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**SUCCESSION AND CONTINUITY AS FACTORS IN
DEVELOPMENT OF INNOVATIVE EDUCATIONAL SYSTEMS**

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Abstract

Cultural and educational background plays an important role in the development of economic, social, cultural and political spheres; competencies and knowledge, which a learner acquires in the process of lifelong learning, allows him/her to adapt efficiently in the society. The authors view the construction and development of system of lifelong learning in two aspects, as a reorganization of the existing educational institutions and as a creation of the new ones, taking into account social and economic changes, as well as a variability of education programmes aimed at the development of personality in accordance with the needs and abilities of the learner. The article discusses the structure of the lifelong education and succession as one of the factors of its development. At the theoretical level, the concept of succession has been explained and the need to model innovative educational systems in modern conditions has been demonstrated. Examples of innovative models of educational systems, which are implemented at different levels of the pilot activities in educational organizations, have been introduced.

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Keywords: Innovative model, educational system, flow-line method, partnership, special educational needs, succession.



1. Introduction

According to articles 2 and 10 of the Russian Federation Law on Education, the education system creates conditions for lifelong learning through the implementation of the main and additional education programs (Federal Law on Education, 2013). Nowadays, these models of lifelong learning, which are based on population's need for different kinds and ways of learning, are implemented in many countries of the world. The need for lifelong learning is connected not only with the speeded process of accumulation of scientific and technical information in modern technological environment, but also with the process of knowledge increase in the field of humanities, in the field of human culture, which is why the need for lifelong learning can be viewed as an essential living condition of society.

The building and development of system of lifelong learning should be viewed in two aspects: as a reorganization of the existing education institutions and a creation of the new ones, that take into account changes in economic and social areas, as well as a variability of education programmes that are aimed at the development of personality in accordance with its needs, capacities and abilities.

This approach makes it possible to fulfill three interrelated tasks (improvement of general culture of the population, development of human resources and their upgrading) and ensures flexible and efficient training and retraining of professional specialists, and also helps to broaden the horizons and formation of a holistic personality.

It is a well-known fact that in education one should strive not only for academic success. The process of gaining and sharing social experience, its transformation and the process of learning from it also occupy an important place. All of these are impossible without adherence to the principles of succession, which on the other hand pose as a basic mechanism, and on the other – as the key factor in the development of lifelong learning.

2. Problem Statement

In today's world, the meaning and interpretation of the phenomenon of succession in education can be discussed in a brand new way. In the late 1960s, succession was considered as the process of preserving parts of the whole, as a change in a system with the transition from one stage of development to another. At the beginning of our century, succession is viewed as a relationship between parts, properties, and characteristics of the object in its evolution at the preceding and subsequent stages. Hegel, the classic German philosopher, attached special importance to this concept, and with the help of detailed analysis outlined the most important patterns of succession in the three laws of dialectics. Succession in his view presupposes the transmission and assimilation of social and cultural values from one generation to another, from formation to formation (Usluel, Aşkar, Baş, 2008; Lee, 2011; Lomakina, 2016; Tremblay, Gardner, 1996; Fliegler, 2010; Filatov, 2014).

Various aspects of succession have been discussed in the works by Baller, E.A., Vygotsky, L.S., Hegel, H., Erasov, B.S., Zapesotsky, A.S., Leontiev, A.N., Lomakina, T.Y., Rubinstein, Skatkin, S.L., Ushinsky, K.D., Fadeyeva, S.A. and many other. Problems of succession regarding the organization of educational process have been discussed by Bannikova, L.N., Wershlowski, S.G., Gavrilyuk, V.V., Dobruskin, E.M., Emelyanov, V.V., Saburov, E.F., etc. In the works by Barbakova, K.G., Volyntsev,

A.A., Zakharov, Y.A., Kononova, N.N., Makarenko, E.I. and others the issues of ensuring succession between school and university have been outlined. The works by Vintin, I.A., Gudkov, L.D., Didkovskaya, J.V., Dubin, B.V., Korableva, G.B., Levinson, A.G., Ossovsky, V.L., Pryazhnikov, N.S., etc. are devoted to the phenomenon of succession in professional self-identification. Ermolenko, V.A., Kiv, A.A., Lomakina, T.Y., Novikov, A.M. and many others concentrate on the phenomenon of succession in the system of lifelong education.

Therefore, with the interest in the matters still being exceptionally great, the concept of succession in education proves to be quite relevant today. Nowadays, this phenomenon should be regarded as an element of pedagogical, psychological and social processes. It can be accounted for by the fact that cultural and educational background has become a strategic asset to the development of economic, social, cultural and political spheres, and competencies and knowledge acquired in the processes of lifelong education enable the learner to adapt efficiently in society.

