Department of English Language and Literature Batna2 University

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Lecture 01, lecture 02, & lecture 03

1.Meaning of Research

2.Research as a process

3.Objectives of Research

4. Research and scientific method

5.Types of research

6.Paradigms of research

1. MEANING OF RESEARCH

Research in common parlance refers to a search for knowledge. One can also define research as **a scientific and systematic search for pertinent information on a specific topic**. In fact, research is an **art of scientific investigation**. The Advanced Learner's Dictionary of Current English lays down the meaning of research as "a **careful investigation or inquiry** specially through **search for new facts in any branch of knowledge.**"1 Redman and Mory define research as a "**systematized effort to gain new knowledge**."2 Some people consider research as **a movement**, a **movement from the known to the unknown**. It is actually **a voyage of discovery**. We all possess the vital instinct of inquisitiveness for, when the unknown confronts us, we wonder and our inquisitiveness makes us probe and attain full and fuller understanding of the unknown. This inquisitiveness is the mother of all knowledge and the method, which man employs for obtaining the knowledge of whatever the unknown, can be termed as research. Research is an academic activity and as such the term should be used in a technical sense. According to Clifford Woody research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organizing and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis. D. Slesinger and M. Stephenson in the Encyclopaedia of Social Sciences define research as "the manipulation of things, concepts or symbols for the purpose of generalising to extend, correct or verify knowledge, whether that knowledge aids in construction of theory or in the practice of an art."3 Research is, thus, an original contribution to the existing stock of knowledge making for its advancement. It is the persuit of truth with the help of study, observation, comparison and experiment. In short, the search for knowledge through objective and systematic method of finding solution to a problem is research. The systematic approach concerning generalization and the formulation of a theory is also research. As such the term 'research' refers to the **systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analyzing the facts and reaching certain conclusions either in the form of solutions(s)** towards the concerned problem or in certain generalizations for some theoretical formulation.

The term 'Research' consists of two words:

- Research = Re + Search

- ✓ ‘Re’ means again and again and ‘Search’ means to find out something, the following is theprocess:

- Therefore, research means to observe the phenomena again and again from different dimensions. For example there are many theories of learning due to the observation from different dimensions.
- The research is a process of which a person observes the phenomena again and again andcollects the data and on the basis of data he draws some conclusions.
- Research is oriented towards the discovery of relationship that exists among phenomena of theworld in which we live. The fundamental assumption is that invariant relationship exists betweencertain antecedents and certain consequents so that under a specific set of conditions a certain consequentscan be expected to follow the introduction of a given antecedent.
- Some people may claim they are doing research. Let us see other definitions by other scholars. For instance leedy (1997) **defines research as the systematic process of collecting and analyzing information (data) in order to increase our understanding of the phenomenon with which we are concerned or interested.**

Research as an Everyday Job

In the broadest terms, everyone does research: we all gather information to answer a question that solves a problem. You do it every day.

- **PROBLEM:** You need a new head gasket for a ’65 Mustang.
- **RESEARCH:** You call auto parts stores or get on the Internet to see who has one in stock.
- **PROBLEM:** You want to know where Michael Jordan was born.
- **RESEARCH:** You go to the library and look in a biographical dictionary. Or you call up Google.com and then sort through the 410,000! References to him.
- **PROBLEM:** You want to learn more about a discovery of a new species of tropical fish.
- **RESEARCH:** You search the Internet for articles in newspapers or magazines.

