

## **PEDAGOGICAL DESIGN OF FUTURE TEACHERS' PERSONAL AND PROFESSIONAL ROUTE**

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The relevance of the research is caused by the fact that professional development of a person is “a semantic core” of his personality. In this context the new understanding of the role of the teacher whose activity becomes a source of cross-subject interaction in the system “the teacher’s personality – the pupil’s personality” is of particular importance. Thus, the theory and a technique of professional education set the task of concretizing methodological, theoretic and methodical aspects of vocational training of future teacher in professionalism formation strategy. The purpose of the article consists in development and justification of integrative model of future teachers’ personal and professional route. The leading method of research of this problem is the modeling allowing considering this problem as a process of purposeful design of future teachers’ personal and professional route. Theoretical and methodical bases of application of pedagogical design of future teachers’ vocational training in the educational environment as to the open nonlinear self-organizing system on the basis of post-nonclassical methodology are presented in the article; presented is the reconsideration of the educational process’s purposes, the knowledge-centered approaches giving way to pluralistic, having potential for ensuring efficiency of vocational training of future teachers is; recognition of functioning of a personal and professional route of the subject of educational environment of a pedagogical educational institution as the phenomenon reflecting features and valuable installations of the modern teacher. Materials of the article are of practical value for the faculty of the higher educational institutions, scientists, expert teachers, promoting personal professional development and formation of young specialists and focusing young specialists on achievement of success in professional activity.

**Keywords:** pedagogical design, personal and professional route, future teacher.

### **INTRODUCTION**

Application of pedagogical design is one of the most topical issues in the science of the postnonclassical stage. The discussed phenomenon is considered in the aspect of adaptation to the open nonlinear and self-organizing educational environment. In particular, the concept of pedagogical design of future teachers personal and professional route, the structure of the corresponding models-concepts in the design of personal and professional routes of vocational training have not become the subject of special researches in the theory and method of professional education so far.

The historiography and current state of the problem of pedagogical design confirmed the high social value and the importance of this process for pedagogical reality throughout the whole history of development of the advanced public and philosophical and pedagogical knowledge.

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Proved is the complexity and versatility of the phenomenon of pedagogical design that is justified by the existence of various, sometimes contradictory views of interpretation of its essence, contents, tool techniques and the corresponding ambiguity of their scientific interpretation. Established is the direct belonging of a perspective of pedagogical design to the area of professional formation and development of future teachers in the strategy of personal and professional routes.

As a result of the conducted research the leading tendencies of personal and professional formation of future teachers are revealed: continuity and phasing of the process of vocational training and professional and personal formation; focus, commitment, motivation, enthusiasm for work, professional interests of future teachers; evolutionary character; integrity; innovation; readiness for training throughout the whole life; reflection (Masalimova *et al.*, 2014; Zaripova *et al.*, 2014; Bogatyrev, 2015; Levina *et al.*, 2015).

On the basis of studying of the modern sociocultural situation, confirmed is the relevance of research of the essence and features of future teachers' personal and professional route as a scientific category, its role in teacher training can be presented as a pedagogical strategy and a backbone factor of its organization is defined. In the research, the personal and professional route is understood as the purposeful projected program, which main objective is the creation of the strategy of system quality of vocational training which will successfully shape future teachers' certain set of competences allowing them to receive the necessary socially important results in the course of professional activity (Redko, 2010).

Based on the trend of modern science that all habitats are open, nonlinear and self-organizing, design is the mediate theoretical or practical research into the object (environment) due to which not the object, but some auxiliary artificial or natural system is directly studied (Aleksandrova, 2000).

The pedagogical aspect of design is considered in the article as the process of creation of models-concepts of open nonlinear dynamic objects in the education system as "whole in the entire" on the basis of post-nonclassical methodology of design of difficult system objects (environments) of future teachers' vocational training.

Pedagogical design in future teachers' vocational training is a special and organized design of interaction of all subjects of the educational process which is defined by values of its subjects (individual, personal, social), their positions and aspirations directed on the subject's understanding of the existing personal and professional route and its possible change. The subject's values and positions in this aspect determine the purposes and the content of multichannel interaction.

The systems of future teachers' vocational training in the 21st century go through a transitional period of its development. This "system boundary" penetrates all spheres of a person's activity; its manifestations are observed at various levels of culture, science, education, creating the situation of uncertainty and instability

in the society. Such a situation characterizes the periods of intensive changes connected with modernization of social and economic, political and educational systems and leading to the emergence of a new type of culture – information and communicative.

As a result of this situation, the new system of pedagogical concepts is formed and there are new pedagogical regularities, which would be impossible to discover without the principles of synergetics (Sakhieva *et al.*, 2015; Masalimova & Nigmatov, 2015). Synergetics is the further stage of development of the theory of systems – the theory of the evolving systems.

