



المشكلة وكيفية تحديدها في البحث العلمي

The problem and how to define it in scientific research

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الملخص:

تهدف هذه الدراسة إلى التعرف على كيفية اختيار مشكلة البحث وتحليلها والتي تعد من أصعب الخطوات التي يواجهها الباحث عند إجراء البحث، ولذلك يجب عليه التعرف على المشكلة التي يحاول حلها، وأن يخطط لها بكل دقة حتى يتمكن من معرفة ما يتصل بها وبالتالي يتمكن من حلها بالأسلوب العلمي السليم.

إن اختيار المشكلة يعد من أهم خطوات البحث، وتأتي هذه الأهمية نظرا لأنها تؤثر على جميع إجراءات البحث وخطواته، فهي تحدد للباحث نوع الدراسة التي يمكنه القيام بها، والمنهج المناسب لبحثها، والأدوات المناسبة لجمع البيانات، وأيضا الأسلوب الإحصائي المناسب.

الكلمات المفتاحية: المشكلة، البحث العلمي

Abstract:

This study aims to identify how to choose and analyze a research problem, which is one of the most difficult steps that the researcher faces when conducting research. Therefore, he must identify the problem he is trying to solve, and plan it carefully so that he can know what is related to it and thus be able to solve it in the appropriate manner. Sound scientific.

Choosing the problem is one of the most important steps in research, and this importance comes because it affects all research procedures and steps. It determines for the researcher the type of study that he can carry out, the appropriate methodology for researching it, the appropriate tools for collecting data, and also the appropriate statistical method.

Key words: *The problem, Scientific Research*

Introduction:

Since the beginning of scientific research, researchers have faced many challenges related to defining and understanding the problem they seek to investigate. The research problem is considered a vital step in the journey of scientific discovery, as its identification lies at the basis of the success and effectiveness of the study. Understanding the essence of the problem highlights the urgent need to find answers and a deep understanding of certain phenomena.

The importance of defining the problem in scientific research comes through determining the correct direction of thinking and research work. Research that begins with defining a clear problem is more targeted and effective, as researchers work to solve specific challenges that meet the needs of the scientific and public community.

Moreover, defining the problem forms the basis for choosing the methods and tools used in research, and thus contributes to increasing the effectiveness of the study and the possibility of achieving scientifically significant results. Simply put, understanding the essence of the problem lends direction and relevance to researchers' efforts, and enhances their chances of contributing to advancing knowledge and improving human and environmental conditions.

1/ Concept of the problem:

The problem in scientific research has broad implications, and is represented by two concepts:

The first concept: The problem expresses something that causes concern or discomfort, meaning that it refers to uncomfortable phenomena or facts. However, despite this, there is an implicit assumption that the researcher has knowledge about it, which expresses a problem with the presence of discomfort, but that It does not require conducting scientific research in which we seek to find new knowledge.

The second concept: It is expressed by the term (research problem), and this is represented by the lack of knowledge about it, or the state of uncertainty of the phenomenon or event to be studied or

researched, which calls for work in research in order to reach the facts about that problem, and here the problem is. It is in the form of a question or situation that confronts the researcher, but there is no response ready for the solution. Therefore, it requires the researcher to investigate, research, study, interpret, and provide an accurate scientific answer to it.

2/ Feeling the problem:

Feeling the problem means realizing it, and this feeling is considered the starting point in confronting it. When any researcher chooses a problem to research, this is due to his feeling of some difficulty or something that confuses him regarding that problem. Feeling the problem is considered a basic condition for choosing it.

However, feeling some difficulty regarding any of the topics does not represent a problem in itself, but rather only identifies an area in which there may be a problem. For example, if a youth coach in a sport feels that their level of performance is not progressing despite his dedication to training, then this is... He is fully aware of the existence of a difficulty or problem, but he has not yet determined the specific reasons for it, and in order to be able to determine the reasons behind that problem, he can address the following points: the training method, the duration of training, his relationships with the players, training capabilities, training time, his enthusiasm with... Players, players' motivation...etc. and other factors that may relate to the coach or the players themselves. He must then choose from among them the appropriate points that caused the problem, and he must clarify and crystallize them.

The feeling that there is a problem depends on two factors:

Cognitive factor: It depends on the individual's knowledge, expertise, and previous experiences in similar situations to benefit from and employ them in solving the problem.

Emotional factor: It is determined by the feeling and sense of the importance of the problem for the person treating it and that it affects his life and causes him suffering.

3/ Defining and formulating the research problem:

After feeling the problem, the researcher defines it precisely. What is meant by defining the problem is for the researcher to formulate the problem in clear terms, in an easy manner, and in a logical sequence of criteria according to which the problem is selected, so that it clarifies the content of the problem and its basic factors that separate it from all other special fields.

