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## INFORMATIZATION OF EDUCATIONAL PROCESS IN THE CONTEXT OF FORMATION OF A CORE OF INFORMATION PEDAGOGY

*Dependence of the efficiency of informatization of education on the process of development of information pedagogy and its influence on the formation of a unified information space in terms of informatization of society and globalization of educational processes was reviewed.*

*Keywords: information pedagogy, informatization of education, information and communication technologies, informational educational space.*

Informatization in the context of existence of information is a unity of contradictory dual aspects. In the first case, it's a constant – consecutive playback of processes of creation, storage, processing, transfer, distribution and broadcast of information. In the second – a variable, manipulation with information that composes the content of constant processes. Understanding the system, actual and probable nature of the information that is available only given the existence of an information system, which would include an epistemological system of concepts “source of information”, “noise”, “recipient of information”, “potential information”, “relevant information.”, gains crucial importance for studying the informatization.

Informatization is a global process as a result of which an informational environment is being created and information resources are actively formed and used (search, processing, storage, receiving, etc.).

Problem of adaptation of modern human and the formation of a fully fledged personality in the condition of information society is one of the most important in the social and philosophical discourse. It is determined, firstly, by finding solutions to complex axiological, psychological, socio-economic, ecological, social and cultural, educational issues related to human's entry into a new information and cultural space; secondly, increase of the level of anomalies, mental and physical destructions of human consciousness and, consequently, reduced fertility and increased mortality among various groups of population; thirdly, strengthening of changes of moral standards of human behavior in the modern society, which in its antisocial orientation, sometimes, becomes threatening.

Mankind's entry into the level of global information civilization has led to

the fact that process of informatization of all areas of social reality became an inevitable stage in the development of any society. Ukraine, seeking to become a full member of the European and world civilization progress must meet the latest requirements and pace of global informatization of social and individual life. In today's world, “the ability of any society and its institutions to collect, process, analyze, organize and accumulate information using modern information and communication technologies becomes a key prerequisite for social and technological progress. Social adaptation of human to the new environment starts to require a need not only to adapt to it, but harmoniously develop in it. This is facilitated by information culture of a personality, which allows not only to freely orientate in the information environment, but also to participate in its formation and transformation [3, p. 142]”. And considering the fact that changes of information and communication technologies proceed faster than change of one human generation, mastering them requires continuous improvement and self-improvement of personal and professional abilities in the sphere of information competences. Hence, the urgent need for development of information education throughout the life, designing educational methods of pedagogical proficiency that would meet the latest requirements of the global information and communication environment become actualized.

Development of information and communication technologies, process of informatization and formation of information society have led to an amazing breakthrough in the field of education, that is information became mankind's global resource.

Thus, informatization of education – is a complex of social and pedagogical transformations that are associated with

saturation of educational systems with information production, means and technology; introduction of the information and communicational means and newest pedagogical technologies based on these means into the system of education. A multilevel system of transmission, processing, storage, playback of information on various electronic media and various audio-video systems, in which traditional pedagogical and information technologies closely interact, is being gradually created [2, p. 234].

The overall norm of development of education in the XXI century is the norm of realization of the process of informatization of education. The meaning of this process lies in the fact that human being will use electronic (information and communicative) means of education not only during intensive education (secondary school – university), but throughout the life. The latter is possible through relevant courses of training or retraining, activity of various training and information centers, implementation of various international and corporate training programs and so on.

Global informatization of modern society in general, and the computerization of educational process in particular, has called to life the “information pedagogy”, use of which accelerates innovative changes in all subdivisions of modern education system. The abovementioned pedagogy is being implemented as according to the general traditional rules, as with certain features, stipulated by the specifics of a given link of the educational system.

An important condition of the innovation process in the system of education is the activation of implementation of the main “product” of the information age – newest information and communication technologies, without which no innovation in the

educational system can be even mentioned.

Theoretical interest in the implementation of informational and communicative technologies in education is directly supported by the practice of their use in the condition of formation and development of the information society. Transition to this society is accompanied by changes in all spheres of human activity – intellectualization, computerization and automatization of work activity; expansion of the use of distance education; use of electronic gadgets in everyday life and their constant upgrade; wide use of digital television and communication and so on.

All this requires a change in objectives, content, methods and techniques of preparation a person to live in a society that acquires new features, among which: acceleration of the process of changes that occur in society, demassification and destandardization of all aspects of economic and social life, individualisation of life and activity, release of free time due to the change of nature of work and use, storage and transformation of information, establishment of a qualitatively new technology and information processes, creation of informatics as a special area of industry (E. Masuda); emergence of thinking factories (P. Dixon); creation of the synthesis of television, computers and energetics (J. Pelton), transition to the “e-books” (H. Evans); appearance of Homo educatus – an educated man (V. Ohnev'yuk); creatio of conceptual space based on computer technologies (J. Naisbitt).

Use of informational and communicative technologies in education continue to be explored by philosophers, pedagogues, psychologists and representatives of other sciences. This is understandable, because the process of informatization

of education covers various aspects – production, implementation, programming, adaptation to the educational process, age features of pupils and students, training pedagogues and improving their qualification, use of distance learning technologies and so on. Thus the informatization of education is a multifaceted process, in which, despite its apparent technological ability, leading role belongs to the person and the subject-subject interaction.

