ОСВІТА В ІНФОРМАЦІЙНУ ЕПОХУ

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REFLECTION OF THE PHENOMENON OF INFORMATION PEDAGOGY IN THE CONTEXT OF EDUCATIONAL DISCOURSE

РЕФЛЕКСІЯ ФЕНОМЕНУ ІНФОРМАЦІЙНОЇ ПЕДАГОГІКИ В КОНТЕКСТІ ОСВІТНЬОГО ДИСКУРСУ

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Urgency of the research. Information pedagogy is an integral part of the historical process of education modernization, and consequently, relevant social and cultural changes delegate to modern education new tasks in the context of informatization of education and creation of a single informational educational space. Studies of information pedagogy have a direct impact on pedagogical practice. That is, the study of the laws of activation and the ways of introducing such a contradictory phenomenon as information pedagogy into the real educational process makes it possible to determine dependence of qualitative characteristics of the educational process modernization on the process of information pedagogy development in the context of educational discourse.

Target setting. Taking into account the global nature of educational process informatization and transformation of the information society into SMART-society, comprehension of information pedagogy essence as a specific type of pedagogy, nature and content of which are conditioned by the regularities of information resources functioning and formation of informational educational space, is

Актуальність дослідження. Інформаційна педагогіка є невід'ємною складовою історичного процесу модернізації освіти, а відтак відповідні соціокультурні зміни делегують сучасній освіті нові завдання в контексті інформатизації освіти та створення єдиного інформаційного освітнього простору. Дослідження інформаційної педагогіки здійснюють безпосередній вплив на педагогічну практику. Тобто вивчення закономірностей активізації та шляхів впровадження в реальний навчально-виховний процес такого суперечливого явища, як інформаційна педагогіка, дає можливість визначити залежність якісних характеристик модернізації освітнього процесу від процесу розвитку інформаційної педагогіки в контексті освітнього дискурсу.

Постановка проблеми. Зважаючи на глобальний характер інформатизації освітнього процесу та трансформацію інформаційного суспільства в «SMART-суспільство», осягнення сутності інформаційної педагогіки, як специфічного типу педагогіки, природа і зміст якого зумовлені закономірностями функ-ціонування інформаційних ресурсів та формування інформаційного

becoming an increasingly significant problem.

Actual scientific researches and issues analysis. *The problem of education informatization in the philosophical context is analyzed in the works of the following scholars: V. Andrushchenko, M. Bak, V. Voronkova, L. Drotianko, N. Radionova and others. Pedagogical concepts of educational process informatization were considered in works of V. Bykov, M. Zhaldak, N. Nychkalo, V. Sergiienko, T. Poiasok, S. Yashanov and others.*

The research objective. *To carry out conceptual explication of "information pedagogy" concept and to carry out a retrospective reconstruction of key provisions of the process of information pedagogy phenomenon formation and development in the context of educational discourse.*

The statement of basic materials. *At the present stage of information pedagogy development in the context of educational discourse we can distinguish the general patterns of the processes of transfer, transformation and use of information resources in various pedagogical phenomena. These regularities, both general didactic and educational principles, form the phenomenon of information pedagogy. They are supplemented and specified by the specific principles of information novelty, information interestingness, to which we refer the principle of integral information constructing, the principle of information transfer and transformation, the principle of information coding, the principle of information generalization, the principle of complementarity, the principle of information dynamism, the principle of computerization and others.*

Conclusions. *In the process of information pedagogy formation, educational process organization and*

освітнього простору, стає все більш значимою проблемою.

Аналіз останніх досліджень і публікацій. *Проблема інформатизації освіти у філософському контексті висвітлена в роботах наступних вчених: В. Андрущенка, М. Бака, В. Воронкової, Л. Дротянко, Н. Радіонової тощо. Педагогічні концепти інформатизації освітнього процесу розглядалися в роботах: В. Бикова, М. Жалдака, Н. Ничкало, В. Сергієнка, Т. Поясок, С. Яшанова та інших.*

Постановка завдання. *Здійснити концептуальну експлікацію поняття «інформаційна педагогіка» та провести ретроспективну реконструкцію ключових положень процесу формування і розвитку феномену інформаційної педагогіки в контексті освітнього дискурсу.*