Therefore, synergetics is a universal methodological paradigm which belongs to those branches of knowledge where difficult systems are studied; it is the general interdisciplinary approach to the studied subjects and objects. Pedagogical synergetics is the concrete and scientific level of the theory of self-organization which appeared as the synthesis of solutions of completely definite tasks connected with the collective interactions and open systems, their transitions from the unstable state into the static one (Rodionov, 1996). This theory concentrates on behavior and forecasting of the functioning of teachers' personal and professional route in the future. In the context of the modern theory and a method of professional education, the pedagogical synergetics is the area of pedagogical knowledge which outlook is displayed in the theory, principles and regularities of pedagogical systems' self-organization.

## **MATERIALS AND METHODS**

### **Research methods**

In the course of research the following methods were used: theoretical (analysis; synthesis; generalization; modeling).

### **Experimental base of research**

The experimental facility of the research was V. I. Vernadsky Crimean Federal University.

### **Investigation phases**

The research into the problem was conducted in three stages:

- during the first stage, carried out was a theoretical analysis of the existing methodological approaches in philosophical, psychological and pedagogical scientific literature, dissertation works on the problem, and also the theory and method of pedagogical researches; the problem, the purpose, and the research methods were defined;
- during the second stage, developed was the integrative model of future teachers' personal and professional route; the conclusions arrived at during the experimental work were checked and specified;

- during the third stage the experimental work was complete, conclusions were specified, the received results were generalized and systematized.

## **RESULTS**

### **The model's structure and content**

The integrative model of future teacher's personal and professional route was developed on the basis of humanistic approach, including the purpose and requirements of system management, the principles of the organization, stages and the content of realization, the direction and the result. The basic principles of the model's creation are the provision of humanistic approach which is aimed at priorities of identity, originality, worthiness of a person, at the same time not excluding its social determination:

- integrity and flexibility of the educational environment – the purposes, the contents and technologies of pedagogical education are defined on the basis of self-examination of future teachers, which is carried out collectively by all subjects of the educational environment;
- the subjects' activity and internal motivation – recognition of requirements and interests of future teachers who are capable to realize own personal desire of professional self-development in educational environment of pedagogical educational institution (on their educational route);
- personal self-determination – creation of conditions for future teachers' understanding of their position and implementation of their own value choice;
- orientations to the personal growth of subjects of educational environment – continuous stimulation and involvement of future teachers into the self-development process;
- orientations to the activity approach – maximum involvement of teachers in innovative practical activities, the pedagogical educational institution allowing to seize new ways of professional and pedagogical activity during direct "accommodation" in the educational environment.

The interaction of these components of the model explains the organization of the process of future teachers' personal and professional formation. We consider the promotion to the further professional level as the result of the research; mastering the innovative personal and professional route (Figure 1).

The presented model is the basis of future teachers' personal and professional development of in the conditions of real pedagogical activity, which is especially relevant for education modernization.

