SCIENTIFIC KNOWLEDGE METHODS AND THEIR ROLE IN SCIENCE TEACHING

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Abstract. *This article discusses pedagogy and general methods of scientific knowledge and their importance in learning science.*

Keywords: *scientific knowledge, research methods, teaching.*

Introduction

The ultimate goal of the fundamental reforms implemented in our country is to increase the interests and well-being of the people. To fulfill such tasks, it is necessary to create a stable education system. Therefore, it is not a secret to anyone that problems in the field of education make up a very large percentage of opinions in mass media, scientific publications, and social networks. It is possible to directly observe that such trends are happening on the scale of our country. There is a need to design the content of physics education in educational, especially technical higher educational institutions, which corresponds to the standards and norms of modern higher education. One of the important tasks of training specialists is to use modern methods of scientific knowledge, such as fundamentalization, generalization and generalization, to build up their knowledge and abilities.

Main Part

A scientific theory is similar to the entity it reflects: the theory gives an image of the phenomena described by the model of the studied object and its generalized properties - scientific concepts. Reflecting the important properties of the entity, models are abstracted from its unimportant (for the problem being solved) properties. As a result, any theory distorts, or "roughs" existence, limiting the field of application in advance.

Scientific systems are formed not arbitrarily, but according to determined objective laws. Therefore, the ideas about the legality of the logical structures of the course that differ in principle, the necessity of the order of the sequence of learning concrete knowledge (phenomena, concepts, laws, theories, methods) are considered a mistake. Systematic features of science limit arbitrariness in the formation of educational content, the sequence of sections and topics, and the choice of the method of presenting knowledge. After all, just as what to teach and how to teach are inseparable from each other, the system and method are also inseparable from each other.

1. Empirical basis is empirical scientific evidence, which is carried out by the method of inductive generalization of experimental data. The experiment will have the description of evaluating empirical models of real bodies and conditions. Logically, empirical laws are empirical hypotheses because they are derived from generalizations of the ultimate value of experiments.

2. The theoretical core formed as a result of generalizations of empirical scientific evidence - the core of these theories consists of basic (fundamental) laws. The fundamental laws of the theory describe cause and effect relationships that are not empirically observed in real processes, while only theoretical objects are studied. The core of the theory is implemented within the framework of the application of predictive and explanatory functions.

3. Application of the theory - the theoretical core of thermodynamic systems is formed using the deductive method of scientific knowledge.

Conclusion

The elements of the theory structure are epistemologically interconnected and organized - they are in a stable logical relationship. The integrity of the system means that the epistemological properties and functions of the system are inadmissible with respect to the sum of the properties and functions of the system elements. A theory as a whole structure has epistemological properties and epistemological functions that are not present in each of the elements of the structure separately. Explanatory, predictive and methodological functions are important epistemological functions of physical theory as a whole conceptual structure.

Within the framework of the educational paradigm [8], the following issues should be given importance in solving the problems of fundamentalization of higher technical education:

- deepening of theoretical, methodological, worldview and practical orientation in the content of general professional and specialized sciences;

-separation of their invariants (the principle of invariance should become one of the leading principles) and on their basis establish interdisciplinary relations as a strengthening basis of the general theoretical foundation of professional training;

- to gradually increase the integrativeness, systematicity and functionality of theoretical knowledge and actions;

- arming students with generalized methods for algorithmizing and designing research activities through scientific knowledge;

- to find the optimal ratio between the specialist's fundamental-theoretical and professional-practical training.

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