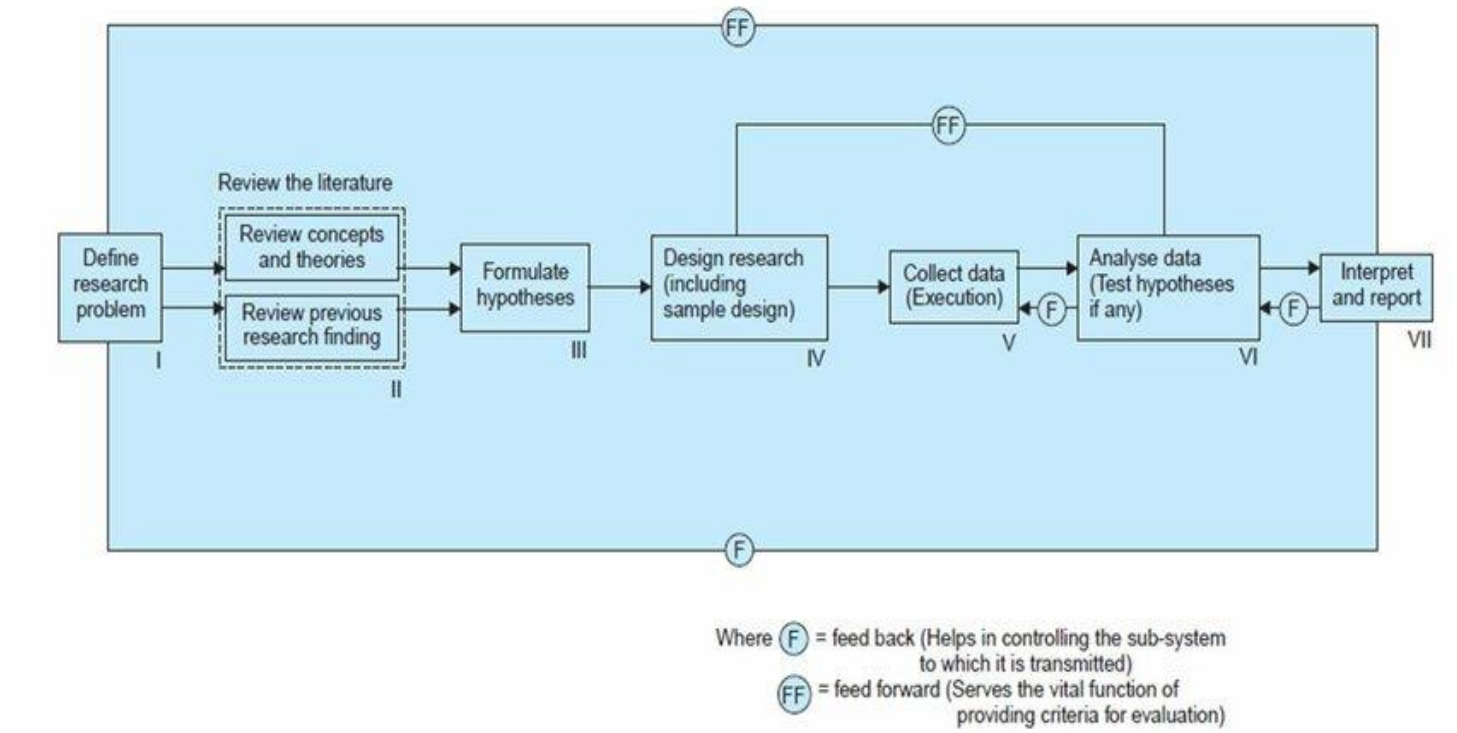
Ziane-Achour University -Djelfa
Faculty of Letters and Languages
Department of English

Module: Research Methodology
Level: Master 1
Lecture: 04

Research Steps:



Research Process Chart. Retrieved from Kothari, C. R. (2004). Research methodology: Methods & techniques

