مناهج البحث العلمي

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محاضرة

Research Methodology

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Types of scientific research methods

Scientific research methods are represented in organized procedures, in a way that makes researchers able to develop perceptions and explanations of a scientific problem or topic, and choose the scientific topic from the beginning as the main determinant of the type of approaches that can be used in research. To detail the study, and in the case of wanting to trace a topic through its historical background, this was more appropriate to choose the historical method, and in the case of wanting to study a problem in an in-depth manner; There is a need to choose the analytical approach, and in the event that the researcher wants to deal with an applied scientific topic, and he needs experimentation; It is possible to choose the experimental method, and it is common to choose more than one scientific method at the same time. To extract more accurate results, and to diversify the majority of research contents between qualitative and quantitative, the following is a review of the most prominent types of scientific research methodologies.

Article content:

What is the definition of scientific research methods? What are its most prominent ratings?

What are the most important types of scientific research methods?

- Descriptive method.

• The historical method (retrieval).

• Experimental method.

• Analytical method.

Philosophical approach.

• Inductive method.

• deductive method.

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What is the definition of scientific research methods? What are its most prominent ratings?

the definition:

Linguistic definition: the word “curriculum” is the plural of “method”, and it means an organized method that targets one of the goals, and the verb is an approach in the sense of follow and follow.

idiomatic definition:

Curricula are a set of sequential and logical procedures aimed at studying a scientific subject.

• The curricula are an amusing way of organized thinking, and their goal is for the researcher to achieve scientific results related to a phenomenon or problem.

• Curricula are a set of methodological applied methods used when doing scientific research, to solve a problem that is difficult to understand.

Category:

Scientific research methods have been classified by many scholars, including:

• Judd and Skans classification: the curricula were classified into: the experimental approach, the growth and development study approach, the descriptive approach, the one-case study approach, and the historical approach.

• Whitney's classification: it divided the curricula into: the social approach, the predictive approach, the philosophical approach, the creative approach, the historical approach, the descriptive approach, and the experimental approach.

• Marquez's classification: he divided it into: the survey studies approach, the historical approach, the anthropological approach, the one-case study approach, the philosophical approach, and the experimental approach.

What are the most important types of scientific research methods?

There are different types of scientific research methodologies, and we will explain below the most common and used ones:

Descriptive method:

• The descriptive approach is considered one of the most prominent and important types of scientific research methodologies, and it is used in studying and analyzing problems and topics with a descriptive tendency, meaning that information is available in a non-numerical manner, and scientific research is almost devoid of it, especially social research.

• The steps associated with the descriptive approach are represented in defining the problem under study, collecting the largest amount of data and information about it, and in the light of this, hypotheses or questions that represent guesses for solutions to the problem are developed, and then explanations are provided, statistical analyzes are conducted, conclusions and clues are drawn, and hypotheses are tested; To check whether it is reliable or not.

• One of the most important features of the descriptive approach is: it reveals the hidden phenomena of descriptive phenomena accurately, studies the relationships between variables, and relies on analysis and objectivity in collecting information.

• Among the most important defects of the descriptive approach: the possibility of bias in some procedures on the part of researchers, and the lack of access to correct data in many cases.

The historical method (retrieval):

• The historical knowledge of some social phenomena is of great importance; In order to understand reality, and from this point of view, the need for the historical method appears as one of the most important types of scientific research methodologies, which is also called the retrospective method. It aims to translate relationships and concepts, as it is considered as a retrieval of past historical events, and among the most important scholars who used the historical method in their studies that enriched different knowledge are: Max Weber, Ibn Khaldun, Karl Marx, and Ibn Rushd, and this helped them build theories that continued throughout history .

• The steps of the historical approach are represented in choosing a specific research topic, followed by the researcher collecting historical information within certain temporal and spatial limits, setting appropriate hypotheses, and then revising and criticizing the data, and drawing conclusions.

• One of the most important features of the historical approach: its ability to study the phenomenon in the past periods, as well as in reality, and then give indicators and predictions of what the situation will be like in the future.

• Among the shortcomings of the historical approach: the inability to evaluate and test historical data, and there is a possibility of wrong information, with difficulty in prediction and generalization in some types of research.

Experimental method:

• The experimental approach is considered one of the most important types of scientific research methodologies used in applied sciences in particular, and the basic rule on which the experimental approach relies is careful observation and practical experiments, which contributes to knowledge of facts, and the ability to extract theories and postulates, and that approach is characterized by its agreement with the inquisitive human instinct , and his desire for experimentation, and the experimental method has been known since the dawn of history, and was used by Greek philosophers, then Arabs and Muslims, and in the medieval period in the West.

• The steps of using the experimental method are represented in observing and carefully observing a recurring phenomenon in the same way, identifying the variables that affect the phenomenon, formulating it into hypotheses, and then conducting experiments under certain conditions.