.

Characteristics of Research Problems

Kerlinger (1973) identifies three main characteristics for research problems. First, problems should delineate a relationship between two or more variables. The questions that the problem should ask sound like the following "Is A related to B? How are A and B related to C? How is A related to B under conditions C and D?" (p.16). Second, problems should be stated clearly avoiding any form of ambiguity. Moreover, according the author, well-stated problems are the one stated in form of questions. However, this view is not shared by other research methodologists, who prefer the problem to be stated in the form of declarative statements (Goode & Hatt, 1952). The third feature requires that "the problem statement should be such as to imply possibilities of empirical testing" (p.17). This implies that the problem that does not display the criterion of being empirically tested and verified is not considered a research problem.

Example of Research Problems

Building upon the recommendations of research methodologist on the variables constituting research problems, we propose the following example:

- The **lack of oxygen** in hospitals **endangered Covid-19 patients' lives**
- Why has **Traffic Jam** in Algiers **affected people's nervous systems**?
- How has **car speed** raised **the death toll in Algeria**?
- The **drought in sub-Saharan** countries **increased the number of immigrants** into Algeria
- To what extent **do Civil wars** in some African countries **contribute to the increase of illegal immigration into Algeria?**

- **Drug trafficking** has been viewed as the main **cause of crime**
- Why did school dropouts turn into delinquents? (rq)
- The installation of **road speed bumps** affect the **average vehicle age**.
- **The Incarceration of juveniles in adult prisons** causes them to **accumulate more misconducts.**
- Does classroom design affect children behavior? (rq)
- Why does **the excess of using social media networks** affect **learners' achievement**?
- The excess of organic **plant nutrients and pesticides** contaminates **the agricultural production**
- **Contaminated agricultural production** has caused **dangerous health problems** to people and animals.
- Industrial discharges has increased **sea water pollution**
- In Winter, many people **lost their lives** because of **carbon monoxide?**
- People who **smoke cigarettes** are 15 to 30 times more likely **to get lung cancer** or die from lung cancer than people who do not smoke
- **Cigarette smoking** can **cause cancer** almost anywhere in the body
- Traffickers **use force, fraud, or coercion** to **lure t**heir victims and force them into labor
- Does the **Incorporation of children** in begging **deprive them of their right** to enjoy their childhood?

Questions

Supply a definition to a research problem.

What are the main components of research problems?

How can you differentiate between problems and neutral topics?

What distinguishes problems provided in declarative forms and those given in the form of question?

List the main characteristics of research problems.

Do problems contain variables? illustrate your answer with examples.

Compare between the definition provided by the *Dictionary of Research Methodology and Statistics in Applied Linguistics* [DRMSAL, 2012] for research problems and the one offered by Kerlinger (1973).

Examine the following phases/ questions to decide whether they form research problems, or not. Then Justify your answer.

- How do you perceive the rise of children kidnapping?
- How is medical oxygen, vital for COVID-19 patients' life?
- The spread of drug addiction amongst youngsters
- Islamophobia in Europe
- Anti-Islamic law in France
- Low achievement at the Algerian University

Lecture Three: Research Questions

> A crucial but typically undervalued aspect of successful scientific investigation is **the quality of the questions posed**. Moving from hunch to conceptualization and specification of a **worthwhile question is essential to scientific research**. Indeed, many scientists owe their renown less to their ability to solve problems than **to their capacity to select insightful questions** for investigation, a capacity that is both creative and disciplined (Shavelson & Towne, 2002, p. 55 [our emphasis]).

Objectives: By the end of the lecture, students will be able to:

a- offer valid definitions to the concept of 'research question'
b- differentiate between research problems and research questions
c- identify the role of problems and questions
d- state research problems and provide their relevant questions

Research Questions: Defining the Scope of the Concept

The Dictionary of Research Methodology and Statistics in Applied Linguistics (2012) provides a very clear and concise definition to research questions so as not to be confounded with other research elements, such as problems or hypotheses:

> [A] research question [is]a specific question asked in the course of investigation to which a specific answer or set of answers is sought. Very often the researcher's prior study of the field and REVIEW OF THE LITERATURE will have exposed a need to explore, describe, or explain further a particular phenomenon through research questions, before arriving at possible hypotheses (p.549 [Capitalization in original]).

Following the difficulties encountered by researchers during the course of their study, the research questions come to investigate the problem from different angles in order to query where the difficulty lies and how it can be solved. Unlike the research problem, which can be stated in the form of statements or questions, research queries always take the interrogative form. Equally important, in contrast to problems, which display relational connection between variable, research questions can target only one part of the research problem.

Importance of Research Questions

Bradburn, Sudman and Wansink (2004) mention two main aspects that highlight the significance of questions to research. First, their ability to delimit the overall purpose of the investigation, as well as the rationality they demonstrate against decision-making. In this vein, the authors write, "the research question defines the purposes of the study and is the touchstone against which decisions are made about the specific individual questions to be included in the questionnaire" (p. 20).

Main Function of Questions in Scientific Research

Shavelson and Towne (2002, pp. 55,7 & 9) highlight eight main functions for research questions:

a) to fill a gap in existing knowledge
b) to seek new knowledge
c) to pursue the identification of the cause or causes of some phenomena,
d) to describe phenomena
e) to solve a practical problem,
f) To allow for empirical investigation
g) to formally test a hypothesis

h) To advance scientific knowledge and method

Examples of Research Problems and their Relevant Questions

Problem: Why has the death toll increased in Algeria because road accidents?

a) Is the rise of the number accidents related the excess of speed excessive?
b) Can the carelessness of pedestrians be one of the causes of accidents?
c) Why do some drives always resort to dangerous overtaking?
d) Isn't it because of lack of respect for traffic lights?
e) Why do we not include the use of mobiles and headphones while driving?
f) Can the cause of accidents be related to the poor training provided by driving schools?
g) What about the poor condition of roads in Algeria?

Problem: The exponential surge coronavirus infections over the past few weeks have raised the number of victims in Algeria.

a) Do people implement the security measures to avoid the infection?
b) What is the extent to which people are convinced to take vaccines against Covid-19?
c) Have the insufficient oxygen quantities in hospitals contributed to the worsening of the patients' health conditions?
d) To what extent are people conscious of the danger of the Virus?

Problem: The phenomenon of illegal immigration is one of the most important problems, which represents a serious security threat to the Algerian national security.

Why do African immigrants come to Algeria?

a) Is it because of the poor economic conditions in their countries?
b) What about of the lack of employment opportunities in their home countries ?

c) Can political conflicts stand behind these problems?

d) Does earning money through begging motivate Africans to immigrate into America?

e) Is it because the Algerians are welcoming and hospitable?

f) Do the false promises of well-paying jobs attract them for emigration?

g) Do immigrants consider Algeria as a transit country to Europe?

Problem: According to the Algerian Civil Protection, 28 people have died and 557 others have been rescued following the inhalation of carbon monoxide since the beginning of January in various provinces of the country. Why is the number carbon monoxide keep on rising?

Research Questions:

a) Do the incorrectly installed household appliances stand behind this problem?

b) Is it because of the poor ventilation?

c) Install a carbon monoxide detector on each floor of your home

d) Is the use cooking devices for heating purposes a cause for poisoning?

e) Have the heating devices been installed by unqualified persons?

Practice: Reviewing Questions

Read the definition The Dictionary of Research Methodology and Statistics in Applied Linguistics (2012), then identify the main characteristics of research questions

[A] research question [is]a specific question asked in the course of investigation to which a specific answer or set of answers is sought. Very often the researcher's prior study of the field and REVIEW OF THE LITERATURE will have exposed a need to explore, describe, or explain further a particular phenomenon through research questions, before arriving at possible hypotheses (p.549).

What are the main differences between research questions and problems?

Do questions relate between variables?

What is the significance of research questions to research?

How can questions help in the solution of the problem?

List the main functions of research questions.

State a research problem, then ask three questions, which attempt to locate the causes of this problem.

Research Problem: …….

Question 1:……...

Question 2: ……

Question 3: ……..

Lecture Four: Research Hypotheses

Objectives

By the end of the lecture, students will be able to:

a- define research hypotheses
b- identify the hypotheses constituents
c- formulate hypotheses
d- distinguish between alternate and null hypotheses
e- to examine the sequential phases problem – questions – hypotheses
f- state problems, ask questions and formulate their relevant hypotheses
g- distinguish between assumption, propositions and hypotheses

Definition of Hypotheses

A hypothesis can be defined as a:

> proposition, which can be put to a test to determine its validity. It may seem contrary to, or in accord with, common sense. It may prove to be correct or incorrect. In any event, however, it leads to an empirical test. Whatever the outcome, the hypothesis is a question put in such a way that an answer of some kind can be **(57)** forthcoming. It is an example of the organized skepticism of science, the refusal to accept any statement without empirical verification (Goode & Hatt, 1952, pp. 56-7).

As the definition above implies, a hypothesis is an assumption, or proposition that can be verified by means of testing, or experimentation and testing. Of course, this is the main distinction between mere propositions and research hypotheses. The former do not necessarily go through testing. However, one of the main features of the latter is the process of verification and testing. Additionally, the result of testing can confirm, or refute the information included by the hypotheses. More importantly, these results attempt to contribute to the advancement of scientific research.

On his part, not only does Kerlinger (1973) support the conceptualization of Goode and Hatt (1952) regarding hypotheses, but emphasizes that these constituents are always constructed in the declarative form. Of course, this does not contradict Goode and Hatt when they considered the hypothesis as 'question', which means a 'concern', something that qualms and needs to be investigated. Moreover, hypotheses are relational statements, which link between two or more variables "a hypothesis is a conjectural statement of the relation between two or more variables. Hypotheses are always in declarative sentence form, and they relate, either generally, or specifically, variables to variables (p.17).

Working Hypotheses: How does a hypothesis work to confirm predictions?

Kerlinger (1973) explains mathematically how hypotheses work to confirm the existence of relation between the variables:

> A hypothesis is a prediction. It says that if x occurs, y will occur. That is, y is a prediction from x. If, then, x is made to occur (vary), it is observed that y also occur (varies concomitantly), then, the hypothesis is confirmed. This is more powerful evidence than simply observing without prediction, the covarying of x and y (p. 23).

Criteria of Good Hypotheses

Building upon Goode and Hatt (1952) and Kerlinger (1973), we can organize the main criteria for well-stated hypotheses in the following list:

a) Hypotheses are predictions about the outcomes of the empirical research

b) Hypotheses specify how variables are related

c) Hypotheses are predictions in the form: 'If A, then B'.

d) They carry implication for testing the stated relations (Isolated facts are not tested; only relations are tested

e) They can be proven true, or false.

f) Hypotheses are stated in declarative form

g) They are the working instruments of a theory

h) Hypotheses are the powerful tools for knowledge advancement

i) They are the main instruments for solving research problems

Difficulties facing Students when formulating Hypotheses

Goode and Hatt (1952) identify three difficulties, which encounter freshmen researchers when formulating hypotheses. First students' formulation of hypotheses does not often stand on of a clear theoretical framework. Second, because they are novice in the field of research, students usually lack the ability to use 'that theoretical framework in a logical manner. Third, these newly-researchers often lack the techniques and knowledge 'to phrase the hypothesis properly' (p. 57).

Questions

Give an operational definition of the term "hypothesis'.
What are the main characteristics of hypotheses?
Highlight the difference between hypotheses and questions.
What is the difference between hypotheses and assumptions?
How does a hypothesis work to confirm predictions?
List the main difficulties encountered by students when they start to formulate hypotheses.
Distinguish between alternate and null hypotheses.

Lecture Five: Research Variables

Objectives

By the end of the lecture, the students will be able to:

a- understand the meaning of research variables

b- supply valid definition to 'variables'

c- know the importance of variables in hypotheses

d- examine the relational aspect between dependent and independent variables

e- divide hypotheses into dependent and independent variables

f- describe the different types of variables

Definition

We start first with supplying definitions to the concept of variable. We explain the 'what' and the 'how' of its properties; we highlight its types and constituents. Then, we move to the type of research variables are appropriate for.

Kerlinger (1973) sees variables from two different corners: quantitative and quantitative research. In relation to quantitative studies, he defines the concept of variables as a symbol that we can assign number which spread on a scale. In case of measuring a given construct, the displayed results can vary from, for example 1 to 10:

> A variable a symbol to which numerals or values are assigned. For instance x is a variable, it is a symbol to which we assign numerical values. The variable x may take on any justifiable set of values – for example, scores on an intelligent test or an attitude scale. In the case of intelligence, we assign to x a set of numerical values yielded by the procedure designated in a specified test intelligence (p. 29).

In qualitative studies or behavioral sciences, the variable is mostly dichotomous. If we take the variable of gender, we can split it into two variables: male and female; dead, or alive, socialist or capitalist. As a result, Kerlinger (1973) shapes an appropriate definition for the same:

> Some variables used in behavioral research are true dichotomies – that is, they are characterized by the presence or absence of a property: male-female 30 alive-dead, employed-unemployed. [Hence, a] variable, x, however, may have only two values. If sex is the construct under study, then x can be assigned 1, 0. 1 standing for one of the sexes and 0 standing for the other…. Other examples of two-valued variables are: dead-alive, citizenship-noncitizenship, middle class-working, teacher-nonteacher, Republican-Democrat, and so on. Such variables are often called dichotomies or dichotomous variables (p. 29).

On their part, Christensen, Johnson and Turner (2015) consider a variable as "something that takes on different values or categories, and it is the opposite of a **constant**, which is something that cannot vary, such as a single value or category of a variable" (p. 47. If one considers the variable of gender, we find that it "takes on the values of male or female. Male is a constant because it does not vary; female also is a constant" (p. 47).

Types of Variable

Variables can be classifies according to their level of measurement quantitative (continuous), or to their role; or qualitative (categorical), (Christensen, Johnson & Turner (2015; Kerlinger, 1973). However the" most important and useful way to categorize variables is as dependent and independent " this categorization is highly useful because of its general applicability, simplicity, and special importance in conceptualizing and

designing research and in communicating the results" (Kerlinger, 1973, p. 35). In his distinction between dependent and dependent variables Kerlinger clarifies "An independent variable is the presumed cause of the dependent variable, the presumed effect. The independent variable is the antecedent; the dependent is the consequent. When we say: if A, then B, we have the conditional conjunction of an independent variable A, and a dependent variable B.

Table 2: Types of Variables Classified by level of Measurement and by Role of Variable

Variable Type	**Key Characteristic Example**	**Example**
Categorical variable	A variable that varies by type or kind or categories of a phenomenon	The variable *gender* is made up of the categories of male and female
Quantitative variable	A variable that varies in amount or degree of a phenomenon	The variable *reaction time* is often measured in milliseconds and can vary from just a few milliseconds to minutes or longer
Independent variable (symbolized by "IV")	A variable that is presumed to cause changes to occur in another variable; it's the causal variable.	Amount of anxiety (IV) affects performance on a memory task (DV).
Dependent variable (symbolized by "DV")	A variable that is presumed to cause changes to occur in another variable; it's the causal variable	Amount of anxiety (IV) affects performance on a memory task (DV).
Mediating variable	A variable that operates in between two other variables. It delineates the intervening process through which one variable affects another variable.	Amount of anxiety (IV) leads to cognitive distraction (mediating variable), which affects performance on a memory task (DV).
Moderator variable	A variable that specifies how a relationship of interest changes under different conditions or circumstances.	Perhaps the relationship between anxiety (IV) and memory (DV) changes according to the different levels of fatigue (moderator)
Extraneous variable	A variable that can compete with the independent variable in explaining an outcome	Perhaps an observed relationship between coffee drinking (IV) and heart attacks (DV) is actually due to smoking cigarettes.

