



Integration In The Process Of Knowledge As A General Scientific Concept

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ABSTRACT

The article discusses various approaches to the notion of integration, defining integration as scientific knowledge, expressed in the formation of scientific concepts. It is emphasized that since the first mention until today the concept of integration in the pedagogical process developed rapidly, taking on various forms and content.

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Introduction

Integration arose naturally as the opposite of differentiation. And in philosophy, their relationship is an indissoluble unity of dialectics. Being opposites, they are at the same time a means of meaningful fulfillment of each other.

In a sense, philosophy itself is an example of integration, since its field of activity is the diversity of all that exists and the socio-historical experience of mankind, and its subject is the general laws of the development of nature, society, thinking. Studying the world as a whole, historically it took shape as a special form of social consciousness and knowledge of the world.

Main Part

The path of development of philosophy and the knowledge accumulated by it led to the fact that the ancient philosopher Aristotle proposed some scientific differentiation, as a result of which a single science of philosophy began to be subdivided into theoretical, practical and creative. Subsequent modernization of unified knowledge (Bacon, Diderot, Comte, Saint-Simon) led to the fundamental

classification of Hegel. He subdivides "philosophy of nature" into physics, organic physics and mechanics. "Philosophy of the Spirit", which has its own subdivisions, includes art, religion, law, morality, psychology, anthropology, etc.

Philosophical knowledge, which is an integral and theoretically grounded worldview, is a synthesis of all human knowledge.

Being uniform in the subject (extremely general knowledge about the world order), modern philosophical knowledge is structured into separate sciences - logic, ethics, aesthetics.

The history of Russian philosophy is a search for the integrity and unity of all aspects of life (V.S. Solovyov, E.N. Trubetskoy, P.A. Florensky, S.L. Frank, I.A. Ilyin, B.P. Vysheslavtsev, N. A. Berdyaev and others).

At the turn of the 19th and 20th centuries, Russian religious philosophy was an integrative unity of scientific, philosophical and religious, theological comprehension of the spiritual and moral experience of Russian culture. The author of the first original system of total-unity, which reflects "moral philosophy" and the theory of morality of perfect good, is V.S.Soloviev.

The gravitation of science of the twentieth century. to integrative knowledge was expressed in the emergence of synergetics - a scientific direction created by the professor of the University of Stuttgart G. Haken in 1969. Synergetics is a new direction in human cognition of the world and a new quality of this cognition, which is achieved through the use of non-linear thinking and the synthesis of the achievements of various sciences.

Synergetics deals with the study of systems as a whole, the behavior of which is reflected in the complex interaction and coordinated functioning of its many subsystems and components. Thus, synergetics declares itself as a kind of metascience, the subject of which is the general nature of the laws of particular sciences. The Russian school of synergetics is represented by the names of A.A. Samarsky, N.N. Moiseeva, M.V. Volkenshtein, D.S. Chernavsky.

"Cosmism" is a holistic sociocultural phenomenon that has a moral and ecological orientation and understands a person as part of a cosmic unity and is designed to rebuild the biosphere "in the interests of free-thinking humanity as a whole" [1, p. 328] - also a manifestation in science of the tendency towards the formation of integrative knowledge.

This trend should include the emergence of "frontier sciences" - ecology, bionics, genetic engineering, etc. For example, cybernetics - the science of optimal control, arose due to the integrativeness of knowledge of such sciences as mathematics, logic, physiology, semiotics, technical electronics.

The progressive movement of scientific consciousness towards integrity, integrativity is also expressed in the emergence of a new science of trinitology - the science of synthesis. Its founder R.G. Barantsev discovered a universal formula

Trinitarian synthesis: rational-emotional-intuitive and for the first time spoke about the formation of Trinitarian thinking.

The integration of scientific knowledge was expressed in the formation of a general scientific conceptual apparatus as an adaptation mechanism for mastering knowledge of various scientific fields (function, system, model, etc.). At the same time, various forms of scientific knowledge (idea,

hypothesis, theory, law) show their integration character and potential. An example is the idea of evolutionary development, on which modern biology, psychology, geology, astrophysics, etc. are based, or cell theory, which has become a scientific platform for zoology, botany, embryology, etc.

The complexity of the integration process itself should be clarified. Scientific

discipline "systems theory and systems analysis" - the achievement of the methodology of the twentieth century. - considers as the result of this process a certain system with integrative qualities. They are inherent in the system as a whole, but not inherent in its elements separately. However, the properties of a system depend on the properties of its elements, although they are not completely determined by them. This means that the result of integration cannot be a simple addition and collection of parts. And dividing the system into parts, it is impossible to know the properties of the system as a whole.

Integrity and integrity (along with communicativeness, structuredness, divisibility, organization, hierarchy) are common properties of any system. Sometimes these concepts are used interchangeably. For example, in the dissertation research of Borisova I.N. the author considers two understandings of integrativity in speech activity: 1) in a broad sense - as structural certainty; 2) in the narrow sense - wholeness, integrity [2].

However, integrativity refers to a property that forms a system, while integrity is a reflection of the totality of interrelated elements of this system. Thus, integrity, as a root attribute of the system, is ensured by integrativity, which, in turn, is an internal determinant of integrity. Integrity also makes it possible to distinguish between different wholes.

In the scientific literature and reference books, the following interpretations of the concept of integration are presented:

- the state of connectivity of separate differentiated parts and functions of the system, the organism as a whole, as well as the process leading to such a state;
- the process of convergence and communication of sciences, occurring along with the processes of differentiation [3];
- process, or action, resulting in integrity;
- unification, connection, restoration of unity [4];
- the process by which parts are connected into a whole process by which parts are connected into a whole; at the personal level, the state of the organism, when all the constituent elements of the individual, his traits or qualities act in concert as a single whole [5].

This interpretation approaches the pedagogical interpretation of the personality-oriented process of development and self-development, which characterizes the strategy of education, where the main subject is the integral personality of the student. This fact is at the center of integration processes designed to form a holistic picture of the world in trainees. A characteristic feature of the modern scientific picture of the world is its systemic and integrative nature.

Conclusion

Thus, we can conclude that integration as a necessary "unifying" principle has declared itself in education a long time ago and has become firmly established.

Modern pedagogy confirms that integration is one of the most relevant movements of our time. Therefore, the comprehension of integration as a cornerstone task in the process of modernization of education should determine the ways of developing scientific and pedagogical knowledge, its methodological conceptualization and methodological concretization in projection onto modern educational practice.

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