We all encounter research in our daily lives. The results of research on many topics are presented to us in the form of newspaper articles, books, reports, and television programs. For example, crime level figures are presented to us by television news reports and some topics, such as diet and health, are very popular with magazines as well as television programs. Thus, through various media we have become accustomed to seeing, reading and hearing about

research and although we may not be aware of it, we are used to making our own judgments about research findings. If we take the example of diet and health, many of us have taken into consideration information that has been presented on 'healthy eating' and have made our own choices about diet within the context of our own lives. We assess the information with which we are presented, form an opinion as to the validity and relevance of the research, and come to our own conclusions based on considerations such as:

- what we understand is the question or problem to be answered
- how the findings are presented
- why the research was conducted
- what we know about who conducted the research
- what other people think about the information
- how the research findings relate to us

We may choose to ignore the information, we may decide we don't understand what the findings mean, we may disagree, or we may agree with the findings and either adjust our eating habits or decide that the costs of adjustment are too high relative to the benefits. For some, because of their life circumstances, such as those suffering from a food shortage, the information may be of little immediate value. In other words, you may not be aware of it, but you already have some understanding of the research process, the role of research, research concepts, and research evaluation.

2. Research as a Process not a Single Action

Before embarking on the details of research methodology and techniques, it seems appropriate to present a brief overview of the research process. Research process consists of series of actions or steps necessary to effectively carry out research and the desired sequencing of these steps. Research can be seen as a series of linked activities moving from a beginning to an end. Research usually begins with **the identification of a problem** followed by **formulation of research questions or objectives**. Proceeding from this the researcher determines how **best to answer these questions** and so decides **what information to collect**, **how** it will be **collected**, and **how it will be analyzed** in order to answer the research question.

The term research as a process described in this way the research process is given the impression of linearity, yet research investigation is often an iterative process whereby the process of conducting the research will give rise to new ideas which, in turn, feed back into the data collection and analysis stage. Decisions made early in the research process are often revisited in the light of new insights or practical problems encountered along the way.

Research should start with the problem and the research questions. If the intention of research is to answer your questions, it follows that choice of method should develop from your question: choose the method that can best provide the information you need to answer your research question given the resources available to you. This is one reason why it is very important to be clear as to what you are asking. As you can see there are numerous choices to be made within the research process. Planning your research involves the consideration of four overlapping themes.

- The conceptual approach – the philosophical underpinnings of research
- Research design – how data collection is organized
- Data collection techniques – how data are collected
- Sampling – from whom data are collected

3. OBJECTIVES OF RESEARCH: What makes people to undertake research?

The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. Though each research study has its own specific purpose, we may think of research objectives as falling into a number of following broad groupings:

1. To gain familiarity with a phenomenon or to achieve new insights into it (studies with this object in view are termed as *exploratory* or *formulative* research studies);
2. To portray accurately the characteristics of a particular individual, situation or a group (studies with this object in view are known as *descriptive* research studies);
3. To determine the frequency with which something occurs or with which it is associated with something else (studies with this object in view are known as *diagnostic* research studies);
4. To test a hypothesis of a causal relationship between variables (such studies are known as *hypothesis- testing* research studies).
5. Get a result with scientific methods objectively, not subjectively
6. To discover the cause of a problem, to find the solution to a problem, carry out what is planned, to uncover what is not known, etc.

4. Research and scientific method

For a clear perception of the term research, one should know the meaning of scientific method. The two terms, research and scientific method, are closely related. Research, as we have already stated,

can be termed as "an 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."[7] On the other hand, the philosophy common to all research methods and techniques, although they may vary considerably from one science to another, is usually given the name of scientific method. In this context, Karl Pearson writes, "The scientific method is one and same in the branches (of science) and that method is the method of all logically trained minds … the unity of all sciences consists alone in its methods, not its material; the man who classifies facts of any kind whatever, who sees their mutual relation and describes their sequences, is applying the Scientific Method and is a man of science."[8] Scientific method is the pursuit of truth as determined by logical considerations. The ideal of science is to achieve a systematic interrelation of facts. Scientific method attempts to achieve "this ideal by experimentation, observation, logical arguments from accepted postulates and a combination of these three in varying proportions."[9] In scientific method, logic aids in formulating propositions explicitly and accurately so that their possible alternatives become clear.