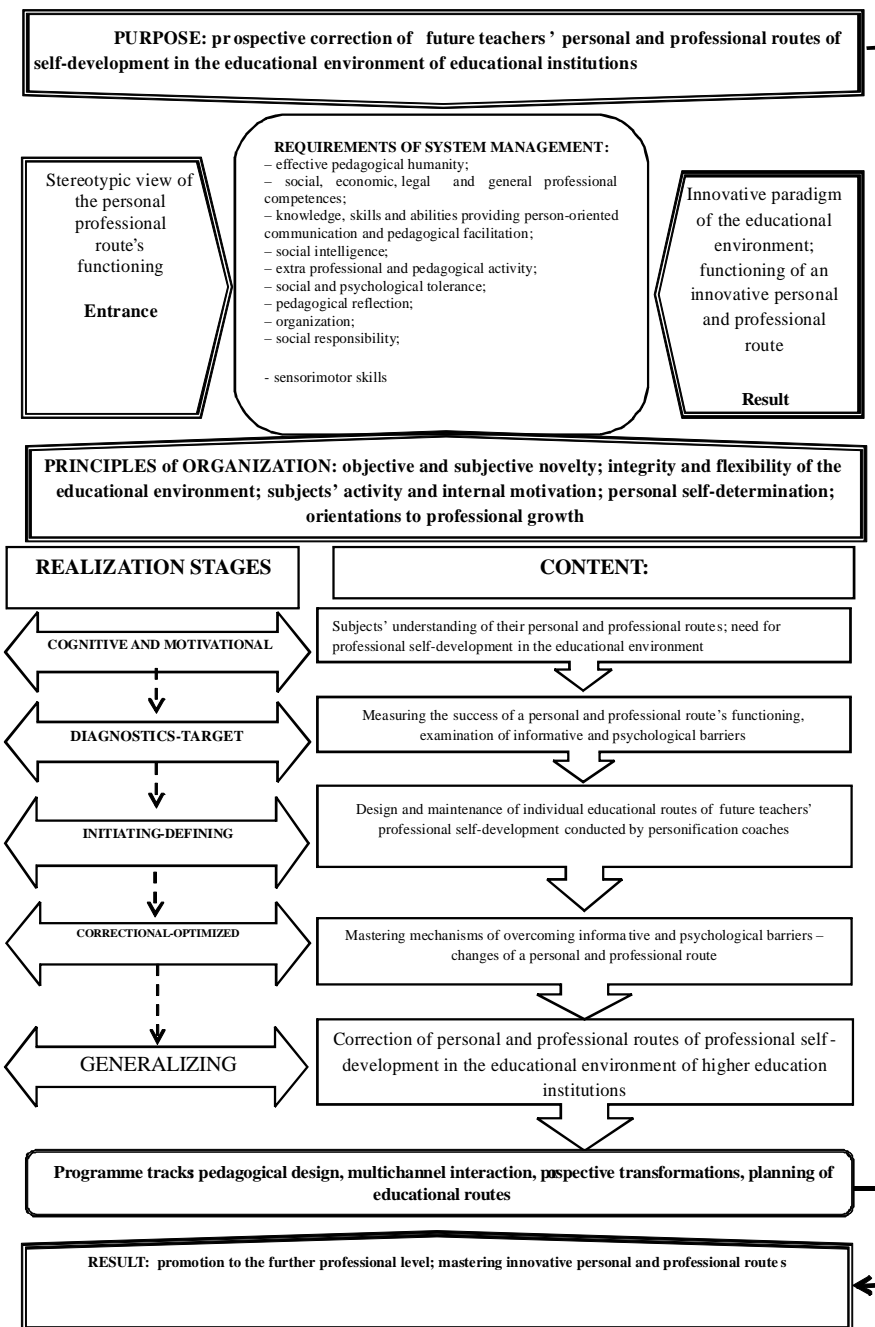


Figure 1: Integrative model of future teachers' personal and professional routes

#### Stages of the model's implementation

The model's implementation consisted of carrying out the following stages of experimental work:

- Understanding by the subjects of the educational environment of their personal and professional routes, the need for professional self-development arising in the course of vocational training.
- Measuring success of the functioning of future teachers' personal and professional routes, examination of the informative and psychological barriers arising in vocational training.
- Design and maintenance of future teachers' individual educational routes of professional self-development by personification coaches: conducting problem-solving seminars, role-playing games, consultations; the organization of creative and design microgroups including the subjects of the educational environment.
- Mastering mechanisms of informative and psychological barriers' overcoming: changes of personal and professional routes; carrying out psychological and pedagogical case studies and trainings; methodological support of future teachers' individual work.
- Correction of future teachers' personal and professional routes of self-development in the educational environment of pedagogical educational institution.

### **DISCUSSIONS**

The problem of pedagogical design in the educational theory and practice is currently getting the integrated common cultural status. In the science, the project starts competing with the theory. Along with theoretical concepts, the project becomes an important form of the organization of scientific knowledge and its interrelation with practice. Today design goes beyond the traditional representation of engineering and designing and is considered as a special kind of activity which extends on all social spheres, including the education system. The ideas of the essence of design and the sphere of its application have significantly changed recently.

G. P. Schedrovitskiy proposed the idea that design, as a sphere of human activity, is a difficult and hierarchical unit with a mass of various elements and connections, and the individual in pedagogical design acts as the result of the system of training and education possessing all the qualities developed during this process. This researcher was the first to insist on the creation of a new discipline – pedagogical design, and the emergence of the corresponding specialty – the teacher-designer whose task consists in the development of a project aimed at “pedagogical production” (Schedrovitskiy, 1993). G. P. Schedrovitskiy's (1993) thoughts caused

a new wave of interest in the implementation of pedagogical projects; however the subsequent research (till the 1980's) was limited to designing single elements of pedagogical process, backbone ideas and their interrelation. Nevertheless, at that very period the revolutionary views of pedagogical reality's design were proposed by Yu. K. Babanskiy (1988), V.P. Bepalko (1989), V. S. Ilyin (2005), G. I. Legenkiy (1990), E.I. Cherdymova (2009, 2010 a, b) in which priority was given to the child.