Source: Christensen, Johnson & Turner, 2015, p. 48).

Independent and Dependent Variables

According to Kerlinger (1973) the terms 'independent' and "dependent' variables "come from mathematics, where *X* is the independent and *Y* the dependent variable….The dependent variable, of course, is the variable predicted to, whereas the independent variable is predicted from" (p.35). This relationship considers the dependent variable, *Y*, as "the presumed effect, which varies constantly with changes or variation in the independent variable. *X*. It is the variable that is not manipulated. Rather, it is observed for variation as presumed result of variation in the independent variable" (p. 35). For more practical explanation of the relationship between dependent and independent variables (see the examples provided in the next lecture).

As for Christensen, Johnson and Turner (2015), the relationship between independent and dependent variables is a cause-and-effect connection. "For example, what are the IV and the DV in the relationship between smoking and lung cancer? As you know, smoking is the IV and lung cancer is the DV; that's because smoking causes lung cancer" (p. 47). In experimental research, the authors give further explanation:

> the independent variable is the variable manipulated by the experimenter; for example, one level of the manipulated independent variable might be administration of a new therapy, and the other level is the "no therapy" control condition. Whenever you want to make a claim about a **cause-and-effect relationship** (i.e., that changes in an IV cause changes in a DV), you must be careful, especially in nonexperimental research, about what are called extraneous variables (p. 47).

Extraneous variable is a variable that we are not considering in our testing of the phenomenon, but it could affect the dependent variable in a way or another. We can offer an example of the relationship between drinking coffee and heat attacks. The more one

consumes coffee, the greater one receives heart attacks. However, additional research have shown that "high coffee consumers are more likely to smoke than low coffee consumers; it is the smoking that causes heart attacks and not the consumption of great amounts of coffee. Smoking, therefore, was a confounding extraneous variable" (Christensen, Johnson and Turner, 2015, p. 48) that has affected the dependent variable.

Mediating Variable

This Type usually occurs between the dependent and independent variable, we can call it an 'in-between'. We can illustrate this with the following example: "tissue damage is an intervening variable in the smoking and lung cancer relationship. We can use arrows (which mean causes) and draw this relationship as follows:

smoking $\longrightarrow$ tissue damage $\longrightarrow$ lung cancer" (Christensen, Johnson and Turner (2015, p. 49).

Active versus Attribute Variables

Active variables refer to the variable that the researcher can manipulate; attribute variables refer to the ones that can be measured, and not manipulated….All variables that are human characteristics – intelligence, aptitude, gender, socioeconomic status, field dependence, education, need for achievement, and attitudes, for example, are attribute variables

Moderator variables serve "to determine how the relationship between an IV and a DV changes across the levels of an additional variable (which is called a moderator variable because it “moderates the relationship”)" (Christensen, Johnson and Turner (2015, p. 49). For example, suppose that we want to measure the impact of practicing sport on resting heart. We start with a group of males. We register the degree of impact. Then, we use a

moderator from the opposite gender to examine the extent of differences across gender (see fig). The aim of incorporating moderator variables is examine to the impact that dependent variables have laid on independent variables.

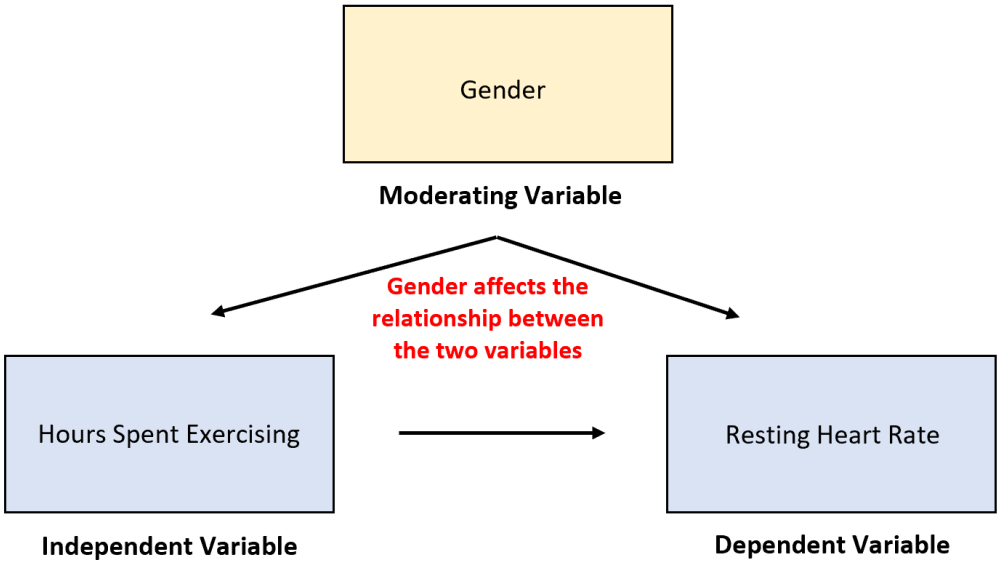

Fig 1: Moderating Variables

Source: https://www.statology.org/moderating-variable

Categorical Versus Measurement Variables

A quantitative variable is a variable that varies by degree or amount. "The variable gender is categorical because its levels represent types (male vs. female),… Additional examples of categorical variables are religion, …personality type, type of memory strategy, and method of therapy…height, self-esteem level, age, anxiety level"(Christensen, Johnson and Turner (2015, p. 47). Concerning continuous or quantitative variables, these are "capable of taking on an ordered set of values within a certain range" (Kerlinger, 1973, p.39).

Practice: Provide the appropriate answers to the questions below

1) Provide a definition to the term variable
2) What are the main features of variable?
3) In what aspects does Kerlinger' (1973) definition of variable differs from the definition provided by Christensen, Johnson and Turner (2015)?
4) What are the main types of variables?
5) Supply a definition to the following:
    - Categorical variable
    - Quantitative variable
    - Independent variable
    - Dependent variable
    - Mediating variable
    - Moderator variable
    - Extraneous variable
    - Active Variables
    - Attribute Variables

Lecture Six: Examples of Research Problems and Hypotheses

a) The **lack of oxygen** in hospitals **endangered Covid-19 patients' lives**

The Increase of local oxygen production can solve the problem

Independent variable — Dependent Variable

Importing more oxygen concentrators can improve **Covid-19 patients'** health

Independent variable — Dependent Variable

If the State bans the sale of oxygen without medical prescriptions, the situation can improve

Independent variable — Dependent Variable

b) How has **car speed** raised **the death toll in Algeria**?

If we install road speed bumps, we can save more lives

Independent variable — Dependent Variable

Punishing reckless speeders, drivers will help in decreasing the death toll

Independent variable — Dependent Variable

The installation of radar detectors everywhere may improve the situation

Independent variable — Dependent Variable

If car training schools give efficient training sessions, the number of accidents can decrease

Independent variable — Dependent Variable

c) The **drought in sub-Saharan** countries **increased the number of immigrants** into Algeria

If the FAO gives aids to these countries, the waves of immigrants will shrivel

Independent variable — Dependent Variable

Food aid from neighboring countries can motivate African citizens to stay at home

Independent variable — Dependent Variable

Digging more artesian wells in these areas may solve the problem of water shortage

Independent variable — Dependent Variable

d) The installation of **road speed bumps** affect the **vehicle average age** (CAA)

If local authorities build low bumps, the vehicle average age can extend CAA

Independent variable Dependent Variable

The placement of rubber speed bumps can solve the issue of vehicle damage

Independent variable Dependent Variable

If drivers decrease their speed, the vehicles will not be damaged

Independent variable Dependent Variable

e) The Incarceration of juveniles in adult prisons causes them to accumulate more misconduct.

If the Ministry of Justice restrict the imprisonment of youngsters in juvenile detention center,

Independent variable

their behavior will not be affected by Adult inmates.

Independent variable

f) The excess of chemical **nutrients and pesticides** contaminates **the agricultural production**

The use of organic nutrients can reduce the level of contamination

Independent variable Dependent Variable

Decreasing the level of chemical pesticides may help in the production of healthy food

Independent variable Dependent Variable

g) Industrial discharges has increased **sea water pollution**

Prohibiting the building of factories near the seashore can reduce water pollution

Independent variable Dependent Variable

If we punish the ships, which throw discharges into the sea, seawaters will remain clean

Independent variable Dependent Variable

h) The **incorporation of children** in begging **deprives them of their right** of schooling

If the government forbids the persons, who incorporate children in begging,

Independent Variable

youngsters can be protected.

Dependent Variable

The punishment of the persons involving Children in begging can deter this crime

Dependent Variable Independent Variable

j) Drug addiction by school youths leads them to engage in risk-taking behaviors

If the school implements mechanisms for continuous monitoring, the use of drugs maybe reduced

Dependent Variable Independent Variable

Involving the family in monitoring the behavior of their children can distant them from drug circles

Dependent Variable Independent Variable

If the Judiciary reinforces the laws relevant to child abuse,

Dependent Variable

youngsters will be protected from criminal predators

Independent Variable

Reinforcing moral education in schools

Independent Variable

can contribute to diminishing the impact of this phenomenon

Dependent Variable

Lecture Seven: The Questionnaire

> The process of actually collecting items…is a long and complex process requiring careful and patient effort, for the exclusion of crucial questions at this point may vitiate the entire research. It is worth repeating here that formulating a questionnaire is no different from the more general problem of determining, as was said earlier, what are the important questions to be asked. The fact that a questionnaire will later be put into the field does not differentiate the logical processes to be followed, from those of a scientific analysis of data already gathered (Goode & Hatt, 1952, p.135).

Objectives

By the end of the lecture, the students will be able to:

a- understand what a questionnaire means
b- define the scope of questionnaire
c- identify the objectives of this instruments
d- know the type of data gathered by the questionnaire
e- organize questionnaires according to their structure and format
f- describe the different types of questionnaire
g- measure the advantages and the shortcomings of the questionnaire
h- match the questions to their relevant sections
i- distinguish good from bad questions
j- design the Layout of the Questionnaire

Definition

Brown (2001) provides a very concise and precise definition to research questionnaires. In his opinion, these can be viewed as "any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from existing answers" (as cited in Dorney ,2007, p, 102). In the same way, for the New American Dictionary (2001), this tool includes "a set of printed or written questions with a choice of answers, devised for the purposes of a survey or statistical study (p. 1396). Earlier in the beginning of the fifties, Goode and Hatt (1952) pointed out that "[t]he word questionnaire refers to a device for securing answers to questions by using a form which the respondent fills in himself" (p. 133).

What do questionnaires measure?

According to Dörnyei (2003, 2007, 2010) the questionnaire can yield three types of data about respondents: factual, behavioral, and attitudinal. Factual questions attempt to gather information on the respondents' demographic characteristics, such as age, gender, and race, environment. We can add ethnicity and religion, country, marital and economic status, employment, as well as spoken languages. In other words, factual questions, which are "(also called “classification” questions or “subject descriptors”) are used to find out about who the respondents are" (Dörnyei, 2003, p. 5[parentheses in original]). Concerning the behavioral questions, these seek to collect information on the respondents' present and previous behaviour; that is "what the respondents are doing or have done in the past" (p.5). Turning now to attitudinal questions, the author organizes into five types: attitudes, opinions, beliefs, interests, and values.

Defining the Components of the Attitudinal Questions

As we have mentioned above, attitudinal questions seek to gather information on the participants' attitudes, opinions, beliefs, interests, and values. So, for the sake of clarity, we find it useful define these terms which are often used interchangeably.

Attitudes: These are related to the respondents' "evaluative responses to a particular target. They are deeply embedded in the human mind, and are very often not the product of rational deliberation of facts…. For this reason, they are rather pervasive and resistant to change" (Dörnyei, 2010, p. 5.).

Opinions*:* Unlike attitudes, which are deeply rooted in our minds and are typically reflected in our behaviour, opinions "are just as subjective as attitudes, but they are perceived as being more factually based and more changeable. People are always aware of their opinions but they may not be fully conscious of their attitudes (Aiken, 1996)" (Dörnyei, 2010, p. 5).

Beliefs: These refer to "an acceptance that a statement is true or that something exists [or] Something one accepts as true or real" (The New, 2001, p. 105). Dörnyei (2003) emphasizes that beliefs "have a stronger factual support than opinions and often concern the question as to whether something is true, false, or “right" (2010, 5).

Interests: These refer people's "preferences for particular activities" (p. 5).

Values: The questionnaire items which express people's values for something "concern preferences for “life goals” and “ways of life” (Christian values); on the other hand, they are also used to describe the utility, importance, or worth attached to particular activities, concepts, or objects (instrumental/ utilitarian value of L2 proficiency)" (pp.5-6).

Structure of the Questionnaire

Research methodologists classify questionnaire into three types: structured, semi-structured and unstructured questionnaires. The first type, which is usually administered to larger sample of population is the most structured. It includes closed items, which require respondents to choose one amongst many, to answer in true, or false form, to classify items according to predetermined items and son one. In other words, respondents are not invited to construct their own answers since "the possible answers are predetermined" (Guilham, 2000, p. 5).

For example, which of the following newspapers do you prefer reading?

El-Wattan ☐

AN-Nacer ☐

El-Khabar ☐

Liberté ☐

EN-Nahar ☐

"Are you at present:

Single? ☐

Married? ☐

Divorced? ☐

Separated? ☐

Widowed?" ☐

Conversely, the smaller the size of the sample, the less structured, more open and word-based the questionnaire are required. Unstructured questionnaire involve open-ended answers, which refer to the situations "where the respondent has to think and write in the answers" (Guilham, 2000, p. 5).

For instance, which TV channel do you prefer to watch?

Answer: I prefer watching Al-Jazeera TV.

What is your marital status?

Answer: Single.

Advantages and Disadvantages of Questionnaires

The main attraction of questionnaires is related to their efficiency in terms of time, effort, rapidity of information collection, versatile and also in cost-effectiveness. However, when questionnaires are ill-constructed they can produce invalid and unreliable data. Moreover, the subjects of research may also fail to deal with all the items. Additionally, unmotivated respondents can even ignore to send fill out the questionnaire. The other problem "with regard to questionnaires is that people do not always provide true answers about themselves; that is, the results represent what the respondents report to feel or believe, rather than what they actually feel or believe" (Dörnyei, 2010, p. 12). In short, the advantages and drawbacks of the questionnaire are list in Table ().

