

Veryaskina A. N.

TEACHING THE HUMANITIES IN THE MODERN TECHNOLOGICAL REVOLUTION

Abstract: Article concerns qualitative transformations of the system “science-techniques- manufacturing (practice)”, the components of the modern technological revolution related to each other on the basis of integral unity. The author covers issues of the modernization of education process on the basis of the modern technological revolution the possibility of using information and communication technologies in the frame of educational process in high school taking into accounts peculiarities of teaching humanities in high school.

Key words: modern technological revolution, informatization of education process, information and communication technologies, internet technologies in education.

The process of transformation of the applied technologies is has been taking place it was named a modern technological revolution. In the national literature this process was called a modern scientific and technologic revolution. The term “modern technological revolution” became more widespread because of the wider understanding of the term technology. For example, J. