Concepts of Adult General and Vocational Education Routes, Content, Education Forms and Technologies in Today's Society.

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ABSTRACT

The purpose of the research is a conceptual study of the development of individual educational routes, selecting the content, forms and technologies of adult general and vocational education in a rapidly changing modern society. The article presents the results of the third year of the study on “Scientific Support of the Adult Education Innovative Development and Socialization in Socio-Economic Change”, which was held in 2015. This study was conducted within the federal target program “Theoretical Foundations of Educational Routes, Content, Forms and Technologies of Adult General and Vocational Education in Today's Society.” The following research methods were applied: conceptual and phenomenological analysis, analytical historiography, interpretative method and configuration method that made it possible to identify and provide scientific substantiation of didactic and methodical features of improving the content, forms and technologies of adult general and vocational education, a methodology of designing program and process environment of innovative development of general and vocational continuing education for adults, the conditions for the introduction of andragogical support tools for diversified routes of adult education innovative development. The main results of the study are: conceptual substantiation of educational routes, content, forms and technologies of adult general and vocational education in the process of designing program and process environment, where knowledge, values, meanings, and activity methods are transmitted by natural and/or artificial intelligence, the education and development of an adult's personality is carried out. The study results can be used in the design of programs and processes of the adult general and vocational education in Russia and abroad, as well as the andragogical support tools of the diversified routes of adult education innovative development.

Keywords: Adult educational routes, vocational education, program and process environment.

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INTRODUCTION

Introduce the Problem

In the current socio-economic situation, adult education objectives have drastically changed. Today, along with primary, secondary and higher education, the adult education in Russia has become an independent subsystem of the national education system, as evidenced by its scope and features. In an era of crisis in society, almost the entire nation has been economically and socially disadvantaged, thus becoming a potential contingent of the adult education. Many people were forced to leave or change their work and professional activities, and thus joined the ranks of students in the training and retraining system (Volovik, 2009).

The importance of the development of the theoretical foundations of adult education routes, content, forms and technologies is due to modern changes in the socio-economic sphere of society, which dictate the need for scientific search of the diversified models of training and advanced training taking into account the current social and political situation, development trends of the Russian economy, and the needs for the adult education practice (Raven, 2002; Bespal'ko, 1995). V.V. Putin, the President of the Russian Federation, in his speech (Putin, 2014) at the Meeting of the Council for Science and Education, December 8, 2014, emphasized that the situation in Russia had received a powerful impetus to the technological development that would no doubt require an update of technological tools and andragogical training (Putin, 2014).

The fact is especially important that the Russian adult education does not develop in isolation, but is in close association with similar systems of the CIS countries. The educational integration allows our countries to join forces, to share best practices of the organization and development of educational systems, to provide educational and professional mobility of citizens in a common economic and cultural space, which ultimately contributes to economic stability, creation of effective economies of the CIS countries, and strengthening the competitiveness of our country on the world stage.

Thus, the changes in the socio-political and economic spheres of society make it necessary to develop the theoretical and methodological foundations of the adult education innovative development, creation of the andragogical support concepts and systems for the diversified educational routes, content and technologies of adult general and vocational education.

Explore Importance of the Issue

The importance of the study of the indicated issue is determined both by the global development trends of the adult education systems and the existing contradictions in the choice of forms and techniques of the specialists’ educational activities in general and vocational education system.

Modern scientific and technical progress requires a person to have a high professional competence, which is necessary for the break-in new technologies and knowledge-intensive industries. The demand is increasing on social and professional mobility, on a level of individual intellectual development, on professional culture, on ability to learn throughout life (Sherayzina, 2002; Kamensky, 1995).

However, all these professional and personal qualities must be developed at a fairly substantive foundation of general education and a radical change in the quality of vocational education (Vershlovsky, 2014; Kulyutkin, 2005; Kaplunovich et al., 2012). Currently, vocational education development is quite unclear. On the one hand, prestigious educational institutions are founded, including for adults that give full training; on the other hand, narrow professional adult education develops in courses of various kinds, including for retraining.

Here several controversies follow:

- between the widespread commercialization of education, motivating to reduce the time of training, to strengthen its pragmatic orientation, and the need for the development of a personality, his/her overall culture in public education;
- between the growing importance of "personality forming" function of adult education and its
underestimation in the implementation of the adult education systems and technologies;

• between the need to attract people to scientific knowledge and genuine culture and the underestimation of the adult education system potential.