Виклад основного матеріалу. *На сучасному етапі розвитку інформаційної педагогіки в контексті освітнього дискурсу можна виділити також загальні закономірності процесів передачі, перетворення і використання інформаційних ресурсів у різних педагогічних явищах. Ці закономірності, як загально-дидактичні так і виховні принципи, утворюють феномен інформаційної педагогіки, які доповнюються і конкретизуються специфічними принципами новизни інформації, цікавості інформації, до яких ми відносимо принцип конструювання інтегральної інформації, принцип перенесення і перетворення інформації, принцип кодування інформації, принцип генералізації інформації, принцип додатковості, принцип динамізму інформації, принцип комп'ютеризації та інші.*

Висновки. *В процесі становлення інформаційної педагогіки організація та управління освітнім*

management can achieve the goal only on condition of a combination of carefully selected and didactically presented content of education, a high level of material and technical provision of the educational process, adequate, well-worked out methodologies and effective socially significant motives of educational, cognitive, scientific, creative and pedagogical activity taking into account individual peculiarities of thinking, abilities and interests of the person.

Key words: *information pedagogy, informatization of education, informational educational space, information and communication technologies, educational process.*

процесом може досягти своєї мети лише за умов забезпечення поєднання ретельно підібраного та дидактично представленого змісту освіти, високого рівня матеріально-технічного забезпечення освітнього процесу, адекватних, вдало відпрацьованих методик та результативних соціально значущих мотивів навчально-пізнавальної, наукової, творчо-педагогічної діяльності з урахуванням індивідуальних властивостей мислення, здібностей, інтересів особистості.

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

Urgency of the research. Transition of humanity to the level of global information civilization and sometimes "SMART-society" has led to the fact that the process of informatization of all spheres of social reality was an inevitable stage in any society development. Ukraine, striving to become a full participant in European and world civilization advancement, must meet the most up-to-date demands and pace of global informatization of social and individual life. In the modern world "the ability of every society and its institutions to collect, process, analyze, systematize and accumulate information with the help of modern information and communication technologies becomes a key precondition for social and technological progress. For social adaptation of a person in the new environment, there is a need not only to adapt to them, but also to develop harmoniously. This is promoted by the information culture of the individual, which allows not only to navigate the information environment freely, but also to participate in its formation and transformation [4, p. 142]". And given the fact that changes in information and communication technologies occur faster than one human generation changes, their acquisition requires continuous improvement and self-improvement of personal and professional abilities in the field of information competencies. Hence, the urgent need for information education system development throughout life, development of

pedagogical skills developing methods, which would meet the latest requirements of the global information and communication environment, is actualized.

Target setting. The problem of the modern person adaptation and formation of a full-fledged personality under the conditions of information society is one of the most urgent in the philosophical and educational discourse. It is determined, firstly, by the search for solutions to complex axiological, psychological, social and economic, environmental, social and cultural, educational problems associated with the introduction of the man into a new information and cultural space; secondly, increase in the level of anomalies, mental and physical destruction of human consciousness and, consequently, decrease in fertility and increase in mortality among various categories of the population; thirdly, increase of changes in the moral standards of human behavior in the modern society, which, in its asocial direction, sometimes becomes a threatening nature.

Actual scientific researches and issues analysis. The problem of education informatization in the philosophical context is analyzed in the works of Ukrainian scholars: V. Andrushchenko, V. Bekh, V. Voronkova, L. Drotianko, P. Kopnin, V. Liakh, M. Onopriienko, N. Polischuk, N. Radionova, O. Skubashevska, S. Yahodzinsky and others. Pedagogical concepts of educational process informatization were considered in works of V. Bykov, M. Zhaldak, N. Nychkalo, V. Sergiienko, T. Poiasok, S. Yashanov and others. Among foreign scientists who studied the problems of information age, we should have noted M. Bak, D. Bell, W. Daizarda, A. Drykker, P. Drucker, M. Castells, A. Toffler and others.

Statement of the goal and objective. Carry out conceptual explication of "information pedagogy" concept and to carry out a retrospective reconstruction of key provisions of the process of information pedagogy phenomenon formation and development in the context of educational discourse.

The statement of basic materials. Informatization in the context of information existence is a unity of contradictory, dual aspects. In the first case, this is a constant - a consistent reproduction of the processes of creation, storage, processing, exchange, transmission, dissemination of information. In the second one, it is variable - operation of information, which forms the content of the ongoing processes. Understanding of systemic, actual and probable nature of information that is available only if there is information system that includes epistemological system of the

concepts of "source of information", "noise", "information receiver", "potential information", "topical information" becomes of fundamental importance for study of informatization.