Further, logic develops the consequences of such alternatives, and when these are compared with observable phenomena, it becomes possible for the researcher or the scientist to state which alternative is most in harmony with the observed facts. All this is done through experimentation and survey investigations which constitute the integral parts of scientific method. Experimentation is done to test hypotheses and to discover new relationships. If any, among variables. But the conclusions drawn on the basis of experimental data are generally criticized for either faulty assumptions, poorly designed experiments, badly executed experiments or faulty interpretations. As such the researcher must pay all possible attention while developing the experimental design and must state only probable inferences. The purpose of survey investigations may also be to provide scientifically gathered information to work as a basis for the researchers for their conclusions.

The scientific method is, thus, based on certain basic postulates which can be stated below.

1. It relies on empirical evidence;
2. It utilizes relevant concepts;
3. It is committed to only objective considerations;
4. It presupposes ethical neutrality, i.e., it aims at nothing but making only adequate and correct statements about population objects;
5. It results into probabilistic predictions;
6. Its methodology is made known to all concerned for critical scrutiny for use in testing the conclusions through replication;
7. It aims at formulating most general axioms or what can be termed as scientific theories.

One should remember that the various steps involved in a research process are not mutually exclusive; nor are they separate and distinct. They do not necessarily follow each other in any

specific order and the researcher has to be constantly anticipating at each step in the research process the requirements of the subsequent steps. However, the following order concerning various steps provides a useful procedural guideline regarding the research process. In other words, a pragmatic scheme of the points above is sometimes offered as a guideline for proceeding:

1. **formulating the research problem;**
2. **extensive literature survey;**
3. **developing the hypothesis;**
4. **preparing the research design;**
5. **determining sample design;**
6. **collecting the data;**
7. **execution of the project;**
8. **analysis of data;**
9. **hypothesis testing;**
10. **generalizations and interpretation, and**
11. **Preparation of the report or presentation of the results,i.e., formal write-up of conclusions reached**.

A brief description of the above stated steps is provided for more understanding:

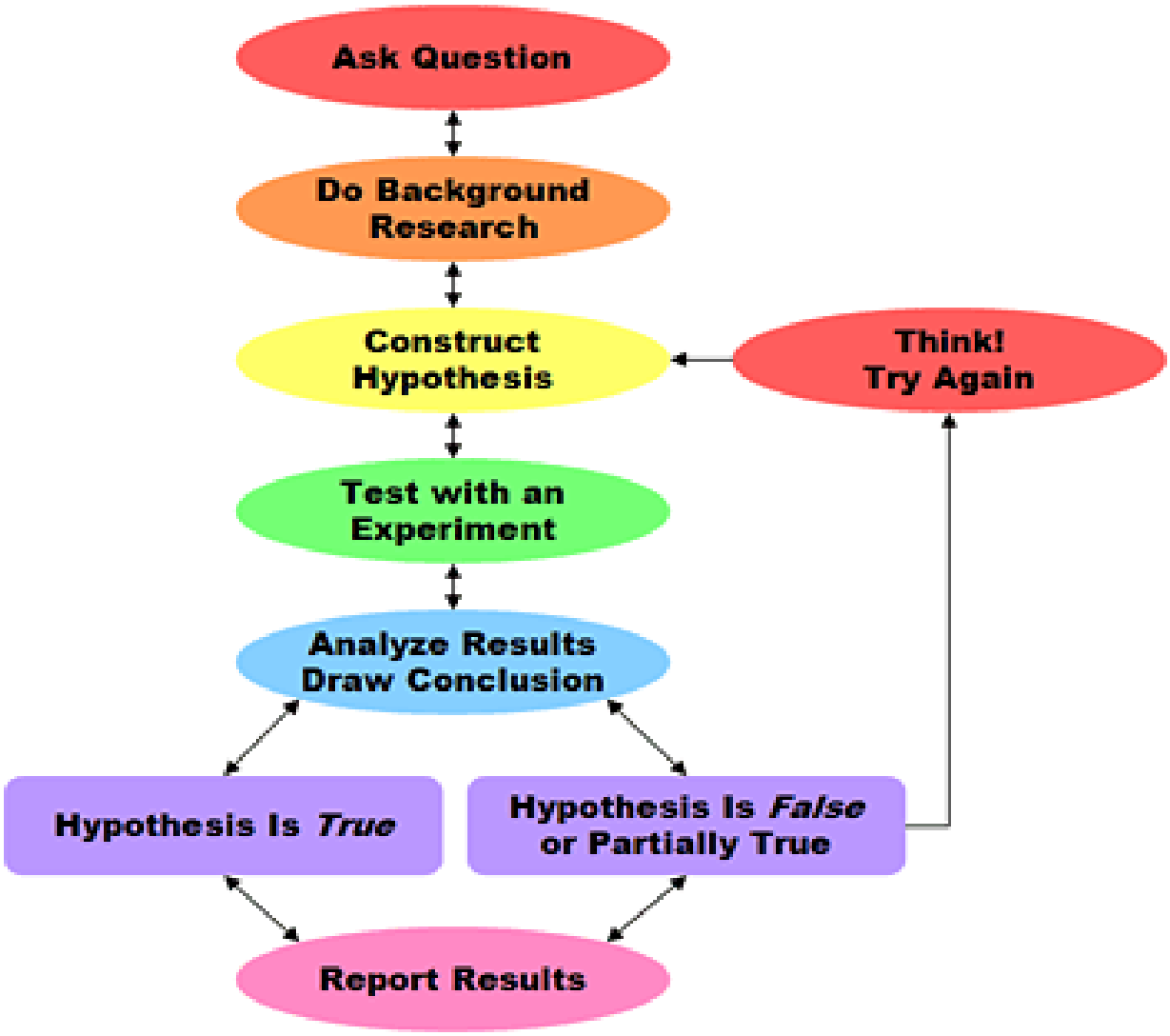

figure 01: the Skeleton of the Scientific Method

5. Types of Research:

a. Descriptive versus Analytical Research

Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is **description of the state of affairs as it exists at present**. In social science and business research we quite often use the term ***Ex post facto research*** for descriptive research studies. The main characteristic of this method is that the researcher has no control over the variables; he can only report what has happened or what is happening. Most *ex post facto research* projects are used for descriptive studies in which the researcher seeks to measure such items as, for example, frequency of shopping, preferences of people, or similar data. *Ex post facto studies* also include attempts by researchers to discover causes even when they cannot control the variables. The methods of research utilized in descriptive research are survey methods of all kinds, including comparative and correlational methods.

In ***analytical research***, on the other hand, the researcher has to use facts or information already available, and analyze these to make a critical evaluation of the material.

b) Basic versus Applied Research

Research can either be applied (or action) research or fundamental (to basic or pure) research. *Applied research* aims at finding a solution for an immediate problem facing a society or an industrial/business organization, whereas *fundamental research* is mainly concerned with generalizations and with the formulation of a theory. "Gathering knowledge for knowledge's sake is termed 'pure' or 'basic' research."[4] Research concerning some natural phenomenon or relating to pure mathematics are examples of fundamental research. Similarly, research studies, concerning human behaviour carried on with a view to make generalizations about human behaviour, are also examples of fundamental research, but research aimed at certain conclusions (say, a solution) facing a concrete social or business problem is an example of applied research. Research to identify social, economic or political trends that may affect a particular institution or the copy research (research to find out whether certain communications will be read and understood) or the marketing research or evaluation research are examples of applied research. Thus, the central aim of applied research is to discover a solution for some pressing practical problem, whereas basic research is directed towards finding information that has a broad base of applications and thus, adds to the already existing organized body of scientific knowledge.

Most of the research in social sciences is applied. In other words, the research techniques, procedures and methods that form the body of research methodology are applied. So applied research refers to scientific study and research that seeks to solve practical problems. Applied research is used to find solutions to everyday problems, cure illness, and develop innovative technologies, rather than to acquire knowledge for knowledge sake. For example, applied researchers may investigate ways to;

- Improve agricultural production
- Treat or cure a specific disease
- Improve the energy efficiency of homes, offices, or modes of transportations
- Solve foreign language learning problems.