The resolution of these controversies will lead to improving the quality of training and retraining of specialists in the system of vocational and postgraduate education, including advanced training, will actualize the need to develop the conceptual foundations of educational routes, content, forms and technologies of adult general and vocational education in today's society. In this regard, the authors’ research interests are associated with the following directions: definition of didactic and methodological features of the content formation, selecting the forms, and designing the adult general and vocational education technologies; with the development of the scientific basis of the study and application of the program and process environment of innovative development of adult general and vocational continuing education including detecting the conditions for the introduction of the andragogical support tools for the diversified routes of the adult education innovative development.

The article content reflects the results of the third phase of the study, which was held in 2015. Here is the phased story of the study and the most significant scientific results.

In the first stage (2013), the scientific and andragogical approaches were defined for the development of the adult education routes; functioning and development features were identified for the diversification support of the adult education systems. In the second stage (2014), modern diversified route models were proved for adult general and vocational education.

The study in 2015 continues the scientific work logic of the previous years in the direction of Practical Andragogics.

**METHOD**

As a methodological study basis, the authors used the following:

– Theory of continuing education, revealing the need for constant updating and expansion of the existing stock of knowledge, which allows adults to respond adequately to the changes in the modern society, to overcome the ideological conflict of generations, to improve the professional and social mobility, which gives an opportunity to improve their professional qualifications, ensuring competitiveness in the labor market, thereby improving the quality of an adult life;

– Main provisions of andragogy, emphasizing an adult's active and leading role in training; the need for the support of an adult's positive social and professional experience in training; the importance of a student’s joint activity with a teacher during the preparation and training activities, as well as the implementation of the training selectivity principle, which involves the provision to an adult of the freedom of the choice of objectives, as well as content, forms, methods, timing and place of study.

The adult education has significant features, including a conscious attitude towards the learning process, the need for understanding the learning process and its practical orientation, and a high degree of autonomy. Therefore, the idea of learner-centered, personalized education is an important methodological component of this study. The transition to a new personality paradigm is a leading trend of modern education and teaching consciousness of the society in general. The learner-centered education is aimed at finding the best ways of the development of an adult’s personality, at awareness of the need to build lifelong learning, as well as at the development of pedagogical aspects of the individual educational routes formation in general and vocational education systems.

**RESULTS**

The paragraph presents the results of the third year of the study, which is planned for five years. The didactic and methodical features of the support of adult vocational education were revealed on content, form and technology levels. The second result concerns the description of the program and process environment of the innovation development of general and vocational continuing education for adults. The third result is
devoted to the analysis of the andragogical support tools for the diversified routes of the adult education innovative development.

**Didactic and Methodological Features of Content, Forms and Technologies Improvement in Adult General and Vocational Education**

The didactic and methodological features of the adult learning process (content, forms, and technologies) are formed with the orientation of adult activity to achieve real results, having a personal, social and professional orientation. In terms of didactic, the learning process is determined by the needs and interests of adult personality, features of the educational environment, teachers' andragogical level.

The availability of educational demands and needs, the desire to help to achieve specific learning educational purposes are an important prerequisite for the development of the didactic and methodological aspects of the adult learning process. The term “educational demand” is widely used in the theory of continuous education and refers to the requirements of an education party in the organization of educational process and its outcome (Donina, 2014; Lukashenko, 2002; Ponomareva, 2010). The adult educational demands are the needs of different population groups in educational services to solve specific issues related to retraining, advanced training, education of children, health preservation, and self-development. According to S.G. Vershlovsky (2014), the educational demand is important to be considered from the point of view of an active person’s position in relation to education and the need for assistance and support in overcoming the educational contradictions. This is its difference from an educational order, which is a set of structured social requirements for the education system at a particular historical period at the level of society, the state, and the parties of education. The adult educational demands are determined by a number of socio-demographic factors. It should be noted that the modern “adult society” is very heterogeneous. It consists of different social strata, different age and gender groups, and professional communities. Large differences are observed in the educational status of adults, which largely determines their educational demands. As noted by Yu.N. Kulyutkin (2005), the higher a person's level of education, the more he/she tends to increase it, and the higher a particular person's level of knowledge and culture, the bigger, deeper and more varied his need for further education will be. This raises breadth and variety, which are the characteristic features of the adult educational demands.

The socio-economic and socio-educational situation, in which the adult educational demands are formed, is very important; these are conditions on the labor market and educational services, demand for specific professions, living standards, etc. The current state socio-economic situation is characterized by a slowdown in economic growth, the reduction of a number of industries and research and production areas, the inflation and unemployment, the decrease in consumer demand and the real incomes of the population, and thus the living standard. Experts predict that a scenario of the socio-economic development of Russia will depend on its adaptation to the situation caused by the change in oil prices and sanctions, the slowdown of the world economy, which pose a threat to its stability and sustainability. In this situation, incentives to work and getting the necessary training are reduced, as well as the opportunities for rapid career growth; the degradation of professional staff capacity occurs, as well as of human resources; the formation of social mobility slows down.