Informatization is a global process in which information environment is created, information resources are actively formed and used (search, processing, saving, receiving, etc.).

Development of information and communication technologies, the process of informatization and formation of information society led to an impressive breakthrough in the field of education [7].

Thus, informatization of education is a complex of social and pedagogical transformations related to saturation of educational systems with information products, means and technology; introduction of information and communication facilities and the newest pedagogical technologies based on these means into the system of education. Gradually, a multi-level system of transmission, processing, accumulation and reproduction of information on various electronic media and in various audio and video systems, in which the traditional pedagogical and information technologies interact closely, is being formed [8, p. 234].

The general norm of education development in the XXI century is the norm of implementation of education informatization process. The meaning of this process is that people have electronic (information and communication) learning means not only during the period of intensive education (secondary school - university), but also throughout life. The latter is implemented through appropriate training courses or retraining of staff, activities of various training and information centers, implementation of various international and corporate training programs, etc. [5].

Global informatization of modern society in general and educational process computerization in particular, encouraged "information pedagogy" development, application of which accelerates innovation changes in all structural units of modern system of education. The indicated pedagogy is implemented both according to general traditional rules, and with certain peculiarities determined by the specifics of one or another part of the system of education [3].

An important condition for the innovation process in the system of education is to intensify introduction of the main "product" of the information age – new information and communication technologies, without which there can be no innovations in the system of education.

Theoretical interest in the problem of implementing information and

communication technologies in education is reinforced directly by the practice of their application under the conditions of information society formation and development. Transition to this society is accompanied by changes in all spheres of human life - intellectualization, computerization and automation of labor activity; expansion of distance education application; use of electronic equipment in everyday life and its constant updating; widespread use of digital television and communications, etc. [2].

All this requires changes in the goals, content, methods and technologies of human preparation for life in the society that is gaining new signs, among which we can distinguish: accelerating the process of changes taking place in society, de-massification and de-standardization of all aspects of economic and social life, individualization of life and activity, freeing of time in connection with the change in the nature of work and application, storage and transformation of information, adoption of qualitatively new technology and organization of information processes, creation of informatics as a special field of industry (E. Masuda); emergence of think tanks (P. Dixon); creation of television, computer technology and energy synthesis (J. Pelton); transition to "electronic books" (H. Evans); emergence of Homo educatus – the educated person (V. Ohneviuk); creation of a conceptual space based on computer technologies (J. Neussbit).

Application of information and communication technologies in education continues to be studied by philosophers, educators, psychologists and representatives of other sciences. And this is understandable, because the process of education informatization covers various aspects - production, introduction, programming, adaptation to the educational process, age peculiarities of pupils and students, teachers` training and their qualification development, application of distance learning technologies, etc. Thus, informatization of education is a multidimensional process in which, despite its apparent manufacturability, the leading role belongs to the man and subject-subject interaction [2].

One of the strategic tasks of information pedagogy development is creation of conditions for information and communication technologies application in educational and cognitive activities. Success of solving a complex of problems of education modernization and informatization in general depends on this [5].

Currently, the objective processes of human and society development

are perceived by education system as challenges and, as a rule, are manifested, as V. Yu. Bykov and I.V. Mushka have noted, in the sharp increase in the amount of information (about the man, society and nature) to be used in the process of education and include both new knowledge and that accumulated by the mankind in previous years; raising the requirements for the quality of education (level of knowledge, skills and competences), which must be obtained by those who study in the process of learning; need to create additional conditions for individual development of the individual; reduction of time allocated for getting education; impossibility of providing equal access to quality education for all interested persons (first of all, the mismatch of the network and the "capacity" of the educational institutions and the structure of training for the real needs of students and society); the need to create conditions for implementation of the concept of training throughout human life; increase of the requirements for the quality of education management at all its organizational levels, as well as educational process management [1].

The same requirements can be attributed to information pedagogy, while emphasizing that information pedagogy envisages widespread use of open computer-oriented, informational, communication, educational, cognitive and developing environment in pedagogical systems based on the modern concept of informatization of education, approaches to formation of a single information educational space on modern platforms of global computer networks. There is a need to provide pedagogical systems with information and communication tools and technologies for qualitative and effective preparation, retraining and advanced training of a wide range of learners and educators.