Jaber Abdel Hamid and Ahmed Kazem (1990) believe that when formulating the problem, the researcher must clarify its scope, such as briefly expressing the types of individuals, tools, or situations that the researcher uses, and the formulation of the problem depends on the researcher's experience and scientific skill.

The researcher can formulate the problem in two ways:
The first: to be formulated in the form of a declarative statement.
Example: There is a correlation between self-concept and the level of skill performance among students of the Institute of Science and Technology of Physical Activities and Sports.
Second: The problem must be formulated in the form of one or more questions that the research aims to answer.
Example: A researcher wanted to identify the differences between practitioners and non-practitioners of sports activity at the university in the level of psychological adjustment, so he could formulate the research problem as follows:

Are there statistically significant differences between those practicing and non-practicing university sports activities in the level of psychological adjustment?

1.3/ Criteria for formulating the problem:

The criteria for formulating the problem are:

- ✓ Clarity and accuracy of wording
- ✓ Clarity of study variables in the problem
- ✓ Problem solvability and testability
- ✓ Clarity of the relationship between the variables involved in the problem and that it is measurable.

- ✓ The problem should be formulated in the form of one or several clear, unambiguous questions.

4/ Sources of getting the problem:

- Field of specialization.
- Scientific references.
- Practical and field experience at work and job.
- Previous studies.
- University theses (master's and doctoral theses).
- Scientific conferences and seminars.
- Personal contacts with experts and specialists.
- Supervisor or academic professor.
- Colleagues in the profession or work.

5/ **Considerations that must be taken into account when choosing a research problem:**

When choosing a research problem, the following factors must be taken into account:

- ❖ Newness of the problem
- ❖ The scientific importance of the problem
- ❖ Personal experience
- ❖ Providing sources for collecting information
- ❖ Provides supervision
- ❖ Time allocated for research
- ❖ Research funding

1.5/ **Newness of the problem:**

It means that the researcher chooses a new problem characterized by originality and innovation that no other researcher has previously studied. In order for this to be achieved, the scientific researcher must have broad horizons and an open mind, and be careful in collecting evidence and observations from multiple sources. Likewise, the researcher must conduct a comprehensive survey study. Previous studies and research help him identify the problems that have been

studied, and shed light on some other problems that need further study and research.

The concept of modernity is also linked to the tools used in collecting data, the statistical method used, and also the modernity of the data. The researcher must take into account an important point, which is that he can study a problem that has been previously studied, but he must have a scientific justification for that. The researcher may do so for the purpose of confirming the result. Certain methods, or he may use new methods and tools for research that are different from those used in previous studies, then compare the results between them. If the results are similar, this reinforces and confirms the previous result. However, if the result contradicts it, the researcher must explain the reasons for this contradiction, and in this case It is necessary to conduct more research on this problem to reach confirmed and reliable results.

2.5/ The scientific importance of the problem:

When choosing a problem, the researcher must take into account that it has scientific importance and value and contributes to providing innovative additions to science. The importance of the problem becomes clear in the new results it presents that are considered a scientific addition that contribute to the development and growth of current knowledge, as well as knowing the shortcomings in the results drawn, which is what Further studies are required to be completed.

The sports field is full of many problems that require further study and research to identify everything related to them so that their results can contribute to improving and developing their reality. For example, we find that in the sports field we are in dire need of researching problems related to high-level sports, and in the field of sports. Training and school sports, sports management, sports for the disabled, leisure and recreation, psychological problems, the use of modern educational methods in training, and other areas that have an impact on the sports level.

3.5/ Personal experience:

The researcher's attitudes, values, personal experiences, and aptitudes are factors that help him choose the research problem. He must also have a sufficient degree of experience and knowledge to be able to research the chosen problem satisfactorily. We must draw the researcher's attention to an important point, which is to be precise and careful when choosing the problem. He must choose the problems most appropriate to his abilities, capabilities, and experience so that he can research them well. The researcher must also be concerned with providing himself with the necessary research skills, such as organizing, tabulating, and analyzing data statistically, which will enable him to interpret it. The results are based on sound scientific basis.

4.5/ Availability of sources for collecting information:

The scientific researcher must ensure the availability of scientific sources to collect information for the research before choosing the problem. Sometimes the researcher finds it difficult to obtain the data necessary for the research, either because it is in remote places and requires traveling to obtain it, or because of the sensitivity of that data, or it is insufficient, which makes it difficult to carry out research.

The sources that the researcher resorts to to collect information are considered extremely important for the implementation of the research, and it is also necessary to ensure that they are easy to obtain, available and correct, and that the methods used to obtain them are guaranteed to a high degree of objectivity, honesty and consistency.

5.5/ Availability of supervision:

The availability of scientific supervision of the research is considered important and necessary for the implementation of the research. Therefore, the researcher must ensure that there is a specialized supervisor to supervise it, and who has a conviction of the importance of the chosen problem, which makes him enthusiastic about accepting supervision and guiding the researcher.

