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DEVELOPMENT OF THE LEARNING MODEL OF INNOVATIVE PERSONALITY

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Modern technologies have a great influence on our life, learning and communication. Both understanding of a learning process and acquisition of knowledge are changing. Key factors for a successful functioning in the modern world are learning, innovation and cooperation. A new phenomenon of a joint learning or self-education is developing. Connectivism, as a theory of learning, is adapted to the opportunities of our time and becomes the basis for the development and introduction of new pedagogical technologies in the era of globalization and computer technology. Connective training helps us shape all the key skills that we need to function in the modern world. Leading aspect in the learning process is the connection between learning activities and thinking. Value is represented not by the quantity of knowledge, but by its relevance. The key competences of this theory are the ability to use technological advances, to search for information in external databases and to link it to available knowledge and other information.

Key words: *innovation technologies, connectivism, information and communication technologies, competence, model, connective learning.*

Introduction

Our education system is an open system, which is influenced by the social environment that stimulates changes. The education system must not only meet the challenges of the society, but also shape the future. External environment, which is related to information and is a part of the learning environment, stimulates the emergence of innovations as well as evaluates them. Most of new scientific discoveries and ideas were created when people needed them and were ready to perceive the innovation. Creation of an appropriate model of the future personality and its learning model is a complex task, since it occurs at the level of predictions concerning the material and social conditions of human life. Modern social sciences are aiming to cope with this task.

The aim of the study

The article analyzes modern approaches to the creation of a learning model of innovative personality.

Theoretical framework and research methods

The main concepts of innovation, various aspects of creativity, innovative systems, basic and additional parameters that characterize an innovative personality were studied by Pshyborovska, Moliako, Mednik. Schulz analyzes various ways of educational institutions' adaptation to social change. Amabail, Urban, Sternberh, Liubart and Milhram considered features of person's character important in their research on innovation. The theory of learning (connectivism), which is adapted to the possibilities of modern life, was proposed by Siemens (2005). Connectivism becomes the basis for the development and introduction of new pedagogical technologies in the era of globalization and computer technologies.

Results

The main characteristics of the environment, where a modern person functions, are variability and

instability of social parameters. The basis of this phenomenon is the variability of the structure and patterns of social life. The process of creation and formation of a value system still continues. Social changes depend on the desire and willingness of each person. The impact of innovation on the efficiency of economic processes and the growth of labor productivity increase. Factors that boost or limit creativity and innovation can be both external and internal.

External factors include preference to the personal interests in opposition to the social, development of new technologies, gradual growth of social and cultural pluralism, mobility of the society and all the manifestations of its self-organization.

Internal factors consist of openness of the society to innovation and acceptance of different systems of organization, social management and methods of work. A person becomes the subject that initiates activity, makes choices, takes responsibility.

The key factors for successful functioning in the modern world are learning, innovation and cooperation. An important learning outcome is the formation of a creative personality that is not only flexible to changes, but can change the environment on his or her own, is capable of innovation, self-development and demonstration of innovative behavior. The development of modern innovation has an "avalanche" character. Society determines the value of innovation and has a significant impact on it. The concept of innovation is a peculiar phenomenon, interpretation of which is divided into two categories (Schulz, 1990; Schulz, 1994):

- procedural understanding of innovation. Innovations can be understood as a procedure (activity), that is, a process of creating new solutions and applying them as the realization of change. Therefore, innovation is interpreted as a synonym for all changes made consciously, with a certain purpose to achieve a certain goal. Process innovations are innovative activities, for example, the process of school management, the implementation of new curricula, teaching subjects, forms of learning and new means of professional work. That is planning and / or application of new solutions;

- objective understanding of innovation. Innovations can be interpreted as a material (object), that is, a product of a creative activity or a program of changes. Therefore, innovation is treated as a particular object (material or ideal) that is the product of human activity. Material (objective) innovations are the results of a program of changes or creative activity, the essence of transformation, a new element of pedagogical research (a new scale of evaluation, etc.).

