TEACHING METHODS OF SCIENCES BASED ON ONTOQENETIC APPROACH

Karjakin Yu., Tunda E.A.

Russia, 634050, Tomsk, Lenin avenue, 30.

The ontogenetic approach (OGA) to understanding the mechanism of cognitive activity in the educational process is an emerging new direction. OGA is positioned with respect to the traditional approach as a complement and extend its conceptuality. Being oriented, as well as pedagogical thinking, on a theoretical basis of educational practice, the OGA is formed on the other postulates. It admits the formulation of the question "How should we teach (educate) the individual" only after thorough answers to the questions "What is an individual", "What is the subject of cognitive activity", "What is the process of cognition." The study of these issues with the appeal to modern results in biology, psychology and philosophy leads to the problem of the theoretical basis of the search and emancipatory educational practices and the development of new regulations that can explain cognitive activities in education.

Features of the OGA in relation to the traditional way of thinking are illustrated by three features: the "beginning" of the process of assimilation of new knowledge, characterization of its direction and outcome of cognitive activity. Three pairs of comparisons are in the table below:

Signs	Traditional approach	Ontogenetic approach
Beginning	Facts, observation	Concepts
Focus	From facts to generalization	From concepts to knowledge
Result	An individual who knows	An individual who understands

Designated desires are realized through the use of instrumental-methodical complex, including the tree of concepts of the course, a system of forms of scientific results presentation and the system of teaching tools.

The transformation of traditional thinking in the ontogenetic involves breaking stereotypes and requires considerable effort of the teacher. The practice of OGA cultivation evidences of its good "usability." We have experience of teaching disciplines of science and technology content, particularly of the course "Information Security" for the direction of "Quality Management" at the Technical University.