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THE BASES OF THE TECHNOLOGY OF CONSTRUCTION OF THE PARAMETRICAL COGNITIVE MODELS

FOR THE TASKS OF THE REMOTE TRAINING ENVIRONMENT

The virtual remote training (RT) environment and the organization of the process of training in it are represented inside the echeloned set of technical (the level of applied hardware means), program (the technological features and the composition of program means) and organizational-methodological (the instructions to the trainees and the techniques of representation of the information in the process of organization of the learning process) realities,- for the building of the duplex communicative channel of interaction between the subjects of the tutor system with the purpose of the effective transfer of knowledge.

There are also a row of problems and possible ways of their solving (the inaccessibility and the principle of RT, the quality and the principle of proactive education, the pragmatism and the principle of developmental education), causing the need of development of the individual cognitive models for the introducing of the contour of the adaptive parametrical optimization of the educational cycle.

The most important research task is the estimation of the efficiency of communicative interaction of the subject and the tutor system in the environment of RT,- as the two intellectual substances (natural and artificial), and the initial prerequisite is that, the intelligence – is the latent property of some parametrized (and measured parametrically) psychodynamic structure.

Cognitive psychology (as the applied methodological and theoretical basis of research) allows to identify, to analyze and theoretically substantiate the features of thinking, cognition, perception, understanding, memory and etc.,- i.e. to obtain the neutral view on the features of the intellect of subject in the process of processing of the knowledge coming from RT system. Historically it is possible to distinguish: the factor (Spearman Ch.E., Thurstone L.L., Guilford J.P., Cattell R.B., Wechsler D., Eysenck H.J. and others) and cognitive models (Sternberg R., Kholodnaya M.A. and others) of intellect. The latter are based on the allocation of meta (a set of parameters, affecting on the control processes, regulating the processing of knowledge), executive (causes the process of inductive thinking) and the components of the acquisition of knowledge (are derived from the first two and affect on the training of the subject as a whole).

The cognitive model concentrates inside the vector of the most significant parameters for the analysis of the efficiency of training (the detection of sensory signals, attention, the recognition of patterns and figurative thinking, short-term and long-term memory, the abstraction of statements, the forgetting and interference of knowledge).

The cognitive modeling technology (CMT) is needed for the building and filling of the structure of the cognitive models,- it includes the following stages: identification (the primary representations about the situation, the selection of key parameters), conceptualization (the revealing of reasonable-consequential relationships between the key parameters), structuring (the building of the reasonable-consequential structure), formalization (the constructing of the first and second levels of the structure of the cognitive model), structural analysis (the dynamic verification of the first level of the obtained structure), parametrical analysis (the dynamic verification of the second level of the obtained model), realization (the cloning and dynamic filling of the cognitive model for a row of subjects), modeling (the verification of the process of filling of the model based on the holistic approach), analysis (the processing of data obtained with help of the model), substantive interpretation (the substantiation of the obtained results), synthesis (the development of recommendations in the context of the principles and purposes of training).

CMT allows to design first the cognitive model of the researched situation, and then to reveal the new knowledge about the dynamics of development of the situation in the subject area.

It should be noted, that the application of CMT is not limited by the problematics of RT.