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**Course Title:**

**Research Methodology: An Introduction**

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## **Introduction**

At the university, research methodology is the backbone of all achievements, and most of the important publications in humanities and social sciences depend on firm designs. Researchers must then read research methodology articles, dissertations, theses, and books to develop pertinent research strategies and research traditions in their fields. A large number of students in the country, as is the situation in Biskra University, are unable to conduct empirical studies though the course of methodology is taught in the License and Master years. This, in fact, should not be the case in the twenty-first century because the student who wishes to learn better and acquire more knowledge must make considerable efforts. Therefore, learning how to write a manuscript, be it an exposé or a master dissertation, has become a major part of the student's tasks.

Conducting research, or rather writing academic papers can be difficult, especially for novice researchers. Conducting research derives from the need for making new discoveries and attaining higher degrees and respectability in society, and all the other relevant desires. As a result, its completion methods and techniques are numerous and are not easy to handle. Our students face a double challenge: on the one hand, they do not have the necessary tools which enable them to cope with the various situations which they encounter, and they cannot single out feasible topics on the other. Sometimes, there is little or no available data, and thus the prospects of solving a problem seem to be hazy. Consequently, the task is not merely to carry out a study, but to understand its nature, to make pilot and experience surveys, and to foresee some of the possible solutions.

Many other difficulties are by no means insurmountable. However, with practice and additional attention to the particular challenges faced by our students, students will be able to write scientific papers that are thorough, coherent, and practically acceptable.

## **Course Structure**

The course is structured in a way that the first lectures are more relevant to the students who need an overall theoretical background about research; whereas, the last lectures are more appropriate to the students who wish to benefit from some details and practices. Nonetheless, all students, whether at the beginning or at further stages in their research projects, are hereby advised to read and muse deeply in the whole course in order to be aware of every single aspect and can get the necessary feedback on their enquiries.

Lecture 1 provides an introduction to research methodology. An awareness of some realities such as the relationship between research and knowledge, the relationship between the human needs and the pursuit of truth, and several other issues are crucial if research is to meet the required level of dignity and honour. The lecture ends up with a summary of the importance of research from different perspectives.

The connection between research, approaches, and methods is a defining feature of the master dissertation experience. Lecture 2 discusses the various ways of conducting research; that is, it provides students with options and strategies to deal intelligently with any research topic. The lecture offers guidance on how to maximize logic and organization in research.

Because the master dissertation is, in its essence, a step-by-step project, lecture 3 introduces the main strides of research conduction, and focuses on different actions to be done by the researcher. Academia principles and originality features are highlighted through examples to encourage the researchers to enjoy their work.

Lecture 4 focuses on the significance of the research problem to draw a clear image of how research should begin (a crucial component of a master dissertation), and introduces a number of techniques and instructions. Lecture 5 describes and discusses the process and the importance of selecting the appropriate methods which do not only guide the researcher, but are also means of increasing the validity and the value of the research results. Lecture 6

provides a thorough understanding of the nature of a sample design, how to sample a design, the characteristics and the different types of sample designs.

Last, but not least, Lecture 7 is much more concerned with how to develop pertinent ethical conduct. Research in the human sciences calls for human participants' help, and for this reason, it has to underline and ensure some degree of confidence, anonymity, and respect for all those who are involved in the different stages of the research. Lecture 7 has been included in the present course to provide novice researchers with insights into how to increase both internal and external validity of their research, and to enhance moral practices in their approach to all kinds of dilemmas.

Though the course aims to cover the essential parts of research and tries to address the major issues that students often encounter, there remain several principles of statistical analyses, measurement techniques, data collection methods, processing and analyzing data, and testing hypotheses which require a wider space to be covered. Even so, each of the lectures in the course ends up with a selection of exercises (Self-Assessments and Content Reviews) that may help students to review and come up with reliable notes on what has gone before. The selected exercises are not exhaustive; however, they are intended to develop some solid relationship between the students' understanding and the core constituents of the course.

### **Course Objectives**

By the end of the course, students should be able to:

- 1/ Develop basic knowledge of research methodology in social sciences
- 2/ Identify appropriate research topics and develop scientific awareness
- 3/ Select and define an appropriate research problem
- 4/ Organize and conduct research in their area
- 5/ Acquire the quality of ethical conduct

## **Course Applications**

*"Research Methodology: An Introduction"* as its title indicates is an introduction to research methodology course. It is a one-semester course written for 3<sup>rd</sup> year (graduate) students and novice researchers. The author has tried to make of it a reliable resource for those who wish to develop some independent research papers such as term exposés and research proposals. This document attempts to introduce 3<sup>rd</sup> year students to the craft of doing academic research, helping them to stand on a firm and solid basis. It then seeks to bridge the gap between theory and practice, and to enhance the students' critical thinking.

Though the present document was designed for the third year students, it may target master students as another important audience. A considerable proportion of these individuals often show little or no command of the required research methodology, and thus they need guidance and advice. The present document provides them with a step-by-step approach and road map to do research.

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## **Lecture 1: What is Research?**

### **Introduction**

This lecture is intended to introduce students to the field of research, its importance in academia and people's life, how it is conceived by educationalists and experts, and how it has developed throughout the years. Many people have defined or described research and research methodology from different perspectives. Some of these definitions and portrays may give a clear picture of the whole course and its scope of interest.

### **1. 1 Definitions of Research**

Walliman (2001), in defining research, highlights the idea that students at university should know well what the term "research" means, i.e. they should leave out any misunderstanding or confusion because the term is used in many fields. He states that research "is a term loosely used in everyday speech to describe a multitude of activities, such as collecting masses of information, delving into esoteric theories, and producing wonderful new products"(p. 6). So, Walliman tries to introduce the term "Research" as a concept from an academic point of view, distinguishing it from what it might have as meanings or connotations in other domains and disciplines.

Hancock and Algozzine (2006) find that the core of research is "about answering questions as we attempt to understand the world around us!", and that in developing theses and dissertations "research involves systematic actions that help the researcher add credibility to the questions and answers engaged in his or her research" (p. 3). That is, we may all be considered as researchers owing to our search for answers and solutions; however, in academic circles research is more methodical, the fact that raises its reliability and validity. Research methods and research procedures are then distinctive features of real research; they require the researcher to put forward a research question, to prepare a specific design, to select an appropriate population and sample, and to verify the findings (ibid, p. 4).