Table 3: Advantages and Disadvantages of the Questionnaire

Advantages	Disadvantages
Low cost in time and money	
Easy Analysis and visualization	Problem of data quality: unanswered and incomplete responses
offer a quick way to get results	Respondents don't have time constraints
allow you to gather information from a large audience	Questionnaires are not very helpful in finding information about complex emotional subjects.
permits group administration and is adaptable to any objectives	ill-constructed questionnaires can produce invalid and unreliable data
Simple and quick Analysis of structured questions is	It gives a biased sample. The matter of non-response is always a big question mark.
The responses can be processed by the computer software	Low response rate
ICT and internet applications permits even international coverage	Misunderstanding cannot be corrected
can be used to compare and contrast other research and may be used to measure change.	Seeks information only by asking questions
easy to plan, construct and administer	Impossible to check seriousness of answers
Anonymity motivates respondents to answer questions	Problem of literacy can affect the questionnaire large distribution
It is an economical way of accumulating information of significance from international	The respondents who return the questionnaire may not constitute a representative section of the entire group.
Less pressure for immediate responses	People talk easily more than they write
Questionnaires are particularly efficient for gathering data on a large-scale basis	Constructed questions can make analysis more complex.

Source: Source Goode & Hatt, 1952; Dörnyei, 2003, 2010; Guilham, 2000

Types of Questionnaires

When read classic books of methodology, we can find authors classify questionnaires into two types: The ones administered by the researcher himself, or another person in charge of this distribution and the posted, or mailed ones. However, with the spread of information technology and social media platforms the mode of questionnaire administration has become varied, and operational.

Self-administered Questionnaires

Self-administered questionnaires fall into two types: One-to-one administration and the group administration The former involves the researcher, or someone who represents the researcher or the organization to "deliver[sic] the questionnaire by hand to the designated person and arranges the completed form to be picked up later (e. g., handing out questionnaires to colleagues at work)" (Dörnyei, 2010, p. 81). This "allows the questionnaire administrator to create rapport with the respondent, to explain the purpose of the enquiry, and to encourage cooperation" (p.81). Concerning the group administration, this refers to the situation when the administrator delivers the questionnaire to the designated groups, who can be classmates, workmates, or colleagues working the same department. Group administration is more advantageous than both the mailed and one-to-one administration in the sense that all the items can be filled out and a response rate of 100% can easily be achieved because of the administrator's physical presence.

The Mailed/Posted Questionnaire

In the absence of face-to-face contact between the questionnaire administrators and the respondents. The former resort to the mailed questionnaire, which they deliver by means of postal facilities. In this case, the researchers need to write a cover letter that addresses the following points:

• Who the writer is.

• The organization that is sponsoring or conducting the study.

• What the survey is about and why this is important or socially useful.

• Why the recipient's opinion is important and how he/she was selected.

• Assurance that all responses will be kept confidential.

• How to return the completed questionnaire.

• The date by which the completed questionnaire should be returned.

• What to do if questions arise (e. g., a contact name and telephone number).

• Possible reward for participation.

• Thank you!

• Signature, preferably by a person of recognized stature.

• Attached stamped addressed envelope (Dörnyei, 2010, pp. 77-78).

Questionnaires posted on Social Media Network

With the huge number of human presence on multiple social platforms, there is definitely a lot of information that we can gather from these podiums by carrying out a social media surveys. These platforms enable researchers, in a very short time, to either deliver their questionnaires to groups of respondents or conduct a one-to-one virtual administration.

Suggestions for Beginners

Bradburn, Sudman and Wansink (2004) recommend freshmen researchers to observe this list of rules which help them develop good questionnaires:

1- Resist the impulse to write specific questions until you have thought through your research questions.
2- Write down your research questions and have a hard copy available when you are working on the questionnaire

3- Every time you write a question, ask yourself "Why do I want to know this?" Answer it in terms of the way it will help you to answer your research question. "It would be interesting to know" is not an acceptable answer.

The Impact of the Experts' Advice on the Improvement of Questionnaire Items

Goode and Hatt (1952) recommend students developing a questionnaire to seek the advice of the experts in the field because each consultation can bring these changes:

- (1) the list of possible questions grows;
- (2) the number of areas which are of interest increases;
- (3) the number of areas which the research can cover must be decreased;
- (4) ambiguities, biases, poor phrasing, etc., are corrected gradually; and
- (5) a closer logical relationship develops between the parts of the [questionnaire] (p. 136).

Layout of the Questionnaire

The way in which the parts of the questionnaire are arranged is of great significance. Due to the fact that the main interface between researchers and respondents is the hard copy, or the soft version of this instruments, "the format and graphic layout carry a special significance and have an important impact on the responses…. [Accordingly] producing an attractive and professional design is half the battle in eliciting reliable and valid data" (Dörnyei, 2010, p. 19). According to the author, this can be achieved by a five-stage process, which considers a booklet format, paper quality, appropriate density, orderly layout and sequence making.

In the same way, a cover letter almost always accompanies the questionnaire explaining to the respondents:

Title: The scope of the researched Topic

Who is doing the research?

Why has the researcher conducted this study

Why should the respondents bother to answer?

How should the questionnaire be filled out?

Questionnaire Items

Final 'thank you': the respondents should be thanked for their cooperation at the very end of the questionnaire. After all, they have done us a favor (Dorney, 2010, p. 30).

Recognition of Poor Questions

Goode and Hatt (1952, pp. 158, 9 & 60) provides a checklist, which identifies

1. Lack of order in the answers.
2. "All-or-none" responses: we can suspect that our question has elicited a mere stereotyped response or cliche, if all respondents answer the same way.
3. A high proportion of "don't know" or "don't understand" answers.
4. A great number of qualifications, or irrelevant comments
5. A high proportion of refusals to answer
6. Substantial variation in answers when the order of questions has been changed.

Questions

- Read the definitions offered for the term 'questionnaire' and attempt to provide a comprehensive definition to the same.
- Compare between Brown's (2001) definition of the questionnaire to the one provided by Goode and Hatt (1952).
- What do questionnaires measure?
- List the Components of the Attitudinal Questions.
- Define the following: Attitudes:

  Opinions:

  Beliefs:

  Interests:

  Values :
- In relation to degree of structure questionnaire are organized into :….....

  …….
- List the advantages and disadvantages of questionnaires.
- How can questionnaires differ in terms of logistics?
- Mention the main suggestions offered by Bradburn, Sudman and Wansink (2004) to help freshmen researchers develop a good questionnaire.

What is the impact of experts' advice on the improvement of questionnaire items?

Draw a layout of the questionnaire.

Lecture Eight: Constructing Questionnaire Items

> The important thing for the student to bear in mind here is that every item in a questionnaire ideally constitutes a hypothesis, or part of a hypothesis, in itself. That is, the inclusion of every item should be defensible on the grounds that the researcher can logically expect the answer to be significant for his central problem. This obviously requires the fullest possible knowledge of the area in which he is working (Goode and Hatt, 1952, p.133).

Objectives: By the end of the lesson, the students will be able to design:

a- closed questions:

- dichotomous questions
  - Multiple-choice questions
  - Types of questionnaire items
  - Rank ordering
  - Rating scales
  - Constant sum questions
  - Semantic differential scales
  - Ratio data questions

b- Open-Ended Questions

  - Specific open questions
  - Clarification questions
  - Sentence completion items

c- Short Questions

There are several kinds of question and response modes in questionnaires, including, for example, dichotomous questions, multiple-choice questions, rating scales, constant sum questions, ratio data and open-ended questions.

Closed Questions

Closed Questions include, for instance, dichotomous questions, multiple choice questions, rating scales, and ratio data questions (see Table 4).

Table 4: Types of Closed Questions

<table>
<tr><td>List</td><td>A list of items is offered, any of which may be selected. For example, a question may ask about qualifications and the respondent may have several of the qualifications listed.</td><td>Indicate your qualifications by encirling any of the following: diploma, B.A., M.A, Ph.D.</td></tr>
<tr><td>Category</td><td>The response is one only of a given set of categories. For example, if age categories are provided (20–29, 30–39, and so on), the respondent can only fit into one category. Take care not to use overlapping ages such as 20–29 and 29–39).</td><td>Indicate your salar range by encirling any of the following:
Less than 20.000
20000-40000 …… 40000 - 60000</td></tr>
<tr><td>Ranking</td><td>In ranking questions, the respondent is asked to place something in rank order. For example, the respondent might be asked to place qualities or characteristics in order.</td><td>Rank the following from 1 to 4 in order of preference
I like to learn best by studying:
a) with the whole class – b) in small groups c) in pairs d) independently</td></tr>
<tr><td>Quantity/ Frequency</td><td>The response is a number (exact or approximate), giving the amount of some characteristics.</td><td>How often did you practice English out of class last wee?
0,1,2,3,4,5,6,7,8,9, more than 10</td></tr>
<tr><td>Grid</td><td>A table or grid is provided to record answers to two or more questions at the same time</td><td>How many NESB students are there in the following classess
<table>
<tr><td></td><td>0-5</td><td>5-10</td><td>10-15</td><td>15+</td></tr>
<tr><td>Year 1</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Year 2</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Year 3</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Year 4</td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Scale</td><td>There are various stages of scaling devices which may be used in questionnaires, but they require careful handling</td><td>Cirle on of the following to indicate your attitude
I like to learn through interacting with native speakers.
Strongly agree - agree – neutral – diagree - strongly disagree</td></tr>
</table>

Source, Bell, 1986, 2005, p. 14

Dichotomous questions

Dichotomous questions, which can take several form. These can take several forms require ‘yes’/‘no’ responses, agree/do not agree.

a) Have you studied foreign languages at the primary school?

Yes ☐ No ☐

b) Do you your boss allow you to use smart phones at work?

Yes ☐ No ☐

c) Do your teachers use students' native languages in English language classes?

Yes ☐ No ☐

d) Social distancing and wearing masks can reduce Covid-19 infection by 100%

Agree ☐ Do not agree ☐

Multiple-choice questions

This type of questions require the respondents to tick, cross or mark one or more options. Guidance would have to be given on the completion of the multiple-choice, clarifying, for example, whether respondents are able to tick only one response (a single answer mode) or several responses (multiple answer mode) from the list.

a) Which of the following precautions can make people safer from Covid-19 infection?

You can choose more than one option

Social Distancing ☐

Wearing Masks ☐

Hygiene and cleanliness ☐

Taking ant-Covid-19 Vaccines ☐

b) Which of the following means of transportation do you take when you go to university (you may tick more than one answer)

The University Student Bus ☐

Municipality Bus ☐

Taxi ☐

☐

Tramway

My own car ☐

Rank ordering

Rank ordering questions require respondents to identify priorities. Obviously, this is what Guilham (2000) means when he write "a slightly more subtle way of getting people to express preferential judgements is to ask them to rank items in order of preferences" (p. 31).

Please place these in rank order from the most sold vaccine to the least sold, by putting the position (1–5) against each of the following statements, number 1 being the most sold and number 5 being the least sold:

a) The best-selling COVID-19 vaccines and drugs in the first quarter of 2021 are:

Johnson & Johnson's single-shot COVID-19 vaccine ☐

Pfizer-BioNTech COVID-19 vaccine ☐

Sinovac Biotech's CoronaVac (vaccine) ☐

Moderna COVID-19 vaccine ☐

Pfizer-BioNTech COVID-19 vaccine. ☐

c) Would you organize in rank order the precautions below from the most efficient to the least efficient against Covid-19 infection?

You can choose more than one option

Social Distancing ☐

Wearing Masks ☐

Hygiene and cleanliness ☐

Taking ant-Covid-19 Vaccines ☐

Avoid hand shaking ☐

Rating scales

According to Dorney (2003) ratings scales:

> require the respondent to make an evaluative judgement of the target by marking one of a series of categories organized into a scale. The various points on the continuum of the scale indicate different degrees of a certain category; this can be of a diverse nature, ranging from various attributes (e. g., frequency or quality) to intensity (e. g., very much -» not at all) and opinion (e. g., strongly agree -> strongly disagree) (p.45, [parentheses in original]).

a) How significant do you consider pre-service training to university teachers?

Not at all ☐

Very little ☐

A little ☐

Quite a lot ☐

A very great deal ☐

a) All students should have access to master education in Algeria.

Strongly disagree ☐

Disagree ☐

Neither agree nor disagree ☐

Agree ☐

Strongly agree ☐

b) The Algerians are very generous people

Strongly Approve ☐

Approve ☐

Neither approve nor disapprove ☐

Disapprove ☐

Strongly disapprove ☐

Constant sum questions

In this type of question, respondents are asked to distribute a given number of marks (points) between a range of items

Please distribute a total of 10 points among the sentences that you think most closely describe your behaviour. You may distribute these freely: they may be spread out, or awarded to only a few statements, or all allocated to a single sentence if you wish.

For example, we may wish to distribute 10 points for aspects of an individual's personality:

a) Would please distribute 10 points for the best aspects of workers' traits.

Well-disciplined ☐

Hardworking ☐

Self-indulgent ☐

Highly-skilled ☐

Punctual ☐

Energetic and enthusiastic ☐

Reliable and responsible ☐

Readily adaptable ☐

b) Would please distribute 10 points for the worst characteristics of persons

Arrogance ☐

Deception ☐

Delusion ☐

Dishonesty ☐

Ego ☐

Envy ☐

Greed ☐

Hatred ☐

Immorality ☐

Lying ☐

Selfishness ☐

Semantic differential scales

Semantic differential scales ask respondents "to indicate their answers by marking a continuum (with a tick or an 'X') between two bipolar adjectives on the extremes" (Dorney, 2003, p. 39). For example:

a) Using mother tongue in foreign language classes is:

Efficient inefficient

b) Visual aids in language teaching are:

Useful useless

c) Riding motorcycles on sand dunes is:

Easy Difficult
Wise foolish

The author identifies three major factors of meaning involved in semantic differential scales:

• evaluation, referring to the overall positive meaning associated with the target (e. g., good-bad, wise-foolish, honest-dishonest);

• potency, referring to the target's overall strength or importance (e. g., strong-weak, hard-soft, useful-useless);

• activity, referring to the extent to which the target is associated with action (active-passive, tense-relaxed, quick-slow) (p. 36[parentheses in original]).

Ratio data questions

Ratio data questions deal with continuous variables where there is a true zero, for example:

a) How old were you when you got your PhD?

   Answer: 30 years old

b) How much money did you earn of your cooperation with BBC TV?

   Answer: 30000 £

a) How often have you been late for the meeting?

   Answer: 30mn

b) How many marks did you score in the mathematics test?

c) Answer: 15/20

2. 5 Open-Ended Questions

Open-ended, or constructed questions can be viewed as the ones, which include items where the actual question is not followed by response options for the respondent to choose from but rather by some blank space (e. g., dotted lines) for the respondent to fill" (Dorney, 2003, p. 74). In other words, these type of questions require respondents to provide their own constructed answers. On his part, Guilham, (2000), points out that in open questions the response "indicates what you want to know but it does not provide a predetermined choice for answers…., the great advantage of specifying the range of answers to the questions is that, in fact, the respondent does the analysis for you" (p. 63).

Research methodologists recommend the placement of open-ended questions at the end of the questionnaire for the following reasons. First, they will not be answered at the expense of the closed items. Second, long answers tend to discourage respondents to complete the questionnaire. Third, these answers are time consuming, which affect questionnaire returns.

Subtypes of Open Questions

Subtypes of open-ended questions include four main items: specific open questions, clarification questions, sentence completion items, and short answer questions (Dörnyei, 2003) (see Table 5)

Table 5: Subtypes of Open Questions

Specific open questions	ask about concrete pieces of information, such as facts about the respondent, past activities, or preferences	Which is your favorite television program/weekend activity? What languages have you studied in the past?
Clarification questions	Certain answers may be potentially so important that it is worth attaching a clarification question to them,	If you rated the course-book you are using as "poor" or "very poor, "please briefly explain why. Write your answer here ……..
Sentence completion items	A simple question is often less effective in eliciting a meaningful answer than an unfinished sentence beginning that the respondent needs to complete. A good completion item should be worded so that it directs the respondent's attention to a well-defined issue/area	One thing I liked about this activity is…… One thing I didn' t like about this activity is…….. I found this activity
Short-answer questions	Good short-answer questions are worded in such a focused way that the question can be answered succinctly, with a 'short answer' - this is usually more than a phrase and less than a paragraph (and certainly no more than two paragraphs). short-answer questions do not ask about things in general, but deal with only one concept or idea.	What was it you found most useful about the workshop? What were the most effective aspects of this course? What were the least effective aspects of this course? How could this course be further improved?

Dörnyei 2007, pp. 48-50

Specific Open questions

Dörnyei (2003) emphasizes that "there are degrees of openness in open questions. The more specific you are, the less variety of the answers. However, if the question is wide open you may find it impossible to reduce or categorize elements of the answers" (p. 65). Specific open questions seek to collect specific concrete data about the respondents previous activities or preferences. For example:

a) Who is your most favourite football player?

   Answer: Antar Yahya

b) What is your preferred TV programme?

   Answer: BBC Hard Talk

c) What foreign languages have you studied at the university?

   Answer: English and French

Clarification questions

Certain answers may be potentially so important that it is worth attaching a clarification question to them, for example in a 'routed' form: If you rated the course book you are using as "poor" or "very poor, " please briefly explain why. Write your answer here:

a) Which means of transportation do you take when you travel from Eloued to Algiers?

   Answer: …….

   Please explain why?: ……...

b) How do you rate social media communication?

   Answer:……..

c) Which element did you find most useful?" ……

d) Which element might be improved? ……

   How? Please write in the answer: …….

Sentence completion items

A simple question is often less effective in eliciting a meaningful answer than an unfinished sentence beginning that the respondent needs to complete. I have successfully used this technique on various feedback forms in particular. A good completion item should be worded so that it directs the respondent's attention to a well-defined issue/area. Sometimes respondents are asked not to 'agonize' over the answers but jot down the first thing that comes to mind. For example:

a) The main cause of forest fire in Algeria is ……..

b) Violent disputes in family lead to ……

c) The thing you liked most in English language classes is …….....

Short-answer questions

The term 'short-answer questions' is sometimes used to distinguish these questions from 'essay questions' (which are not recommended in ordinary questionnaires and therefore will not be discussed). Short answer questions involve a real exploratory enquiry about an issue.

How did you find your first contact with the sports teacher?

Answer: ……

How often have you been late for the linguistics lecture?

Answer: …….

What reason made you quit the soccer team?

……..

that is, they require a more free-ranging and unpredictable response. As Gillham (2000, pp. 34-35) concludes, these questions:

The Ten Commandments of Questionnaire Item Writing

Ellard and Rogers' (1993) suggest "Ten Commandments" for question writing. In the first, they advise researchers not to include double-barreled items. For instance, do you feel shocked and disappointed of your children's school report? This is because respondents can be shocked but not disappointed. Instead, they advise splitting this type into two separate questions. Second, the inclusion of 'no' and 'not', or words starting with the prefixes 'un' 'dis' 'im' can confuse respondents because "negative qualifiers contribute to the complexity of the question" (p. 17). The third commandment endorses the use of the jargon and terminology that is in tight relation to the research topic and encourages the avoidance of the lexicon, which is not related to the focus of respondents. The fourth recommends against the use of complex grammatical forms. However, the fifth advocates against the excess of using negative terminology by setting equilibrium between positive

and negative responses. The six campaigns for avoiding redundancy because "respondents often believe redundant question intendeds to trick them or check their level of honesty" (p. 18). The seventh commandment directs us to avoid questions that transmit bias. For instance, do you agree that the government should stop wasting money on musical concert? The eighth commandment argues against mixing different formats of questions in the same subsections. In the ninth commandment, we read that the inclusion of 'neutral alternative answers' can have effects on the reliability and validity of the respondents' answers. An in the tenth commandment, we find some advantages of the pretesting the questions because this "can help to identify concerns such as levels of difficulty, accurate interpretation of question, and respondents' motivation" (p. 20).

For concise reasons, we offer the summarized list of Ellard and Rogers' (1993), which is called the 'Ten Commandments':

I. Thou shalt not create double-barreled items.

II. Thou shalt not use 'no' and 'not' or words beginning with' un' .

III. Thou shalt match the vocabulary used in items to the vocabulary of those who will respond to them.

IV. Thou shalt not use complex grammatical forms.

V. Thou shalt have 40% to 60% true- or agree-keyed items.

VI. Thou shalt not use redundant or irrelevant items.

VII. Thou shalt not permit any loaded questions to appear in your questionnaire.

VIII. Thou shalt not mix response formats within a set of questions.

IX. Thou shalt not permit a non-committal response.

X. Thou shalt pretest questions before collecting data (p. 17).

Lecture Nine: The Interview

> Interviewing is fundamentally a process of social interaction. Its primary purpose may be research, but this is its purpose for the investigator. For the respondent, its foundation and meaning may be different. Even if both have research as an interest, the process of obtaining information is so structured by its character as social interaction that considerable attention to this aspect is required. The process of social interaction in the interview is complicated by the fact that the interviewee also has insight. This means that the interviewer must not only attempt to be conscious of the real meaning of the answers made by the interviewee; he must also be aware of the fact that his respondent is, in turn, guessing at the motives of the interviewer, responding to the embarrassment of the latter, even to the lack of insight on his part. At times, the respondent will give more information because he feels the interviewer "already knows." He responds, then, to the image of himself which he believes the interviewer possesses. This is of real importance when the interviewer must "probe" in order to test or check another answer (Goode & Hatt, 1952, pp. 186- 187)

Objectives

Teaching of this lecture intends to enable the students to:

a- Define the scope and constituents of the interview
b- Distinguish between the research interview and every day conversation
c- Categorize the interview according to their structure, mode and format
d- Standardize the Interviewers
e- Identify Role of the Interviewer
f- Describe the different phases of the interview

Definition of the Interview

According to Brown (2001), interviews can be defined as the "procedures for gathering information orally in specific, planned categories (if the interview is well structured in advance) as well as information that was not anticipated at the outset" (p. 5).

In the same perspective but on a more detailed manner, Gillham (2005) defines the interview as the "questions [which are] asked, or topics raised…with the interviewee determining their own answers. The relationship between interviewer and interviewee is responsive or interactive, allowing for a degree of 'adjustment': clarification, exploration" (pp. 3& 4). For Goode and Hatt (1952), the interview "is a list of points or topics which an interviewer must cover during the interview. In this case, considerable flexibility may be allowed as to the manner, order, and language in which the interviewer asks the questions" (133). As for Cohen, Manion and Morrison (2018), "an interchange of views between two or more people on a topic of mutual interest, sees the centrality of human interaction for knowledge production, and emphasizes the social situatedness of research data" (p. 506). On its part, the Dictionary of Research Methodology and Statistics in Applied Linguistics (2012) emphasizes that in this method:

> [the] researcher and participant engage in a conversation focused on questions related to a research study. These questions usually ask participants for their thoughts, opinions, perspectives, or descriptions of specific experiences… Its main function is to provide a framework in which respondents can express their own thoughts in their own words" (P. 294).

Seliger and Shohamy (1989) consider the interview as the instrument, which seeks:

> to obtain information by actually talking to the subject. The interviewer asks questions and the subject responds either in a face-to-face situation or by telephone. Interviews are personalized and therefore permit a level of in-depth information-gathering, free response, and flexibility that cannot be obtained by other procedures. The interviewer can probe for information and obtain data that often have not been foreseen (p. 255).

The interview Vs Every day Conversation

Research methodologists set some criteria to distinguish between research interviews and every day conversations (see table 6).

Table 6 : Difference between Research Interview and Ordinary Conversation

Research Interview	ordinary, everyday conversation
The order of the interview may be controlled	Provides space for spontaneity
it has a specific purpose	Does not have a clear or predetermined purposes
Collects data	Not interested in data collection
it is often question-based	Conversation-based
the questions being asked by the interviewer	Everyone taking part in the conversation can ask questions
the responses must be as explicit	Participants can ignore responding to questions
The interview is a constructed and usually a specifically planned event	a naturally occurring situation,
follow a prescribed set of questions	does not follow a prescribed set of questions,
Occurs after an appointment is set and approved by the interviewer and the respondent	does not occur by appointment
The presence of respondents is Indispensible	does not have 'respondents'

Sources: Adopted from Cohen, Manion and Morrison, 2018, p. 506; Dyer, 1995, pp. 56-8 and Kvale (1996, pp. 7 & 8).

These criteria, as summarized by Kvale (2007) include the structure of the interview, its purpose, the spontaneity, or planning of role taking and themes, the professionalism in the organization, wording, and aims of the questions:

> The interview is a conversation that has a structure and a purpose determined by the one-party, the interviewer. It is a professional interaction, which goes beyond the spontaneous exchange of views as in every day conversation, and becomes a careful questioning and listening approach with the purpose of obtaining thoroughly tested knowledge (p. 7).

Kvale emphasizes that the closeness, or likelihood of the interview to every day conversations "may have implied an illusory simplicity, which has contributed to

the popularity of research interviewing – it is too easy to start interviewing without any preceding preparation or reflection" (p. 8).

Purpose of the Interview

The main purpose of the collection of data in the field of scientific research is to study relations between variables and test hypotheses. For this reason, the answers of respondents can be translated into measure of variables. In this perspective, Kerlinger (1973) explains that the interviews are used for three main functions: explanatory, as a measure of variables, and as a supplement to the other methods:

One, it can be an exploratory device to help identify variables, to suggest hypotheses, and to guide other phases of research. Two, it can be the main instrument of the research. In this case, questions designed to measure the variables of the research will be included in the interview. These questions are then to be considered as items in a measurement instrument, rather than as mere information gathering devices. Three, the interview can supplement other methods: follow up expected results, validate other methods, and go deeper into the motivations of respondents and their reasons for responding as they do (p. 483).

On their part, Cohen, Manion & Morrison (2018, p. 562) argue that interviews can serve seven different purposes:

a- to understand, evaluate or assess a person, situation or event(s) in some respect;
b- to select or promote an employee;
c- to effect therapeutic change (e.g. the psychiatric interview)
d- to test or develop hypotheses;
e- to develop a research instrument such as a survey
f- to gather data, as in surveys, experimental situations and case studies;

g- to sample respondents' opinions

Role of the Interviewer

Floyd and Fowler (2014) identify three major roles of the interviewer. The first is to find, locate, enlist, and ensure the cooperation of his subjects. The second role has to do with training and motivation. In other words, he needs to train and motivate his subjects for the best cooperation. The third is "to ask questions, record answers, and probe incomplete answers to ensure that answers meet the question objectives" (Floyd & Fowler, 2014, p. 110).

Standardization of Interviewers

Why do researchers recommend the standardization of interviewers? The answer to this question lies in the fact that researchers found that the differences between respondents' answers are mostly attributed to differences in what these "respondents have to say (i.e., their views and their experiences) rather than to differences in the stimulus to which they were exposed (i.e., the question wording, the context in which it was asked, and the way it was asked)" (Floyd & Fowler, 2014, p. 112, [parentheses in original]). This explains that the main purpose of this training, which seek to attain interviewer's standardization, is to ensure that they "do not affect the answers they obtain" (p. 212).

Having talked about the purpose of standardizing interviewers, let us now attempt to answer another question: what are the main aspects that researchers recommend to standardize in interviewers' behavior? Floyd and Fowler (2014) highlight five ones:

a) the way they present the study and the task;

b) the way questions are asked;

c) the way inadequate answers are probed;

d) the way answers are recorded;

e) and the way the interpersonal aspects of the interview are handled (p. 112) .

Types of the Interview

We can classify the research interviews into several types according to their form (structured, semi-structured, and unstructured), content and depth (focus interviews), mode (face-to-face vs distant interviews, and number and level of participants (individual vs group interviews (1).

Format of the Interview

As long as the superficial appearance of the interview, of course, without ignoring the impact of its content, this data-gathering tool can be organized into three types: structured, semi-structured, and unstructured.

The Structured Interview

In this type, the researcher designs a list of items, where there is little room for both the flexibility of asking the questions and spontaneity in the collected data. This implies that the researcher:

> follows a pre-prepared, elaborate 'interview schedule/guide', which contains a list of questions to be covered closely with every interviewee….Such tightly controlled interviews ensure that the interviewee focuses on the target topic area and that the interview covers a well-defined domain, which makes the answers comparable across different respondents (Dörnyei, 2007, p. 135) .

The Unstructured Interview

The unstructured interview, which is labeled as the 'ethnographic interview' allows flexibility in the way questions are asked, in the way other questions can stem out of the respondents' spontaneous responses. In this format, researchers do not build their data collection on detailed interview guide, but on the type of rapport, they usually establish with respondents. Unlike in structured interviews, where all the questions are closed, the main of aim the unstructured interview is to motivate respondents to provide as much information as they can do (Dörnyei, 2007, 2003, 2010). According to Nunan (1992) this type "is guided by the responses of the interviewee rather than the agenda of the researcher. The researcher exercises little or no control, and the direction of the interview is relatively unpredictable" (p. 149).

Semi-structured Interviews

According to Dörnyei (2007) the semi-structure interview:

> offers a compromise between two extremes: Although there is a set of pre-prepared guiding questions and prompts, the format is open-ended and the interview is encouraged to elaborate on the issues raised in an exploratory manner. In other words, the interviewer provides guidance and direction (hence the 'structured part in the name), but is also keen to follow up interesting developments and to let the interviewee elaborate on certain issues (hence the semi-part) (p. 136, [parentheses in original]).

For Nunan (1992), in the semi-structured interview knows the scope his questions intend to target, and the type of information they seek the elicit "but does not enter the interview with a list of predetermined questions. Topics and issues rather than questions determine the course of the interview" (p. 149).