At this juncture, you have to note that ***there is no sharp line of demarcation*** between basic and applied research. This is because applications of theory help in solving practical problems. You always apply the theories of administration or organization in your business management. On the other hand, basic research can also depend upon the findings of applied research to complete the theoretical formulations for example an organizational experiment could shed some light on a learning theory. At the same time, observations in a practical situation serve to test theories and may lead to the formulation of new theories.

c) Quantitative vs. Qualitative:

Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. For instance, when we are interested in investigating the reasons for human behaviour (i.e., why people think or do certain things), we quite often talk of 'Motivation Research', an important type of qualitative research.This type of research aims at discovering the underlying motives and desires, using in depth interviews for the purpose. Other techniques of such research are word association tests,

sentence completion tests, story completion tests and similar other projective techniques. Attitude or opinion research i.e., research designed to find out how people feel or what they think about a particular subject or institution is also qualitative research. Qualitative research is specially important in the behavioural sciences where the aim is to discover the underlying motives of human behaviour. Through such research we can analyse the various factors which motivate people to behave in a particular manner or which make people like or dislike a particular thing. It may be stated, however, that to apply qualitative research in practice is relatively a difficult job and therefore, while doing such research, one should seek guidance from experimental psychologists.

d) Mixed-methods approach to research: In some studies researchers use both qualitative and quantitative methods to answer their research questions. For example, Pragmatic researchers propose that even within the same study, quantitative and qualitative methods can be combined in creative ways to more fully answer research questions.

e) Longitudinal versus Cross-sectional Research

The main differences between **Longitudinal** and **Cross-sectional** studies concern the role of **time** in what is being investigated.

Longitudinal studies involve collecting data from the same individuals or groups at different points in time , with the researcher collecting data regularly over many weeks , months , or even years to examine how a particular individual or group changes over time . A typical **longitudinal** study might seek to compare one group of learners' performance of knowledge of a particular linguistic structure at times A, B, and C.

Cross-sectional studies on the other hand; data are typically collected at a single point in time, with the researcher looking for relationships or patterns in the data. For example, a cross-sectional study might examine learners' knowledge of a linguistic structure by looking at data collected at one point in time from beginning, intermediate and advanced learners.

f)Primary versus Secondary Research

There are two major sources of data that both basic and applied researchers can gather while conducting research

Secondary Research (Literature Reviews): In using secondary data, researchers examine what others have discovered about a particular topic. For example, if teachers want to know about the advantages and disadvantages of using peer review in a writing class, they can investigate what others have written on the topic. As McDonough and McDonough (1997) point out, when secondary data is used, "the outcome of the research is the establishment, publicizing, or utilization of something that somebody—not the researcher or the person commissioning it—already knows" (p. 37).

One example of a study using secondary data is Silva (1993). In this study Silva summarized the findings of 72 empirical research studies that compared L1 and L2 writers with regard to their composing processes and the features of their written texts. He then discussed what these findings suggest in general for designing an effective L2 writing program. Studies such as these are termed literature reviews**.**

Primary Research: In using primary data, researchers gather original data to answer a particular research question. That is to say, in such a research researchers gather first hand data, "the outcome is knowledge nobody had before" (p. 37). **e.g.,** we gather data directly from students who are learning a language rather than from secondary resources (books about students who are learning a language). *In fact this type of research is*

- ✓ *One of the* most rewarding locations for discovering current questions being asked by the applied linguistics community. The better versed we are in the research literature, the more aware we become of the missing pieces in our framework of knowledge.
- ✓ Many issues in primary research might lead us to raise important questions from previous research. For instance, sampling, the type of material used in a treatment, the method for administering a treatment, and the way in which the data were analyzed are often places where gaps might be found.
- ✓ Future research is needed to help complete the bigger picture before our own questions can be answered.

