Vetrov Anatoly Nikolaevich

vetrovan@nwgsm.ru

RF, Saint-Petersburg city

"The Saint-Petersburg state electrotechnical university "LETI""

THE FEATURES OF THE AUTOMATION OF DIAGNOSTICS OF THE COGNITIVE STYLES OF THE COGNITIVE MODEL OF THE SUBJECT OF TRAINING FOR THE ANALYSIS OF THE INFORMATION ENVIRONMENT OF THE ADAPTIVE TRAINING

Cognitive informatics – the new scientific direction in the theory of information.

The environment of automated training with the properties of adaptation based on the parametrical cognitive models block includes the several components: the electronic textbook based on the adaptive representation of information fragments processor, the basic and applied diagnostic modules, and also the parametrical cognitive models block as an information basis of the system analysis of the information-educational environment, which contains the cognitive models of the subject of training and the means of training.

The applied diagnostic module realizes the automation of research of the individual features of the contingent of trainees.
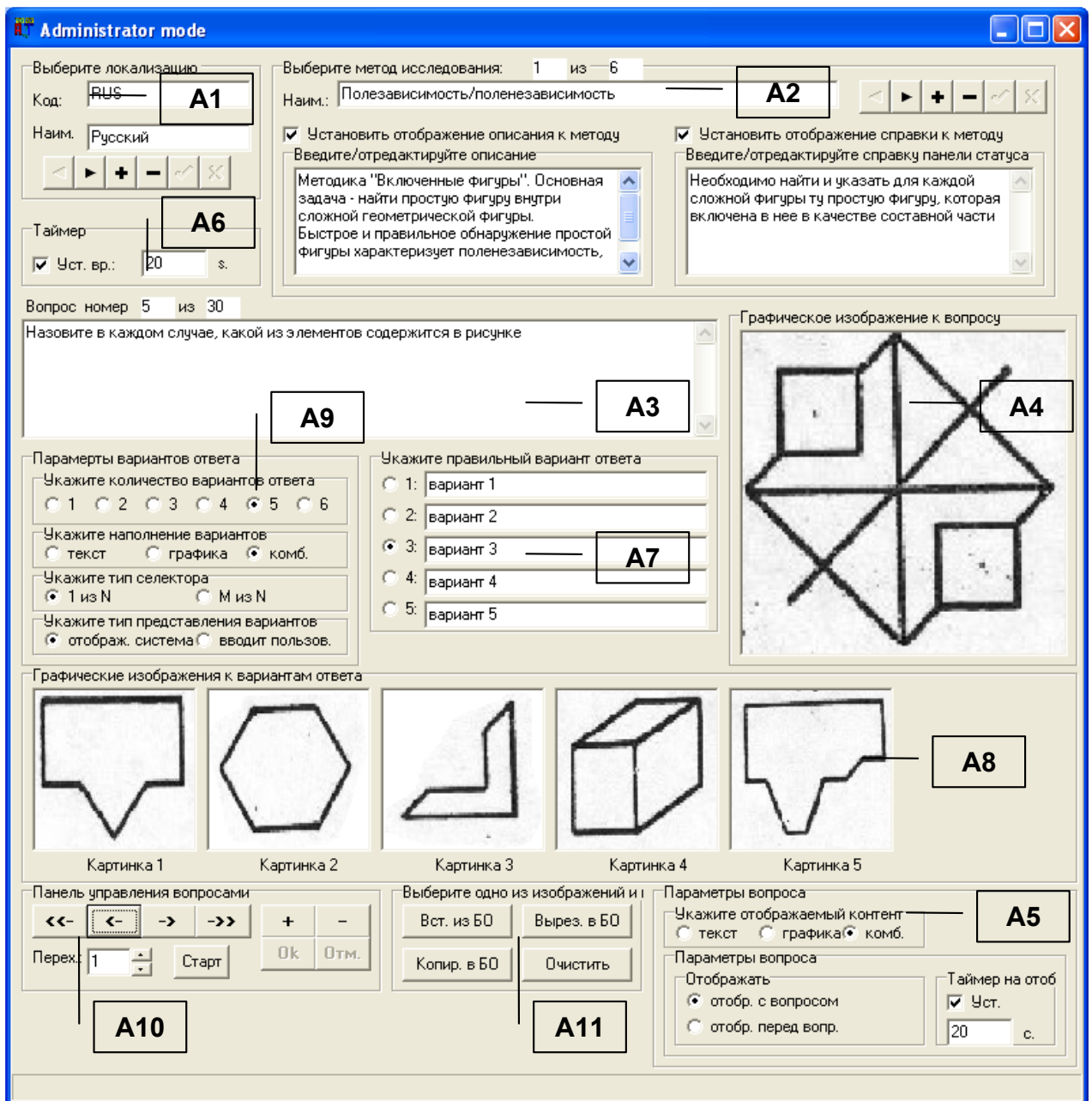
The cognitive model of the subject of training acts as the (re)constructed repertoire of parameters in width and depth, which is echeloned on a set of portraits with a certain scientific justification (the physiological – the perception of information, private physiology of sensory systems; the psychological – the processing of information influences, cognitive psychology and the linguistic – the understanding of information fragments, cognitive linguistics) and stratified on a several different mathematical sets.

