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ADAPTIVE ADULT EDUCATION IN TERMS OF ACTIVE USE OF INFORMATION TECHNOLOGIES

Desyatov Tymofiy^{1, a *}

¹Scientific-Research Institute of Pedagogical Education, Social Work and Arts,
Bohdan Khmelnytsky National University at Cherkasy, Ukraine

^adesyatov50@mail.ru

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ABSTRACT. Adaptive systems of adult education are highlighted in the paper. It is noted that the purpose of adaptive education is to create adaptive environment of adult education which can provide opportunities for anticipatory adult education, development of mobile competent, creative person, who is able to adequately respond to dynamic life situations, to effectively solve problems and achieve a certain result. In this paper the content of education is defined as pedagogically adapted social experience. It is emphasized that education helps “to enter into life” and to adapt a person in it. But to be a specific adapter, education should be adapted to the realities of a person’s life, his (her) needs, which is especially important in adult education. It is theoretically proved that while incorporation into educational processes for different adult categories the necessity of adaptation arises: psychological (motivational), organizational-and-purposeful, content, technological, control-and-evaluational. It is investigated that the necessity of multilateral adaptation brought to life the concepts of “adaptive school” and “adaptive education”. Basic functions, principles, technologies and factors of activization of an adult’s educational-and-subjective activity are defined. It is emphasized that adaptive learning allows not only to adapt the learning process to the student, but also to ensure active involvement of the subject of study to designing of adaptive learning environment, to developing individual educational route.

1. INTRODUCTION

In terms of the growing role of education in society and the intensification of processes of economic and cultural globalization, the transition to an information society, modernization of adult education turned to be legitimate, since geographic and socio-economic transformations led to increasing of mobility of citizens.

At the same time great social changes and modernization of education make new demands to the quality of training and specialists’ professionalism. The functional basis of such open educational system is intellectual adaptive learning systems aimed at creating an adult’s adaptive learning environment that can provide opportunities for anticipatory adult education. In this context, Ukrainian scholars’ special attention is given to adaptation of national professional education to the needs of the European labor market, which is a manifestation of globalization processes in education. In terms of the growing role of education in society and the intensification of processes of economic and cultural globalization, the transition to an information society, modernization of adult education turned to be legitimate, since geographic and socio-economic transformations led to increasing of mobility of citizens.

At the same time great social changes and modernization of education make new demands to the quality of training and specialists’ professionalism. The functional basis of such open educational system is intellectual adaptive learning systems aimed at creating an adult’s adaptive learning environment that can provide opportunities for anticipatory adult education. In this context, Ukrainian scholars’ special attention is given to adaptation of national professional education to the needs of the European labor market, which is a manifestation of globalization processes in education.

2. RESULTS

Readiness of society to global transformation is largely determined by the degree of elaboration of system of adult education, its orientation at an individual's development, creativity, professional and social competence. At the same time, the transition to an information society, the expansion of kinds of human activities, "the crisis of competence" resulted in qualitative changes in the system of adult education: the shift from the conception education for the whole life to the conception of lifelong education, searching for new approaches, new technologies, new educational systems. The priority principle of "lifelong learning" is noted in UNESCO strategy document. The actuality of solving the problems of correspondence between education and life of innovative, educated society, which is built on the basis of "knowledge economy", is focused in it. The outlined problem acquired new dimensions and special actuality, a measure of how modern economic systems require from specialists the ability to constantly update their knowledge, to learn new skills and acquire the qualities that allow them to be not only successful job seekers but job creators at permanently changing labor markets. Adult education has to rethink its mission and redefine many of its functions, namely, in views on public needs in lifelong education and training [1]. At the same time, the point of view that the idea of continuing education can't be imposed to the society from outside with the aim of its transformation because the actual social development provides immanent conditions for implementing the conception of lifelong education on the basis of increasing the diversity of educational forms is suggested in the document. Creating a system of adaptive adult education can serve as a response to these challenges, because its aim is to create an adaptive adult teaching environment that can provide opportunities for anticipatory adult education, the development of mobile, competence, creative person, who is able to adequately respond to dynamic life situations, to effectively solve problems and achieve a certain result. Adaptation is an important direction in the system of informational support of learning. Namely adult education helps an individual to adapt in modern informational society, plays a leading role in enhancing the country's competitiveness.