6.5/ Time allocated for research:

The researcher must take into account the time allocated for research, and choose the problem that is appropriate to the time available to him for study and research. For example, we find that the regulations for graduate studies stipulate that the student obtains a doctoral degree within four years from the date of registration for the degree. If the student does not obtain the degree within this period, the degree will be cancelled. Register it. In this case, the student cannot choose a research problem that requires more than four years to study, such as longitudinal studies, or choose large problems that require many years to study.

Therefore, problems must be chosen that are appropriate to the researcher's available time. The more the researcher devotes himself to research and study, is serious about his work, and has the abilities, preparations, and experience, the more he will be able to complete the research in an appropriate time.

7.5/ Research funding:

Before the researcher begins to choose the research, he must study the budget that the research costs, and determine whether his financial capabilities allow this research to be conducted or not.

For example, a researcher in the field of sports may choose to conduct a survey on the level of physical fitness of secondary school students in Algeria. Such research requires the researcher to apply a physical fitness test battery to secondary school students in all states, which requires many costs. In this case, the researcher must determine whether his financial capabilities allow this research to be conducted, or whether he must choose another problem that he can study in light of the capabilities he has available.

6/ Mistakes that the researcher makes when choosing the research problem:

* The chosen topic does not actually represent a research problem:

Not every problem is a research problem, and the researcher, especially the novice researcher, may imagine that every problem he

encounters in the educational process is suitable to be a research problem, and this is not true. You will find that some of these problems only require more reading and review of the literature related to this topic, or it is enough to discuss the problem with specialists to find solutions to it.

* The problem should not be so important that it requires conducting scientific research on it:

In this case, the problem is actually a research problem, but there are priorities in educational research that make the researcher choose a topic that is worthy of spending the effort and time that educational research requires. We often read research that is described at least as trivial, and that this topic was sufficient for an article in a daily newspaper...and other descriptions that indicate that the chosen problem was not important enough.

* The problem must be one of the problems that requires movement research:

Here the problem is realistic and actually represents a research problem, but the size and nature of the problem requires conducting a fast-moving research that does not require all the restrictions, conditions, or time period required by educational research that aims to obtain a bachelor's, master's, or doctorate degree.

* The researcher should choose a problem of a personal nature:

In this case, the research results are limited and cannot be generalized, and therefore the topic or problem is inappropriate. The researcher must realize the objectives of educational research, the most important of which is the possibility of generalizing its results over a wide range that benefits the educational process in general. Problems at the personal level may be treated as research. The movement, and its results are often useful due to the researcher's enthusiasm for it and his awareness of the importance of the problem and its dimensions.

* To force the researcher to choose a problem of which he is not convinced:

The problem that the researcher chooses will be dealt with for a period of time that may reach two years or more. Hence, we warn against the researcher choosing a topic that he does not like or being forced to choose a topic that does not fall within his interests and priorities. This situation leads to the researcher losing his enthusiasm for work, and the research procedures become It is an undesirable process that one performs without enjoyment or does not exert one's maximum abilities and creativity in it, and the results are usually substandard. Therefore, we stress the importance of the researcher loving the topic he chooses.

* The problem must be old and previous research has addressed it:

Meaning that the researcher must ensure that the chosen topic has not been previously studied with the same objectives, the same variables, and perhaps the same procedures in previous research, and thus there is no longer any need to research something on the same topic or the same problem. If it becomes clear to the researcher that there are previous studies on the topic he chose, he must make sure that the proposed research questions differ from those researches, and that the objectives also differ, as well as the research variables and procedures. Here, the researcher can move forward with his research while fully knowing the differences between his research and previous research.

* The problem must be greater than the researcher's abilities and capabilities:

Sometimes enthusiasm pushes the researcher to choose an important problem worthy of research and study, but this problem may require material and human capabilities that are higher than the capabilities of the researcher. A problem may require an integrated, multidisciplinary research team, and this is not compatible with the conditions of master's or doctoral research, and sometimes a specific problem requires many years to research it. The specified years are not enough to study a master's or doctorate, or the research may require devices and equipment that are not available and the researcher cannot

provide them. In all of these and other questions, the research idea is excellent, but it is not suitable in light of the capabilities available to the researcher.

* The researcher neglected to conduct a pilot study to confirm the problem:

In many cases, it is useful for the researcher to conduct an exploratory study on a limited scale, through which he can verify the actual existence of the problem, and also learn practically about the dimensions of the problem and the variables of the research. The exploratory study helps the researcher learn about the difficulties that he may encounter while conducting the research, and also verify whether The actual need to conduct the proposed research, the extent of its importance and the possibilities of benefiting from its results, and in light of the results of the exploratory study, the researcher decides to proceed with the preparation of his research plan, or introduce some amendments to the idea of the research, its limits, or the methods of discussion and procedures, or he may change his opinion on the subject as a whole.

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