The study showed that in the social and economic uncertainty and instability the adult educational demands acquire the following features:

- pragmatism and primarily professional orientation of the educational demands: it is necessary to get specific knowledge as quickly as possible in order to change, fix or improve one’s professional status, learn a new profession;
- the reduction of the role of the general cultural component in the education content in the adults' perception;
- passivity of the educational demands of particular adult groups, suppression of spiritual and creative initiatives by means of mass communication.

In this situation, the learner-centered approach is particularly important in the adult education, it gives an orientation to the interests of the person as an individual and as an active subject of various activities during the selection of the education content and methods. It is necessary to take into account the specific
characteristics of an adult as the subject of the educational process, awareness of himself as an independent, self-developing person; life and professional experience of the adult; availability of the educational demands and needs, the desire to solve one’s vital problems and achieve specific goals by learning; commitment to the rapid implementation of the acquired knowledge and skills (Lipsky, 2004; Pevzner, 2002; Traschenkova, 2013; Sherayzina and Fedotova, 2001).

In the context of an educational institution, the monitoring helps to analyze the educational demands of adult learners. Regular monitoring of learners’ educational demands and their accounting enables an educational institution (or an individual teacher) to build a level of cooperation, in which a student’s educational demands can be taken into account as fully as possible, and an individual educational route can be built.

Program and Process Environment of Innovation Development of General and Vocational Continuing Education for Adults

The didactic and methodical features of the adult education are due to the presence of the special educational environment. The adult educational environment is a system of human resources, material, didactic, methodical conditions and forms of the learning activity organization to achieve the designed objectives and outcomes of adult personality training.

The educational environment is usually regarded as the scope of joint activity created by the education parties, where certain connections and relationships begin to line up between them and the educational systems, ensuring the realization of personal and social education goals (Bueva, 1967).

Under the new conditions, the search for innovative ways and scientific studies to enhance efficiency and quality are a new law of development of the adult education.

As one of these areas, we offer the implementation of the environmental approach as the design and introduction of the program and process environments allowing to take into account the innovative nature of the development of general and vocational continuing education for adults (Maron and Monakhova, 2015).

We understand the program and process educational environment as the information environment, in which knowledge, values, meanings, methods and activities are transmitted using natural and/or artificial means, and the development of an adult’s personality is carried out in the system of general and vocational continuing education.

In simplified form, the essence of the information context of the program and process educational environment is shown in the scheme in Figure 1.

Our analysis allowed identifying the following target orientations of various aspect approaches to the definition of the program and process environment:

- Firstly, this is the information (recorded on different media), with which a person is in relation as "a communicant", i.e. as a member of verbal communication (a speaker – a listener, a writer – a reader, a sender – a recipient, a producer – a recipient);
- Secondly, this is an area of human activity, directly related both to the information reproduction and the development and improvement of information dissemination and replication means including its highest form that is knowledge.

Based on the above aspects, the program and process educational environment can be interpreted in a broad sense as an information infrastructure created by the society, allowing to carry out a communicative educational activities on a scale appropriate to the level of the society development (publishers, libraries, information centers, data banks, the media, etc.), and in the narrow sense as a software and technical equipment of the educational activity of a person on the various methods of information representation, processing, storage and transmission.
The term "program and process educational environment" is based on the intersection of the semantic concepts "educational environment" and "information environment".

Note that the information environment can be formed spontaneously, but the program and process educational environment is always organized specifically.

At the forefront in the education informatization there is an issue of designing the program and process educational environments simulating a teacher who pays individual attention to each student, immediately analyzes the assimilation difficulties and manages a student's activity, which is aimed at the solution of the educational objectives.

This environment is characterized by the following set of conditions: active information exchange between a teacher, a student (a learner) and means of information technologies, based on the performance of various types of independent activity with the objects of the educational environment, as well as implemented by handling the education system components; functioning of the organizational structures of pedagogical influence within a particular learning technologies.

Since in modern education the educational process is content-based, the program and process educational environment is a content-based environment.

A scientist team led by M.I. Bashmakov (1997) dealt with the issues associated with the information environment of the content-based teaching, under which they understood the operating content model, which is regulated by the laws of a particular subject and is not limited to any pedagogical or methodological theories. The authors believe that without loss of generality the information environment can be interpreted as a computer model of the information environment of content-based teaching.