Table 7: Structure of the Interview

Structured (questions all agreed in advance. Interviewers must stick rigidly to a script)	Surveys are usually structured to provide for the most robust test of the hypothesis	Used only for collecting standard information about informants
Semi-structured (main questions and script are fixed, but interviewers are able to improvise follow-up questions and to explore meanings and areas of interest that emerge)	Commonest in qualitative work, where there is a desire to hear what informants have to say on the topics and areas identified by the researcher. However, survey interviews may sometimes also have room for the interviewer to improvise questions to clarify or extend answers	
Unstructured (the interviewer may have a list of broad topics or themes to explore, or may even have none. The direction is largely set by the informant)	Unusual. However, the interviewer may be allowed the discretion to ask questions at the end of the interview to explore things that come to be of interest	Although this approach may seem to be the epitome of qualitative approaches, it is most often used early in a study with the intention of generating a script for subsequent, semi structured enquiries

Guilham, 2000, Source: p. 7

One-to-one Interview

This type involves a prearranged meeting between the interviewer and his respondent. This type is easy to arrange and easy to control. Moreover, the use of recording instrument can be more operational and more efficient. Additionally, the information we seek to draw could be more focused. However, some the disadvantages relevant to this type is the issue of reliability. Information drawn from one respondent could reduce the scope of its reliability.

Group Interviews

This type involves a prearranged meeting between the interviewer and a group of respondents. This type is not easy to arrange and more difficult to control. Unlike one-to-one interviews, which limit the number of views for testing hypotheses, group interviews maximize the rate of information validity and measurement reliability. This is because

when respondents provide their answers, they do so 'as part of group, rather than as individuals'. In this perspective, Denscombe, (2014) emphasizes that the "inclusion of more participants is likely to mean that a broader spectrum of people are covered by the research and that there might be a greater variety of experiences and opinions emerging from the investigation" (p. 188).

Focus Groups

Denscombe (2014) conceptualizes the term 'focus groups' from several orientations, which include a moderator, the size of the group, the aim of their meeting, the type of the topic they tend to explore and the time devoted to the investigation of this topic:

> Focus groups consist of small groups of people who are brought together by a 'moderator' (the researcher) to explore attitudes and perceptions, feelings and ideas about a specific topic. Typically[,] they last for 1½ to 2 hours and are useful for gauging the extent to which there are shared views among a group of people in relation to a specific topic. Ideally, focus groups have six to nine people in them… In small-scale research projects the numbers are often smaller. (p. 188).

Distinctive feature of Focus Groups

We can highlight four main distinctive features to focus groups. One, there a focus to the session in which all the members of the group concentrate on a shared topic, involvement, or an experience. Two, the role of the interviewer in focus groups is to facilitate the discussion rather than to orient it. Three, "particular emphasis is placed on *group dynamics* and interaction within the group as means of eliciting information" (Denscombe, 2014, p. 189, [italics in original]). Four, the best focus groups is not the ones that only offer "data on *what* the participants think but also *why* they think the way they do" (Morgan, 2006, p. 121).

Face-to-Face Interviews

Face-to-Face Interviews involve in-person meeting between the interviewer and his/her interviewee(s). This implies that the data can be elicited from one subject at a time, or can involve a group of interviewees. In this type of interviews, the researcher needs to secure the agreement of the respondents, to arrange a convenient site and appropriate timing. As soon as the contact starts, the researcher is required "to be attentive; sensitive to the feelings of his informants; *tolerate silences* during the talk, adept at using prompt and probes; ask non-judgemental questions" (Denscombe, 2014, p. 191).

Telephone Interviewing

Telephone Interviewing involve arranging contact with respondent on the phone. Some researchers consider it more advantageous than face-to-face interviews in terms of time and costs. Furthermore, it can target various geographical areas. However, mobile phones and smart phones have extended the range of this elicitation method to include "SMS text questions and answers…images and multimedia features" (Denscombe, 2014, pp. 12 & 13).

Online interviews

Online interviews "can be conducted with anyone who has access to a computer and the Internet. The advantage of this mode is that it enables "the researcher to interview people across the world without worrying about the time and costs of travel" (Denscombe, 2014p. 197). This type can be conducted in real time (live) using but not limited communication, or social media software, such as the Skype, the messenger, the email, the zoom, Google meet, and many other social networking sites.

Phases of the Interview

According to Guilham (2005, p. 37) researchers can initially think of the interview in terms of four main stages:

•the introductory phase,

•the opening development of the interview,

•the central core of the interview,

•bringing the interview to a close, both socially and in terms of content.

Features of the Interview

Gillham, B. (2005) describes three main features of the interview, which are organized in terms of the openness of the questions, the type of the relationship between the interviewer and interviewee, and the structure and purpose on the part of the interviewer even if the context is naturalistic or informal:

1 Questions asked, or topics raised, are 'open' with the interviewee determining their own answers. This is a key distinction from questionnaires where normally the researcher not only asks the questions but provides the answers in some sort of choice format.

2 The relationship between interviewer and interviewee is responsive or interactive, allowing for a degree of 'adjustment': clarification, (4) exploration, for example: Tell me more about that, or I don't think I quite understand.

3 There is structure and purpose on the part of the interviewer even when the context, like informal questioning in real-life settings, is 'natural' or at least naturalistic in the sense of taking advantage of opportunities that arise (pp. 3-4).

The Use of Probes and Prompts

Despite the fact that open questions require respondents to provide constructed answers, this does not mean that researchers have no control over the way the interviewee responds. On the contrary, researchers need to steer for the direction of the answers and ensure that key parts of the interview are covered. Steering for the direction of the answers involves the use of 'prompts"; however, the main aim of 'probes' is to make sure that all the data, even the ones not collected by the prepared questions are elicited. For more clarification between the two techniques Gillham (2000) writes:

> The use of 'open' questions doesn't mean that you have no control over the way the interviewee responds. Indeed, your (unobtrusive) control is essential if you are going to achieve your research aims, i.e. you need to 'steer' for the direction and also ensure that key points or topics are covered. The first of these involves the use of 'probes' (p. 45).

Let us define the concept of probing in the process of interviewing. This refers to the "skill that comes from knowing what to look for in the interview, listening carefully to what is said and what is not said, and being sensitive to the feedback needs of the person being interviewed" (Paton, 2015, p. 682).

Concerning probes, Paton emphasizes that they are "follow-up question[s] used to go deeper into the interviewee's responses….Probes are used to deepen the response to a question, increase the richness and depth of responses, and give cues to the interviewee about the level of response that is desired" (680).

In his explanation of the process of probing, Fowler (2014) points out that:

> If a respondent does not answer a question fully, the interviewer must ask some kind of follow-up question to elicit a better answer; this is called probing. Interviewers are supposed to probe incomplete

> answers in nondirective ways—ways that do not increase the likelihood of any one answer over another (p. 112).

Example of Probes

Probes can, for instance, range from repeating the question, asking for an example, for some clarification to asking for some more details.

For example: "anything else?", "Tell me more," or "How do you mean that?"

When did that happen?

Who else was involved?

Where were you during that time?

What was your involvement in that situation?

How did that come about?

Where did that happen? (Fowlers, 2014 & Patton, 2015).

Types of Prompts

We start with Patton (1990) who identifies three types of probe: detail-oriented probes, elaboration probes, and clarification probes. As the names of probes suggest, the first type seeks for more details in case respondents do not provide sufficient information. The second types contributes to their elaboration of the response. Concerning the third type, it as works for the clarification of incomplete, or ambiguous answers.

On their part, Beatty and Willis (2007) identify four types of probe (p. 300):

anticipated probes: pre-scripted probes to follow up on an initial question.

Spontaneous probes: not pre-scripted, where the interviewer decides on the spur of the moment what to probe, which is not based on a particular response from the interviewee;

Conditional probes: pre-scripted probes which are only used if the respondent answers in a particular way or hesitates.

Emergent probes: not pre-scripted, where the interviewer decides to probe in response to what the interviewee says

Priede *et al*. (2014, p. 560) add three further types:

Cognitive probes: focusing on the interviewee's understandings and interpretations of the question

Confirmatory probes: 'to check that the information given by the respondent is thus far correct' (p. 560);

Expansive probes: seeking further information and details from the interviewees.

The Prompts

According to Denscombe (2014), "prompts can offer some examples (to help with answering the question). Repeat the last few words spoken by the interviewee (to invite them to continue) Repeat the question (to clarify and allow more time for a response) Remain silent (to allow a pause that encourages them to pursue their thoughts)" (p.93, [parenthesis in original]).

Probes: Ask for an example Ask for clarification Ask for more details

Check: Summarize their thoughts, e.g. So, if I understand you correctly . . .
What this means, then, is that . . .

Clarification, showing appreciation and understanding, justification, relevance, Giving an example, Extending the narrative, Accuracy (Guilham, 200047,8, 49).

Conducting the Interview

Conducting interviews is proceeded by the planning process, which involves the planning process. The latter starts with sampling, the type of questions, which structure is appropriate for the research, the design of the final draft of the interview?

Cohen, Manion & Morrison (2018, p. 562) Kvale (1996, p. 88) delineates several stages in the planning of an interview investigation: thermalizing; designing; interviewing; transcribing; analysing; verifying; and reporting

stage 1: thematizing (1)

stage 2: designing (2)

stage 3: construction of schedules (3) interviewing)

stage 4: question formats (4 transcribing)

stage 5: response modes (5 analyzing)

stage 6: conducting the interview (verifying)

stage 7: transcribing (7 reporting)

stage 8: analyzing

stage 9: verifying

stage 10: reporting (Cohen, Manion & Morrison, 2018, pp.512, 13, 14, 16, 17, 23, 24 & -26; Kvale, 1996, pp. 35-6).

Practice: Answer the questions below according to the information provided in the lecture

Supply a definition to the interview

Draw a distinction between Goode and Hatt' (1952) and Kerlinge's (1973) definitions of the interview.

How can we differentiate between the interview and every day conversation?

What are the main characteristics of good interviewers?

What is the main reason for standardizing the interviewers?

What does the standardization of interviewers involve?

What are the main aspects that researchers recommend to standardize in interviewers' behavior?

List the main types of interviewers.

Based on your interview lecture, write a short (5 questions Vs Five answers):

a- Structured interview

b- Unstructured interview

c- Semi-structured interview

What are the main difficulties of phone interviewing?

List the advantages and the drawbacks of social media networks interviewing.

List the distinctive feature of focus group interviewing.

In what aspects is the face-to-face interviewing more advantageous that the other types?

What are the main differences between probes and Prompts?

What are the different types of probes?

Write a short interview (5question and (five answers) in which you illustrate the efficiency of probes and prompts.

What does the planning of the interview include?

Lecture Ten: The Observation

> Science begins with observation and must ultimately return to observation for its final validation. The sociologist must, then, train himself to observe carefully. If he can become a good observer, he will start his investigation with more data at his disposal, be less likely to forget that his object of study is social behavior, and be able to maintain a continual check on his conclusions more easily (Goode & Hatt, 1952, p. 119).

Objectives: By the end of the Lecture, the learners will be able to:

a- Describe the scope of scientific observation
b- Differentiate ordinary and research observations
c- Categorize the different types of the observation
d- Design the predetermined criteria for structured observations
e- Engage in unstructured observations
f- Identify the ask of the observer
g- Take appropriate roles in participant/nonparticipant/covert/overt observations
h- Conduct scientific observations

Description

Observing human behavior refers to the process of looking at other people, spotting what they do, listening to what they say, or inferring their characteristics, feelings, reactions, or intentions. However, for this method to be satisfactory for science, the researcher should seek dependable and objective data "from which he can draw valid inferences. He treats the

observation of behavior as a part of measurement procedure: he assigns numerals to objects, in this case human behavioral acts or sequences of acts, according to rules" (Kerlinger, 1978, p. 537).

Definition of the Observation

The Dictionary of Research Methodology and Statistics in Applied Linguistics (2012) defines the research observation as:

> a data collection method of generating data which involve the researcher immersing him/herself in a research setting, and systematically observing dimensions of that setting, interactions, relationships, actions, events, etc., within it. When collecting data using observational techniques, researchers aim to provide careful description of subjects' activities without unduly influencing the events in which the subjects are engaged. The distinctive feature of observation as a research process is that it offers an investigator the opportunity to gather live data from naturally occurring social situations (p. 425).

The Task of Scientific Observer

According to Kerlinger (1975), in real life, we as humans observe what other people, we infer what these people mean when they talk and interact. Moreover, built upon these observations, we can infer the characteristics, motivations, feelings, and intentions of others. However, the question that needs to be answered is whether this type of observation collects data for scientific research. Kerlinger comments that "[t]his day-by-day kind of observation of most people, however, is unsatisfactory for sciences" (p. 537). Reliably, what should a researcher do in scientific observation? Kerlinger emphasizes that:

> [t]he social scientist must also observe human behavior, but he must be dissatisfied with the inadequacy of uncontrolled observations. He seeks reliable and objective observations from which he can draw valid inferences. He treats the observation of behavior as part of a measurement procedure: he assigns numerals to objects, in this case, human behavioral acts, or sequences of acts, according to rules (p.537).

Observation Settings

The observation enables researchers on four types of settings: the physical, the human, the interactional, and the program settings (Morrison, 1993, p. 80, as cited in Cohen, Manion & Morrison, 2018, p. 542).

a) The Physical Setting: This setting describes the location where the researcher is going to conduct his research, and the physical environment that might affect the observation

b) The Human Setting: This has to do with the sample under investigation, and the characteristics relevant the groups or individuals being observed.

c) The Interactional Setting: This attempts to have an overall view of the interactions, which take place in the physical setting, the extent of formality (formal Vs informal), whether this interaction under study is planned, or unplanned as well as its medium (verbal/ nonverbal).

d) The Program Setting: This setting describes the resources generating the observation and their organization.

Strengths and Weaknesses of the Observation

Simpson and Tucson (2003) identify the following strengths of the observation as a data-gathering tool:

- The Observation can give direct access to social interactions.
- It can give permanent and systematic records of social interactions.
- It can enrich and supplement data gathered by other techniques.
- The observation techniques are extremely varied (pp. 24-25).

As for the weaknesses of this tool, the authors highlight three main factors:

- Time consuming
- High demand on effort and resources
- its susceptibility to observer bias (p.26).

Simple Uncontrolled, Participant Observation

Most of the information we get is drawn from simple observation, which includes uncontrolled, participant and nonparticipant data gathering. By controlled, we "refer to the standardization of observational techniques or, in some cases, controls over the variables in an experimental situation" (Goode & Hatt, 1952, p. 120). This implies that the data we draw from uncontrolled observations are not checked by other observers, by a set of specific items to be noted down, or by a detailed outline of experimental expectations" (p.120).

Uncontrolled, Participant Observation

"This procedure is used when the investigator can so disguise himself as to be accepted as a member of the group" (Goode & Hatt, 1952p. 121).In other words, the researcher lives with his subjects without revealing that he was a social scientist. One

observer may mingle as a laborer with other laborers or work as a porter in a barbershop. The differences between controlled and uncontrolled observations are stated in Table (8)

Table 8: Controlled Vs Uncontrolled Observations.

Controlled	Uncontrolled
It takes place according to definite pre-arranged plans	It takes place in the natural setting
It involves experimental procedure	No attempt is made to use precision instruments.
It uses mechanical (or precision) instruments as aids to accuracy and standardisation.	The major aim of this type of observation is to get a spontaneous picture of life and persons.
The variables are manipulated	It has a tendency to supply naturalness and completeness of behaviour

Source: Gillham, 2008, pp. 26-27

Advantages of the Uncontrolled Participant Observation

- When the participants are unaware of the scientist's purpose, their behavior is least likely to be affected.
- The "natural" behavior of the group may be recorded naturally.
- The emotional reactions of the researcher will be similar to that of true members.
- The researcher can gather a body of information which could not easily be obtained by merely looking on in a disinterested fashion (Guilham, 2008, p. 121).