Researchers are not concerned with research at the tertiary level merely for the sake of research. They are concerned with research as a necessary component in creating a tradition of performance in their context, one that is primarily based on improving faster and better problem-solving activities which, in their turn, increase the students' achievement and learning outcomes. This distinction can be clearly explained by the following definitions:

**Booth et. all (2003, p. 10) say**

"In the broadest terms, we do research whenever we gather information to answer a question that solves a problem"

**Bassey, M. (1998) defines research as** "systematic, critical and self-critical enquiry which aims to contribute to the advancement of knowledge and wisdom"(Qtd in Costello, 2003,p. 3)

**Singh (2006, p. 1) observes the following about research:**

"Research simply seeks the answer of certain questions which have not been answered so far and the answers depend upon human efforts. It may be illustrated by taking an example of the moon. Some years ago man did not know what exactly the moon is? Was this problem which had no solution? Man could only make some assumptions about it but the man now this time by his efforts, he went to the moon brought the soil of the moon and studied it"

In **The Research Methods in Education Handbook for the Open University Masters Programme (n.d, p.6)**, "Research" is considered to be "used to cover a wide range of activities that differ substantially in all sorts of ways; and there is considerable disagreement about what should and should not count as research. At one extreme, the term covers forms of educational inquiry designed to contribute to disciplinary knowledge in, for example, the psychology or sociology of education. Equally, though, educational research may be primarily intended to inform policy making or practice, or it may take the form of inquiries carried out by policy makers, school managers, or teachers, in order to further their own activities".



## 1. 2 Objectives of Research

From a very broad perspective, research is used as the main tool in almost all fields to acquire knowledge. Research is used, for example, in many scientific fields such as psychology, biology, medicine, and physics where it has proved to make valuable contributions to what we already know about several things (Marczyk, DeMatteo & Festinger, 2005, p. 1). For novice researchers, according to Booth et. all (2003, pp. 4-5), it may provide the following immediate and practical benefits:

- a. Learning to do research will help students to understand better the material they cover.
- b. Doing research is an experience that enables students to evaluate carefully what they read through a process full of discoveries.
- c. Writing the report of one's own work will help them to understand what is behind what they read as books and what other people (experts) tell through these books.
- d. Research gives students insights into the nature of knowledge, i.e. the kind of knowledge which results from asking proper questions and offering pertinent answers.
- e. Research offers students the opportunity to learn skills which they need now and in further studies. These skills are said to persist when students leave the university or institution they are studying or working in.
- f. One more practical benefit of research is the pleasure it offers in solving puzzles and discovering things that other people do not know, and which contributes to the prosperity of human knowledge.

Though there are benefits when doing research, there are times when researchers undergo hardships. Therefore, they should keep in mind the hope that their research will bring some change to their life and the people they are living with and, meanwhile, these researchers should be ready to "undertake studies on topics that are not of their personal choosing, but

because they pay the rent or may take them on to the next stage of their career" (Blaxter, Hughes & Malcolm, 2006, pp. 10-11). That is, doing research is not always personal, but it may be a kind of duty fulfillment.

### **1.3 Motivation in Research**

The more students are motivated to learn, the more their academic achievement increases. Students' motivation can stem from external sources (extrinsic) such as expectations of parents, as it can stem from internal sources (intrinsic) such as the desire for academic recognition and status (Jordan, Carlile & Stack, p. 154). Intrinsic motivation has been considered to be more important than extrinsic motivation, for success, for example in learning, "will be more enhanced if the students come to love the learning process" (Harmer, p. 51). Therefore, students' commitment and perseverance in any task such as research is already justified by their interest and need for gaining something. Motivation, and more specifically intrinsic motivation, is then an important factor that enables students to discover new things, to solve problems, to conduct projects, and to maintain information; that is, it is part and parcel of today's new learning requirements. Sprenger (2005) stated that:

Our classrooms must be student centered rather than teacher centered. Discovery learning, problem-based learning, project-based learning, and inquiry learning have found their place in our schools. In order for any information to be stored in the brain, it must be received through sensory memory. It therefore behooves us to take into consideration attention, motivation, learning styles, emotion, and meaning (pp. 8-9)

Intrinsic or internal motivation, as it is sometimes called, has to do with what people want to achieve without any intention to receive a reward from the others. The only reward that one needs is his or her success. "Research has found that when people are motivated by their own wants and needs they are almost always successful" (Brown, 2002, p. 20). Moreover, according to Nesbit (Cited in, Burton, S. & Steane, P, 2004, p. 97), researchers

should bear in mind that there are no strategies to follow so that they can motivate themselves and reach what they want, except for the efforts they make. Hence, motivation in research can be summarized by the following desires:

1. The desire to get academic recognition and status;
2. The desire to learn how to face difficulties and solve problems;
3. The desire to get a job or gain some respect in society;
4. The desire to conduct projects and serve people in a way or another.

#### **1.4 Significance of Research**

The significance of research lies in its main function which is "to improve research procedures through the refinement and extension of knowledge" (Singh, pp. 4-5). This latter is associated with many other aspects of social studies (ibid):

- a. The function of research is to help making decisions concerning the refinement or extension of knowledge in a particular area.
- b. The function of research is to improve students' learning by solving classroom problems, i.e. helping teachers to implement more effective techniques.
- c. Another function of research is to aid staff and administrators to improve the education systems. Research here contributes to facilitating the teaching learning process.

Research is also very helpful in business and economy, for it provides information about needs and how to meet these needs. Many more matters in life require research; problems of industry, working conditions are all matters necessitating research (Kothari, 1990, pp. 5-6).

#### **Self-Assessment Exercise**

1. Some scholars argue that research is about answering questions .....
2. Students' motivation ..... external sources (extrinsic) such as ..... internal sources
3. One function of research is ..... to improve the education systems.

## Lecture 2: Methods and Methodology

### Introduction

Fundamentally, in the social sciences, the goal of conducting research is to solve a problem or remedy a situation, intending to improve some practices. Therefore, deciding on the appropriate overall research methodology must be at the planning stage because it enables the researcher to consider the feasibility, the ultimate findings, and all the attendant evils which might come out in the course of the research.

### 2.1 Types of Research

It is important for novice researchers to distinguish, from a broad perspective, between *qualitative* and *quantitative* research. One way to make a clear distinction between the two is to consider the following distinctive features (Hancock & Algozzine, 2006, pp.7-9):

1. If there are only a few resources and the research is limited by time, then a quantitative approach is more appropriate. This is due to the use of tools such as tests to measure specific variables. However, a qualitative approach requires more time and more resources, for it utilizes interviews, focus groups, observations, and so forth.
2. If there is an intention to identify a large number of influential variables, a qualitative approach will be more useful. That is, a qualitative approach will help to know more about an issue rather than putting a finger on only a few variables.
3. Because quantitative research can be carried out with a small number of participants, researchers prefer it to qualitative research which entails an easy access to the participants in the study.
4. Sometimes, the research findings are preferred in the form of words not numbers. In this case, a quantitative approach may be the best choice.
5. If there is a need to understand a problem or a situation from the participants' perspective and not the researcher's perspective, the qualitative research type is more suitable.

Based on the above literature, it has become clear that *qualitative* and *quantitative* research approaches differ at many levels. Each type has its own features and is used depending on many criteria. Sometimes, researchers employ a combination of these two approaches in the same study.