For the first time the term "adaptation" (from the Latin *adaptation*, which means - adjustment) was used by H. Aubert in the 18th century to describe the ability of a living organism to adapt to external conditions which change, but in the narrow sense to denote changes of senses sensuality under the influence of stimuli. Today this concept is used in many fields of knowledge: Cybernetics, Management, Pedagogy, Psychology, Sociology, Physiology, Economics, Andragogy, etc.

The concept of adaptability, in a certain sense, can be considered to be the most general concept of Pedagogy. For example, V. V. Krayevskyy and O. Khutors'kyy determine the content of education as "pedagogically adapted social experience" [2]. Namely education helps "to enter into life", to adapt to it. But to become a certain adapter, education should be adapted to the realities of a person's life, his (her) needs, which is especially important in adult education. Therefore, on the one hand, with the help of education an adult's adaptation to new conditions of his (her) life and work is realized, and, on the other hand, adaptation of education itself to the life of certain individuals takes place.

It is important to understand how the implementation of adaptive function of education is realized in the process of teaching different groups of adults. It's known that in education adaptation is seen as a two-way interdependent process of adjustment of social-and-educational environment (education institutions) to an adult's individuality as well as active involvement of an adult who is a subject of learning activities into designing adaptive informational-and-educational environment and creation of individual educational routes.

Thus, adaptive learning can be seen as socially oriented, teaching and development model of the process of interaction between teachers, learners and sources of information, and its main characteristic is the combination of adaptive and adapting activities. Hence, the use of adaptive learning in adult education is a prerequisite for its effectiveness.

EU policy offers profound transformations and renewal of adult education sector, seeking to strengthen it and adapt it to new needs in education, which appear in citizens of any age,

increasingly emphasizing the value of a person as “the main European heritage and pivotal element of any political activities of the European society”.

Documents of European summits conclude that education systems must adapt to the new realities of the 21st century; adult education and continuing education have to become “a major political program of civil society, social cohesion and employment” [3].

In terms of active use of information technologies in the process of learning the basic functions of the adaptive adult education are to provide:

- psychological motivation of adaptation which is based on the restructuring of an individual's actions stereotype, his (her) thinking, understanding an active role in the choice of strategies and methods to achieve the projected results of learning activities;
- organizational-and-target adaptation, which is reflected in the convergence of the participants' objectives and the system of organization of the educational process on the basis of taking into account their individual characteristics;
- content adaptation, which involves the selection of functionally oriented material, curricula and programs variability, the development of new models of integrative learning;
- technological adaptation, which includes designing of technologies, techniques and methods of multilevel and differentiated instruction with an alternative choice of forms of conducting classes, means of personality-centered management of teaching-and-learning activities (self-diagnosis, self-control, self-correction system). Technological adaptation is understood as the ability to adapt the curriculum to the special features of the certain learning process with the aim of its optimization;
- management adaptation that characterizes changes of social-and-educational orientations of functioning and development of an adaptive system. The latter seeks not only to adapt to students' individual characteristics, but also to flexibly respond to socio-cultural changes. This gives the opportunity to adapt an adult to the life in society, creates conditions for a conscious choice and mastering of learning programs;
- control-and-evaluation adaptation, which is due to the fact that adult students who belong to the same social group differently perceive and learn the same in content academic material. This requires different forms of control [4; 5].

The need for multilateral adaptation brought to life the concept of “adaptive school” and “adaptive education”. The strategy of adaptive adult school functioning is determined by two components. Firstly, it tries to adapt to students' individual characteristics, and secondly, if it is possible to flexibly respond to socio-cultural changes and environmental challenges.

Adaptive education is aimed at solving problems of formation of professional-and-personal human culture, which corresponds to the level and requirements of society as well as at creation of conditions for the productive selection and mastering of learning programs.