Reasons for the emergence of innovative transformations can be various unexpected changes, which are an incentive for further improvements. They

can be discrepancies between the reality and expected results, changes in perception, understanding and mood, demographic changes, industry structure, activity and market spheres, new knowledge, etc.

The environment stimulates the appearance of innovations, as well as evaluates them. Most of new scientific discoveries were created when people needed them and were ready to accept those inventions. Innovation is resulted in motivation, which encourages people to work and develop new skills that contribute to gaining experience and self-realization. Innovation cannot be an end in itself, because it is the pivot of a technocentric society, which can result in both further development and disintegration. The evolution of the structures, behavior and value systems of an individual in the society is a source of the formation of new social ideologies. In the first case – it is involved in the process of creating, disseminating and assimilating the outlined experiments and innovations, in the second – the desire to know the phenomenon of change itself. Both approaches are not contradictory, they are complementary.

Knowledge of laws, which have an impact on the processes of change can be an instrument for improving innovation in education. General knowledge of this type helps to understand what is the difference between various forms of change, their course, pedagogical and social consequences.

Teachers express their readiness for change in different ways and can perceive and embody innovations. This requires methodological creativity, which is interpreted as an activity aimed at improving the content, structure and organizational forms of education, the search and implementation of non-standard teaching methods for the development of student's creativity in practice. This type of activity is divided into certain phases:

- motivational, that is to establish creative and supportive learning environment;

- informational, which consists in the selection or creation of organizational forms and training schemes, forecasting of activity results;

- diagnostic, in which the analysis of a training results and planning of the system of corresponding pedagogical influences is carried out in order to improve the educational activity. Only a creative teacher will adequately respond to non-standard ideas and will use creative methods within the framework of an innovative education system;

- strategic, which is aimed at introducing innovative teaching methodologies into practice. In this phase, the teacher's readiness for creative activity is revealed. Finding ways to implement the planned learning outcomes requires the ability to reorient in the teaching process.

“Self-oriented, activity and competence approaches, which are the basis for reforming secondary education, require corresponding readiness and teachers’ ability to implement them. The new school needs a new teacher who can lead the change” (Liashenko, 2016, p. 42).

An important result of learning is the formation of a creative personality that not only adapts to changes, but can change the environment on his or her own, is capable of innovation, self-development and demonstration of innovative behavior.

Small & Vorgan (2009) claim that long-term contact with the Internet stimulates human brain changes. Modern rapid development of technology, communication and a fast pace of life affect the development of the brain of young people in a way that creates new nerve bonds and initiates changes in the brain activity at the biochemical level and in human thinking - from linear to parallel, multiconceptual. So young people are able to search and find the right information quickly, work with graphic material, multitask very well and memorize large amount of information. However, they are not capable of deep reflection and generalized conclusions, they are not able to apply the information received in practice. In addition, the part of the brain responsible for empathy, altruism and tolerance is underdeveloped. There are problems with emotions, perception of another point of view and social life. Changes in the architecture of brain require the emergence of new learning concepts.

Connectivism is a theory of learning that is adapted to the possibilities of our time and becomes the basis for the development and implementation of innovative technologies in the era of globalization and computer technologies. “The educational process at school is based on the introduction of competence-oriented methods and technologies for training and evaluation of learning outcomes, variability of forms and methods of teaching students, creation of information and educational environment, in particular usage of information and communication technologies that takes into account the age and cognitive characteristics of children and their abilities, interests and educational needs” (Liashenko, 2016, p. 41).

The concept of learning (Siemens, 2005) combines the learning process with the capabilities of modern information and communication technologies. The ability to generate ideas, find connections between them and apply knowledge in practice is important. There are two types of knowledge, namely:

- acquiring knowledge in the traditional sense, such knowledge is elitist. In terms of the various cognitive capabilities of individuals, such knowledge is not available to everyone;

- meta-knowledge, that is knowledge of the source of knowledge, in the narrower sense, knowledge of information. This is egalitarian knowledge that everyone can get.