## **2.2 Research Approaches**

Many other types of research have been identified (Walliman, 2001, pp. 88-96). Some of these types are listed as follows:

- 1. *Historical Research:*** It has as a major concern the exploration of the relationships of events, relying on primary historical data such as records and writings. It tries to investigate why and how some events took place.
- 2. *Comparative Research:*** In this type of research, researchers may compare people's experience in the past or in the present. They may conduct studies on classes or groups of people, or on individual experiences. This type of research is based on the belief that phenomena are best understood when they are compared with other similar phenomena because it becomes easy to reveal their origins and development.
- 3. *Descriptive Research:*** Descriptive research employs observation to collect data. It attempts to establish norms through examining situations, i.e. it enables researchers to predict what might happen again under similar circumstances. In this type of research, interviews, questionnaires, and visual records can be utilized.
- 4. *Correlation Research:*** Correlation research is primarily quantitative. It is used to measure the association or the relationships between two phenomena or variables. Statistics are used to analyze the numerical data, and the greater the number of cases is, the more reliable results are attained.
- 5. *Experimental Research:*** This type of research differs from the preceding research approaches, especially in terms of the researcher's control over the variables. Control here

refers to the researcher's efforts to isolate the conditions which determine the events or changes in order to be able to watch and experience the effects in different situations. That is, the experimental approach deals mainly with the "cause and effect" phenomenon which involves several stages before the conduction of the experiment.

**6. Evaluation Research:** This type is considered to be descriptive, for it is generally designed to deal with social issues. It does not only seek to get facts, but it also tries to explain deeper aspects of the elements being investigated. It aims, for instance, to study projects from the perspective of what they might cost and bring as benefits with the intention of improving and developing a situation.

**7. Action Research:** This type looks like the experimental research, except for the fact that it is conducted in a real world situation, and not in a laboratory. In this type, the researcher does not intend or try to isolate the variables from where they are naturally functioning; the researcher depends heavily on observation and behavioural data.

From the literature above, one may understand that there are many types of research. Each one of these types is dictated by the nature of the problem to be solved, the type of data to be collected, the methods to be used in collecting the data and in their analysis, and the scope of the study and its objectives. These conditions, among others, must be weighed carefully by researchers.

### **2.3 Research Methods versus Methodology**

Any research requires the collection and analysis of data, which is generally done through reading documents, observing people and phenomena, asking questions, or using a combination of these ways. The latter are known as *research methods*, i.e. "all those methods which are used by the researcher during the course of studying his research problem" (Kothari, 1990, p.8). Whereas, *research methodology*

may be understood 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. It is necessary for the researcher to know not only the research methods/techniques but also the methodology (ibid)

The most frequently used research methods have been described by Blaxter, Hughes and Malcolm (2006, pp. 167-179) as follows:

**1. Documents:** This method is used by almost all researchers because they need to read, interpret, and analyze what others have written. Researchers should know more about their problems through consulting various sources.

**2. Interviews:** When they employ this method, researchers are supposed to question and discuss topics with people. The interview can be more useful in getting data than the observation or the questionnaire.

**3. Observation:** When using this method, researchers may be involved (participant) as they may not. The researcher is supposed to watch, records, and analyzes the vents. This method is time consuming both in collecting the data and in analyzing them.

**4. Questionnaires:** are widely used as social research techniques. They are used to elicit from people opinions or ideas about their experience and, thus interpreting the results is not as easy as one might think. Researchers must be very careful in putting questions which will yield the needed data. The questionnaires can be e-mailed, sent by post, or administered over the phone.

Questionnaires, interviews, observation and documents are then available tools for the social researcher to collect empirical data. They are considered to be very helpful to get evidence about the researcher's problem, and to provide him with an obvious image of and exact measurement of things (Denscombe, 2007, p. 133). Researchers, in social sciences, have the opportunity to use different methods within the study. "The principle behind this is

that the researcher can get a better understanding of the thing that is being investigated if he/she views it from different positions" (ibid, p. 134)

## **2.4 Research and the Scientific Process**

In life, we ask questions all the time because we need to know what makes a lot of our surroundings be or look like as we find them. We just need to know the truth. This need or desire to find an answer is what makes everyone a researcher (Hancock & Algozzine, 2006, p. 3). But, conducting good research requires the application of some research procedures (ibid, p.4) which can be itemized as follows:

1. What we want to study (*the research question*)
2. How do we want to study it (*the design*)
3. Whom we want to study (*the "case," "cases," or "sample"*)
4. How best to acquire information (*the data-collection techniques*)
5. How best to analyze or interpret the information that we acquire (*the data analysis*)
6. How and with whom to share our findings (*the dissemination process*)
7. How to confirm our findings (*the verification process*).

Through scientific research, researchers attempt to obtain accurate and reliable information to solve important issues and problems. Scientific research is then associated with the application of systematic methods and techniques to understand different phenomena. The steps which make up a scientific process (Lodico, Spaulding & Voegtle, 2006, p. 4) are described below:

1. First, the researcher asks a question;
2. Next, he/she collects new data;
3. Then, he/she analyzes the data;
4. After that, he/she interprets and reports findings;
5. Finally, he/she generates a new question to investigate next.



Research, in many fields, uses inductive reasoning and deductive reasoning. In inductive reasoning, the researcher uses systematic observations to come up with generalizations from the analysis of data; however, in deductive reasoning, the researcher relies on a general statement and then seeks evidence that would support or disconfirm that statement. The former is known as the "bottom-up" approach, and the latter is referred to as the "top-down approach" (ibid, p. 5)

### **Content Review**

1. What features are necessary to consider so as to distinguish between qualitative and quantitative research?
2. Identify the major research approaches. Give examples if it is possible.
3. What makes research methods different from research methodology?
4. In a few lines compare and contrast between research and the scientific process (method).

### **Self-Assessment Exercise**

1. If ..... a few resources and the research is limited ....., then a ..... is more appropriate.
2. Sometimes, the ..... are preferred ..... words not numbers. In this case, a ..... the best choice.
3. Researchers, in social sciences, have the opportunity to use ..... within the study.

## **Lecture 3: The Research Process**

### **Introduction**

Academics at all levels devote their time and efforts to research. Research takes place almost everywhere: "in laboratories and libraries, in jungles and ocean depths, in caves and in outer space. It stands behind every new technology, product, or scientific discovery-and most of the old ones"(Booth, Colomb & Williams, 2003, p.9)

### **3.1 How Social Research is done**

To conduct research is to inquire into some aspects of the world around us, and research as such is supposed to be very academic; i.e. it must be systematic, critical and scientific. Any work will have to meet some requirements to convince the public or readers (Swetnam, 2004, p. 1). Namely, the readers must find grounded recommendations and conclusions (ibid).

