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Development of Science and Education of Educated Youth Is One of The Important Tasks of the Development Strategy

M.Nazarov-
Andijan Mechanical Engineering Institute,
Associate Professor, Department of Humanities

Annotation: *The article talks about the methodological foundations of the development of modern science and technology and the methods of the emergence of scientific and technical knowledge. Several aspects of natural language and technical intelligence are demonstrated.*

Keywords: *Intelligence, artificial language, scientific proof, scientific problem, didactic system, dialectics of opposition, concept, scientific knowledge, syllogism, problem situation.*

In today's fast-paced world, everyday life requires speed and science-based development strategies in all its aspects. This article expresses an opinion on some aspects of the formation of scientific knowledge in the minds of young people, and provides methodological and methodological recommendations. An understanding of the mechanisms and methods of technical thinking is given. As stated in the Strategy of the New Uzbekistan, "another main task of the education sector is to educate a new generation of educated young people who have thoroughly mastered the basics of science and their specialty, which are necessary today.

The development of modern science, in particular, methods and tools of scientific research are becoming more and more complex, which requires the use of information technology. This situation is typical for all levels of scientific research - both empirical and theoretical. At the stage of empirical research, computer science makes it possible to transform a scientific experiment from an activity in the form of handicraft into a special type of modern scientific analysis, focused on the automated collection and processing of large amounts of data. At the stage of theoretical research, information technologies serve as a means of testing various scientific hypotheses and help transform unorganized data sets into scientific and theoretical rules.

To enter, process, store and provide information in science, automated information retrieval systems are widely used - an interconnected set of logical, mathematical, linguistic and technical tools. In this case, the requirements for an automated information retrieval system are formed either by the object of research, or with the help of the theoretical foundations of a given field of science and information technology tools. Such systems have mathematical tools in the form of a set of mathematical methods and algorithms. These tools process the results of experiments and determine methods and algorithms for decision-making. The transition of science to the study of extremely complex phenomena and processes, the requirement to achieve clear results in a short time, requires conducting scientific experiments and automating the processing of their results.

To find solutions to complex problems, other means of cognition are created with the widespread use of media, a broader and deeper generalization is carried out at a new level, representing general patterns. It uses a set of separate, universal concepts: system, structure, element,

control, model. Computer science concepts are added to this category: algorithm, data bank, information, etc. As a result, a conceptual scheme is created that allows one to compare the concepts of different disciplines and develop a unified scientific language. A separate form of knowledge is created – complex knowledge. The volume of complex knowledge exceeds the volume of knowledge of the subjects participating in the study and reflects the essence of the object being studied at a different level of knowledge.

It is noteworthy that computer science not only participates in the interaction of sciences, in the development of a unified scientific language, but also interacts with other sciences as an independent field of scientific knowledge, creating new areas of scientific knowledge - information psychology, mechatronics, computer science. economics, social informatics, etc.

Now information (computer) psychology is actively developing as an independent field of science. It involves analyzing the reasons for people's fear of rapidly improving information technologies, the increase and complexity of information flows, the preference for communicating with computers over communicating with people, as well as the reasons for people's boredom when working with computers ("cybersickness").).

Based on knowledge in the field of mechanics, computer science and some branches of technology (microprocessor technology, computer control of the movement of machines and units), a new technical science was created - mechatronics, which is currently developing rapidly. The very name of this science combines the terms "mechanics" and "electronics". This points to the "hybrid" nature of science. Essentially, mechatronics is a set of tools and principles of mechanics, computer science and electronics, focused on the creation and use of computer-controlled machines and systems.

Where philosophy, computer science, cybernetics, synergetics, sociology and economics meet, an integral field of scientific knowledge is formed - the information theory of social development. Within this theory, information economics occupies a central place. From the point of view of information economics, the laws of formation and development of economic systems are determined by the laws of computer science. The study of the new role and place of man in the information society is the main task of the information economy.

Computer science not only creates new scientific directions and new sciences, but also has a great influence on the composition and structure of traditional areas of scientific knowledge. For example, new fields have emerged in mathematics such as computational mathematics and linear programming. Branches of mathematical knowledge that had not previously been used in practice began to be used, for example, game theory. In research laboratories, measuring and computing systems began to be used, capable of not only quickly performing measurement operations and providing the researcher with relevant information, but also managing the experimental process depending on the information received. The use of computers has expanded the scope of mathematics in science, led to the mathematization of other sciences, and even created new sciences such as biomathematics and sciences focused on the study of complex phenomena and processes in deep vacuum, outer space, and outer space. mega- and microcosms.

