



Sixth lecture

Basics of scientific research

The goal to be achieved:

- The student will be familiar with the basic stages of preparing scientific research

- Preface

- Stages of preparing scientific research
- Determine the research topic
- Specify the search title Types of research studies

- Conclusion





Sixth lecture

Introduction:

The methodology of scientific research is indexing, organizing, or structuring arranged according to an agreed-upon scientific sequence. It is based on guesses or hypotheses that can be verified by following ways to achieve its goals. It can be measured by natural or social laws that people resort to, and it aims to reach results that fulfill the desires of the researcher or entity. Adopted for research. Therefore, it is necessary for the student to understand the most important stages of preparing scientific research so that he can address the topics in a correct manner and reach logical results.





Stages of preparing scientific research

Completing scientific research is of great importance to us. We must reach real scientific results, and to do this we must follow several successive stages using whatever scientific means, methods and tools possible to complete them. Below is a simplified explanation of each stage separately, knowing that it does not There is agreement among academic researchers about the content, structure, and implementation mechanism of each of them.

- 1- Determine the research topic
- 2- Methods of choosing the research topic
- 3- Considerations for choosing the research topic
- 4- Criteria for formulating the research topic
- 5- Evaluating the definition of the research topic

First: Determine the research topic

The failure of scientific research is often due to a failure to clearly define the research topic by identifying the reasons that led to the studied problem and its components. The stage of arriving at determines the research topic suitable for study and research is one of the most important stages that the researcher goes through and the most difficult to find solutions to because it leads to:

- A - Determine the type of research that the researcher can conduct, and the nature of the method that he can use to solve the subject of the study.
- B- The research plan, its tools, and the type of data and information that the researcher should obtain.

The research topic must be meaningful and original, with the possibility of doing it, and that is through studying the data, information, and the material and moral requirements of the research in terms of the time available, and the political, legal, and scientific difficulties that the research may face.

1- The basic steps for choosing a research topic

Scientific research is considered a comprehensive report on work completed by a researcher including all stages of the study since it was an idea, and the results became recorded and visible, and supported by arguments and evidence. Based on this, we find that the basic step in





choosing the problem is represented by the idea that develops over time through the mind. She grows and matures to offer her contribution to the service of work and humanity.

- An accurate understanding of the basic facts and ideas agreed upon in the scientific specialty in which the researcher wants to pursue his studies is considered the basic step for the idea that he can research, and he generates ideas from the following:

A - Problems proposed for the study for which researchers have not found solutions, and the researcher can view them through scientific journals.

B- Review published scientific articles and research reports issued in most fields.

T- Practical application can produce many problems that require study and research.

D- Love of curiosity and research.

- Applying the previous basic steps requires the researcher to:

- 1- Familiarity with the researcher's subject specialization, understanding, and knowledge.

- 2- The ability and desire to reach a solution to the problem.

- 3- Scientific experience.

- 4- Preparing research tools.

2- Methods of choosing the research topic

The choice of research by the researcher with his desire and interest is better than what was imposed on him. Therefore, the increased experience and information guides the researcher to problems that are deeper than those with which he was familiar when the information was limited.

Researchers try to choose research topics as quickly as possible despite their lack of proper knowledge of their specialization, so the final research is not the topic that he thought about at the beginning of his thinking about the research. The novice researcher may choose a problem that other researchers have previously solved, and they have reached results that cover the various aspects of the problem, or he may





choose a general topic that has a broad scope that is greater than the researcher's ability to address and study.

For this reason, the researcher must choose a less broad and specific topic with sufficient in-depth study. Because if he is not responsible enough, it is not possible for him to achieve real results in the future...

Based on the above, the methods for choosing the topic can be summarized as follows:

- Choosing the research topic by the researcher
- Choosing the research topic by the supervisor

But the problem here that can be raised in this regard is the answer to the following question:

-Who is chosen first, the researcher or the supervisor? Perhaps the answer to this question involves another problem in scientific research, which is public relations, and scientific research tools play an important role in developing the correct answer to this problem.

Choosing the research topic is ultimately the responsibility of the researcher because the results of the study are his work, and evaluating them falls on his responsibility.

