

**DIAGNOSTIC METHODS AND CRITERIA FOR DETERMINING RESEARCH
EFFECTIVENESS**

SHAXLO RAHIMOVA

*Professor of Tashkent Institute of Management and Economics
life83line@mail.ru*

Abstract: The article analyzes the theoretical and practical foundations of diagnostic research, methodological approaches, and diagnostic criteria. In modern scientific research, the use of diagnostic methods makes it possible to accurately evaluate results, effectively monitor processes, and reach objective conclusions. The study presents the types of diagnostic criteria and their areas of application in tabular form.

Keywords: diagnostics, research methodology, criterion, evaluation, methodological approach, scientific analysis, monitoring

Introduction

At present, diagnostic research is widely applied in scientific and practical fields. The concept of diagnostics is understood as the process of determining the state of the studied object, observing its changes, and evaluating its effectiveness. The use of diagnostic methods in research helps to obtain scientific results in a reliable and systematic manner. Therefore, defining diagnostic methodology and criteria is considered one of the key tasks of today's scientific activity.

Main Part

Diagnostic methods play an important role in determining the effectiveness of research. This is because any scientific investigation should not only create new knowledge but also determine the possibilities of its practical application. Diagnostics ensures the objective evaluation of research results, thereby identifying the effectiveness, reliability, and novelty of scientific activity.

1. The role of diagnostic methods Diagnostic methods are aimed at studying the content, process, and results of scientific research, and they perform the following tasks:

- Determining the degree of theoretical validity of the research;
- Verifying the reliability of experimental and observational results;
- Evaluating the applicability of scientific conclusions;
- Analyzing the effectiveness of the methods applied during the research process.

2. The main criteria of diagnostics. Criteria play a decisive role in determining the effectiveness of research. They allow the objective evaluation of scientific results. The main criteria include:

1. **Scientific novelty** – highlighting aspects of research results that have not been previously studied.
2. **Theoretical significance** – contributing to the development of a scientific concept, category, or theory.
3. **Practical value** – the possibility of applying research results in practice.
4. **Methodological validity** – scientific soundness of the applied methods and approaches.
5. **Reliability of results** – confirmation through experiments, observations, and analysis.
6. **Reproducibility** – the possibility of effectively applying the results under different conditions.

When organizing diagnostics, it is important to convey theoretical knowledge to the younger generation and direct it toward their daily needs. For this purpose, attention should be paid to the following aspects:

- the psychological state of the class or group community in educational institutions, i.e., the activity and interest level of each individual;

- the discipline of students and their attitude toward state property;
- the level of social activity of students in public life;
- their attitudes toward educational activities (positive, negative, or indifferent);
- the moral behavior of students in communication with adults and peers;
- their attitude to and compliance with established rules and regulations in educational institutions;
- their responsiveness to social opinion within the institution.

Compliance with these factors creates conditions for properly organizing pedagogical diagnostics.

Non-experimental methods of pedagogical diagnostics include: observation, questionnaires, surveys, conversations, and interviews. To study various qualities of students, the well-known observation method can be used. It is known that the observation method is quite complex, as it serves to compare the influence of communication between adults and youth as well as their individual differences. Through observation methods, it is possible to identify students' interpersonal relationships, peer communication, individual-psychological differences, their mastery of subjects, behavior, and changes in existing problems, and to determine appropriate moral and educational influences. The observation method also helps analyze the scientific worldview, intellectual development, dynamics of the thought process, independence in making conclusions, activity, and analytical skills of students.

3. Methods Used in the Diagnostic Process The following methods are applied in determining research effectiveness:

- **Empirical methods** (observation, experiment, test, questionnaire, interview);
- **Statistical methods** (data processing, comparison, percentage analysis);
- **Expert evaluation methods** (gathering opinions of specialists in the field);
- **Modeling and forecasting methods** (determining the applicability of results in the future).

Methodological Approach The methodology of diagnostic research includes the following stages:

1. **Defining the goal** – identifying the general and specific objectives of diagnostics.
2. **Selecting the object and subject** – determining the object under study.
3. **Developing criteria** – identifying the main indicators for evaluating the object.
4. **Applying methods** – using techniques such as tests, surveys, observations, experiments, and statistical analysis.
5. **Processing and analyzing results** – evaluating the collected data based on the established criteria.
6. **Conclusions and recommendations** – developing scientific and practical recommendations based on the analysis.

Table of Diagnostic Criteria

№	Type of Criterion	Definition	Field of Application
1	Knowledge Criteria	Assessing the level of knowledge of the student or the research object	Education, tests, and examinations
2	Skill Criteria	The ability to apply knowledge in practical activities	Professional training, practice

№	Type of Criterion	Definition	Field of Application
3	Personal Qualities	Qualities such as responsibility, aspiration, leadership	Psychological diagnostics, HR field
4	Result Criteria	Indicator of overall effectiveness and performance of the activity	Education, production, management
5	Social Criteria	Teamwork, communication skills, level of cooperation	Social research, sociology
6	Technological Criteria	The degree of use of technology and technical tools	Technical research, innovations

In diagnostics, various oral survey methods are used. A **non-standard interview** resembles more of an initial testing step. At this stage, it is necessary to identify the problem, re-check the main points of the information-gathering plan, and determine the research object. Once the interview topic is chosen, the interviewer directs the discussion into the necessary direction only with the help of intermediate questions. The respondent is given broad opportunities to express their views in a convenient form. This free format places high demands on the interviewer.

In a **standard interview**, on the other hand, the interviewer works on the basis of a specially designed scheme that regulates the structure and sequence of questions. In conducting pedagogical diagnostics, every specialist applies such methods and methodologies. These methods provide effective assistance in making a diagnosis.

Conclusion

The methodology of diagnostic research plays an important role in accurately determining the state of an object, analyzing the results, and identifying future directions of development. Developing the right criteria enhances the effectiveness of diagnostics. In particular, the use of diagnostic methods in the fields of education, psychology, sociology, and management increases the quality of scientific and practical work. Therefore, the scientific development and practical application of diagnostic methods and criteria is one of the pressing issues of today.

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