The bipolar cognitive styles are part of the psychological portrait of the cognitive model of the subject of training and determine the individual productivity of information processing at the level of the psychophysiological of construct of the head brain of human, therefore, they determine the use of new methods of research in the database: field-dependence / field-independence, rigidity / flexibility of thinking, categorical simplicity / complexity, impulsivity / reflexivity, analyticity / synthetics of thinking of the organic individual (human).

The program realization of the procedure of diagnostics of the cognitive styles of the cognitive model of the subject of training was carried out under my leadership in the course of the diploma projecting of Anufrieva O.K. in the integrated environment of object-oriented programming Borland C++ Builder in the language of high level C++ and supports three modes of functioning.

The mode of administrating of the parameters of the method of research of the cognitive styles of the subjects of training (pic. 1) is supported the possibility of viewing and modifying: the codifier and name of the localization of the method of research (the indicator of localization – A1); the name of the method of research, the status of activity and the textual content of description of the method of research for the displaying in the pop-up window, the status of activity and the textual content of description of the method of research for the displaying in the status bar of the window of the interface in the mode of diagnostics (the indicator of the method of research – A2); the textual content of formulation of the question (the indicator of question – A3); the graphical content of formulation of the question (the indicator of graphical image of the question – A4); the quantity of the variants of answer, the type of content of the variant of answer, the type of selector of the variant of answer, the way of displaying of the content of the variants of answer on the question (the selector of parameters of the variants of answer – A5); the interval of time of the displaying of question (the timer of question – A6); the sign of correctness and the textual content of formulations of the variants of answer on the question (the indicator of the variants of answer – A7); the graphical content of the variants of answer on the question (the indicator of graphical images of the variants of answer – A8); the quantity, the type of content of the variants of answer, the way of choice and the interval of time of the displaying of the variants of answer on the question (the selector of parameters of the variants of answer – A9); the moving to the first, previous, next or last question, the adding and deleting of questions, the saving and canceling of made changes (the panel of control of the database – A10); the pasting and copying through the clipboard, cleaning and saving of graphical image (the panel of control of the graphical image – A11).

The mode of diagnostics of the cognitive styles of examinees (pic. 2) it is realized the displaying of textual content of the formulation of question (the indicator of question), the graphical content of question (the indicator of graphical image of the question), the sign of correctness and the textual content of the variant of answer (the selector of the variant of answer), the sign of correctness and the graphical content of the variant of answer (the selector of graphical content of the variant of answer); the confirmation of the variant of answer and the moving to the next question (the button); the localization of the method of research, the name of the method of research, L.F.P. and the codifier of the group of examinee, the initial and current interval of time for the limitation of development of the normative single variant of answer, the name of researched bipole (the bipolar cognitive style), the total quantity of correct and incorrect answers, the total, negative and positive nominal values of each bipole (the indicator of status of the examinee – the element of interface of the program).

Pic. 1. The interface form in the mode of administrating of the parameters
of the method of research of the cognitive styles of the subjects of training

The mode of analysis of a posteriori data of research of the cognitive styles of the cognitive model of the subject of training it is possible to select, view and modify: the codifier and the name of the group of users (the selector of group); L.F.P., age, gender and password of the user (the selector of user), and also the codifier of localization, the name of the method of research, the date and time of research, the negative and positive nominal values of bipoles field-dependence and field-independence, impulsivity and reflexivity, categorical width and categorical narrowness, flexibility and rigidity of thinking, cognitive difficulty and simplicity.

The results of the carried-out researches are contained in my dissertation.