### **3.2 The Research Process**

Before tackling any problem, the social researcher faces a variety of choices of how to conduct his or her research. In fact, each choice or direction has advantages and disadvantages, that is, there is no right or wrong direction and it all depends on whether the selected approach fits the investigation and its purposes (Denscombe, 2007, p. 3). To ensure starting on a firm and solid path, there are some criteria and conditions to be taken into consideration. The social researcher must feel confident to answer "yes" to, at least, the following questions (ibid, p.5):

1. Does the research have significance in relation to some practical or theoretical issue?
2. Is there sufficient time for the design of the research, data collection and data analysis?
3. Will an adequate number and a suitable diversity of people, events, etc. be included?
4. Will the data be precise and detailed?
5. Can I avoid being biased because of my personal values, beliefs and background?

6. Can I avoid any deception or misrepresentation in my dealings with the research subjects?

### **3.3 Criteria of Good Research**

According to Kothari (1990, p. 20), good research is one that is systematic (it rejects guessing and intuition), logical (it is characterized by logical reasoning), empirical (it relies on concrete data), and replicable (its results can be verified by other researchers). Sometimes, it is worth assessing the reliability, the validity, and the generalizability of the research to answer the question "Is it a good research?" (Swetnam, 2004, p. 23). If it is reliable, the same procedures or actions would lead to the same results; if it is valid, the researcher is observing or measuring the right phenomenon; and if it is generalizable, the work is useful to other people or situations. Checking the above criteria is also required to maintain academic integrity.

### **3.4 Problems often Encountered by our Students**

#### **3.4.1 Choice of a Topic**

Choosing one's research topic is perhaps the main single decision that a researcher is supposed to take. It requires some focus on one's interests, professional and future life, and on the objectives of this piece of research, and what the latter might bring to the researcher's institution or workplace (Blaxter, Hughes & Malcolm, 2006, p. 22). Then, what must be mentioned here is that after having read enough literature, and in order to conduct research, students "need to start by identifying a question which demands an answer, or a need which requires a resolution, or a riddle which seeks a solution, which can be developed into a research problem: the heart of the research project"(Walliman, 2001, p. 20). That is, there must be a clear and suitable problem to address. Suitability is meant to indicate that the problem is interesting and significant (ibid, p. 21).

### **3.4.2 The Literature Review and its Importance**

Literature reviews are distinctive features of research and are conducted in many different ways. All of these are characterized by the incorporation of more interaction with material through critical evaluation (Finn, 2005, pp.89-90). The aim and importance of a literature review derive from the need to understand and justify a research question in a given research area, but not to just summarize concepts, theories, applications and the like (ibid, p. 90). When students carry out a literature review, they aim to find out the people speaking about what they are interested in, specifically their research objectives, and to show their supervisors that they have read in depth about their topics (Biggam, 2008, p. 50).

### **3.4.3 Qualitative and Quantitative Research**

It is very crucial and very strategic for beginning researchers to understand the differences between qualitative and quantitative research because the selection of an appropriate approach depends mainly on the goals and preferences of the researcher (Hancock & Algozzine, 2006, p. 7). If the researcher wants to describe the state of affairs from a distance, then the qualitative approach seems to be the best choice, and if he seeks to discover relations between variables, the quantitative will be more fitting. This is only because "Qualitative research approaches collect data through observations, interviews, and document analysis and summarize the findings through narrative or verbal means" (Lodico, Spaulding & Voegtler, 2006, p. 15); whereas, "All quantitative research approaches summarize results numerically" (ibid, p. 12) with some differences in the goals and the ways they collect data.

#### **Self-Assessment Exercise**

1. Good research is one that is .....and replicable
2. The aim and importance of a literature review derive from ....., but not to just summarize concepts, theories, ..... and the like.

## **Lecture 4: The Research Problem**

### **Introduction**

It has been said that a good piece of research starts as a questions that needs to be answered, or a situations that confronts people, at work or at school, and requires an immediate remedy. However, a few novice researchers, however, are unaware of the word "problem". "Problem" means many things for many practitioners: teachers and students.

### **4.1 What is a Research Problem?**

A research problem is a difficulty in a situation whereby an individual or a group that attempts to solve or remedy. In most cases, there must also be causes and effects; i.e. dependent and independent variables in two different courses of action, with an urgent need for some satisfaction (Kothari, 1990, p.24). According to Walliman (2001, pp. 22-23), researchers need to be warned at this very important stage of selecting a problem about four (04) mistakes, so that they can understand it well and can deal with it. These mistakes are summarized as follows:

1. The choice of a problem should not be only personal, but one of a wider interest. Researchers may learn for themselves, but are, at the same time, supposed to contribute to the public knowledge.
2. The formulation of a problem should not only involve mere comparisons of data from here and there, without revealing new ideas or giving insights into new aspects. The problem should state the objectives in a clear manner.
3. Setting the problem to find out the degree of correlation between variables is not enough, which may result in a number could not explain the cause or causes leading to that degree of the correlation. What is also needed is the nature of the link between variables.

4. The problem should not be devised so as the answer can be "yes" or "no". Research should provide us with knowledge of why things are found the way we find them and how these things work. We do not only need answers, but implications.

#### **4.2 Selecting and /identifying the Problem**

Because the identification of a problem is of paramount importance, the researcher should know how to recognize and define his problem, a preliminary action that can proceed through the following steps (Singh, 2006, p. 23):

1. Determining the field of research in which a researcher is keen to do the research work.
2. The researcher should develop the mastery on the area or it should be the field of his specialization.
3. He should review the researches conducted in area to know the recent trends and studies in the area.
4. On the basis of review, he should consider the priority field of the study.
5. He should draw an analogy and insight in identifying a problem or employ his personal experience of the field in locating the problem. He may take help of a supervisor or an expert of the field.
6. He should pin-point specific aspect of the problem which is to be investigated.

Sometimes, at this stage, researchers are faced with other requirements. They need to find "a problem whose solution makes all of us see the world in new way" (Booth, Colomb & Williams., 2003, p. 68). This is what characterizes experienced teachers, but novice researchers may also find "a good research problem" or try to clarify "an old one" to make a big contribution to their field of study. That is, consumed or already defined problems are less tackled than new ones.

### **4.3 Necessity of Defining the Problem**

Defining the problem can be synonymous, or rather imitative of refining the topic at the very beginning of the research. This can be done through the first readings on the part of the researcher and his discussions with the advisor in order to frame the major questions and the approach (Lipson, 2005, 70-71). It then begins by understanding whether or not the topic is researchable and manageable, which will help the researcher to come up with a more sharpened thesis topic and analyze it within the limits of the time allotted (ibid, p. 71). Once the thesis topic has been sharpened and the questions have been clearly settled down, the novice research must start thinking through the aims, methods and possible analyses (Norton, 2009, p. 87) to avoid any attendant pitfalls.

In describing the content and form of the research proposal, which is a document that candidates must develop at the onset of their research, Davis (2005, p. 53) invites researchers to solidify their "hypothesis and objectives", and to clarify what they "want this research to achieve". This indicates once again that the hypothesis or the suggested answer to the main question, which in a way or another reflects the main problem, must be put forward and illuminated earlier. The identification of the problem is then a pre-requisite which entails all the aforementioned researcher's actions.