3- Considerations for choosing the research topic

There are several considerations that must be taken into account when choosing a research topic, the most important of which can be mentioned:

- The novelty of the research topic and the extent of scientific addition to it.
- The importance and value of the scientific research topic
- The researcher's interest, experience, and ability to study the research topic
- Providing data and information from various sources regarding the research topic, in addition to the time, financial, organizational and administrative capabilities of the researcher.
- The social, legal, and ethical validity of the research topic. The ethics of scientific research requires the researcher to rely on himself in determining the research topic, and to realize in a scientific manner the results he seeks to achieve while conducting his research in cooperation





with other researchers and concerned parties. This can This should be done through an objective and scientific response to the previous considerations, which can be summarized as follows:

A - The researcher feels a special emotion, through critical reading, deep thinking, and scientific determination to know the truth of things.

B - Highlighting something new that has not been previously researched, correcting an error, completing something missing, explaining something important, gathering scattered things, arranging mixed things, or explaining something new.

T- The problem must have practical and scientific value in practical life.

D- The research topic must be specific.

C - Completing the research should be possible in terms of the availability of references, data, time, costs, and methodological tools.

4- Criteria for formulating the research topic

Defining the research topic in a scientific manner enables the researcher to complete his research and reach scientific results according to scientific research tools, data and information, as well as material and moral needs, efficiently and objectively. Therefore, the researcher must take into account the availability of the following criteria when choosing the research topic:

- Clarity and accuracy of the formulation of the research topic and its limitations.

- Clarity and definition of the type of study variables, and whether they are variable or independent.

- Ability to formulate the test and formulate it in the form of a question or questions.

5- Evaluating the definition of the research topic

The correctness of defining the research topic or not can be judged by answering the following questions:

- Does the scientific research address a new topic or a repeated tradition?

- Is the research topic classified as a new scientific addition to knowledge?

- Has the topic of the study been formulated in specific and clear terms?





- Will the study direct interest in other research and studies?
- Are the results obtained from the study generalizable?
- Are the results obtained from the proposed study useful to society?

Second: Determine the title of the research

The title of the research is of great importance because of its informational function about the subject and field of the research, and guiding the reader to the fact that the research is located in a specific field. Scientific bodies also rely in their classification of research on the research titles.

A- Stages of defining the research

- Complete generality stage: where the title of the research is not completely clear in the mind of the researcher.
- General stage: where the researcher begins to define the research topic.
- Limited generality stage: where the researcher begins again to specifically define the research topic.
- The stage of the specific title: Here the researcher's vision has become clear and crystallized in a specific field.
- Final title stage: Here we find that the researcher has been able to understand the topic of his research from all aspects.

B- Conditions for determining the title of the study

- The title should not contain words that have more than one meaning.
- The title should be formulated with basic and expressive words, especially the beginning of the title.
- Ensure that the title reflects the nature of the research.
- The title should clearly include the variables of the study.

Third: Types of research studies:

It is natural for the title of the research to accompany the nature and type of study that will be conducted on the research, and among these types are the following:

1- Case study: means that the researcher studies all aspects related to one specific case in depth with the aim of identifying the factors and causes that led to the occurrence of this case, and which brought about growth, change and development in a limited case in itself.





2- An applied “field” study: This means that the researcher studied existing problems in multiple units, after identifying the problems, ensuring the validity and accuracy of their causes, and trying to treat them to arrive at results and recommendations that contribute to solving or reducing the problems treated in the units studied.

3- Exploratory study: It means collecting information about a problem under study with the aim of understanding the problem studied better, due to the lack of sufficient information and studies on the chosen topic.

4- Experimental study: This means that the study will be conducted by changing one or more factors on a regular basis to determine the effect of this on the other variables that are the subject of the study, and thus determine the relationships between the variables that make up the case studied, and determine the types of these variables, whether dependent or independent, and the impact of each of them. On the other hand.

5- Comparative study: means that the researcher addresses a problem that two or more sectors suffer from, by identifying the differences and their impact on each sector, and how to address them.

6- A “survey” theoretical study: This means that the researcher collects data and realistic and practical facts about a specific case from a number of cases at a specific time, based on all means of collecting data and information.





Conclusion

From the above, it is clear that the stage of selecting the topic is one of the most important stages of preparing scientific research, which puts the researcher on the right path if the necessary conditions are met for that.