1/ **Identifying Research problems:**

Academic problems are similar to casual problems, but their main purpose is to create objective and reliable new knowledge. Research problems can be questions, knowledge gaps, or attempts to describe a situation. They must generate researchable questions, which may not be suitable for all problems. Research often starts from abstract ideas, but unseen variables and complexities emerge as researchers try to formulate them. Identifying a problem is time-consuming, as it involves selecting, narrowing, and limiting the problem. For instance, if one is interested in the topic of online teaching during the covid-19, he/she will be faced with a very broad theme that can include subjects such as the advantages and the drawbacks of E-learning, obstacles, attitudes, and reports on its effectiveness and efficiency. Each of these might be the core idea of a study, however, in the attempt to limit the topic a researcher has to conceptualize the whole work. (Marczyk et al., 2005)

2/ **Review of Literature:**

A literature review is a crucial step in the research process, serving specific purposes throughout the journey. It helps identify problems, determine feasibility, and facilitates conceptualization. A well-conceived literature review provides a written summary of books, journal articles, and documents, accounting for the current state of knowledge about a topic. This knowledge helps refine research methodology, providing in-depth insight into what might work and state-of-the-art methods and techniques. A well-conceived literature review provides a solid conceptual framework for the entire study, making it a vital step in the research process.

3/ **Formulating a Hypothesis:**

Scientific studies require specificity, which is why formulating a hypothesis is advantageous. Hypotheses are specific statements derived from research questions, anticipating the relationship between variables. While every study should include research questions, formulating a hypothesis can be optional or difficult. Quantitative research often includes a hypothesis, while qualitative research allows hypotheses to emerge gradually throughout the research process.

4/ **Research Design:**

According to Claire Selltiz (1960, p.50) "A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure". Although at this point, the talk is about the design of the practical phase of a study, the important choices should have been well thought out from the first step. A research design is a crucial aspect of a study, includes all aspects such as limiting research questions, minimizing bias, and maximizing data reliability. It involves making choices on sample and sampling techniques, and deciding on the method of data analysis. The best design narrows the margin of errors, yields maximum information, and allows for considering various aspects of a problem, ultimately leading to better answers.

5/ **Collecting Data:**

Sapsford & Jupp (2006, p.1) attest that "The authors collect certain information in certain ways from or about certain people or settings, and the research report argues that this information may be interpreted in certain ways to lead to true conclusions about a certain population". Consequently, the idea of data collection should be looked at more than just gathering information, it is a process of coming up with sound evidence to defend an argument. Singh, (2006, p.212) summarizes the importance of collecting data into main five points:

1. Collection of data is very essential in any educational research to provide a solid foundation for it.
2. It is something like the raw material that is used in the production of data. Quality of data determines the quality of research.
3. The data are needed to demonstrate the various arguments in research findings.
4. The main purpose of data collection is to verify the hypotheses.
5. Data are necessary to provide the solution of the problem.

6/ **Data Analysis and Interpretation:**

Data collection involves collecting raw data from various sources, but it is frequently unusable in its original form. Data analysis is critical for cleaning, transforming, and modeling the data. It entails correcting errors, duplication, and deviations, as well as removing irrelevant data. Thus, data is cleaned and transformed into a format that is easier to use for both humans and computers. This enables researchers to gather useful data by showing hidden patterns and relationships. Visualizations such as graphs, dashboards, tables, and reports are critical for data analysis. Data interpretation entails summarizing, categorizing, and manipulating data to reach relevant conclusions. While data analysis and interpretation are frequently used interchangeably, they are better separated due to their independence and subjectivity.

7／ **Report Writing:**

Academic research aims to contribute to existing literature by documenting all study processes. A research report is a formal, well-crafted document that provides a detailed account of the study's process and findings, following specific standards for easy evaluation. It reflects objectivity, accuracy, and ethics, it is written in formal language, usually in the third person, and follows a consistent structure as follows:

1. Title
2. Abstract
3. Introduction
4. Literature review
5. Method
6. Results
7. Discussion
8. References
9. Appendixes