### **4.4 Techniques Involved in Defining a Problem**

Booth, Colomb and Williams (2003, pp. 68-70) suggested some ways for researchers which aim at formulating the problem at the outset of research as follows:

1. Ask for help: Talk to teachers, classmates, relatives, friends...or anyone who is interested in your topic.
2. Look for problems as you read: The researcher may find a research problem when he detects a contradiction, an incomplete explanation, or some inconsistency.

3. Claim for the problem that your claim solves: When researchers read critically, they may discover a good research problem; the last few pages of a draft are sometimes the space where almost all writers formulate a final claim which might give rise to other important questions that the researcher can rely on.

If the above suggestions are taken into consideration by the researcher, then he will be able to formulate a question that is worth answering and find or create a problem that is worth solving. In many fields such as politics and international diplomacy "no skill is valued more highly than the ability to recognize a problem that others should take seriously, then to articulate that problem in a way that convinces them to care"(ibid, pp. 70-71).

### **Conclusion**

Researchers, whether novice or experienced, are supposed to discover problems in their workplace or elsewhere through careful observation or critical reading. Their task is to figure out the nature of the problem and not only report facts about it; their real task is to formulate a question that is worth answering or put forward a problem that really requires a solution.

### **Content Review**

1. What is a research problem?
2. What are some of the necessary steps involved in identifying the research problem?
3. Why is the defining of the research problem a crucial stage?



## **Lecture 5: The Research Design**

### **Introduction**

Many issues must be taken into consideration when researchers start framing the plans of their research. These issues can be summarized into the aims and purposes of the research, the main research questions, the setting and constraints on the research, the ethical issues, sampling, the resources required, and so on. Considering all these issues is an indicator of which research blueprint is likely to be more acceptable at the start of a study.

### **5.1 Meaning of Research Design**

The research design is the overall plan put forward by researchers to carry out an investigation. It gives a clear picture of both the construction and conduction of the research (Balnaves & Caputi, 2001, pp. 27-29). Therefore, "a completed research design shows the step-by-step sequence of actions in carrying out an investigation essential to obtaining objective, reliable, and valid information" (Mauch & Park, 2003, p. 123).

### **5.2 Need for Research Design**

In research, there is no single plan to be followed. A research plan or design is in fact determined by its appropriateness for the investigation in question, i.e. "The purposes of the research determine the methodology and design of the research"(Cohen, Manion, & Morrison, 2005, p. 73). For example, the survey approach may fit the purpose of making generalizable comments of a field; the experimental or action research is appropriate in the case of an intervention; and an ethnographic model might be more suitable if the intention is to conduct an in-depth study (ibid).

According to Hunt (2005, pp. 67-68), when the overall plan is written down, it may provide the researcher with the idea of changing and expanding things. It may also make the researcher notice that he needs to do various things before even he starts designing. A well

elaborated design will allow the researcher to discuss the details of his project with others (focus group, supervisor...) and get from them useful insights.

### **5.3 Important Concepts Relating to Research Design**

#### **5.3.1 Methodology**

The term *methodology* and *theoretical paradigm* (quantitative or qualitative) are sometimes used interchangeably by scholars. It gives an idea of the stance in which the researcher is working. "The methodology develops an explanation as to why the research method (s) under discussion have been chosen" (Paltridge, & Starfield, 2007, pp. 118-119). However, "*Methods* refer to the actual research instruments and material used. The chosen methodology informs the choice of methods and what counts as data." (ibid, p. 119).

#### **5.3.2 Research Strategy**

From the above literature, one may notice that at the beginning of the research,

...the social researcher is faced with a variety of options and alternatives and has to make strategic decisions about which to choose...There is no 'one right' direction to take. There are, though, some that are better suited than other for taking special issues. In practice, good social research is a matter of 'horses for courses', where approaches are selected because they are appropriate for specific types of investigation and specific kinds of problems... (Denscombe, 2007, p. 3)

The term "*Research Strategy*" or "*approach*" needs to be selected earlier so as the researcher feels confident and starts from a solid groundwork. Selecting a convenient strategy may help the researcher to gain time and effort; a convenient strategy will allow the researcher to be confident about the significance, feasibility, participants, accuracy and objectivity, and many other matters in his research (ibid, p. 5). The researcher may select the survey, the case study, the experiment, or even the mixed-methods approach as a strategy to conduct his research.

### 5.3. 3 Hypotheses

A hypothesis is a (tentative) statement put forward as a suggested answer or solution for a pressing practical problem (thesis). A hypothesis can also refer to *two or more variables to be confirmed or rejected empirically*. Therefore, hypotheses are always formulated at the outset of research by novice and experienced researchers and the activities included in the research aim to verify these hypotheses (Singh, 2006, p. 54).

### 5.3. 4 Variables

Variables, in the social sciences, often mean the quantifiable attributes of a phenomenon such as events or objects. These attributes are measured in order to discover their interaction and how one variable influences another. The influential variable is known as *the independent* and the influenced variable is termed *the dependent* (Balnaves & Caputi, 2001, p. 46). In some studies, the independent variable may consist in the kind of instruction which we give to students. The dependent variable, in this case, may consist in the students' achievement. Achievement is often assessed, or rather measured by tests.

## 5.4 Different Research Designs

In recognition of the most common designs used for small-scale research, Blaxter, Hughes and Tight (2006, pp. 66-79) provided the following four-type classification:

**Action Research:** This type is very popular in the social sciences. It is conducted mainly in people's workplaces in fields such as education and health. It is useful, for instance, for teachers who seek to solve classroom problems and improve students' performance. It reflects the idea of practical purposes and the need for change.

**Case Studies:** The case study is the type of design or approach used by researchers to observe the characteristics of an individual, a school or an institution, or just one element of these, with the intent to look deeply into and study many phenomena. Case studies can

provide data for further research; i.e. they may open the door for other concerns and general issues due to their reliance on collecting data from people's experiences and daily life practices.

**Experiments:** The experiment seems to be more associated with the scientific method, and thus must not be used, or at least avoided, in the social sciences. Problems such as individuals' exposure to the experiment may give rise to many ethical issues which should be taken into consideration.

**Surveys:** The major characteristic of a survey is to find consistent answers to consistent questions. Surveys are intended principally to ask people questions; therefore, questionnaires and interviews may occupy a major place in conducting research using a survey.

### **Conclusion**

A research design can and does help the researcher to anticipate and overcome the limitations that are associated especially with the sequence of actions on the way to get the needed information. Choosing an appropriate design informs the researcher of what to change, what to add, and what to keep in the course of his research; it provides him with colleagues' feedback and insights into other aspects of research.

### **Content Review**

1. What is a research design?
2. Which research type do you think "Case Study" best fits within?
3. Having chosen "Action Research" as the design of your study, what are its main advantages?