Disadvantages of the Uncontrolled Participant Observation

- When the investigator actually becomes a participant, he narrows his range of experience.
- He learns and follows a pattern of activity which is characteristic of its members, and thus is less able to find out what fringe individuals are doing.
- The role he comes to occupy in the group may be important, so that he actually changes the group behavior
- Being a participant in the group he comes to lose the objectivity .

- He may seek prestige or ego satisfaction within the group, rather than observing this behavior in others.
- He sympathizes with tragedy and may not record its impact upon his fellow members (Gillham, 2008, p. 122).

Degree of Structure

The observation method can be organized according to the extent of their structure: structured, semi-structured, or unstructured (see table 9).

Table 9: Structured Vs Unstructured Observation

Structured	Unstructured
relatively economical on time	very expensive on time
data largely quantitative in character	data largely qualitative
detached non-participant observation	participant observation
data easily summarized	data require extended presentation
data essentially superficial	data capable of analysis of meaning in depth
limited linkage to social context	embedded in social context
not suited to the study of extended and elaborate sequences of behaviour	behaviour viewed as part of a complex social interaction

Source: Gillham, 2008, p. 4

Structured Observations

Structured or systematic observation can be viewed as a method, or approach for the quantification of subjects' behavior. "This approach…is concerned with naturally occurring behavior observed in naturalistic contexts. The aim is to define beforehand various forms of behavior - behavioral codes - and then ask observers to record whenever behavior corresponding to the predefined codes occurs" (Bakeman & Gottman, 1997, p. 3).

In the systematic or structured observation, the researcher knows in advance the type of data he intends to collects. Consequently, his aim will focus on the generation of numerical data, which enable him to make comparisons between settings, situations, and participants.

This type "enable frequencies, patterns and trends to be noted or calculated" (p. 545). Systematic observations can be conducted in English language classes, where the behavior of participants is entered onto schedules or rating scales. If, for instance, we conduct a field study to measure the extent of learners' participation in oral expression, we visit these classes equipped with some predetermined criteria, or scales (see fig 2)

Minute	Generating, maintaining, and protecting situation-specific task motivation																		Encouraging positive retrospective self-evaluation				Motivated behaviour		
	Teacher discourse										Activity design														
	Signposting	Stating the communicative purpose/utility of activity	Establishing relevance	Promoting integrative values	Promotes instrumental values	Arousing curiosity or attention	Scaffolding	Promoting cooperation	Promoting autonomy	Referential Questions	Pair work	Group work	+ tangible reward	+ personalization	+ creative/interesting/fantasy element	+ intellectual challenge	+ team competition	+ tangible task product	Process feedback session	Elicitation of self/peer correction session	Effective praise	Class applause	Attention (>⅔ of the class)	Participating (>¾ of the class)	Eager volunteering (at least ½)
1																									
2																									
3																									
4																									
5																									

Fig 2: Motivation specific categories scheme

Source: Dörnyei , 2007, p. 183

Semi-Structured Observations

This type combines techniques from the structured and unstructured methods. On the one hand, the researcher knows in advance the issues under investigation. On the other hand, he/she engages in the process gathering data in less systematic manner for the purpose of illuminating these issues, and not for the analysis of these data.

Unstructured Observations

At the first phase of the unstructured observation, the researcher will be far less clear on what it is looking for. Consequently, his visit to the site of the observation or to his subjects will focus on observing what is going on the site to measure the extent of their relevance to the study. This type usually involves filling out narrative field notes.

Distinctive Features of the Observation

- It offers an investigator the opportunity to gather fist-hand, 'live' data in situ from naturally
- occurring social situations rather than ...reported, or second hand data, or reports
- The observation can yield more valid or authentic data
- Observation is strong on face validity; it can provide
- It can offer an opportunity for documenting those verbal, non-verbal, or physical aspects of life worlds (Morrison, 1993, as cited in Cohen, Manion & Morrison, 2018, p. 542)

Types of the Observation

Research methodologists organize the observation method into to different types (Cohen, Manion & Morrison, 2018). This categorization bases itself on the role of the researcher, the setting, the extent of the researcher's involvement; whether the data are collected according quantitative, or qualitative techniques (see Table 10).

Table 10: Types of Observation

Prespecified/pre-ordinate	Responsive
Quantitative	Qualitative
Time-bound	Open-ended
Short-term	Long-term
Structured/systematic	Unstructured/ad hoc
Participant observation	Non-participant observation
Highly focused/early focused	Unfocused//late focused
Descriptive	Explanatory
Overt	Covert
Laboratory/contrived settings	Natural settings
Direct observation	Indirect observation
Observing Others	Observing Self and Others

Source: Cohen, Manion & Morrison, 2018, p. 545

Starting with Flick (1998, p. 137, as cited in Cohen, Manion & Morrison, 2018, p. 245) who proposes the organization of observation according to five dimensions:

- structured, systematic (quantitative) versus unstructured unsystematic (qualitative)
- participant observation versus non-participant observation;
- overt versus covert observation;
- natural settings observation versus observation in
- artificial setting‘ (in laboratory’ or in contrived situation);
- self-observation versus observation of others.

On their part, Cooper and Schindler (2001, p. 375) organize the observation from other corners:

- direct (requires the presence of the researcher) or indirect (requiring recording devices)
- overt or covert
- participant to nonparticipant

Types of Rating Scales

A rating scale is a "measuring instrument that requires the rater or observer to assign the rated object to categories or continua that have numerals assigned to them" (Kerlinger, 1973, p. 506). We can identify three types of rating scales: category, numerical and graphic rating scales. The first includes "several categories from which he picks the one that best characterizes the behavior or characteristic of the object being rated" (p. 507). The second, as its name implies, it is concerned with yielding numbers, and its main use is in statistical researches. As for the graphic rating scales, these include "lines or bars [that] are combined with descriptive phrases" (p. 507).

In addition to scales, researchers can use checklists, and forced-choice instruments. The former enable the observer examine whether his subjects behavior conforms to the criteria he has previously drawn. As for the latter, they require "the subject must choose among alternatives that on the surface appear about equally favorable (or unfavorable)" (Kerlinger, p. 506).

Main Requirements for planning Observations

In planning observations, researchers need to consider the following recommendations (Cohen, Manion & Morrison, 2018, p. 562):

- when, where, how and what to observe;
- how much degree of structure
- the duration of the observation period
- the timing of the observation period
- the context of the observation
- the nature of the observation (structured, semi-structured, unstructured etc.);
- to ensure that there is the presence of the people/behaviour to be observed;

- the merging of subjective and objective observation,
- the value of covert participant observation in order to gain access and to reduce reactivity;
- threats to reliability and validity;
- the need to operationalize the observation so that
- what counts as evidence is consistent, unambiguous and valid,
- the need to choose the appropriate kind of structured observation and recording;
- how to go under cover, or whether informed consent is necessary;
- ethically defensible observation;
- whether deception is justified;
- Specify the main roles of complete participant, to participant-as-observer, to observer as participant, to complete observer.

- **Questions**
- Give an appropriate definition to the observation method
- What are the main features of the observation?
- What is the distinctive Feature of the Observation?
- How can we distinguish between the scientific observation and ordinary observation?
- Identify the main tasks of the observer.
- Identify the main types of the observation method.
- Draw a table in which you include the main qualities of structured and unstructured observations.
- List the main types of settings.
- Organize the strengths and weakness of the interview in two separate columns.
- Compare and contrast between the controlled and uncontrolled observations.

- List the advantages and the disadvantages of the uncontrolled observation.
- What are the different role that the observer can play?
- Mention the Types of rating scales that are used in structured observation.
- What are the main requirements for planning scientific interviews?

Lecture Eleven: Mixed Research Methods

> Collaboration among researchers looking at similar phenomena in different (socio)linguistic, cultural, and geographical contexts (as in earlier work by Blum-Kulka, House, and Kasper, 1989, with respect to interlanguage pragmatics) would certainly benefit theory development and practical applications. Combining the expertise of applied linguists espousing different research paradigms in complementary types of analysis of the same phenomenon would also yield richer analyses of complex issues (Koshmann, 1999). …More multimethod research would provide a greater triangulation of findings and help identify and interpret "rich points" in research (Hornberger, 2006a)… Quantitative and qualitative approaches are currently viewed as complementary rather than fundamentally incompatible, and more mixed-paradigm research is recommended (Bergman, 2008; Dörnyei, 2007; Tashakkori and Teddlie, 1998, 2003; Teddlie and Tashakkori, 2009) what is ostensibly quantitative research may involve qualitative analysis (e.g., discourse analysis) and vice versa (Duff, 2010, pp. 14, 15 & 4).

Objectives: By the end of the lecture, learners will be able to:

a- introduce mixed research methods (MRDs) in their research writing.

b- Examine the efficacy of using one against mixed methods

c- Experience mixed research methods reliability

d- Evaluate the advantages and disadvantages of incorporating MRMs

e- Identify the main feature of MRMs

f- Specify the Main Functions of MRMs

Definition

As its name implies this methods combines quantitative and qualitative techniques to research the same topic. Dörnyei (2010, p. 163) calls our attention that several labels have been used to describe these combined techniques. We can, for instance mention "the multi-trait-multi-method research, interrelating qualitative and quantitative data, methodological triangulation, multimethodological research, mixed model studies, and mixed methods research – with 'mixed methods research' becoming the widely accepted standard term" In this perspective, the *Dictionary of Research Methodology and Statistics in Applied Linguistics* (2012) defines this approach as:

> a research approach for collecting, analyzing, and mixing quantitative and qualitative data at some stage of the research process within a single study in order to understand a research problem more completely. In mixed methods research, a researcher collects both numeric information and text to better answer a study's research questions. The term mixing implies that the data or the findings are integrated and/or connected at one or several points within the study (p. 363).

We return to Dörnyei (2010) who defines mixed research methods as the "collection or analysis of both quantitative and qualitative data in a single study with some attempts to integrate the two approaches at one or more stages of the research process" (p. 63). On their part, Johnson and Christensen (2014) explain that in this approach the researcher uses a mixture or combination of quantitative and qualitative methods, approaches, or concepts in a single research study or in a set of related studies" (p. 106) (see fig 3). The authors highlight that the qualitative, and quantitative techniques can either be incorporated concurrently or sequentially in order to address the same phenomenon.

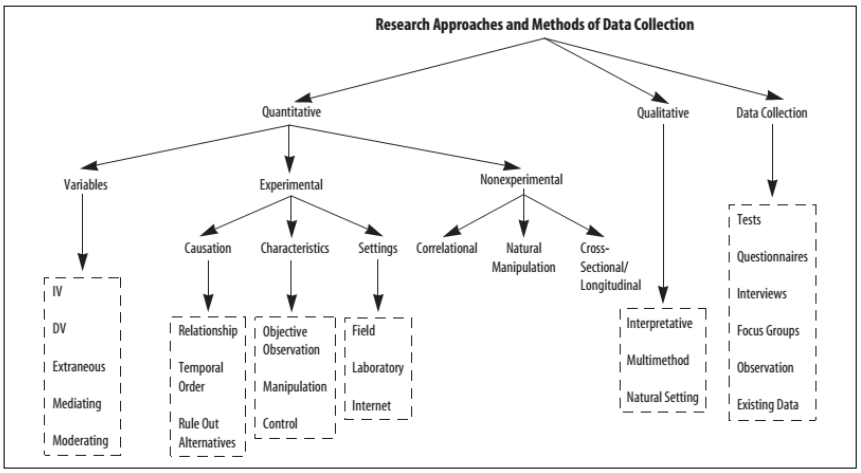

Fig 3: Mixed Research Methods

Source: Christensen, Johnson & Turner, 2015, p. 45.

Advantages of Mixed Research Methods

Increasing the strengths of findings

Minimizing the weaknesses and errors.

Better understanding of the complex phenomenon.

Compared and contrasted results provide more confidence

Different data strengthen reliability and validity

More cooperation between quantitative and qualitative researchers

• Check accuracy of findings.

Converging numeric, quantitative qualitative with data leads to more data precision "words can be used to add meaning to numbers and numbers can be used to add precision to words" the *Dictionary of Research Methodology and Statistics in Applied Linguistics* (2012, p. 364).

Reaching multiple audiences: quantitative-oriented and qualitative-oriented

Main Functions of Mixed Research Methods

Green , Caracelli and Graham (1989, as cited in Dörnyei, 2010, p 163) identify four main functions that mixed research Methods tend to accomplish:

The Comprehensive Function: Mixed research Methods seek to "measure overlapping but also different facets of a phenomenon, yielding an enriched understanding by illustrating, clarifying, or elaborating on certain aspects. The assumption therefore is that supplementary findings can produce a fuller portrait of the social world" (Dörnyei, 2010, p 164). Building upon Erzberger and Kelle (2002), Dörnyei explains that this is "similar to pieces of jigsaw puzzle when put together in the correct way" (p. 164).

The Development Function: When researchers use the techniques of qualitative and quantitative methods sequentially, this enables the findings of the first method to inform the development of the second method. Similarly, the results of the second can improve, adjust and develop the first method.

The Initiation Function: In addition to the corroborating, or complementary results obtained by the use of mixed methods research contexts, "divergent results can also be illuminating….utilz[ing] varied methods to generate discrepancies, paradoxes, or contradictions, which are meant to be provocative through the recasting of questions, leading hopefully to new perspectives" (Dörnyei, 2010, p. 165).

The Expansion Function: The utilization of this function enables researchers to expand 'the scope and breadth' of the topic under investigation. The use of qualitative methods for instance, can lead to the exploration of the phenomenon of drug addiction amongst school pupils. However, quantitative techniques can inform us of the number of addicts within each school.

Purpose of Mixed Research Methods

We can delineate three main purposes for mixing research methods and data gathering tools (Bernard, 1994; Dörnyei, 2007; Sandlowski, 2003). The first is to achieve a fuller understanding of the phenomenon under investigation. This means that research examine the phenomenon from different viewpoints so that they can achieve comprehensibility. The second purpose is tightly related to triangulation, aims at converging the results elicited by different data gathering tools to achieve reliability and minimize errors. The third purpose is more practical. It seeks "to reach audiences that would not be systematic to one of the approaches if applied alone" (Dörnyei, 2007, p. 164).

Main Features of Mixed Research Methods

Descombe (2014) highlight three main features for mixed research methods:

1) a preference for viewing research problems from a variety of perspectives.
2) the combination of different types of research within a single project
3) the choice of methods based on ‘what works best’ for tackling a specific problem (pp. 146 & 7).