3. Research Questions

Within the framework of institutional approach, succession of education is viewed as an element of the social system, which due to its structural components can provide for an interaction with other social institutions (family, public organizations, science, trade, culture, various sectors of the economy, etc.), the activity of which is relevant to education.

4. Purpose of the Study

The purpose of this study is to describe the structure of the lifelong learning. At the theoretical level, the concept of succession in education is explained. The need to model innovative educational systems in modern conditions is shown by the examples of innovative models of educational systems, which are implemented at different levels of the pilot activities in educational organizations.

5. Research Methods

When considering the concept from the perspective of system approach, it is necessary to draw attention to the organization and content of education system, laying emphasis on the need for substantive development of programs based on the achievements of previous systems and taking into account features of the future; to give emphasis to the relationship between educational institutions and administrative authorities. The latter is particularly important as there are constant structural changes in the education system, and as a result, multifarious educational centers and complexes are being formed.

The analysis shows that modern mechanisms of succession, which are supposed to ensure and support the consistency of education system, are hardly prominent.

6. Findings

6.1. Modeling of innovative education systems

Search for the new approaches to the development of lifelong education system should correlate with the structural changes in the system, with a change towards diversification that helps to use the available resources to the maximum extent and achieve target goals in the best way possible. When stated in that way, issue at hand requires modelling of education system at different levels.

Russian education science does not provide an unambiguous interpretation of the concept of "education model"; therefore, we will use this definition in the sense of a special method of learning management with an emphasis on the dominating group of the teaching methods, forms, aids and techniques used. In pedagogical practice, model provides for the specialized description of the target of the research. *The innovative education model* (Vaschenko, V., Deliya, V., Lazarev, V., Lomakina, T., Potashik, M., Chechel, I., Tsaturova, I., etc.) is based on the person-centered education paradigm providing for the implementation of individual learning paths by means of content- and level-specific differentiation of education programs in the context of field-specific specialization. Such models are developed at different education levels taking into consideration the specificity of the region and educational institutions as well as international practice and federal legislation on education.

6.2. Structural and functional model of forming socially oriented individual

There are many schools operating quite fruitfully within the so-called mode, when the annual work plan of the staff is task-specific. Municipal Institution of General Education 'School No.7', Kazan (principal Kochneva, L.P., PhD in Pedagogy, Honoured teacher of Russian Federation and the Republic of Tatarstan) has drawn on the experience of a number of innovative state educational institutions in the regions of Novosibirsk, St. Petersburg, Salavat, Chelyabinsk, Izhevsk and on the work of different types of educational institutions in England, Germany, Finland, France, when faced with the task of introducing a program of development for their own school. This analysis has outlined four basic tasks that are currently relevant for educational institutions: case study in school; domestic resource mobilization; establishing communication with the external environment; development of implementation plan. «Factors that will positively influence the dynamics of school development were also identified:

- a multi-faceted and differentiated approach to education in gymnasiums combined with counselling, diagnosis, correction and variability of joint activity of adults and children;
- developing abilities regarding information culture;
- broadened psychological support and counseling provided to students, enhanced communication with graduates of the gymnasium
- implementing the protective function of gymnasium towards personality of each member of the school community;
- pedagogically appropriate organization of natural and architectural environment;
- development of students' healthy lifestyle, which is characterized by a conscious regime, shared positive values, major key; children's activity in the creativity of life, self-actualization of students and teachers;

- support of pedagogical initiatives and innovations» (Kochneva, 2009).

“The structural and functional model of forming socially oriented individual has been established based on the defined objectives, the principles of multi-level system and successive nature of program by means of which socially oriented personality in the course of person-centered education is developed, The purpose of the model is to develop social thinking, agency, to enrich social experience of the individual. The model includes the objective-setting component, content-activity component (pedagogical conditions, forms, methods, aids and step-by-step initiation) and evaluative component which includes levels and criteria of a socially oriented individual. This model is implemented in the gymnasium via *streaming (flow-line) group-oriented method* of teaching, the methodological background of which are the following principles:

- differentiated approach to students based on their educational capabilities, needs and interests;
- variability of learning;
- providing learners with the possibility to choose various education paths and specializations based on the training trials and recommendations of teachers and psychologists;
- building a set of students' personal competencies: conceptualization, active reflection, readiness to accept the recommended methods of learning activities” (Lomakina, T.Y., Kochneva, L.P. (2008).

The purpose of the introduction and implementation of streaming (flow-line) group-oriented method of learning in the 5 – 11th grades is to create a space for subjects of different complexity level and additional substantive component in order to help the students gain the experience in taking and implementing their own learning decisions that will cause a change in their learning situation and will clarify their educational and professional aims (Kochneva, 2015).