### **Self-Assessment Exercise**

1. Hypotheses are always formulated at ..... experienced researchers.
2. The .....variable is known as ..... and the influenced variable is termed.....
3. The ..... variable may consist in the kind of instruction given to students.

## **Lecture 6: Population and Sampling**

### **Introduction**

In defining populations and samples in terms of nature, size, and interrelationship, Gibilisco (2004, p. 38) pointed out that:

In statistics, the term population refers to a particular set of items, objects, phenomena, or people being analysed. These items, also called elements, can be actual subjects such as people or animals, but they can also be numbers or definable quantities expressed in physical units.

The total number of items, objects or people is known as the population of the study, and the group or small number chosen from it is referred to as a sample. Because the study of the whole population is impossible and impractical due to some issues which encounter the researcher such as time and money, the technique of sampling becomes indispensable; i.e. the research work cannot be undertaken without it (Singh, 2006, p. 81).

### **6.1 Implications of a Sample Design**

In any study a researcher wants to conduct, there must be a selection of participants. These latter are the people who will be given treatment, asked questions, or observed as they behave, and the technique used to select these participants depends heavily on the type of research (Lodico, Spaulding & Voegtler, 2006 ,pp.139-140). In qualitative research, the participants are selected on the basis of their traits and the knowledge they have to answer the questions, with no intention to generalize the results; whereas, in quantitative research, there is often a desire to generalize from the sample to the whole population (ibid). The sample is the source of data which will help the researcher to answer the questions or test the hypotheses (Perry, Jr, 2005, pp. 55-56) because it involves the cases, subjects, or using the most recent term participants who are supposed to provide the research with the necessary data. The importance of the sample also lies in choice and the objectives of the study. If the

purpose is to ensure representativeness in order to generalize the findings, then particular sampling strategies must be used, and if the purpose is to conduct an in-depth analysis of a phenomenon, samples that might bring rich information are needed (ibid, p. 56).

## **6.2 Steps in Sampling Design**

According to Singh (2006, p. 95), there are five major steps that the researcher must go through to design his sample and sketch it cycle. Singh has described them as follows:

1. The researcher identifies the universe and the population of his study.
2. The researcher applies the necessary techniques to select the type and the size of the sample he needs.
3. If any ethical issue arises here (some people may refuse to participate), the researcher has to extend the invitation until the size desired is reached.
4. At this stage, the researcher applies the appropriate data collection methods to collect data from the real number of the participants.
5. From those who do form the data producing sample, the researcher settles down findings and makes conclusions.

## **6.3 Characteristics of a Good Sample Design**

According to Singh (2006, p. 92), the list below includes the core characteristics of a good sample design. This is not, of course, an exclusive one and has been adapted to meet the requirements of the present paper.

1. A good sample is the true representative of the population corresponding to its properties.
2. A good sample is free from bias. In its selection, there must be no influence from the investigator.
3. A good sample maintains accuracy. It must yield accurate data and does not involve errors.
4. A good sample is a comprehensive one; i.e. it must be controlled by the specific purpose of the study.

5. A good sample must be economical, especially in terms of energy, time and money.
6. A good sample is one that helps the investigator to approach the participants and gather data from them easily.
7. A good sample makes the research work a more feasible task.

#### **6.4 Different Types of Sample Designs**

At this stage of research, the researcher must opt for either probability (random sample) or non-probability (purposive sample). "In the former, every member of the wider population has an equal chance of being included in the sample;...In the latter, some members of the wider population definitely will be excluded and others definitely included" (Cohen, Manion, & Morrison, 2007, p.110). A probability sample is selected randomly and is useful to make generalizations because it seeks representativeness of the population. Whereas, a no-probability sample does not highlight representativeness of the population, but a small group or a section of it (ibid). Non-probability samples include convenience sampling, quota sampling, purposive sampling, dimensional sampling, and so on (ibid, pp. 113-115).

In practice, there is no single way or technique that a researcher can use to sample his design. Biggam (2008, pp. 88-90) provides a list that includes: random sampling, simple random sampling, stratified sampling, cluster sampling, systematic sampling, quota sampling, and convenience sampling.

**Random sampling:** This is a complete random selection of a sample of a population. An example of this type could be the random selection of people in the street; i.e. the researcher may stand somewhere and tries to ask them questions on whether they are going to vote or not because it is not easy to ask everyone.

**Simple random sampling:** This is one type of random sampling. Unlike random sampling, simple random sampling guarantees the chance of being selected for every member, and this

requires working with a smaller number of people and a good choice of the time and the place (street).

**Stratified sampling:** It refers to breaking down the target population into small identifiable groups (Strata) and taking a sample from each group (Stratum).

**Cluster sampling:** This type is identical to stratified sampling. But, the selection of samples from the groups (Clusters) must be random. The researcher selects some clusters to reduce their number, and then takes a sample from each of these latter randomly.

**Systematic sampling:** It occurs when the researcher takes a sample from his target population at equal or regular intervals. The researcher may take, for example, every fifth, tenth, or fifteenth name of a student on a list.

**Quota sampling:** This is sometimes known as no-probability sampling. It does not involve random sampling, and the researcher decides beforehand the type and number of members. It also does not highlight the question of representativeness. Some people (members) are stopped in the street and asked questions just because they are aged 20.

**Convenience sampling:** This is another example of non-probability sampling. "Convenience" refers to the fact that it is used by researchers because it is convenient to them. The researcher may interview his students or staff because he has an easy access to them. Representativeness is not an underlying claim if this sampling has been selected.

## **Conclusion**

Many criteria must, in fact, be considered in designing a sample. The sampling strategy, the characteristics of the sample, and the type of the sample itself must be planned and deliberate. Arbitrariness must be substituted with suitability, and the purposes of the research must go hand in hand with all the aforementioned choices.

## **Content Review**

Which process should a researcher go through in sampling a Design? Why?



## **Lecture 7: Ethical Issues in Research**

### **Introduction**

In conducting research in the social sciences, there must be some awareness of the attendant evils which may harm the participants. The sources of these moral or ethical issues vary from one research to another, but most of them may stem out of the nature of the project, the context in which it is carried out, the data collection methods to be used, the procedures to be adopted, the nature of the participants, and even the type of data collected (Cohen, Manion, & Morrison, 2005, p.49).

### **6.1 Ethical Issues: What do they mean?**

From a very broad perspective, ethics are those "moral principles governing behaviour-the rules that dictate what is right and or wrong". Yet ...what constitutes right and or wrong is subjective, defined by groups with particular aims." (Hegtvedt, 2007, p.144). That is, ethical issues refer to the violation of a set of rules which are intended to ensure good academic conduct on the part of the researcher, and protection of rights on the part of human participants.