Diversifying the above mentioned interpretations, note that one of the features of the program and process educational environment is that it provides the ability to obtain the necessary data, information, knowledge, etc., but the ability to receive and interpret the information is to be taught. On this occasion, Yu.A. Schreider (1999) noted that the books can be read on many things, but one can not get the ability to read using them. Structural and functional model of the program and process educational environment can be represented by the following components.

An interactive component between the education subjects and organization of work with software products, creation of educational infrastructure (students, andragogists, tutors, counselors).

A material and technological component considered as a set of substantive and material conditions of the educational process (work with software tools, information perception and processing, introduction in local, regional and global networks, telecommunications and the Internet).

A content and methodical component, comprising a support system of education and self-education, the opportunity of the selection of training modules, using students support programs, feedback, taking into consideration the features of open distance education at various levels, etc.

An organizational and technological component, which determines the system of means and conditions of the operation organization in the information environment, existence of organizational forms of open education (tutorials, deep dive, use of multimedia materials, tutoring assistance, trainings, business games, etc.).

An organizational and management component, including administrative and managerial staff, engineering and support staff who build their activities in order to improve the quality and efficiency of advanced adult education in the conditions of dynamically developing information society.

The proposed structural and functional model considers the program and process educational environment as an integral system that will ensure efficient implementation of life plans in socially-oriented productive activities of an adult.
In the context of postgraduate education in the advanced training of teachers and heads of educational institutions, the program and process educational environments are based on the implementation of a pedagogical support system through the development of educational programs, modules, methodological guidelines.

**Andragogical Support Tools for Diversified Routes of Adult Education Innovative Development.**

The instrumental support of any activity is the means to achieve the original result and lead to a reduction of costs for specific operations. The andragogical tools are considered as a system of means that takes into account the specifics of an adult as a party of study, his/her willingness to learn, professional and personal interests, especially the information perception, etc. This is an interconnected system of methods and the program and process tools of adult education, providing value and personal development of an adult based on the implementation of a set of procedures: training planning by focusing on projected stages of training and personal qualities; educational routes support for students; simulation of forming operations; ensuring learning conditions, assessment and self-assessment of results, correlating with the predicted reference model.

In the course of the study, the conditions were highlighted for the introduction of the andragogical support tools for the diversified educational routes of adults:

1. Legal and regulatory conditions, reflecting the requirements of accepted standards of general and vocational education to the development of educational, informational, technological, assessment and criterion competencies, taking into account the articles of the Law on Education of the Russian Federation, as well as adopted professional standards of a general education teacher, and other normative documents.

2. Socio-andragogical conditions aimed at improving the quality of diversity of educational activity subjects by removing age, territorial barriers and restrictions, reducing the influence of other factors that impede access to education (health, free state-funded places, and others), activation of social and professional mobility of the adult population, the social demand for a higher level of professional education, taking into account the following:
   - the dynamics of the adult population social demands in relation to the vocational education system (learning the new kinds of professions, improving the quality of education, convenient forms of training, etc.);
   - development trends of the Russian economy, the labor market demands, and the practice of adult education;
   - the increase in the value of vocational education institutions in the educational space in connection with the new goals of education, which leads to the increased regionalization of vocational education, the emergence and intensification of competition between vocational education institutions, the development and expansion of their professional activity field.

3. Psycho-andragogical conditions, reflecting the characteristic of the diversified educational routes within a specific model, their interests, needs, life and professional experience, cognitive motivation features, values, and so on. The psycho-andragogical conditions, solving the problems of cognitive activity of adults, taking into account the following:
   - psychological characteristics of the subjects of the selection of diversified educational routes;
   - specifics of an adult as an education subject, his/her interests, needs, life and professional experience;
   - cognitive motivation features of adults, their value orientations, and so on;
   - changes in the role of a person in the field of educational services (the person is placed in the center of the educational system and determines educational routes independently, which leads to the development of competitiveness in the labor market, ensuring employment of graduates of vocational education institutions, changes the relationship between the subjects of the educational process);
4. Didactic-andragogical conditions aimed at the selection of modules content, technological support, and the education quality standards, taking into account the basic provisions of andragogy, didactics, and management theory. The didactic-andragogical conditions imply as follows:

- the selection of the content of modules, technological support;
- the selection of the education quality standards in view of the main provisions of andragogy, didactics, management theory;
- andragogic expertise implementation;
- the use of advanced training technologies for mature personality.

