Ministry of Higher Education and Scientific Research

Relizane University

Institute of Letters and Foreign Languages

Department of English

Lecture 2

Module: Research Methodology **Level:** L1

Academic year: 2021-2022 **Semester:** S2

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Lecture 2: Types of research

Lecture's outline

- Types of research
  - Data, information and knowledge.
  - Mode of inquiry perspective
  - Application of research results perspective
  - Objectives or research perspective.

1- Data, information and knowledge

Generally speaking, the three terms data, information and knowledge are often used interchangeably on the assumption that they mean the same concept. However, in research methodology, according to the dictionary of applied linguistics, the terms are distinguished from one another as follows:

Data- *information collected in a research study. They can be:*

- *oral and recorded onto audio and/or videotapes*
- *written, in the forms of essays, test scores, diaries, or check marks on observation schemes;*
- *They may appear in electronic format;*
- *They may be visual, in the form of eye movements made while reading text at a computer or gestures made by a teacher in a classroom.*

- Depending on their source, data can be classified into primary and secondary data.

Data can be **primary** (raw) usually meaningless without context and need further processing, or can be **secondary** when primary data are recorded or interpreted.

According to Nicholas Walliman (2011, p.70), primary data is usually collected through:

- *Measurement – collections of numbers indicating amounts, e.g. voting polls, exam results, car mileages, oven temperatures etc.*

- *Observation – records of events, situations or things experienced with your own senses and perhaps with the help of an instrument, e.g. camera, tape recorder, microscope, etc.*
- *Interrogation – data gained by asking and probing, e.g. information about people's convictions, likes and dislikes etc.*
- *Participation – data gained by experiences of doing things e.g. the experience of learning to ride a bike tells you different things about balance, dealing with traffic etc., rather than just observing.*

➢ Depending on the form that they may take, data can be quantitative or qualitative

Quantitative data *are usually in the form of numbers whereas* ***qualitative data*** *generally take the form of words (descriptions, observations, impressions, recordings, and the like).*

Information is the result of processing data. This results in facts, which enables the processed data to be used in context and have meaning. Information is data that has meaning.

Knowledge can be:

• acquiring and remembering a set of facts, or

• The use of information to solve problems.

We distinguish **explicit knowledge** which refers to facts that are easy to pass on from one person to another and **tacit knowledge** which is not simple to pinpoint and pass on to others.

2- Types of research

Research can be classified according to different criteria of categorization. The following classifications are not exclusive; the same research can be classified into different types in the same time.

2-1 Mode of inquiry

In **quantitative research**, on the one hand, data are numerical and some qualitative aspects (e.g., individual differences in levels of motivation, language proficiency, or attitudes) are quantified using a scale. Quantitative research often uses statistical analysis to address research questions.

Qualitative research is interested in people's behaviors, motivations, thoughts, interactions, experiences, perceptions, and meaning-making activities in general. Data may be collected by means of individual or group interviews, observations of behaviors or field notes, and other documents or texts.

The collection of various types of data in one study is known as data triangulation, which may be solely quantitative or qualitative or a combination of both. The idea behind **mixed methods research** is to maximize the effectiveness of a study by using the strengths of both quantitative (answering the what questions) and qualitative (answering the how and why questions) research.

2-2 Application of research results

The research outcomes and how they contribute to bulk of existing knowledge determine whether a research is **basic** (fundamental, pure) or **applied**.

Basic research aims to develop fundamental knowledge about an issue or topic in a particular research area (what, why, and how something takes place or is present). Basic research helps researchers understand a phenomenon in a real-world context (e.g., how people learn and use a language or how and why a group of politicians use language as a tool to discriminate against immigrants). One outcome of basic research is a theory or a set of hypotheses that explain human behaviors, thoughts, or beliefs about language and language use.

Applied research is related to researchers or practitioners' attempts to solve real-world problems in language learning or use by applying principles or theories from primary research. In language teaching, researchers may examine whether a particular teaching technique or approach helps learners achieve higher proficiency.

2-3 Objectives of research

Descriptive vs. correlational 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. On the other hand, correlational study is to discover or establish the existence of a relationship/association/interdependence between two or more aspects of a situation.

Explanatory vs. exploratory research

Explanatory research attempts to clarify why and how there is a relationship between two aspects of a situation or phenomenon. Whereas exploratory research is when a study is undertaken with the objective either to explore an area where little is known or to investigate the possibilities of undertaking a particular research study.

3-4 Other classifications

Cross-Sectional and Longitudinal Research

Cross-sectional research takes place when researchers collect data from a group of research participants at a single point in time using instruments, such as tests, questionnaires, interviews or observations.

Longitudinal research requires researchers to collect data over a period of time (e.g., over several years or time points) to understand changes or developments.