In an attempt to answer the question "What do ethical issues mean?", Norton (2009) put forward three major criteria to increase the validity of research. These are *informed consent*; *privacy and confidentiality*; and *protection from harm*. Participants are entitled to be informed of their role and the value of the research. Their consent to take part is also needed to avoid any mid-way problems. As for privacy and confidentiality, it must be made clear, at the very beginning of the research, which person or people will have access to the data provided by informants, and the identity of these informants must be concealed in all research findings. In addition, the informants' academic achievement and confidence need protection from all types of harm.

Other scholars look at the matter from a more general perspective. Swetnam (2004, pp. 7-8) sees that any researcher has as a responsibility to guarantee that:

- a- No harm should come to participants in the research either physically, mentally or socially.
- b- Particular care is taken not to exploit the vulnerability of children, the elderly, the disabled or those disadvantaged in any way.
- c- no physical or environmental damage should be caused.
- d- Wherever possible participants are informed of the nature of the work and give their consent.
- e- The research follows equal opportunities principles.
- f- Anonymity and privacy, where requested, are guaranteed and honoured.
- g- Nothing is done that brings your institution into disrepute.

## **6.2 Ethics and Sampling**

In many studies, where human participants are invited, issues of rights and privacy protection as mentioned above rise. For these reasons, among others, the US government, for instance, "set up a commission in 1974 that produced the Belmont Report in 1979. In 1991, many US government agencies adopted a number of regulations to protect human participants"(Perry, Jr., 2005, p. 67). Other examples of associations and boards concerned with this type of protection are the British Psychological Society (BPS) and the American Psychological Association (APA) which

have both agreed guidelines on the ethical issues involved in psychological research. The BPS currently have a booklet of statements (1993), covering a range of issues, and also a code of conduct (1985) adopted through a postal ballot of all its members...The APA (1987) has a more comprehensive setoff ethical principles comprising ten major

categories, each with several sub-principles. The general public can bring complaints to the ethics committee who then adjudicate...(Coolican,393-394)

All the above principles "stress that psychological research should lead to better understanding of ourselves and to the enhancement of the human condition and promotion of human welfare" (ibid). They stress the need for free inquisitiveness so as to guarantee wider and more valid knowledge.

### **6.3 Ethics and the University's Public face**

As it was hinted at earlier, ethics must be highly considered because they may add to the fame of the institution or university where the research is being conducted. They may also present the university in bad light in case they are violated. Undoubtedly, the researcher is the university's public face in the way he researches and in how people perceive the research. In many universities, researchers cannot start their projects unless they satisfy the ethics committee with their research plans in terms of the sample, data collection, methodology, and so forth (Steane, 2004, p. 59-64). According to (Booth, Colomb & Williams, 2003, p.274), respectful (ethical) researcher will face the following choices at the onset of his project:

1. Ethical researchers do not plagiarize or claim credit for the results of others.
2. They do not misreport sources, invent data, or fake results.
3. They do not submit data whose accuracy they do not trust, unless they say so.
4. They do not conceal objections that they cannot rebut.
5. They do not caricature or distort opposing views.
6. They do not destroy data or conceal sources important for those who follow.

It is seems to be very challenging to apply these principles because the "don'ts" may bring the researcher to "dos" which may not appeal to him; i.e. to practices which are considered to be wrong in today's world. The ultimate aim has to be far beyond any personal desires; researchers and consumers of research must think of creating an ethical community.

## 6.4 The Principle of Informed Consent

"*Informed Consent*" refers the code or rule that participants are free to participate or refuse to participate, and that they are entitled to be informed of the implications of their participation. In other words, "Informed consent is the principle that individuals should not be coerced, or persuaded, or induced into research against their will, but that their participation should be based on voluntarism, and on a full understanding of the implications of participation"(Green & Thorogood, 2004, pp. 57-58). As for the right to non-participation, both before and during the study, Coolican (1994, p. 401) finds that in any research, the investigator is obliged to:

1. Give the participant full information as to the likely level of discomfort and to emphasize the voluntary nature of the exercise and right to withdraw at any time.
2. Remind the participant of this right to withdraw at any point in the procedure where discomfort appears to be higher than anticipated.
3. Terminate the procedure where discomfort levels are substantially higher than anticipated and/ the participant is obviously disturbed to an unacceptable level.

The participants' consent and co-operation are necessary to assist the investigator. In some studies, informed consent is utterly crucial because the participants' right can be impaired. Frankfort Nachmias and Nachmias (1992, qtd in Cohen, Manion & Morrison, 2005, p. 50) say:

When research participants are to be exposed to pain, physical or emotional injury, invasions of privacy, or physical or psychological stress, or when they are asked to surrender their autonomy temporarily (as, for example, in drug research), informed consent must be fully guaranteed. Participants should know that their involvement is voluntary at all times, and they should receive a thorough explanation beforehand of the benefits, rights, risks, and dangers involved as a consequence of their participation in the research project.

In other contexts such as the case of pedagogical research, researchers are also advised to be careful when dealing students and staff as their participants. The idea is that researchers may not feel the influence exercised on students, for instance, in convincing them to participate in a study, believing that it is due because there will be some pedagogical benefits (Norton, 2009, pp. 181-182). On the other hand, teachers may receive an equal impact. If, for example, the researcher is to develop a phenomenological portrait of the staff in their workplace, some members may refuse to take part, in which case the researcher cannot get a full depiction of the situation (ibid).

### **Conclusion**

Acting ethically is a pre-requisite in research. It entails important and liable decisions at the design phase of the research project. Because students are asked to participate in research, for they are easy to reach in their classrooms and most of them appear to be more willing than other participants, many elements of coercion are likely emerge. The more students are involved in research, the more vigilant researchers have to be.

### **Content Review**

1. What are ethics and what are ethical issues in research?
2. In your view, how could a sample affect research?
3. Is the principle of "*Informed Consent*" really crucial in research? How?

### **Self-Assessment Exercise**

According to Coolican (1994), the investigator is obliged to:

- a. ....
- b. ....
- c. ....

## **Conclusion**

As teachers and researchers, one of the most challenging moments in our lives is to fulfill our duties as really required. We find ourselves obliged to infer knowledge, to contribute to research, to continue to build relationships, and to encounter problems both at home and outside of it. To develop a liable person and maintain good research conduct, it is fundamental for us to keep working hard, and to believe that research is our window to the world. We, as teachers and researchers, have to pursue the truth despite all the costs and limitations in our disciplines. We have to survive! We have to find a compromise between our personal, professional and academic desires. Survival is our feeling of joy because it is empowered by the need for broadening wisdom and intelligence, experience and expertise.

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**Appendix 1**

**The First Term Exam in Research Methodology**

**Section One: General Understanding**

**(07pts)**

Tick (✓), number, or fill in as appropriate in the space provided

**1. Which of the following definitions of research is likely to be of greatest value in academia?**

a. Research is a movement from the known to the unknown. It is actually a voyage of discovery.

\_\_\_\_\_

b. Research is a scientific and systematic search for pertinent information on a specific topic. In fact, research is an art of scientific investigation

\_\_\_\_\_

c. Research is defining problems, formulating hypotheses; collecting and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions.

