

THE SAINT-PETERSBURG STATE UNIVERSITY

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**THE ENVIRONMENT OF AUTOMATED TRAINING
WITH THE PROPERTIES OF ADAPTATION
BASED ON THE COGNITIVE MODELS**

The specialty 05.13.01 – “The system analysis, control and information processing”
(on applied mathematics and control processes)

THE DISSERTATION

on the competition of scientific degree
of the candidate of technical sciences

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V-39 Vetrov A.N. The environment of automated training with the properties of adaptation based on the cognitive models: the dissertation (tech., phys.-math. and med. sciences) (spec. 05.13.01, 05.13.10, 19.00.02 (19.00.03)) / A.N. Vetrov; “The S.-Petersburg.st.un-ty”. – SPb.: “SPbSETU "LETI"”, 2005, M.: “RAS”, 2007, SPb: “SPbSU”, 2019. – 272 p.: 79 pic., 29 tabl. – Bibliogr. 35 (85) nom. – Rus. – Dep. in “RAS”, 2007.

In the dissertation there were reflected the problematics, relevance and theoretical bases of creation of the information-educational environments and operation of the systems of automated training at distance, containing the adaptive intellectual means of training of a new generation, the factors, significantly influencing to the increase in efficiency of the formation of knowledge of the contingent of trainees are revealed.

As the subject of research performs the structure of the system of automated (remote) training with the properties of adaptation based on the cognitive models, and also the principles and algorithms of functioning of its components.

There were presented the modifications in the organization and technology of the automated training for creation of the contour of adaptation based on the parametrical cognitive models block, which allows to realize the individually-oriented formation of knowledge of the contingent of trainees taking into account the level of their residual knowledge and physiological, psychological and linguistic features.

There was created the cognitive modeling technology, including the technique of its use, the ways (models) of representation of the structure of the cognitive model, the algorithm of formation of the structure of the cognitive model, the techniques of research of parameters of the cognitive models and the algorithm of processing of a posteriori data of testing.

There were formed the structures of the cognitive models of the subject of training and the means of training, which are in the basis of the parametrical cognitive models block.

There was developed the complex of programs for automation of the tasks of research, which includes the adaptive electronic textbook and the diagnostic modules.

It was intended for the scientists and the staff of SRI, the teachers of technical HEIs and the students of the specialties: 071900 – “Information systems in technics and technologies”, 210100 – “Control and computer science in technical systems”.

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The table of contents

The list of definitions	6
The list of reductions and symbols	7
Introduction.....	8
1. The condition of the problem of creation of the adaptive intellectual environments of training ..	9
1.1. The relevance of creation of the adaptive intellectual means and environments of automated training	10
1.2. The analysis of the condition of problem and the existing contradictions..	11
1.3. The degree of readiness of the problem of creation of the adaptive intellectual technologies and means of training	15
1.4. The purpose and the tasks of creation of the adaptive information-educational environment of the automated training system based on the cognitive models.....	18
1.5. The stages of creation and the analysis of the environment of automated training based on the cognitive models	20
1.6. The list of received scientific results.....	26
2. The analysis of information technologies and the theoretical bases of creation of the information-educational environments and the automated means of training .	30
2.1. The modern standards in the field of quality of the information-educational environment .	31
2.2. The priority aspects and the directions of informatization	33
2.3. The basic principles of automated training	34
2.4. The stages of development of the automated means and environments of training ..	37
2.5. The features of organization of the information-educational environment of the automated training at distance	38
2.5.1. The distinctive features of the information-educational environment of the automated training system.....	41
2.5.2. The subjects of the information-educational environment of the automated training	48
2.5.3. Components, means and technologies in the basis of the information-educational environment of the automated training.....	52
2.5.4. The models and the technologies of organization of interaction of the subjects and the automated means of training	59
2.6. The comparative characteristic of opportunities of the automated training systems.....	60
2.7. The main parameters of estimation of the modern means of training and the development of their functional opportunities	61
2.8. The features of information interaction of the subjects and means of training in the automated educational environment	66
2.9. The factors influencing on the efficiency of the formation of knowledge of trainees in the automated educational environment.....	70
2.10. The influence of components of the automated training system on the health of consumers	71