Therefore, the link between learning and thinking is leading in the learning process. Valuable is not the quantity of knowledge, but its relevance. The key to this theory is the ability to appropriately utilize technological advantages and obtain information in the external databases. If brain was initially configured to memorize, then in the digital age – to process the information received. Memorizing function is assigned to the global network. From the point of view of connectivism, the knowledge we possess does not necessarily have to be in our memory, but it can be placed in the external means, such as Internet portals, databases. The training is to build connections between nodes and networks. Connectivism means variability, uncertainty and perception of the world in continuous dynamics. Although anthropological and cultural approaches reveal the immutability of certain behavioral elements of a person to which the learning process must adapt. The application of connectivism theory in teaching humanities and sciences shows that this approach may be resulted in the creation of valuable material, the author of which is a student. Both a gifted student and a student, who requires teacher’s additional attention in the process of creating his or her own knowledge, can learn equally well using a model of learning that is based on the ideas of connectivism and is adapted to the characteristics of the student groups and individual students as well. Distant online courses are a model of learning, which is controlled by the participants on their own. Learners (students) create new channels of connecting with each other in this learning process, united by one network. You do not need to have a large amount of knowledge and skills to communicate in this way; the necessary knowledge can be stored externally, online. Creating network links is already the beginning of learning, and the ability to establish relevant relationships is more meaningful than possessing certain knowledge.

Connective training helps us shape all the key skills that are needed to function in the modern world. Comparison of traditional and connective learning is done in the following sources: Gregorczyk, 2014; Gregorczyk, 2012; Sawiński, 2010, (Table 1).

Table 1

Comparison of Traditional and Connective Learning

Traditional learning	Connective learning
Learning within the classroom system	Learning can take place at any place and at any time
Everyone learns together in the same way	Individualization of learning
Memorizing facts, phenomena, laws, etc.	Communication within networks, means of information
The priority is teaching, not learning	Learning, which prefers the ideas of constructivism, that is, formation and development of knowledge by the students themselves
Understanding of processes, phenomena	Accumulation and storage of knowledge on external media
Solving of theoretical and practical problems	Tracking links between facts, ideas, concepts
Formation of concepts	Formation of skills for effective knowledge search
Formation of abilities	Establishing and supporting new connections
Writing tests	The choice of learning content
Acquiring personal experience	Critical thinking
Teacher is an expert	Teacher – consultant, moderator

New approaches to the education system cause a lot of controversy. The education system is mostly conservative. Changes in it are rare, moreover revolutionary transformations happen even much more rarely. Typically, changes become similar to the reforms that never end.

The environment stimulates the emergence of innovation. Many changes in education have a spontaneous character and can sometimes cause harm; therefore, there is a need to control innovation educational processes. In education, as in other areas of public life, it is necessary to clearly identify actual tasks and respond adequately to them. Education is always associated with certain basic knowledge that every educated person must possess. It is obvious that there must be a hard work between access to information and its understanding, acquisition and ability to apply it in practice. As for the evaluation of learning outcomes, it is difficult to imagine that the ability to obtain information would be sufficient for training at different educational levels and for the formation of a future specialist.

Conclusions

Today, school and teachers have lost the monopoly of providing information and transfer of knowledge. It ceases to be unique. In the modern world, information is available to everyone. Articulated knowledge does not guarantee success in the modern world. The style of thinking, perception of social processes and joint functioning are changing. There is processing of information, its modification, selection of necessary information, exchange of opinions, emotions, evaluation of work of participants in the process, etc. The didactic function of connectivism consists in addition and enrichment of constructivism itself or constructivism on the basis of effective tools for the achievement of information. However, it is important not to receive information, but to transform it into knowledge in the process of thinking. An integral approach to learning becomes important as a way of coordinating, integrating and applying existing specific methods, mainly alternative searches, but also traditional approaches too. New models of learning should be introduced into the learning process, taking into account social context, educational traditions, etc. Ability to study, to reorganize knowledge, to use the Internet, to critically evaluate and apply information received belongs to the specifics of modern education.

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