The model, developed and put into practice, allows to solve the problems raised by the Republican program "Children of Tatarstan" and its subprogram "Gifted children".

6.3. Model of professional education for the disabled and people with special health care needs

Model of professional education for the disabled and people with special health care needs has been developed and put into practice in State-Funded Educational Institution of Professional Education “College of automation and information technologies 20”, Moscow (vice-principal Semenova, O.A., PhD in Pedagogy).

The purpose of this model was to create the conditions to meet the special learners’ needs, optimize the acquisition of the main programs of professional education and training, promote learners’ social adaptation and integration into society. Modelling was based on the general (regardless of ICD) and individual (inevitable due to the type of disorder) problems that needed to be resolved in order to organize professional education for the disabled and people with special health care needs. «The organizational component of the model includes two forms:

- **full inclusion** – students attend college along with the healthy peers and study in accordance with individual curriculum, which may coincide with the curriculum of the corresponding study group, and can also take part in clubs, extracurricular activities, etc. (the disabled with

general disease, with mild case of the musculoskeletal disorder, with mild case of speech disorder, etc.);

- learning process in a **specially selected study group** composed of people with disabilities and those with special health care needs is organized in separate small groups (15 people at most) and is executed via the Internet and electronic educational resources with the use of distance learning technologies (Lomakina, T.Y. (2016).

To organize learning process, electronic teaching package in the disciplines was created. In their work, teachers use the following options of presenting educational material:

- Case-portfolio;
- Electronic textbook;
- Living book;
- Distance learning platform Moodle.

The teachers have created more than 30 training courses in the Moodle system.

Thus, the suggested general model of professional education for the disabled people and people with special health care needs includes organizational components, education materials and organized educational and information environment.

6.4. Development model of public-private partnership

One of the ways to improve the quality of professional education is to establish a public-private partnership (PPP) in professional educational institution with transnational organizations. The developing PPP model in education with businesses that allows for building links between vocational schools and enterprises is based on the following principles:

- a systematic approach to the structure design and to the content of professional training of workers and specialists;
- focus on the PPP open system of with enterprises of transnational organizations;
- support of the innovative nature of professional education;
- development of mechanisms for coordination of educational and professional standards in accordance with the requirements of modern knowledge-based industries;
- development of managerial competence of unit managers engaged in the organization and managing technologies regarding quality of education in the system of public-private partnership.

The development model PPP in education with enterprises of multinational organization includes:

- stages and description of actions for each stage;
- organizational structure and managerial system for the cooperation between the enterprises of transnational organization and PPP;
- the regulatory framework necessary for the implementation of PPP in Education with enterprises of transnational organization;
- the mechanism and tools for implementation of the model.

- The organization of relations between members of the public-private partnership is designed in the following fields: professional and educational; economic and financial; social security and social protection; training and material base; resource base; staffing.

Student training in the vocational college "Moskovia" (principal Nerubenko, S.M.) with the assistance of the production departments of "Domodedovo training" company serves as an example of this model put into practice. Together with "Domodedovo training" company college "Moskovia" addresses such issues as: development, testing and modernization of educational programs; implementation of dual system; updating qualifications of engineering-pedagogical staff; creating facilities and resources to adopt the dual system; implementation of medium-term forecasting of staffing needs; adjustment of the structure, content and technologies of educational programs according to the requirements of "Domodedovo training" company, professional standards, and of students, and also taking into account labour market forecast and socio-economic development of Moscow region; creating conditions for the development of the system of independent quality assessment of education, assessment and recognition of qualifications, etc. (Lomakina, 2015).

Today in the vocational college "Moskovia" at the request of "Domodedovo training" company new specialties "Transport service" and "Transport organization and management" have been introduced.

6.5. Polystructural model of educational complex-college

The issue of competitiveness of professional education organizations as a large, open educational complex-college (college-EC) is based on the needs of the Russian mixed economy in regards to the staff with different levels of professional education and qualification. In accordance with research of the academic school of S.Y. Batyshev-A.M. Novikov who analyzed the functioning and managing of the regional colleges (Novikov, D.A., Glotova, N.P., Lomakina, T.Y., Nikitin, M.V., etc.), characteristic features of competitive advantage of a large open college-EC have been specified:

- *modernization of training equipment* that meets the requirements of the movement JUNIORSKILLS and WORLDSKILLS, the requirements of professional standards on technical and engineering specialties;
- *creation of a new generation of working-professional-citizens* that have values which are acquired during a variety of socio-professional practices, where the successful experience in skilled activities is replicated;
- *creation of a new format of lifelong professional education/training* of administration and educational staff of educational organizations of multiple levels which were accepted in the infrastructure of the college-EC. The new format is determined by the external conditions, which all the subjects of educational activity are under;
- *easier access to all kind of resources* (software, technological, sport, leisure, professional, educational, etc.) is provided by the educational complex to various socio-professional, age, gender, religious and other groups of citizens;
- *actualization of the requirements of the concept of lifelong education* for all members of the educational complex, in which a successful professional career, increased productivity,

financial and family well-being, quality of life are the result of the quality of person-centered professional lifelong education/training;