At the present stage of information pedagogy development, one can also distinguish the general patterns of the processes of transmission, transformation and application of educational information in various pedagogical phenomena. These patterns, as well as general didactic and educational principles, form the core of information pedagogy. They are supplemented and specified by specific principles of information novelty, information interestingness, to which we refer the principle of integral information constructing, the principle of information transfer and transformation, the principle of information coding, the principle of information generalization, the principle of complementarity, the principle of information dynamism, the principle of computerization and others [3].

For example, the principle of information novelty states that novelty

is a necessary and sufficient property of information, but it has a certain degree of relativity of novelty for different consumers. The degree of interest in information is determined by the extent to which this information satisfies the demands of its particular consumer, the learner. Therefore, one of the main tasks of any educator is to find optimal balance of familiar and new facts in the reported information. On the other hand, development of the problem of information correlation with educational and cognitive activity acquires not only theoretical but also practical value. This problem allows us to identify the peculiarities and properties of educational information as an object of educational and cognitive activity, as well as the specificity of the information aspect of education and upbringing.

To investigate these phenomena when introducing information pedagogy means to understand what qualities of educational activity of those who are undergoing change as a result of perception and further processing of various information, how these changes influence development. Psycho-pedagogical analysis of the process of educational information assimilation in information pedagogy implementation makes it possible to distinguish in it the following main components: perception of information; awareness and comprehension of information; memorization of information; generalization and systematization of information; practical application of information.

Assimilation of educational information (comprehension, memorization, generalization, systematization), that is, its processing and preservation is a holistic process. All its components are interconnected and mutually complementary, synthesized in a real educational process. Given the holistic nature of information assimilation process, it should be noted that each component, each link of this process is mandatory and requires identification of special factors and conditions that will facilitate its successful implementation. Therefore, emergence of information pedagogy and its formation in the educational space, as never before, is justified and topical.

Along with this, the role of teachers becomes important. Among their main tasks there should be individual, differentiated approaches and ability to apply new achievements of information society in own professional activity, that is, information and communication technologies, because effective processes of education and teaching methods modernization are implemented through them, which is one of the important steps towards

information pedagogy introduction.

When introducing information pedagogy, first of all, attention should be paid to the fact that structured information provided by information and communication technologies accelerates the processes of perception and, as a result, facilitates assimilation of the learning material and visualizes it. The feasibility of computer technologies introduction in the educational process is conditioned by the fact that they are an effective means of consolidating the mastered material and thus contribute to educational time saving.

There is no machine that can assume the role of a teacher as a subject of pedagogical influence, one of the most important functions of which is to direct the cognitive activity of the learner in the intermediary process of teaching and learning. But a technical device, acting as a means of learning in the hands of teachers, can perform a number of their functions, transmitting educational information or controlling its mastering. The saved time is spent by the teacher on exercising such functions of pedagogical activity, which the electronic devices are incapable of. In addition, with the introduction of information pedagogy, the main problem of pedagogy of creativity is to identify and practically implement in the pedagogical process development of co-creation potential of such relations both for the learner and the teacher, taking into account inevitability of subordinate relations between the adult and the child.

In turn, we emphasize that the basic principles of information pedagogy do not contradict, but on the contrary are based on the achievements of traditional psychological and pedagogical science and educational practice. That is, the principles of didactics remain unchanged. They are only painted with new colors - supplemented, refined, generalized, synthesized. However, the processes of using informational educational technologies have their own peculiarities that distinguish them from the traditional ones and which are conditioned and emphasize the specific aspects of the structure and peculiarities of pedagogical activity in the information-oriented educational environment, in open pedagogical systems.

All this solves the problems associated with the introduction of new organizational forms, methods and means of education, in particular all that applies to the latest information and communication technologies: at what stages of classes and in what form it is possible to apply computer technologies in the training, children of what age are ready to use

computer-based learning devices, how this technology affects physiological and psychological age peculiarities, how the latest technologies affect behavior psychology, increase its creative content, form independent thinking of individuals, form the will and promote comprehensive development of personality.