Lecture Twelve: Triangulation of Data

Objectives: The main aim of this lecture is to enable the students to:

a- distinguish between mixed research methods and triangulation

b- reinforce the reliability of results

c- encourages learners to incorporating the triangulation of data

Comprehensive Definition

> Triangulation is a technical term used in surveying, military strategy, and navigation to describe a technique whereby two known landmarks or reference points are used to define the position of a third.…The basic idea of triangulation is that data are obtained from a wide range of different and multiple sources, using a variety of methods, investigators or theories. So, for instance, you could administer a structured interview schedule, and conduct a set of unstructured interviews, and complement those data with a series of observations. Similarly, rather than just gather data from one particular group with an interest in the study, you could seek out the views of several sets of stakeholders and, in that way, introduce a comparative aspect (Arskey, & Knight, 1999, p. 22).

As the definition above implies, the term triangulation had roots in the navy and army. It was used to survey their strategy to locate a third position by contrasting it to two previously located landmarks. The basic principle of triangulation is that researchers use different tools gather data. Then, the data will be compared and contrasted to attain more valid and reliable results.

Purposes of Triangulation

According to Denzin (1970) and Jick (1983), triangulation serves two main purposes confirmation and completeness. Initially, triangulation, as a strategy, tended to target the problems of validity and reliability. In other words, the collection of data by several instruments reinforces the findings trustfulness and increases the extent of bias errors. The second purpose that triangulation seeks to achieve is completeness. Blending and integrating the different methods serves to provide an overall views on the topic investigated.

Types of Triangulation

Identify four types of triangulation: investigator, data, methods and theory triangulations (see Table 11). Starting with investigator triangulation, this process involves employing several researchers to research the same topic. The obtained data will then be combined and checked against one another. Data triangulation, this refers to the analysis of data collected by different instruments. Concerning method triangulation, it combines different methods, for example, the quasi-experimental, the descriptive-analytic, the historical-descriptive. Concluding with theory triangulation, it combines different theories to study the same phenomenon.

Table 11: Types of Triangulation

Type of triangulation	Study		
	Taraborrelli, 1993	Parry, 1992	Burgess et al., 1990
Methodological	Interviews Standard measure of the stresses and difficulties of caring Casual conversations Observation of two support groups Documentary material	Interviews Casual conversations with individuals, and groups of students Participant observation Questionnaire survey Documentary material	Interviews Small, in-depth discussion groups Questionnaire survey
Data sources			
Person	Current and ex-carers Organizers Day centre staff	Print and broadcast journalism students Teaching staff	General public: four dissimilar comparison groups of two support groups. (middle class, working class [two groups], Asian women's group) Local authority officers
Time	Observed two series of monthly support group meetings over a four-month period	Followed a cohort of students through a one-year diploma course	Each group met four times over a six-week period
Space	Two support groups, differentiated in size, organization and membership Family homes	Classrooms, newsroom and coffee bar of university-based	Different neighbourhoods in the London area, each with different qualities and quantities of open space
Investigator	Single investigator	Single investigator	Multidisciplinary research team

Source: Arskey & Knight, 1999, p.26

Advantages and Disadvantages of Triangulation

The incorporation of the techniques of triangulation has many has numerous advantages. This, of course, does not deny the fact that a number of disadvantages can be highlighted as well (see Table 12).

Table 12: Advantages and Disadvantages of Triangulation

Advantages	- Increases confidence in results. - Strengthens the completeness of a study. - Addresses different but complementary questions within a single study - Enhances interpretability: one set of data gives a handle to understanding another set. - Divergences can uncover new issues or processes that can result in turn in the development of new theories, or the modification of existing ones. - The researcher is closer to the research situation, contributing to a more nuanced understanding of the focus of study.
Disadvantages	- Might be time-consuming; resource implications. - Undertaking replication and comparative studies can be difficult. - Researchers may not be technically competent in particular methods. - Researchers might be tempted to make inconsistent data sets artificially compatible in order to produce a more coherent account.

Arskey, & Knight, 1999, p. 26

Starting with the benefits of this technique, we can mention the criteria of reliability and validity. Using different data and methods can increase the content validity and minimize the number of errors and bias. Second, this can also reinforce the idea of comprehensiveness, especially in the case of investigator triangulation. Furthermore, it enhances the interpretability of data. Equally important, divergences can uncover new issues or processes, which allow the research to be developed.

Concerning the disadvantages of triangulation, some research methodologists refer to the problem of time limits, in that this process can be time consuming. Additionally comparative studies are not always easy to be conducted. Similarly, Investigator triangulation can yield bias if researchers do not abide themselves to rules.

Questions

The questions included in this section cover the content of 'Mixed research Methods as well as 'Triangulation of Data'

Supply a comprehensive definition to mixed research Methods.

What type of research can be conducted by means of mixed research Methods?

List the advantages of mixed research Methods.

In your point of view, what are the main drawbacks of implementing mixed research Methods?

What are the different types of mixed research methods?

List the different function of mixed research methods.

What are the main purposes of implementing mixed research methods?

List the main characteristics of mixed research methods.

How is triangulation conceptualized in the field of research?

What is meant with triangulation the field the army and navy?

Draw clear distinction between triangulation and mixed research methods.

Why do researchers incorporate triangulation techniques?

List the main types of triangulation.

List the advantages and disadvantages of the implementation of triangulation.

How can triangulation of results reinforce the quality of reliability?

How can validity of content be established by triangulating different data?

How can you distinguish between method triangulation and theory triangulation?

How can investigator triangulation enhance the results of research?

What is the similarity or difference between method and theory triangulation on one hand and mixed research methods on the other?

Lecture Thirteen: Population and Sampling

Introduction

Data gathering tools are administered to different types of population to elicit information whether by asking questions, conducting interviews, administering tests, or simply by observing their behavior. However, sometimes due to the large number of population and their locations, researchers do not find it workable to put them all under investigation. Instead, research methodologists recommend the resort to probability sampling (Denscombe, 2010; 2014; Levin and Fox, 2011). Yet, before introducing the concept of sampling and how it is used in research, let us first define the 'what' and the 'how' of the population subject to this sampling.

Objectives This lecture attempts to enable learners to:

a- Have an idea on the process of population and sampling

b- Introduce initial steps of statistics

c- Learn about probability

d- Identify the appropriate population

e- Differentiate between randomness in dictionary language and randomness in sampling

f- Identify the different types of samples

g- Delimit the representative sample

h- Engage in quantitative research

Definition of Research Population

Levin and Fox (2011) consider a population or 'universe', as they call it, as a group, which "consists of a set of individuals, who share at least one characteristic, whether common citizenship, membership in a voluntary association, ethnicity, college enrollment, or the like" (p. 120). We can, for instance, define the universe to be studies as all first year students at the university of Eloued in the department of English during the academic year 2020/21. The list of

such level includes 200 students. Random selection says that every student has a chance of being selected of 1/200.

Definition of Sampling

Kerlinger (1972) provides three gradual definitions of sampling. The idea is to move from common sensual definitions to a more clear and more scientific definition. The first one requires that the chosen portion should demonstrate representativeness of the universe under study "sampling is taking any portion of a population or universe as a representative of that population or universe" (p. 118).The second definition implies that every member of the sample has equal chances of representativeness with his/her fellow population "[r]andom sampling is that method of drawing a portion (or sample) of a population or universe so that each member of the population or universe has an equal chance of being selected" (p. 118). The third is linked to randomness and probability methods "[r]andom sampling is that method of drawing a portion (or sample) of a population or universe so that all possible samples of fixed size *n* have the same probability of being selected" (p. 118).

Kerlinger's conceptualization of the term 'sampling' is summarized by the *Dictionary of Research Methodology and Statistics in Applied Linguistics* (2012):

> The process of choosing actual data sources from a larger set of possibilities. This overall process actually consists of two related elements: (1) defining the full set of possible data sources—, which is generally termed the POPULATION, and (2) selecting a specific SAMPLE of data sources from that population. In other words, it is the procedure through which the researcher picks out, from a set of units that make up the object of study (the population), a limited number of cases (sample) chosen according to criteria that enable the results obtained by studying the sample

to be extrapolated to the whole population (p. 563, [capitalization and parentheses in original).

Advantages of Sampling

Goode and Hatt (1952, p. 209) identify five main advantages of sampling.

- The analysis of large quantities of material is wasteful when a smaller amount would suffice.
- The use of sampling allows for more adequate scientific work by making the time of the scientific worker count.
- Instead of spending many hours over the analysis of a mass of material from one point of view to do a more intensive analysis of fewer cases.
- Another obvious value of sampling is that it, also saves money and thus makes investigations possible which could not otherwise be undertaken.
- Social researchers operate with limited time, energy, and economic resources, they rarely study each and every member of a given population

Probability and Randomness

The main concern of researchers taking groups as their subjects of investigation is whether the sample represents the entire universe so that they can draw valid and reliable conclusions. "If every population member is given an equal chance of sample selection, a random sampling method is being used; otherwise, a nonrandom type is employed" (Levin, Fox & Forde, 2017, p. 92). For this reason, we find it wise to define the concepts of probability and randomness; and how they do contribute to the truthfulness of the findings.

Definition of Probability

Goode and Hatt (1952) think that probability can be approached from two viewpoints. According to the first viewpoint, probability "refers to the likelihood that a given statement is a true statement" (p. 210). However, the second viewpoint "holds that probability expresses the frequency of the occurrence of a given event, relative to the frequency of the nonoccurrence of that event, in any series which could produce either occurrence or nonoccurrence" (p. 211).

Kerlinger (1972, p. 95) provide two definitions for probability: the 'a priori' and the 'a posteriori' definitions. The former is based on theoretical mathematical probability, which implies that probability of events can be determined before empirical investigation. In contrast, the latter is empirical in nature. The author goes on that the probability of "an event is the number of favorable cases divided by the total number of (equally possible) cases, or p=Ⅎ (*f*+*u*), where *p* is probability, *f* is the number of favorable cases, and *u* is the number of unfavorable cases". Conversely, in the 'a posteriori' type, one can "approach probability empirically by performing a series of tests, counting the number of times a certain kind of event happens, and then calculating the ratio" (p. 95). In other words, the 'a posteriori' probability "says that in an actual series of tests, probability is the ratio of the number of times an event occurs to the actual number of trials" (p.95).

Randomness

The concept of randomness is often approached in two ways: common sense conceptualization and scientific conceptualization (Kerlinger, 1972).The former views randomness as something done at random, by chance, at great speed; something "having no specific pattern, purpose, or objective: [for instance] random movements; a random choice" (Levin, Fox & Forde, 2017, p. 246). On his part, Kerlinger (197.) explains, "the dictionary notion of haphazard, accidental, without aim or direction does not help us

much" (p. 120). This is because "scientists are quite systematic about randomness: they carefully select random samples and plan random procedure" (p. 120).

In scientific research and more specifically in the field of statistics, randomness is much more related to objective and dependable methods and rules selecting samples. If it is the case then, why do research methodologists keep on clinging to the term 'randomness"? In fact this term implies that before the implementation of random rules, researchers cannot expect what results will be reached, mainly when tossing coins, or throwing dice.

In his explanation of the concept, Kerlinger adds that:

> The notion of randomness is at the core of modern probabilistic methods in the natural and behavioral sciences….This procedure is objective, divorced from our predictions and biases….Random methods of selection do not allow our own biases or any other systematic selection factors to operate….The position can be taken that nothing happens at random, that for any event there is a cause (pp. 120).

Supporting this explanation, Levin, Fox and Forde (2017) write:

> random sampling gives every member of the population an equal chance of being selected for the sample. This characteristic of random sampling indicates that every member of the population must be identified before the random sample is drawn, a requirement usually fulfiled by obtaining a list that includes every population member (p.91).

As a result, the process of randomization can be defined as the "the assignment of objects…of a universe to subsets of the universe in such a way that, for any given

assignment to a subset, every member of the universe has an equal probability of being chosen to that assignment" (Kerlinger, 1973, p. 123).

Examples of Probability Rules

If we toss a coin into the air, it has an equal chance of turning up heads or tails. This is because it has only two sides. If we label the head as *p* and the tail as *q*, then the probability of securing heads may be stated as

$$P=½$$

The probability of securing tails is also ½.The generalized form of this statement is

$$P=½N,$$

where N = the possible number of events. Thus the number of heads expected in 10 tosses of a coin would be $P=½(10)$, or 5 heads.

And the number of tails expected in 10 tosses of a coin would be $q=½(10)$, or 5 tails.

The probability of securing more than one of a series of mutually exclusive events is secured by adding the probabilities for each. Thus if the chances of throwing a 6 on a die are equal to 1/6 and the chances of throwing a coin 1 are also 1/2, then the chances of throwing either a 1 or a 6 are equal to 1/6+1/6, or 1/3 (Good & Hatt, 1952).

Flipping Coins

As we have mentioned above, the coin has two sides: the head and the tail.

$$P(H) = ? \quad \frac{\text{Number of possibilities}}{\text{Number of equally likely possibilities}}$$

In this probability, there are only 2 equally likely possibilities (heads, or tails)

What is the number of possibilities that meets my condition?

There is only (1) : p (H) = ½=50%

The same result can be reached on the expectation of tails

P (T) = ½=50%

Of course, we can do experiments flipping the coin a large number of times, asking for example, how many times to get head, or tails. To get the percentage of 50%

The same thing can happen, for instance, if we roll a die, where we can have six equally likely possibilities. The question is how many of them can meet my condition. The answer is 1. There is 1/6 probability of rolling a (1)

$$P(1) = \frac{1}{6}$$

What is the probability of rolling (1) and (6)?

We can roll a (1), or a (6). There are two equally likely possibilities that meet my constraints 2/6, or 1/3.

What is the probability of getting an even number?

We have six (6) equally likely possibilities when we roll the die.

What are the probable possibilities of getting an even number?

So three of the possibilities meet my condition (2, 4, 6).

p (even N) = 3/6= 1/2

Measuring the Likelihood of picking Red Pens From a Pencil Case

Suppose that in a pencil case there are eight pens (three red pens, two yellow, two blue, and one green)

How many trials can meet our constraints, and how many possible outcomes are there?

Possible outcomes (Sample Space) (8)

How many possibilities that satisfy the event (3)

p (N red pens) = 3/8

Of course, SPSS software can process these statistics.

Calculating the Probability Outcome.

First, determine the total number of possible outcomes.

With a die, the outcomes are 1, 2, 3, 4, 5, 6.

Call this set *U* (*U* is the sample space or universe of possible outcomes).

The sample space includes all possible outcomes of an 'experiment' that are of most interest to the experimenter.

The primary elements of *U* are called elements or sample points

Letting *X*= any sample point or element in *U*

We write *U*= (x_1, x_2, x_3, x_4, x_5, x_6)

Examples of Different *U*'s are:

1) All possible outcome of tossing two dice.
2) All kindergarten children in-such-and-such a school system
3) All eligible voters in X county

What is *U* in tossing two coins?

We list all the possibilities: *U*= ((H, H), (H, T), (T, H), (T, T))

The Use of Two Dice

Kerlinger (1973, p. 97) recommends us to think of the Cartesian products

The Cartesian product of two sets, X and Y, denoted by X×Y, is the set of *all* ordered pairs (x,y), where x is an element of X and y is an element of Y.