There are many types of applied linguistics research studies & social sciences and humanities and there are also a number of ways in which they may be classified. Studies may be classified according to topic whereby the particular phenomena being investigated are used to group the studies and objectives of research. Some examples of applied linguistics research topics are: teaching methods, language learning, classroom interaction and management, cross-cultural studies etc.

g) Exploratory Research

An exploratory study is undertaken in situations where there is a **lack of theoretical understanding about the phenomena** being **investigated** so that key variables, their relationships, and their (potential) causal linkages, are the subject of conjecture. It is also called a **feasibility study** or a **pilot study.** It is usually carried out when a researcher wants to explore areas about which s/he has little or no knowledge. A small-scale study is undertaken to decide if it is worth carrying out a detailed investigation. This type of research is usually conducted prior to experimental research as a pilot or feasibility study attempt. In this type of research, the researcher is supposed to suggest a hypothesis rather than testing it.

h) Historical research

Historical research has been defined as the systematic and objective location, evaluation and synthesis of evidence in order to establish facts and draw conclusions about **past events** (Borg (1963). It is an act of reconstruction undertaken in a spirit of critical inquiry designed to achieve a faithful representation of a **previous age**. In other words, Historical research generates descriptions, and sometimes attempted explanations, of conditions, situations, and events that have occurred in the past. For example, a study that documents the evolution of teacher training programs since the turn of the century, with the aim of explaining the historical origins of the content and processes of current programs.

i) Correlational Research

Correlational techniques are generally intended to answer three questions about two variables or two sets of data. First, '**Is there a relationship between the two variables** (or sets of data)?' If the answer to this question is 'yes', then two other questions follow: **'What is the direction of the relationship?' and 'What is the magnitude** (degree)?'Therefore, correlational research involves the search for relationships between variables through the use of various measures of statistical association, and describes in quantitative terms the degree to which the variables are related. For example, a research that investigates the **relationship** between **motivation** and **academic achievements** falls within this type of research.

j) Experimental Research

Experimental research is used in settings where variables defining one or more 'causes' can be manipulated in a systematic fashion in order to discern 'effects' on other variables. For example, an investigation of the **effectiveness** of **two new textbooks** using random **assignment of teachers** and students to three groups – two groups for each of the new textbooks, and one group as a 'control' group to use the existing textbook. Therefore, the primary characteristic of experimental research is manipulation of at least one variables and control over the other relevant variables so as to measure its effect on one or more dependent variables .The variable (s) which is manipulated is also called an **independent variable(s**), a treatment, an experimental variable(s) or the **cause**.

Another type of research that is similar to experimental research is **Quasi-experimental research**. These two types **overlap** to a great extent because both types **aim at testing a hypothesis**, however the main difference between the two types of research is on the type of sampling followed for the study. In experimental research, the sample is **randomly selected** to study; whereas, in quasi-experimental research, **random assignment of the sample is not followed**.

6. Paradigms of Research

There are two main paradigms that form the basis of research in the social sciences. The crucial question that divides the two is whether the methodology of the physical sciences can be applied to the study of social phenomena. The paradigm that is rooted in the physical sciences is called the systematic, scientific or **Quantitative positivist approach**. The opposite paradigm has come to be known as the **Qualitative, phenomenological, interpretative** approach. The advocates of the two opposing sides have developed their own values,

terminology, methods and techniques to understand social phenomena. However, since the mid-1960s there has been a growing recognition that both paradigms have their place. It is the purpose for which a research activity is undertaken that should determine the mode of enquiry, hence the paradigm. **Positivist** approach uses **large-scale survey** research and **statistical techniques** for analyzing survey data. **Interpretative** approach employs **qualitative methods** such as unstructured **interviews** and **participant observation**. Social actions must be studied though **interpretive** means based upon an **understanding** the meaning and purpose that individuals attach to their personal **actions.**