\_\_\_\_\_

**2. Below are some possible reasons for conducting research. Classify them from the most to the least reasonable one. (Use the numbers 1, 2, and 3)**

a. Desire to get a research degree along with its consequential benefits. \_\_\_\_\_

b. Desire to face the challenge in solving problems. \_\_\_\_\_

c. Desire to get intellectual joy of doing some creative work. \_\_\_\_\_

**3. What types of research are defined below? Rely on the cues, or definitions given.**

a. It includes surveys and fact-finding enquiries of different kinds. The major purpose of this research is depiction of the state of affairs as it exists at present. \_\_\_\_\_

b. This research aims at finding a solution for an immediate problem facing a society or an industrial/business organisation. \_\_\_\_\_

c. This type of research is related to some abstract idea(s) or theory. It is generally used by philosophers and thinkers to develop new concepts or to reinterpret existing ones. \_\_\_\_\_

**Section Two: Specific Information**

**(07pts)**

Tick (✓), or fill in as appropriate in the space provided

**1. Identify which of the following research could be qualitative and which could be quantitative.**

a. Two students undertook an in-depth study to describe the experience of waiting for the corrections of exams and marks. \_\_\_\_\_

b. A teacher conducted a study to determine the effectiveness of teaching poetry as an intervention model for relieving anxiety among students in the classroom. \_\_\_\_\_

- c. Three specialists explored the experiences of 20 nurses who cared for patients who had been pronounced brain dead, but kept alive to serve as organ donors. \_\_\_\_\_
- d. A psychiatrist studied the frequency and impact of bad conduct on students' achievement, and explored the major distinctive features of bad conduct in relation to the other traits of the same group. \_\_\_\_\_

**2. Indicate whether the following statements are true or false.**

No	Statement	T	F
1	A problem statement is an expression of dilemma that needs investigation.		
2	Research questions direct rewording of statements of purpose declaratively rather than interrogatively.		
3	Open ended questions are very easy to construct.		
4	Closed ended questions allow participants to respond to questions in their own words.		
5	Background of the problem should provide a brief, focused review of the literature.		
6	Sample in Qualitative Research is a large one (sample).		

**3. Match items/ information in column (A) with what corresponds to them in column (B).**

Column (A)		Column (B)	
A	System of organizing concepts	1	Data
B	Information gathered	2	Theory
C	A process by which specifics are inferred.	3	Qualitative Research
D	An approach to build theories	4	Deductive Reasoning

A	B	C	D

**Section Three: Research and/The Scientific Method**

**(06pts)**

Cite four (04) major principles/features of the **Scientific Method**.

1. ....
2. ....
3. ....
4. ....

**Appendix 2**

**The Second Term Exam in Research Methodology**

**Section One: General Understanding**

**(05pts)**

The technique for defining a research problem involves (mainly) the following steps: (i) statement of the problem; (ii) surveying the available literature; (iii) developing ideas through discussions; and (iv) rephrasing the research problem into a working proposition. **Give a brief description for the first two steps.**

**(i):**.....  
 .....  
 .....

**(ii):**.....  
 .....  
 .....

**Section Two: Specific Information**

**(05pts)**

Tick/Fill in as appropriate in the space provided

**1. Identify which research writing style is characterised by the following practices.**

- a. Used in social and natural sciences. \_\_\_\_\_
- b. Used for humanities: art, literature, and history. \_\_\_\_\_
- c. Requires (author’s last name, year, and page) in-text citations. \_\_\_\_\_
- d. Requires (author’s last name and page) in-text citations. \_\_\_\_\_

**2. Indicate whether the following statements are true or false.**

No	Statement	T	F
1	Research begins with a subject. In some academic contexts, you may choose the subject yourself, but in other contexts, you may be required to choose from a small number of topics or be assigned a topic with a predetermined focus.		
2	In most instances, you will need to broaden your subject to a general topic so that you can research and address your issue easily.		
3	Methods of research vary depending on the project, but most projects require multidimensional work with a variety of sources.		
4	Because Internet sources provide a fascinating array of materials, all of the material posted on the Internet has been subjected to scholarly review and is, therefore, credible.		
5	Researchers prefer different methods for recording information from sources. However, all methods should be meticulous and consistent, both to avoid plagiarism and to simplify the subsequent writing of the paper.		
6	A difficult problem in research involves using an author’s words and ideas improperly. Improper use often results from prudent summarizing and paraphrasing.		



**Appendix 3**

**The First Term Exam in Research Methodology**

**Activity One:** Write short notes on the following statements. **(05 pts)**

1. Research is sometimes considered to be a movement from the known to the unknown.  
.....  
.....  
.....
2. The major purpose of Descriptive Research is description of the state of affairs as it exists.  
.....  
.....  
.....
3. Qualitative Approach to research is a function of the researcher's insights and impressions.  
.....  
.....  
.....
4. Doubt leads to inquiry, and inquiry leads to invention.  
.....  
.....  
.....
5. Research methods are those methods used for conduction of research.  
.....  
.....  
.....

**Activity Two:** Put true (T) or false (F) in the blank specified. **(05 pts)**

1. The main objective of any research is to find out the truth which is hidden and which has not been discovered. ....
2. Research methods and research design are two different concepts; each concept has to do with a specific concern. ....
3. In the research process, there is no definite order of steps. ....
4. In conducting exploratory studies, we need to formulate several hypotheses. ....
5. If the population is not a homogeneous group, then stratified sampling is applied. ....





Level: Third Year (**All groups**)

Full name: .....

.....

Group number: .....

Academic Year: 2016/2017

Due time: 1 h & 30 mn

Date: January 21st, 2017

**Appendix 4**

**The First Term Exam in Research Methodology  
 (Exam for the Absentees)**

**Activity One:** Fill in the gaps with the appropriate words **(05 pts)**

1. The main purpose of research is to gain .....with a phenomenon.
2. One of the possible motives for doing research maybe a.....to face the challenge of solving problems.
3. Quantitative research is based on the measurement of .....or amount.
4. .... research is characterized by the experimenter's control over the variables under study.
5. The purpose of ..... approach to research is to form a data base from which to infer characteristics of population.

**Activity Two:** Put true (T) or false (F) in the blank specified. **(05 pts)**

1. Research methods can be put into only two groups: data collection methods and statistical techniques. ....
2. The scientific method is committed to subjective and objective considerations. ....
3. Our knowledge of methodology helps us to evaluate previous research results and take rational decisions. ....
4. Research process consists of series of actions or steps which do not strictly follow a prescribed sequence. ....
5. The basic outcome of a literature review is the knowledge as to what data and other materials are available for operational purposes in research. ....

**Activity Three:** Write a three-paragraph essay (no more than 20 lines) on the following topic. **(10 pts)**

**“Research is much concerned with proper fact finding, analysis and evaluation.”** Do you agree with this statement? Give reasons in support of your answer.