The didactic-andragogical conditions provide a specially organized program for students' training that includes:

- development of a new content of the modular educational programs;
- strengthening the practical orientation of training, connections with the professional activities of students, reliance on their life experience;
- activation of in-house training and self-training, introduction in the educational process of information and communication technologies for independent learning activities support;
- open access to educational resources through information educational environment;
- construction of subject interaction between students and teacher-andragogists.
- strengthening the fundamentalization and interdisciplinarity of the educational content.

**DISCUSSION**

Special attention is given to methodical adult learning tools, which are related to the selection of diversified educational routes, taking into account the structure and nomenclature of the developed professional and personal competencies. The adult education process content base is made by modular educational programs. A modular educational program is a combination and sequence of modules aimed at the formation of one or more competencies needed to achieve the required level of qualification. A modular program is an andragogical tool consisting of modules, each of which has a didactic purpose, the achievement of which is provided by the content of the educational material, didactic means, and complexes of control tasks.

The module as a methodological support tool for the diversified routes of the adult education innovative development is a target functional unit that combines educational content and content learning technology. In this case, a student works independently for as much time as possible; he/she learns goal-setting, self-planning, self-organization and self-evaluation. This gives a student an opportunity to see him/herself in activities, to determine a level of knowledge assimilation, to see problems in knowledge and skills. Thus, the module refers to an independent organizational and methodical structural unit (a module of the discipline), which is finished using a certain kind of control. The module contains several interconnected topics, several sections of the discipline, evaluative works, course works, project works and credits. The discipline module is a structured learning material, having an information unit, a practical unit that gives an opportunity to use the acquired knowledge and skills, as well as methodological and controlling units.

The theory and practice analysis shows that the modular training meets the basic principles of andragogy; these are openness and flexibility of education. It makes it possible to build the content of the units, to integrate different types of training, to select the most appropriate forms of education, which give an opportunity to work with a proposed individual curriculum at students’ own pace, to achieve a variety of purposes in the educational process, to select a way of teaching, which is suitable for a particular individual.

The main features and conditions of the modular educational program development for adult learners are a transition from the planned learning outcomes at the level of knowledge, skills and personal qualities to the professional competences that a student must acquire in the course of the mastering of all the cycles and disciplines (modules) of the program; differentiation of competencies under the cluster approach (analytical, research, managerial, design, marketing); application of appropriate learning technologies on the formation and evaluation of the professional competencies development degree.
Requirements for learning outcomes (knowledge, skills, and personal qualities) for each module are reflected from the position of the cluster approach in the curriculum. Other learner-centered competencies are demonstrated that are to be formed in the course of the mastering of the relevant discipline (module).

During the development of the modular curriculum, a specialist’s competence portrait emerges, as well as his/her knowledge and skills. The content of education for each module is structured in lecture, practical and research units. The modular curriculum is finished with a control unit checking the development of the curriculum on the competence level.

The real demands and requirements vary for different categories of adults in choosing the educational route. For example, for the educational institution manager reserve, executive beginners, a set of modules focuses on mastering the practice of organization management (an activity and project module, a reflective and correlating module). For experienced managers, the content of the management activities is mainly planned to be developed related to the methodology of the scientific research, the reflection of their own innovative experience and ways of its translation (a theoretical and methodological module, a reflective and correlating module).

CONCLUSION

The study of the state of Russian pedagogical science and practice of adult education shows the need for the justification of the diversified routes of the adult education innovative development, for the ways to introduce the andragogical tools in general and vocational education for adults.

This need is determined by some global factors that are typical of a modern society and affect the adult education system:

- general and multifaceted complication of social life;
- the new content of its basic processes and the new nature of their interaction;
- the emergence of new activities;
- rapid obsolescence of once acquired competencies, shortening of the term of their functional applicability;
- rapid development and introduction of innovative technologies.
- In this connection, the requirements for the results of the study are changed:
- the rise of the complexity level of knowledge and skills that are to be assimilated;
- general quantitative growth and diversity of educational objectives.

The study found that the methodological and didactic basis for improving the content and techniques of general and vocational education for adults include the following: adult learning environment; practice oriented andragogical knowledge presented in the form of teachers' andragogical competence; curriculum of a modular type, providing a choice of the educational routes, as well as capabilities of adult learning environment.

The scientific basis of the research and application of the program and process environments were developed; they are presented in the form of the structural and functional model of a program and process educational environment consisting of various structural components that improve the quality and efficiency of advanced adult education in the conditions of dynamically developing information society.

The conditions for the introduction were revealed for the andragogical support tools for the diversified routes of the adult education innovative development, allowing increasing the educational level of training in terms of diversification, new standards of teacher education in view of the municipal and regional features of teaching adult contingent in general and vocational training.

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