For example, if Children = {Peter, Mark, Mary}, and Parents = {Paul, Jane, Mark, Mary}, Then Children × Parents = {(Peter, Paul),(Peter, Jane), (Peter, Mark), (Peter, Mary), (Mark, Paul),(Mark, Jane), (Mark, Mark), (Mark, Mary), (Mary, Paul), (Mary, Jane), (Mary, Mark), (Mary, Mary)}.

Returning now to the dice, Let (A 1) be the outcomes, or points of the first die: {1, 2, 3, 4, 5, 6}. Let (A 2) be the outcomes, or points of the second die: {1, 2, 3, 4, 5, 6}. A

This gives A1×A2= 36 possible outcomes or points (see fig 4):

Matrix of Possible Outcomes with two Dice							
	Second Die						
First Die		1	2	3	4	5	6
	1	2	3	4	5	6	7
	2	3	4	5	6	7	8
	3	4	5	6	7	8	9
	4	5	6	7	8	9	10
	5	6	7	8	9	10	11
	6	7	8	9	10	11	12

Fig 4: A sample drawn at random is unbiased

Source: Kerlinger, 1973, p 120.

A sample drawn at random is unbiased in the sense that no member of the population has any more chance of being selected than any other member (p. 120).

Types of Sampling

The process of sampling can be categorized into different types so that each types can serve a given purposes in research (see Table 13). We can, for instance speak of random sampling, stratified sampling, representative sampling, prospective sampling and convenience sampling (Bazeley, 2006; Cohen and Manion, 1985; Cohen, Manion & Morrison, 2018; Goode & Hatt; 1952; Kerlinger, 1973; Levin, Fox & Forde; 2017; Nunan, 1992; Richards and Schmidt, 2002).

Richards and Schmidt (2002) provide concise definitions for these terms. For the authors a random sample implies that "every member of the population has an equal and independent chance of being selected" (p. 465). However, stratified samples are categorized according to the population strata. In the same line of classification, a sample is labeled 'representative' when it has good representation of the population. Concerning the convenience sample, it "is chosen solely from subjects who are conveniently available" (p. 465). We conclude with prospective samples, these are "deliberately chosen without using randomizing techniques" (p. 465).

Table 13: Types of Sampling

Stategy	**Procedure**
Simple Random	It selects subjects at random from a list of the population
Systematic Sampling	It selects subjects in a systematic run up then rather than random fashion
Stratified Sampling	It subdivides population into subgroups male females and randomly sample from subgroups
Cluster Sampling	It restrict one's selection to a particular subgroup from within the population (e.g., randomly selecting schools from within a particular school district rather than the entire state or country
Convenience Sampling	It choose nearest individuals and continue the process until the requisite number has been obtained
Purposive Sampling	Its subjects are hand-picked by the researcher on the basis of his her own estimate of their

Source: Cohen and Manion, 1985, as included in Nunan, 1998, 142.

Questions

What are the main features of Levin and Fox's (2011) definition of the population of research?

Supply a definition to sampling.

List the similarities and differences between Kerlinger's conceptualization of the term 'sampling' and the definition provided by the *Dictionary of Research Methodology and Statistics in Applied Linguistics* (2012).

Why do Researchers resort to Sampling?

List the main advantages of sampling.

How is probability defined in this lecture?

The concept of randomness is often approached in two ways: common sense conceptualization and scientific conceptualization. Explain.

Compare and contrast Goode and Hatt's definition of probability to the one offered by Kerlinger.

Explain the idea of probability Rules.

Define the following concepts:

Random Sampling: ……

Systematic Sampling: ……

Stratified Sampling : ……

Cluster Sampling: ……

Convenience Sampling: ……

Purposive Sampling: …….

Accidental Sampling:…….

Quota Sampling:……

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Appendices

University of Eloued

Faculty of Arts and Languages

Department of Arts and English Language

Second Semester Examination in Research Methodology 2018

Master 1

Task 1. Suppose that you are a researcher who is asked to examine the laborers' behavior when the works foreman (le chef de travaux رئيس الأشغال) leaves the work site: your observation will be conducted into three stages unstructured, semi structured, and highly structured observation (Do not define or describe these tools, but say what you are expected to at each phase, while observing the laborers. No more than 7 lines (7pts).

Write only in the space provided.

- Do not describe or define the three phases.
- Say what you are required to do during each phase.
- The logical classification of phases is the one provided in the exam task.
- Starting with the highly structured phase makes stage three 'the unstructured phase useless.
- Observing the laborers' behavior change during both the works foreman presence at site or after his departure; otherwise how you can discover that there is a change in their behavior.

Task 2. Write a paragraph of about eight lines accounting for the civil war in Syria. Within this paragraph, incorporate a quotation (direct citation) of more than forty words. (7pts)

This questions focuses on two main points: content and form

Content: Describing the war in Syria, not looking for solutions to end it.

Form or method: Write a paragraph, not half a line

As the task implies, the quotation should be embedded inside the text of the paragraph: do not provide isolated quotations, but place it within the text of the paragraph.

The quotation should be intended from both left and right sides, and not placed within inverted commas.

Task 3. Write the reference list of the following: (6pts)

Widowson, H. (1976). (ed). *Linguistics in social context*. (4th ed). Oxford: Oxford university Press

Tony, L. (2008). American foreign policy in the sixties. *Political Issues Journal*, (3) 21, 44-60.

Then tell how do these sources differ from each other (do not provide similarities, focus only on differences?

Echahid Hamma Lakhdhar University, Eloued

Faculty of Arts and Languages

Department of Arts and English Language

Master I :/ First Semester Examination in Research Methodology

Correction

Task 1.Write a comprehensive abstract, which includes the following elements: a research problem, two questions, two hypotheses, the tools for testing the hypotheses, the expected results, two recommendations, and a brief conclusion. (10 pts)

- An introductory sentence introducing the problem
- Two questions
- Two hypotheses each of which relates between two variables
- The instruments used for testing the hypotheses
- The results you reached
- Recommendations and conclusion

Nb. We need to distinguish between the way we ask questions, and formulate hypotheses (as separate elements) and as components included in the body of abstracts.

Task 2. Formulate four ratio data questions (avoid repeating the questions provided in the lecture). (5pts)

Questions which deal with continuous variables where a true zero value can be expected.

Task 3.According to you, what is the most efficient method (techniques, not data gathering tools) that a given researcher can use in qualitative research? Justify your answer.(5pts)

You state the reason why a given research method (the historical, descriptive, analytical, survey, , quasi-experimental……) is considered as the most efficient technique in conducting qualitative research. Of course you can talk about data gathering tools as instruments of the method.

Echahid Hamma Lakhdhar University, Eloued

Faculty of Arts and Languages

Department of Arts and English Language

Master II :/ Third Semester Examination in Research Paper

Correction

Task 1. In your own words, list the features that a given dissertation is required to demonstrate.

(6pts)

A master's dissertation should demonstrate the elements mentioned below (The use of one's own words makes the difference):

- An original investigation or the testing of ideas.
- Competence in independent work or experimentation.
- An understanding of appropriate techniques as well as their limitations.
- An expert knowledge of the published literature on the topic under investigation.
- Evidence of the ability to make critical use of published work and source materials.
- An appreciation of the relationship between the research topic and the wider field of knowledge.
- The ability to present the work at an appropriate level of literary quality.

Task 2.In a **brief paragraph**, provide the main components of a traditional dissertation. (5pts)

Introduction - Literature review– Methodology – Results – Discussion - Conclusions and recommendations

Task 3.Write a short piece of acknowledgments, which goes through three moves. (5pts)

Start with the *reflecting move*, then move to the *thanking move*, and conclude with the *announcing move*

Task 4.The main components of typical abstracts include (4pts):

An overview of the study.

The aim of the study.

The reason for the study.

The methodology used in the study.

The findings of the study.

Hamma Lakhdar University of El-Oued	Faculty of Arts and Languages	Department of English Language
First Semester Exam (2019/2020)		
Level: Master I	Module: Research Mthodology	Teacher: Mr. Mohammed Naoua

Correction

Task 1.

Task 1. State a problem related to the topic 'Carbon Monoxide Risks'

The questions attempt to find out the reasons for these risks

The hypotheses need to relate between two variables

The independent variable is formulated in the present/active voice

Task 2: Say how can questionnaires benefit from piloting:

Correctness of questions with respect to grammar and wording

Defining the appropriate target population, and sampling

Validity of the questions themselves.

Task 3: The methods are techniques we incorporate in the conduction of research (descriptive analytical – experimental …..). The data gathering methods are instruments used for data collection such as the interview, the questionnaire, the test, the schedule)

Task 4. Rating scales tend to elicit responses based on intensity.

Hamma Lakhdar University - El-Oued	Faculty of Arts and Languages	Department of Arts and English Language

Second Semester Exam (2019/2020)

Level: Master I	Module: Research Methodology	Teacher: Mohammed Naoua
Date: 08/10/ 2020	Time: 09:30 am	Duration: 11h.00 mn

Full name: ..... **Group:** .....

Task 1. Suppose that you are a researcher who is asked to examine the extent of drug addiction at a given prison. Your observation is planned to be conducted at three respective stages: unstructured, semi structured, and highly structured.
Explain what **you** are expected to **do** at each one of these stages. (8pts)
Do not provide definitions for the different types of observation.

At the unstructured stage, I …….

……

…….

:…….

……

At the semi-structured stage, I …….....

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……

……..

…….

At the structured stage, I ……

……

……

……

……

Task 2. Write a brief unstructured interview of four items along with their respective responses on the factors standing behind the high number of road accidents in Algeria. (6pts)

Interviewer: ……

Interviewee: ……

Interviewer: ……

Interviewee: ……

Interviewer: ……

Interviewee: ……

Interviewer: ……

Interviewee: ……

Task 3. According to Flick (1998), the observation needs to be considered with five dimensions:

1) ……..
2) ……..
3) ……..
4) ……..
5) ……

Hypothesis 1: ……..

……

Hypothesis 2:……..

…….

Task 2. The President of the Courts of Northern Ireland is president of the following courts (5pts):

……

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……

……

……

Task 3. The UK does not have a written constitution; according to you on what basis is its political system (division of power, power of each division, central and local administration) grounded? Illustrate your analysis with concrete examples. (7pts)

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Task 2. Based on the topic below, state a research problem, supply two research questions and formulate two hypotheses (8pts)

Topic: Drug trafficking

Problem Statement: ……

……

……

Research Question 1:……

……

Research Question 2: ……..

……

1/1

Hypothesis 1: ……..

……

Hypothesis 2:……..

……..

Task 5: Provide a rank ordering question with its relevant answers

……

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Task 3. Suppose that you are a researcher who is required to collect information about the school drop-outs. Ask your interviewee three unstructured questions about the issue. (4.5)
A:…….?
A: ……..?
A: ……..?
Task 4.
Task 1. Write a brief unstructured interview comprising four questions. Do not forget to provide the answers of the interviewee (8pts).

BEST WISHES OF SUCCESS TO ALL OF YOU

Hamma Lakhdar University - El-Oued Faculty of Arts and Languages Department of Arts and English Language
Research Methodology Exam
Level: Master I Module: Research Paper Teacher: Mohammed Naoua
First Semester 2020/ 2021

Task 1. Based on the topic below, state a research problem, supply two research questions and formulate two hypotheses (9pts)

Topic: Covid 19

Problem Statement: ……

……

…….

Research Question 1:……

……

Research Question 2: ……..

…….

Hypothesis 1: ……..

……

Hypothesis 2:……..

Task 2. Based on the topic below, state a research problem, supply two research questions and formulate two hypotheses (8pts)

Topic: Drug trafficking

Problem Statement: ……

……

…….

Research Question 1:……

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Research Question 2: ……..

Hypothesis 1: ……..

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Hypothesis 2:……..

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Task 5: Provide a rank ordering question with its relevant answers

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Task 3. Suppose that you are a researcher who is required to collect information about the school drop-outs. Ask your interviewee three unstructured questions about the issue. (4.5)

A:…….?

A: ……..?

A: ……..?

Task 4.

Task 1. Write a brief unstructured interview comprising four questions. Do not forget to provide the answers of the interviewee (8pts).

…….

Hamma Lakhdar University - El-Oued Faculty of Arts and Languages Department of Arts and English Language
Research Methodology Test
Level: Master I Module: Research Methodology Teacher: Mohammed Naoua
First Semester 2019/ 2020

What are the different types of research?

Supply a definition to research problem

How can you differentiate between problems and research questions.

State a problem:

Give two BRIEF hypotheses each of which relating between two variables

Put the following terms

Background of the study - statement of the problem - importance of study – research questions- hypotheses Formulation.

Supply a definition to a questionnaire

Why do researchers pilot a questionnaire

Give a dichotomous question

Multiple choice questions

Rank ordering

Rating scales

Constant sum questions

An open ended question

University of Eloued/Faculty of Arts and Languages / Departmentof English

Master 1. Second Semester Exam in Research Methodology

Correction

Task 1.Using your own words, try to explain the statement below (5.5 pts.).

The survey method is concerned with of what exists of, what we want, andof how to get there

This task requires the examinees to mention:

The phenomenon or the present research topic that they are supposed to engage in

The objectives they have already set, or planned to be achieved (what we want)

The techniques or the research method intended to state how the topic will be dealt with, how the problem will be solved, and how the stated objective can be attained.

Task 2.The historical method can be classified into three types. What are they? (3)

Historical Legal Documentary

Task 3.Suppose that you are a researcher who is required to collect information about the school drop-outs. Ask your interviewee three unstructured questions about the issue. (4.5)

The students need to ask three unstructured questions to elicit data relevant to their research

Task 4.

a- Write a short paragraph on the power of Congress, which includes two in-text citations: one indirect citation of three authors of a given scientific journal, and one direct citation related to one author of a chapter of an edited book. Do not separate the paragraph into two parts. (4pts).

a- Use the in-text citations in the previous paragraph, as a basis for writing them in the reference list (3pt).

In both the in-text, and the reference list, use APA Citation. Underline the titles, which are supposed to be printed in italics

The paragraph and reference list:

……
……(Martin, Peter & Andrew, 2006). Or Martin, Peter and Andrew (2006)…

…… Mathews (2009)points out that "……." (p. 20)

Or "……." (Mathews,2009, p.20).

1/1

Martin, K., Peter, L., & Andrew, W. (2006).Implications of criterion-referenced measurement.*Journal of Educational Measurement*, 6 (1) 1-9.

Mathews, R. (2009).Research methodology in social sciences. In R, L.Cooper (Ed.*),The logic of sciences*(pp. 113-130). Cambridge: Cambridge University Press.

(a) Historical, (*b*) Legal, and (*c*) Documentary

. Characteristics of the Survey Method

b- Write a short paragraph, on the power of Congress, which includes two in-text citations: one indirect citation of three author of a given scientific journal, and one direct citation related to oneauthorof a chapter from an edited book (4pts).

b- Use the in-text citations in the previous paragraph, as a basis for writing them in the reference list (3pt).

In both the in-text, and the reference list, use APA Citation.

Suppose that you are a researcher who is required to collect information about the school drop- outs. Ask your interviewee three structured questions about the issue.

In what way, does a schedule differ from a questionnaire?