Important role in the comprehension of informatization of education and defining vector of its development was played by the Law of Ukraine “On the National Informatization Program”, which was adopted in 1998 (latest edition 2012), The Law of Ukraine “On Principles of Information Society in Ukraine in 2007-2015”, Concept of a Program of informatization of secondary schools, computerization of rural schools and so on.

One of the strategic objectives of development of pedagogical science, recognized in the “National Doctrine of Education Development”, Laws of Ukraine “On General Secondary Education”, “On Higher Education”, Basic component of preschool education is the creation of conditions for the use of information and communicative technologies in educational and learning activity. Success of solving complex problems of modernization and informatization of education in general, depends on this.

Implementation of information education requires a detailed studying of this process. Therefore, firstly we must note that the nature of information pedagogy is complex and refers to a number of sciences. We hereby reiterate: information pedagogy is closely intertwined with the works of pedagogical, psychological, philosophical nature. Let's underline several core features:

a) tendency towards informatization of modern society;

b) empirical basis (leading practice of transmission, processing, storage, conversion of information, its generalization and patterns);

c) theoretical basis: conceptual provisions, concept of didactics, theory of upbringing, psychology, cybernetics, informatics, philosophy, and others.

Now the objective processes of development of human and society are perceived by the educational system as challenges and mainly are manifested, as V. U. Bykov and I. V. Mushka indicate in: sharp increase in the volume of information (about human, society and nature), to be used in the learning process and include both new knowledge and those that mankind has accumulated from previous years; increase of demands for quality of education (knowledge level, skills, competencies) that in the learning process should be obtained by those who learn; the need to create additional conditions for individual personal development; reduce of the time allocated for mastering the education; inability to provide equal access to quality education for everybody (especially network's non-compliance and “power” of educational institutions and structure of training students and society for real needs); need to create conditions for the realization of the concept of learning throughout the life; increase of requirements for quality management of education at all its organizational levels and managing the educational process [1].

These requirements can also be attributed to the information pedagogy while stressing that information pedagogy involves extensive use of open computer-oriented, informational-communicative, educational-cognitive and developmental environment, which is based on the modern concept of information education, approaches to

forming single information educational space on modern platforms of global computer networks in pedagogical systems. Appears a need to provide pedagogical systems with information and communication means and technologies for quality and effective training, retraining and further training of a wide range of those who learn and those who teach.

At the present stage of development of information pedagogy one can also single out general regularities of processes of transmission, conversion and use of educational information in various educational events. These regularities, as well as general didactic and educational principles form the core of information pedagogy, complemented and specified by the specific principles of novelty of information, interest in information, to which we refer the principle of construction of integral information, principle of transmission and transformation of information, principle of coding information, principle of generalization information, principle of subsidiarity, principle of dynamism of information, principle of computerization and others.

For example, principle of novelty of information claims that novelty – is a necessary and sufficient attribute of information, but has a certain degree of relativity of novelty for different consumers. The degree of interest in the information is determined by the extent to which this information satisfies demands of a specific customer, those who learn. Therefore, one of the main tasks of those who teach – is finding the optimal ratio of known and new in the information that was reported. On the other hand, development of a problem of connection of information with educational and cognitive activity becomes not only of theoretical but also of practical importance. This issue reveals the characteristics and features

of educational information as an object of educational and cognitive activity, as well as specificity of information aspect of education and upbringing.

To investigate these phenomena in implementing information pedagogy – means to understand what qualities of educational and cognitive activity of those who learn subject to changes as a result of perception and further processing of information, how these changes affect the development. Psycho-pedagogical analysis of the process of learning educational information while introducing information pedagogy allows to distinguish the following basic components in it: perception of information; awareness and comprehension of information; memorizing information; generalization and systematization of information, practical application of information.

Assimilation of educational information (comprehension, memorizing, generalization, systematization), ie, its processing and storage – is a holistic process. All its components are interrelated and complement each other, synthesizing in real educational process. Given the holistic nature of the process of assimilation of information, it should be noted that each component, each link of this process is mandatory and require identification of specific factors and conditions that contribute to its successful implementation. Thus, emergence of information education and its becoming in the educational space, as never before, is justified and overdue.

Along with this, role of the teacher gains great importance, among the leading tasks of which must be individual, differentiated approaches and skills to appropriately use in their professional activity new acquisitions of information society, ie information and communication technologies, because effective processes of modernization of education and teaching methods that is one of the important steps to

implementation of information pedagogy, are realized thanks to them.

During implementation of information pedagogy one especially should pay attention to the fact that structured information presented with use of information and communication technologies, accelerates the processes of perception and, consequently, facilitates assimilation of educational material and exemplifies it. Expediency of implementing computer technologies in the educational process is conditioned by the fact that they are an effective way to consolidate learned material and thereby contribute to saving learning time.