Important factors of activation of an adult's training-and-subject activities, which largely influence the implementation of adaptive learning ideas, include:

- self-realization of an adult as a person, as a subject of activity, as an individual. Education has always been a sphere of a person's self-realization, a psychological mechanism of self-manifestation in the life and activity;
- complicity of an adult to the surrounding reality as imaginary assumption on himself (herself) of a certain position and role, the implementation of himself (herself) in reality, emotional “review” of his (her) depth “I” to social challenges. An andragogist's activities can create a problematic field in terms of adaptive adult teaching for his (her) own searching and reflection;
- evolution of an adult's requests and needs in self-knowledge, caused by age-related stages of a person's life;
- development of reflexive abilities that allow to carry out transition of a person to megaposition in respect to personal experience, understanding and awareness of the real sense of educational and professional changes;

- self-education as the ability to regulate one's relationships with the outside world in the process of self mastering of new knowledge [6].

Creating adaptive adult teaching actualizes the problem of development and implementation of adaptive learning technologies. Their essential characteristics are that:

- a technology is developed in regard to a concrete pedagogical idea, which is based on a certain methodological, didactic, psychological, philosophical position of its authors;
- an adaptive chain of actions, operations and relations is implemented in accordance with the accepted targets and concrete forecasted results;
- an adaptive technology presupposes a teacher's and a student's adaptive activity, taking into account possibilities of individualization of learning, use of possibilities of their communication and dialogue, including computer based training means;
- an adaptive adult teaching technology is developed and implemented as solving of multi-criteria task to obtain the maximum planned results for minimum efforts;
- obligatory attributes of adaptive adult teaching technology are self-diagnostic procedures (didactic, psychological, sociometric, etc.), which contain criteria, indicators and tools to assess the results of activity of subjects of the andragogical process.

An important feature of adaptive adult education is a focus on the specific features of the modern information society, in which globalization and global communication play the leading role. Information technologies are a means of their support and implementation.

Researchers consider modular integration both vertically and horizontally, which can lead to creation of an integrated adaptive environment based on information technologies, to be the most promising for adult education. However, we note that the practical implementation of this way is possible only if the implementation of the concept of lifelong adult education. However, that information technology should become the technological base of the concept.

However, we note that the practical implementation of this way is possible only in case of implementation of this conception of lifelong adult education. Namely information technologies should become the technological basis of this conception.

The adaptive teaching system was developed and implemented in the educational process by A. S. Granyts'ka. This educational technology is dominated by the pupil, his character, his ability to assimilate and understand the material. Namely technology gives the educational process adaptability, i.e. the ability to adjust to the needs of each learner.

Adaptive education is education, which is oriented to people who are taught, to their needs and capabilities.

The idea of adaptive teaching, which is based on the cybernetic approach, for the first time was the most complete study in the works by G. Pasko and O. Berg, who understood the adaptive teaching as creating an adaptive mechanism of management of activities of the subject of teaching, who maintains interest, attention, motivation and provides the organization of the feedback in terms of programmed instruction [7]. Due to researches by V. V. Bogorev, O. Z. Vlasova, T. I. Shamova and others, the adaptive teaching theory was enriched with ideas and principles of synergy (self-organization, openness, non-linearity) [8].

As the basic principles of adaptive adult education one can consider:

- flexibility, openness, orientation on real needs of the learner, variability;
- new understanding of general adult culture in the information society as a combination of humanistic, scientific and technological components, as the basis for organization of personal, social and professional life (the principle of social and personal development);
- the integration of cultural-and-historical and value-and-axiological phenomena, the assimilation of which allows to rethink such truths and values, as knowledge of nature, society and human culture (the principle of cultural-and-historical and value development);

- the implementation of integrative-and-modular teaching technologies, which are based on the unity of normative (social) and individual that allows an individual to construct individual educational routes (the principle of individual advancement);

- providing literacy and competence, development of general intellectual culture, creation of the scientific basis in the professional sphere (the principle of competence-based approach) [9].

In the process of adaptive learning there is a change of parameters in the structure of the system on the basis of current information with the aim to achieve clearly defined, the most optimal result and an opportunity to consider individual differences of learners appears.

3. CONCLUSIONS

On the basis of the performed analysis we can state that systems, based on the principle of adaptive learning, are aimed at building individual educational strategies. They provide psychological adjustment of the stereotype of an individual's actions, his (her) thinking and the mechanism of self-realization.

Functioning of adaptive systems of adult education involves the use of agent-based ontological approach, which requires the presentation of information in a suitable for automatic processing form. In the basis of intellectual adaptive teaching systems there is the advisory approach that presupposes the successful choice of educational strategies based on the phase of modeling and the phase of recommendations.

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