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CONCEPTS AND REQUIREMENTS FOR THE STRUCTURAL-FUNCTIONAL MODEL OF THE PROFESSIONAL TRAININGS SYSTEM OF FUTURE GEOGRAPHY TEACHERS

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Abstract

The article describes the essence of the concept and defines the requirements for the author's model of future geography teachers preparation for professional activity on the basis of competence approach, which will ensure its validity and effectiveness. In psychological and pedagogical studies, the concept of "modeling" is seen as the highest special form of clarity, means of presenting information that provides a deeper disclosure of the essence of the phenomenon, which is being analyzed.

The author found, that model is to be the means by which was obtained new knowledge about the object of study. It allows to come up with a perfect diagram of a real object by defining its structural components and their relationships. By developing the model, the following requirements should be observed: adequacy, openness, systematic, stability, optimality, prognosticity, rationality, diagnostics and taking into account the stabilizing

factors, which ensured the construction of an effective author's structural and functional model of the phenomenon under study.

Keywords: model, modeling, professional activity, future geography teachers.

Problem statement. Modeling is very important in pedagogical research, as it enables us to simulate real pedagogical systems using analogues that reproduce the most important organizational and functional properties of the object which is being analyzed. The notion of "modeling" is considered as the process of creating a model in which different existing system is modeled by different means and in different aspects.

Analysis of recent research and publications. Concepts and requirements for the model system of training future teachers of geography for professional activity on the basis of competence approach are considered in the works of K. Bataroev [1], A. Dakhin [2], O. Lavrinenko [4], E. Litovka [5], O. Pirogov [6], T. Rezer [7]. However, in modern conditions, the construction of a structural and functional model of the system of training future geography teachers for professional activity on the basis of competence, the definition of modeling concepts and requirements for the model has not received due attention, which makes the relevance of our research.

The purpose of the study is to clarify the essence of the concept and to determine the requirements for the author's model of preparation of future teachers of geography for professional activity on the basis of the competence approach, which will ensure its validity and effectiveness.

Outline of the main research material. In psychological and pedagogical studies, the concept of "modeling" is seen as the highest special form of clarity, a means of presenting information that provides a deeper disclosure of the essence of the phenomenon under study.

At the same time, according to A. Lavrinenko, modeling of pedagogical phenomenon can take the following varieties:

1) development of conceptual model of skills formation, development of personality qualities, etc. (conceptual modeling);

2) development of a system of interconnected models of different types of pedagogical objects (system modeling);

3) development of a model that reflects the dynamics and logic of development of the investigated object (process modeling);

4) development of a model of the teacher's practical actions or his interaction with colleagues and students (praxeological modeling) [4].

Moreover, the success of any kind of simulation depends to a large extent on the quality of formalization of the theoretical propositions describing the simulated phenomenon.

The essence of the concept of "model":

- "… a system chosen by the subject that reproduces the essential, for a certain purpose of cognition, the parties (elements, properties, relationships, parameters) of the object of study, and because of this it is with it in such a relation of substitution and similarity that its research serves as indirect. a way of acquiring knowledge about this object "(K. Bataroev) [1, p. 28].

In dictionaries, the term "model" is interpreted as:- "a real, symbolic, or conditional system that reproduces, imitates, or reflects the principles of internal organization or operation, certain properties, features or characteristics of an object of study (the original), the direct study of which is impossible, difficult or impractical and may change that object in the cognitive process in order to gain new knowledge about it. (Philosophical Encyclopedic Dictionary); - "a system that reflects or reproduces the existing or projected structure, composition, content and organization of specialist training and provides their implementation" (Encyclopedia of Vocational Education) [3, p. 78].

In modern psychological and pedagogical studies the concept of "model" acquires the following interpretations:

- "artificially created sample in the form of a scheme, physical constructions, sign forms or formulas, which, having similarity to the investigated object (or phenomenon), reflects and reproduces in a simpler form the structure, properties, relationships and relations between the elements of this object "(A. Dakhin) [2, p. 22];

- any analogue, image of a certain object, phenomenon or process, which is used as its "presentheme" and which reproduces the properties, structure and relationship between the elements of the item, which is being analyzed. (E. Litovka) [5, p. 108].

