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THE RESEARCH OF THE CONVERGENT INTELLECTUAL ABILITIES
OF THE COGNITIVE MODEL OF THE EXAMINEE FOR THE TASKS OF THE INFORMATION ENVIRONMENT
OF THE ADAPTIVE TRAINING

The vector of convergent intellectual abilities is the structural component of the psychological portrait of the synthesized cognitive model, acting as one of the manifestations of the psychophysiological construct of the head brain of the cognizant subject, determines the individual productivity of deductive thinking (associated with the speed of searching of the normative-only correct variant of answer in accordance with the regulation of the situation, the requirements of tasks, time constraints on the production of decisions).

The research is scientifically sound, - Kholodnaya M.A. and Druzhinin V.N. consistently differentiate this vector into the row of properties: level (the achieved level of development of cognitive functions), combinatorial (the ability to the identification of diverse connections, relationships and patterns) and procedural (the elementary processes of information processing).

In Russia, the scientific community (“RAS”) recognized the technique of Amthauer R. (“AIST” – Amthauer Intelligenz-Struktur-Test or Amthauer Intelligence Structure Test): it has many modifications (including copyright) and adaptations, and validity is tested on a wide professionally differentiated sample of examinees from 13 to 60 years old.

The essence of the technique consists in the sequential presentation to the examinee of the continuum of question-answer structures of the test tasks, grouped by the subtests (blocks): “The logical selection, addition of sentences”, “The search of common signs, the deletion of word”, “The search of verbal analogies”, “The classification of concepts, generalization”; “The arithmetic tasks”; “The numerical rows”, “The attention and memory”; “The selection of shapes” and “The cubes”, which activate the certain kinds of intellectual activity (the verbal reasoning, the verbal abstraction, the verbal combinatorics, the conceptual judgment, the arithmetic count, the arithmetic inductive output, the concentration of attention and mnemonics, the planar imagination and the volumetric imagination), and the manifestations of structural components of intellectual activity are dynamically measured (the verbal intelligence, the inductive speech thinking, the verbal combinatorial abilities, the ability to reason, the analytical thinking, the inductive arithmetic thinking, the short-term and long-term memory, the planar thinking and the volumetric thinking).

The development is carried out on the basis of the architecture of the expert system with the using of the rapid prototyping technology and the methodology “RAD” (it is planned to use one from the environments of programming “Borland C++ Builder”, “Borland J++ Builder” or “ASP.Net”), and the adaptation of the technique “AIST” made by academician of “RAS” Alekseeva L.G. is structured and formalized in the basis of the knowledge base of the diagnostic module.

The correlation of values of the indicators of various construct components of the intelligence at the studying of the convergent and divergent abilities is also of practical interest.

Among the many testological methods of structural research of the intelligence, used for the differentiated selection of subjects on the various kinds (forms) of professional training, “AIST” can be used in the combinatorial combination with the other techniques, in particular, at the analysis of the individual predisposition to the certain kinds of professional activity, that allows to use the developed tool in relation to a wide range of applied and scientific-methodical researches of the information-educational environment.