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## THE COGNITIVE MODEL STRUCTURE

### FOR THE SUPPORT OF THE INFORMATION ENVIRONMENT OF THE ADAPTIVE TRAINING

The educational practice of the modern educational establishment, founded on the high-technological adaptive information-educational means and environments, involves the periodic identification and analysis of not only the level of meta-cognitive awareness of the learning subject in the subjects of studying, but, also, and actualizes the consideration of the conceptual bases of knowledge engineering, which focus the attention of the researchers on the physiological, linguistic and psychological aspects of information interaction.

In the context of the information (the training is derived from a set of elementary processes of the processing of information) and educational (the end product of training is the accumulated knowledge) scientific approaches to the research of the remote training system as the hybrid (the natural by the involved subjects and the artificial by the used means), the analysis of the process of training is the structurally decomposed to the research of the sequence of cognitive sorption. At the same time the knowledge is adsorbed from the flows of information of the educational environment, and as the sorbent is the psychophysiological construct of the head brain of the cognizant subject (in particular the intelligence as its latent property).

For the analysis of the effectiveness of cognitive sorption of knowledge coming from the electronic textbook (in particular) by the channel of representation of information of the remote training system of the educational environment it was developed the structure of cognitive model, echeloned on the row of parametrized portraits: the physiological (emphasizes the potential possibility of sensory perception of information in the signal form by the visual and acoustical analyzers), the psychological (reflects the convergent and divergent intellectual abilities, the cognitive styles and learning ability), the linguistic (the natural-language features of virtual communication), for the filling of which is used the iterative cycle of specially synthesized cognitive modeling technology (it was presented in the section 2.3 of the collective monography “The factors of success in the educational activity of modern HEI” ed. by the member-corr. of “IHEAS” Zakharov I.N.).

The physiological portrait, formed on the scientific basis of the private physiology of analyzers, concentrates the individual features: the visual sensory system (the model of “the reduced eye” is used, the abnormalities of refraction, the perception of space and color vision are detected); the acoustical sensory system (it is planned to research the functions of the external, middle and internal ear: the absolute acoustical sensitivity, the thresholds of sensitivity in the dependence from the frequency of sound).

The linguistic portrait, based on a row of special techniques of applied linguistics, revealing the individual level of proficiency in language and “the common code” (keywords and definitions) of the statement of material, determines the friendliness of the elements of interface of the software product.

The psychological portrait, for the filling of which are used the conceptual bases of cognitive psychology, includes: the convergent and divergent intellectual abilities, the learning ability, the basic meta-cognitive experience (the level of meta-cognitive awareness by the subjects of studying).

In given moment of time we are carrying out the synthesis of knowledge bases and production cores of the mechanism of conclusion for the software realization of the modules of diagnostics of the convergent and divergent intellectual abilities of the cognitive model of the learning subject based on the architecture of the expert system with using of the iterative cycle of the rapid prototyping technology.

The synthesized software products (means) and received with using them the results are planned to be used in the future scientific-methodical researches of the information-educational environment.