At the same time, in the structure of any pedagogical model it is possible to distinguish a set of relevant elements, which includes: the purpose of education, the content of education, stages of the educational process, forms, methods and means of training and methods of diagnostics of learning effectiveness (O. Pirogov) [6]. Pedagogical models can be:

1) descriptive - create ideas about the tasks, structure, basic elements of the educational process;

2) functional - give an opportunity to theoretically argue the state of educational practice;

3) predictive - reflect the development of education in the system of communication with the social environment.

According to A. Dakhin, pedagogical modeling can be performed in the following six stages:

1) entering into the modeling process and selecting its methodological bases for a qualitative description of the research subject;

2) formulation of modeling tasks;

3) designing a model detailing the relationship between the main elements of the research object, determining the parameters of the object and the criteria for evaluating their changes, measuring diagnostic methods;

4) studying the validity of the developed model to solve the identified ones;

5) application of the model in pedagogical experiment;

6) substantive interpretation of simulation results [2, p. 115].

In the context of our study, it is also advisable to determine the requirements for the author's model for preparing future geography teachers for professional activities that will ensure its validity and effectiveness.

Zotov believes that any theoretical model must meet the criteria of: adequacy (conformity of the model to the essential properties of the object); openness (linking the theoretical model with the environment); systematicity (allocation of hierarchical dependence between components of the model); stability (model constant regardless of changes in conditions); optimality (inclusion in the model of the minimum number of parameters).

To this list of requirements A. Dakhin adds:

- predictability of the model, which should ensure optimization of the content of training with a focus on professional development in accordance with the requirements of the information society;

- taking into account the model of professional adaptation of the future teacher, which should facilitate its effective implementation in all directions of professional activity, study and implementation of the pedagogical experience of colleagues and formation of their own teaching style [2, p. 24].

I. Osadchenko draws attention to the fact that any model should include certain stabilizing factors that reflect the content of education, stable interdisciplinary links, teaching methods, psychological and pedagogical requirements for the organization, etc. At the same

time, Rezer argues that an overly regulated education system does not always provide effective dynamics for the development of the pedagogical phenomenon under study [7], which actualizes the need for the development of flexible pedagogical technology that would take into account the individual educational needs of future geography teachers.

Conclusions from the research. Thus, the model serves as a means to gain new knowledge about the object of study. It allows to come up with a perfect diagram of a real object by defining its structural components and their relationships.In the course of the research it was determined that the developed model should include those components that directly affect the effectiveness of the development of the analyzed phenomenon; have a controlled structure that allows you to adjust existing components and create new components. In addition, be able to analyze all stages of development of the phenomenon under study.

In developing the model, the following requirements should be observed: adequacy, openness, systematic, stability, optimality, prognosticity, rationality, diagnostics and taking into account the stabilizing factors, which ensured the construction of an effective author's structural and functional model of the phenomenon under study.The prospects for further research are to characterize the psychological and pedagogical conditions of preparing future geography teachers for professional activity on the basis of a competence approach.

REFERENCES

1. Bataroev K. Analogies and models in cognition / K.Bataroev.- Novosibirsk: Nauka,1981. – p. 320, p.28; A.Dakhina Pedagogical modelling: the essence, effectiveness and uncertainty / A.Dakhin // Pedagogy.- 2003.- №4.- p.21-26.

2. Daknin A. Pedagogical modelling: monograph. Novosibirsk: NIPKiPRO publishing, 2005, p.230.

3. The encyclopedia of professional education: in three volumes. - M.: APO. – 1999. – vol.2. – 1999.- p.440.

4. Lavrinenko O. Pedagogical mastery in historical- pedagogical context: theory, practice,action: monography.- Kyiv: Bogdanova A., 2009. P.328.

5. Litovka E. Modelling as way of analysis of professional position formation of future teacher. Education in Russia: history, experience, problems, percpectives. 2015, № 1-2. P.107-112.

6. Pirogova O. Modelling in education // Innovations in education. – 2004.- p.15.- p.36-40.

7. Rezer T. Systematically approach in organization of healthy technologies in educational institution. Education and science. 2002. № 1. P.48-60.