Computer science determined the rapid development of technical philosophy - a specific area of philosophical knowledge. An attempt to combine in the philosophy of technology the knowledge of technology, the laws of its development with an understanding of the social functions of technology, the consequences of its practical application allows us to raise the question of the transition from the philosophy of technology. technology to technosophy - a qualitatively new stage in the development of the philosophy of technology.

Computer science plays an important role in the process of converting scientific knowledge into educational knowledge. Informatics, through the creation of various educational programs, the

development of algorithms for managing the solution of management problems, the creation of texts with pictures, graphs, diagrams, tables, formulas and beautiful names, the development of laboratory tasks, monitoring the assimilation of the material being studied, the latest achievements of science. faster than the learning process.

As a result of the improvement of computer technologies and their penetration into almost all spheres of society, huge databases of various categories (bb) are constantly growing. At the same time, the demand for methods that reveal "hidden knowledge" is growing. Because "hidden knowledge" cannot be extracted using special query languages created for traditional databases (for example, the SQL query language for relational databases).

"Hidden knowledge" means the presence of previously unknown, that is, new knowledge; knowledge that is not directly visible (for example, for direct visual analysis of data or the calculation of simple statistical descriptions), useful for practice, that is, knowledge that is valuable to a researcher or consumer; it is necessary to have knowledge that can be easily explained, that is, knowledge that can be easily explained using scientific terms. These requirements define the nature of data mining (DM) techniques and how DM technologies look and work with BB control systems, statistical analysis techniques, and artificial intelligence techniques. Knowledge discovered using LD methods is usually represented in the form of a model. Such models include associative rules, decision trees, clusters, and mathematical functions. Methods for constructing such models are considered in the field of artificial intelligence. Problems solved by DM methods are divided into descriptive and predictive. Descriptive questions focus on providing a clear description of the hidden laws that exist, while predictive questions involve creatively predicting future events based on the data in the sample.

Descriptive tasks include: searching for association rules or images; grouping of objects, cluster analysis; build regression models.

Prediction problems include: object classification (for predefined classes); regression analysis; Includes regression analysis, time series analysis issues.

Solving a problem using EBM methods consists of the following creative steps.

1. Formation of a hypothesis
2. Data collection
3. Data preparation (filtering)
4. Model selection
5. Selection of model parameters and learning algorithm.
6. Model training (automatic search for other model parameters)
7. If the training quality analysis is unsatisfactory, return to step 5 or step 4.
8. Analyze the identified pattern, return to steps 1, 4 or 5 if it does not meet the requirement.

This process increases the chances of achieving positive results in technical research. The following problems may arise in DM technologies.

Giant size data. Among these data there may be some that do not contribute to the desired result. In this case, working with data requires large resources.

Measured data error.

The main condition for achieving the intended goal in the EBM method depends on how accurate and reliable the data is.

Errors in the measurement of input data will have a negative impact on the result.

Unmeasured data. For unknown reasons, some symptoms may go undetected. (For example, failure of a measuring device). Different types of data.

In real life, object symbols come in many different types (quantitative, nominal, binary, and ordinal), and working with them poses its own challenges.

Selection of informative symptoms.

Among the characteristics of sample objects there may be those that repeat each other or do not affect the result obtained. Excluding such uninformative symptoms from the sample improves the quality of the model and saves resources when processing data. But the complexity of the issue of sorting symptoms is combinatorial. Therefore, one of the modern tasks of diabetes is to find methods to reduce complete sorting (brute force) when choosing symptoms.

Detecting hidden symptoms. Latent symptoms are hidden symptoms that result from a specific combination of symptoms present in the secretion. The symptoms listed in the selection may not always be enough to make a decision. In such a situation, with the help of hidden symptoms, a new symptomatic space is constructed and the problem is solved. The problem of searching for informative latent symptoms has not yet been fully resolved.

Find Etolon objects. Finding the minimum number of support objects that completely cover a selection when working with giant-sized selections of various categories. EBM technologies are rapidly penetrating almost all areas of human activity. Originally used in banking, insurance, e-commerce and e-marketing, it is now used in industry, financial analysis, web and text analysis, public sector, biology, genetics, medicine and engineering.

It provides effective results in the fields of social network analysis, counter-terrorism and mobile network analysis, stock market and seismology. Therefore, the advanced countries of the world are attracting large funds and specialists to the development of DM technologies.

Summary

1. The study and research of methods of scientific knowledge is very important for every subject. Because method and methodology are the key to obtaining knowledge and form the scientific apparatus.
2. For a researcher, especially a young researcher, first of all, understanding the scientific apparatus and its effective use are the reasons for the effectiveness of scientific work.
3. Philosophical laws and categories help to draw correct conclusions from research in accordance with their universal theoretical content.

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