3. The environment of automated training with the properties of adaptation based on the cognitive models	74
3.1. The essence of approach to the complex solution of the problem and the statement of research tasks	75
3.2. The modifications in the organization of the information-educational environment for the realization of accounting of the individual features of the contingent of trainees ..	77
3.3. The modifications in the technology of automated training for the realization of the contour of adaptation based on the cognitive models ..	78
3.4. The structure of the environment of automated training with the properties of adaptation based on the cognitive models.....	79
3.4.1. The appointment and functions of the adaptive electronic textbook ...	81
3.4.2. The appointment and functions of the basic diagnostic module ...	84
3.4.3. The appointment and functions of the applied diagnostic module ...	86
3.4.4. Appointment and structure of the parametrical cognitive models block ...	87
3.5. The processing and extraction of information, the structuring of data and the representation of knowledge for the filling of the electronic textbook..	88
3.5.1. The classification of the sources of information.....	92
3.5.2. The knowledge acquisition methods on subject area.....	94
3.5.3. The main models of representation of knowledge.....	97
3.5.4. The information structure of the electronic textbook.....	98
3.5.5. The sequence of filling of the content of the electronic textbook by the structured information.....	100
3.5.6. The features of architecture of the adaptive electronic textbook.....	103
3.5.7. The semantic model of representation, saving and extraction of information	105
3.6. The formal description of the adaptive information-educational environment on the basis of the theory of control .	108
3.6.1. The kinds of algorithms of functioning of the main components of the automated training system.....	111
3.6.2. The features of realization of adaptation in the automated educational environment.....	116
3.6.3. The specifics of the algorithm of training with the model of a trainee .	121
3.6.4. The estimation of parameters of the (cognitive) model.....	125

4. The cognitive modeling technology for the system analysis of the information-educational environment	130
4.1. The iterative cycle of the cognitive modeling technology	131
4.2. The technique of use of the cognitive modeling technology	133
4.3. The ways of representation of the structure of the cognitive model	136
4.4. The algorithm of formation of the structure of the cognitive model	138
4.5. The technique of research of the parameters of the cognitive model of the subject of training	145
4.6. The technique of research of the parameters of the cognitive model of the means of training	147
4.7. The algorithm of processing of a posteriori data of testing	150
5. The parametrical cognitive models block for the analysis and the increase in the efficiency of functioning of the automated educational environment	154
5.1. The structure of the cognitive model of the subject of training	159
5.2. The structure of the cognitive model of the means of training	168
6. The complex of software for the automation of research tasks	173
6.1. The complex of programs for the automation of the tasks of research	175
6.2. The adaptive electronic textbook	178
6.3. The basic diagnostic module	188
6.4. The applied diagnostic module	194
7. The statistical substantiation of the practical use of the received results	206
7.1. The factors influencing on the efficiency of formation of knowledge of a trainee in the automated educational environment	208
7.2. The features of organization and the plan of carrying out of the experiment	210
7.3. The features of research of the parameters of the physiological portrait of the cognitive models of the subject and means of training	213
7.4. The features of research of the parameters of the psychological portrait of the cognitive models of the subject and means of training	221
7.5. The features of research of the parameters of the linguistic portrait of the cognitive models of the subject and means of training	233
7.6. The specifics of preliminary processing of a posteriori results of the diagnostics	240
7.7. The features of choice of the methods of the statistical analysis of the created selections	242
7.8. The analysis of the dynamics of resultativity of training for several years	243
7.9. The results of the regression analysis	248
7.10. The results of the discriminant analysis	250
Conclusion	252
The bibliographic section	253