When introducing information pedagogy, the computer-oriented educational environment is more capable of forming such characteristics as tendency to experiment, flexibility, connectivity, structure, formation of independent thinking of an individual. As for formation and development of independent thinking of students in the process of information pedagogy introduction, we propose dynamic equilibrium of "rational thinking", which has a linearly focused and analytical character tending to autonomy and "intuitive thinking" that arises in the developed consciousness and is aimed at comparisons with its integral trends. Combination of "rational" and "intuitive" thinking gives space to original ideas, penetrates educational activities with non-standard searches, guesses, surges in mental activity, and also encourages non-standard behavior [6].

Analysis of the experience of information and communication technologies application in the educational process shows the unlimited possibilities of electronic means in all traditional forms of education organization with different relations between traditional and computer modes of work. The organizational forms of learning that include the information and communication technologies application include: lectures, seminars, special classes in calculation and design, coursework, diploma projects, master's thesis, research, training and revision tasks, laboratory work, all types of self-study (classroom and individual), as well as work in "simulator" mode. Intensification of the process of education, its individualization, improvement of professional training quality of those who learn on the basis of the widespread application of information and communication technologies, formation of their skills and abilities of electronic modeling, development and activation of their technical thinking enable the teacher not only to control the student's progress, but also to correct the teaching method in the course of teaching, thereby stimulating cognitive activity of those who study.

Conclusions. Consequently, in the process of retrospective reconstruction of the key provisions of the process of information pedagogy phenomenon formation and development in the context of educational discourse, we can conclude that rationality and effectiveness of this

phenomenon is possible only on condition of a combination of carefully selected and didactically presented content of education, a high level of material and technical provision of the educational process, adequate, well-worked out methodologies and effective socially significant motives of educational, cognitive, scientific, creative and pedagogical activity taking into account individual peculiarities of thinking, personal abilities and interests and challenges of the present.

The above factors almost automatically require a scientific understanding of the content of education and bringing it to the state that is adapted to the field of pedagogical transmission, that is, the technologies of education and upbringing, in the consciousness of the man. At the same time, this fact causes a significant increase in the independent scientific research and educational and experimental activities of the learner. Life-long education of an ordinary citizen is brought up to date.

Thus, information pedagogy, as a specific type of pedagogy, the nature and content of which are conditioned by the regularities of information resources functioning and formation of informational educational space, ensures formation of qualitatively new information and education entities on unified information basis, which advances the demand for informatization and computerization of the educational process to the education industry.

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ТЕОРЕТИЧНІ ТА МЕТОДИЧНІ ПРОБЛЕМИ ЗАСТОСУВАННЯ ВІЛЬНО РОЗПОВСЮДЖУВАНОГО ПРОГРАМНОГО ЗАБЕЗПЕЧЕННЯ В ІНФОРМАТИЧНІЙ ПІДГОТОВЦІ МАЙБУТНЬОГО ВЧИТЕЛЯ

THEORETICAL AND METHODICAL PROBLEMS OF THE USE OF FREELY DISTRIBUTED SOFTWARE IN THE INFORMATICS TRAINING OF THE FUTURE TEACHER

С.М. Яшанов, М.С. Яшанов

Актуальність дослідження. *Однією з найбільш характерних рис сучасної освіти є освіта в галузі інформаційних технологій або інформатична підготовка, яка відрізняється безперервним і швидким зростанням вимог до кваліфікації в ІТ-галузі фахівців різних професій, формування інформатичних компетентностей відповідного рівня для кожної спеціальності.*

Постановка проблеми. *Важливим аспектом інформатичної підготовки є навчання майбутніх фахівців галузі освіти на вільно розповсюджуваних програмних продуктах, адаптованих для використання широким колом користувачів. Такий підхід дозволяє вийти з одновимірного і перейти в багатовимірний ІТ-простір.*

Аналіз останніх досліджень і публікацій. *Досвід використання вільного програмного забезпечення у навчальному процесі школи та ВУЗу відображений в роботах: В. Ю. Бико-*

Urgency of the research. *One of the most personal touches of modern education there is education in industry of information technologies or preparation of informatics, that differs in the continuous and rapid increase of requirements to qualification in IT-sphere of specialists of different professions, forming of informatics competence of corresponding level for every speciality.*

Target setting. *The important aspect of preparation of informatics are studies of future specialists of industry of education on the freely expandable programmatic foods adapted for by the use of users a wide circle. Such approach allows to go out from unidimensional and pass space to multidimensional IT space.*

Actual scientific researches and issues analysis. *Experience of the use of free software in the educational process of school and higher educational institution is represented in works:*