- *modernization of devices, criteria and tools of different estimating procedures* to ensure an openness of quality assessment of the process and the results of professional education/training for various subjects of education policy (public administration, employers, parents, media, students, etc.);
- *implementation of the mechanisms for internationalization of professional education/training* in accordance with the recommendations of the Torino, Copenhagen processes and the declaration of the third UNESCO International Congress “Transforming technical and vocational education and training: building skills for work and life” (12-14 May, 2012, Shanghai, China).

The main aim of the development of polystructural model of college-EC is the institutionalization of a large, open regional educational organization in the legal status of autonomous institution of secondary professional education. The model of the college-EC will help to ensure the quality of didactic, staff, administrative and material capacities of educational institutions that are part of this complex and have different educational levels. College-EC forms local educational structures, which are to exercise training of workers in craft professions/specializations, professional education of persons with special health care needs, training in military specialties/professions. These educational structures include educational, scientific and vocational training complexes, resource centers, etc., which provide for the system of individualized lifelong education of citizens of different social, gender, and age groups in accordance with the requirements of occupational standards; create system of values in the process of building a career path.

“Theoretical and analytical component of the model includes the development of innovative conceptual framework, the determination of value foundations, principles and goals, a classification of the types of orders regarding the training of major groups of specializations. The organizational and substantive component includes the development of requirements and mechanism for interfacing educational programs for civil and military specialties/occupations, recommendations regarding military service for graduates in the form of the internship, development and testing of curriculum and training programs in major groups of specializations. Qualitative component is focused on the increase in graduates’ motivation” (Nikitin, 2016).

Model components of theoretical and practical research are being tested in the large colleges-EC in Moscow, Novy Urengoy (YNAO), Ulan-Ude, Gus-Khrustalny (Vladimir Region).

6.6. Development model of lifelong engineering education

Researches, while analyzing problems of the existing system of lifelong engineering education and noting the inadequacies in the content and forms of training of future engineers, specify the conditions for its modernization and reform (Aksenova, 2016; Usuel, Aşkar, Baş, 2008; Lomakina, 2016; Lomakina, Firsov, Ogorodnikova, Lukyanenko, Platonova, 1999; Tremblay, Gardner, 1996; Filatov, 2014), laying an emphasis on the need to develop models of lifelong engineering education as a theoretical construct.

The structural model of the lifelong engineering education includes target, substantive, procedural and analytical-qualitative components.

“Objective component of the model brings light to the lifelong engineering education goals and objectives, sets the requirements for the results of educational processes at the exit stage of each level. The substantive component brings light to the contents of educational process, which are described in the educational and course plans, curriculum, training package, sets the requirements for selection and development of training content. The procedural component of the model includes a description of effective pedagogical conditions, forms, aids and methods used in the educational process, highlights the mechanisms aimed at the development of the technical engineering competences taking into account the age characteristics of students. Analytical-qualitative component of the model includes methods for the diagnosis and evaluation of intermediate and final results of the learning process and self-education” (Aksenova, (2016)).

The implementation of the structural components of the model is carried out at all educational levels: preschool, secondary school, extra-curricular, secondary and higher professional, supplementary vocational.

At the preschool level of education, there is an introductory course to the world of engineering, technology and engineering profession for children of preschool age. *The school level* has to do with school education and deals with the early occupational guidance of minors on their future professional fields, which are of great demand by society. *The level of extra-curricular supplementary education* is a major asset for the development of lifelong engineering education, with the help of which the conditions for motivated children, adolescents and young people in due age to participate in technical and design activities are created. *At the level of secondary vocational education*, there is the training of skilled staff that is able to master and develop competitive technologies, to operate high-precision equipment, information systems, to participate in production upgrading in accordance with the latest scientific advances.

Higher professional education is the last and the most important part of the model of lifelong engineering education. In the framework of this system, bachelor course in the selected field of study and specialization should be the basic education for the engineering corps. After final paper defence, graduates oriented towards scientific research and educational work will continue their education in master degree program. Those graduates, who have chosen design or manufacturing activities, go to a particular company, where they begin their practice. In the process of working at the enterprise, they are made to complete various in-house specialized courses or trainings.

7. Conclusion

Thus, the key element for reforms in the training of engineers should be a close co-operation between higher professional engineering education with science, business, manufacture, their strategic partnership and shared responsibility for practical results.

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