Changes of scientific ideas concerning pedagogical design are caused by the fact that the advanced science denies existence of absolutely similar educational situations and conditions as the principle of uncertainty of a number of educational and management parameters is the cornerstone of today's educational system. Besides, in a modern education system it is impossible to create one pedagogical tool and to use it in similar educational situations (Bogatyrev, 2015).

The essence of pedagogical design, according to T.A. Kaplunovich (2002), consists in innovative synergy management of educational systems which are self-organized on the basis of monitoring functions ensuring the model representation of self-organization of subjects of innovative activity.

It is proved that pedagogical design in the theory and practice of vocational training of future teachers is based on the principle of unity of substantial and activity aspects in the open system, thus increasing the efficiency of educational activity and promoting the development of pedagogical competence; it is the design of complicated open objects (systems and frameworks) of education as "whole in the entire" in view of the synergetic paradigm.

The theoretical reflection of various viewpoints on the process of educational systems' design allowed to state that future teachers' pedagogical design of vocational training is a special and organized design of interaction of all subjects of the educational process which is defined by the subject's values (individual, personal, social); their positions and aspirations being aimed at the subject's understanding of the existing personal and professional route and its possible change. The subject's values and attitudes in this aspect determine the purposes and the contents of multichannel interaction.

Taking an account of the definitions of the teachers' key qualifications in the sphere of higher education, aimed at the person-oriented training and proposed by E.F. Zeer and O. N. Shakhmatova (1999) in the paper "Person-oriented Technologies of the Expert's Professional Development", we worked out in detail the following requirements to the organization of the quality management system in future teachers' training:

- effective pedagogical humanity – understanding of students' emotional condition, empathy and assistance in overcoming negative emotions and subjective difficulties;

- social, economic, legal and general professional knowledge and abilities;
- knowledge, skills and abilities providing person-oriented communication and pedagogical facilitation;
- social intelligence – the ability determining productivity in interaction with students and regulating the informative processes connected with reflection of the social and psychological relations;
- extra professional and pedagogical activity – the need for innovative activity, manifestation of a creative initiative, excess of standard professional functions and capacities;
- social and psychological tolerance – tolerance towards the youth's way of life and behavior, ethnic features; emotional stability and self-control;
- pedagogical reflection – the quality allowing to analyze one's own deeds, know oneself and understand how students reflect their teacher's personal reactions and cognitive representations;
- organization – the ability to organize one's activity, professional and educational process and educational activity; it is expressed also in independence, insistence and strong-willed self-checking;
- social responsibility – the ability to implement self-checking and control of interaction, forecasting and correction of students' professional formation;
- sensorimotor abilities – the psychophysiological properties providing productive performance of professional and technological actions and operations.

The educational environment, as any public system, can be considered at various levels of the hierarchy of pedagogical design system: from the macro-level of the quality management of future teachers' training to the micro-level of a personal and professional route of a definite subject of the educational environment. For each of these levels it is possible to speak about ensuring the quality of preparation.

So, the backbone factor of the experimental system of pedagogical design constructed by us is the integrative model of future teachers' personal and professional route.

The theoretical analysis of modern psychology and pedagogical literature on problems of design allowed proving that design in modern pedagogical researches is used, as a rule, in the person-oriented aspect (social and pedagogical design, visual and didactic project, psychological design).

We consider that the final result of application of future teachers' pedagogical design of vocational training is not only the creation of the project (teachers' personal professional route), as the system's backbone factor, but also the forecasting of



future teachers' possible individual educational routes in the educational environment.

### **CONCLUSION**

The modern approaches to the use of the method of design in scientific research have been revealed, the trends of the new vision of the problem of development of future teachers' personal and professional routes have been designated. Pedagogical design in future teachers' vocational training is treated in the article as special and organized design of interaction of all subjects of the educational process which is defined by the subjects' values; their attitudes and aspirations aimed at the subjects' understanding of the existing personal and professional routes and their possible changes. In the article, the personal and professional route is understood as the purposefully projected program, which main objective is the creation of a strategy of system quality of vocational training which will provide successful formation of future teachers' definite set of the competences allowing them to receive the necessary socially important results in the course of professional activity.

Tendencies of future teachers' personal and professional formation have been revealed: continuity and phasing of the process of vocational training, and professional and personal formation; future teachers' focus, commitment, motivation, enthusiasm for work and professional interests; evolutionary character; integrity; innovation; readiness for training throughout one's life; reflection.

Materials of this article can be useful for the teachers adapting to the new conditions of professional activity in education, experts in the field of education focusing on the development of education quality monitoring.

In the course of research, new essential questions and problems arose. It is necessary to continue researches on the application of pedagogical design of personal and professional routes in the system of experts' post-gradual education, and also on the definition of an effective strategy of the development of education and the priority aspects of its primary modernization in the system of pedagogical education.

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