No machine can take on the role of a teacher as a subject of pedagogical impact, one of the most important functions which – is to manage cognitive activity of those who learn in mutually mediated process of teaching – learning. But technological device, serving as a learning tool in the hands of the teacher, can perform a number of his functions, transmitting educational information or controlling its assimilation. Time that was freed, teacher spends on exercising such functions of educational activity that are beyond the abilities of electronics. In addition, during introduction of information pedagogy, main problem of pedagogy of creativity is precisely in the fact that, given the inevitability of subordinate relationships between an adult and a child, to identify and practically implement in the pedagogical process educating cooperative potential of such relationships for those who learn and those who teach.

In turn, let's emphasize that the basic principles of information pedagogy do not contradict, but are rather based on the achievements of traditional psycho-pedagogical science and educational practice. That is the principles of didactics are left unchanged. They are just painted with

new colors – supplemented, refined, summarized, and synthesized. However, the processes of use of information educational technologies have their own features that distinguish them from traditional and which are stipulated and focus on specific aspects of the structure and features of pedagogical activity in information-oriented learning environment, in open educational systems.

This solves the problems associated with the introduction of new organizational forms and methods of training, in particular everything that concerns new information and communication technologies: on what stages of training and in what form one can use computer technologies in education, at what age are children ready to use computer-oriented learning means, how this technology affects the physiological and psychological age features, how new technologies affect the psychology of behavior, enhancing its creative content, formation of independent thinking of a personality, formation of will and promotion comprehensive development of a personality.

During implementation of information pedagogy, computer-oriented educational environment is able to shape such characteristics as susceptibility to experimentation, flexibility, coherence, structuring, formation of independent thinking of a personality to a greater extent. With regard to the establishment and development of independent thinking of students in the process of implementation of the information pedagogy, dynamic equilibrium of "rational thinking" is offered, which has a linearly focused and analytical character, which tends to autonomy and "intuitive thinking" that occurs in a developed consciousness and directed towards comparisons with its integral trends. It is a combination of "rational" and "intuitive"

thinking that gives space for original ideas, permeates educational activity with non-standard searches, guesses, bursts in mental activity, and encourages non-standard behavior.

Analysis of experience of the use of information and communication technologies in educational process indicates about unlimited possibilities of electronic means in all traditional forms of organization of education with different ratios between traditional and computer work modes. Organizational forms of education that include the use of information and communication technology include: lectures, seminars, special classes of calculation and design, course work, thesis, master's thesis, research, training-repetitive and laboratory works, all kinds of self-dependent learning (classroom and extracurricular) and work in a "simulator" mode. Intensification of the learning process, its personalization, improvement of quality of professional training of those who learn on the basis of wide use of information and communication technologies, forming their skills of electronic design, development and activation of their technological thinking allow the teacher to not only monitor the progress of students, but also to adjust teaching methodology during studying, thereby stimulate cognitive activity of those who learn.

In the process of establishing the information pedagogy, pedagogical management of educational institution

can achieve its goal only by ensuring a combination of carefully chosen and didactically presented content, adequate and successfully used methods and efficient socially relevant motives of learning and cognitive activity considering individual attributes of thinking, abilities, interests and personality.

The abovementioned factors are almost automatically require scientific comprehensio of educational content and bringing it to this state, which is adapted to the field of pedagogical transmission, ie, technologies of studying and upbringing, in human consciousness. At the same time, this fact causes a significant increase of self-dependent scientific-search and studying-experimental activity of those who learn. Average citizen's studying is being actualizaed throughout the life.

Thus, informatization provides the formation of a qualitatively new morphological formations on a unified information basis that claims requirement for educational sector of informatization of learning process, because only this way one can arrange it on a single technical and semantic basis. The current education system can keep up with such rapid transformations in modern education only through informatization of educational process, harmonization of interaction of national systems according to the scale and pace of economic and political transformations.

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**КИВЛЮК ОЛЬГА ПЕТРІВНА.  
ІНФОРМАТИЗАЦІЯ ОСВІТНЬОГО  
ПРОЦЕСУ В КОНТЕКСТІ  
ФОРМУВАННЯ ЯДРА  
ІНФОРМАЦІЙНОЇ ПЕДАГОГІКИ**

*Розглядається залежність ефективності інформатизації освіти від процесу становлення інформаційної педагогіки та її вплив на формування єдиного інформаційного простору в умовах інформатизації суспільства та глобалізації освітніх процесів.*

*Ключові слова: інформаційна педагогіка, інформатизація освіти, інформаційно-комунікаційні технології, інформаційний освітній простір.*

**КИВЛЮК ОЛЬГА ПЕТРОВНА.  
ИНФОРМАТИЗАЦИЯ  
ОБРАЗОВАТЕЛЬНОГО ПРОЦЕССА В  
КОНТЕКСТЕ ФОРМИРОВАНИЯ ЯДРА  
ИНФОРМАЦИОННОЙ ПЕДАГОГИКИ**

*Рассматривается зависимость эффективности информатизации образования от процесса становления информационной педагогики и ее влияние на формирование единого информационного пространства в условиях информатизации общества и глобализации образовательных процессов.*

*Ключевые слова: информационная педагогика, информатизация образования, информационно-коммуникационные технологии, информационное образовательное пространство.*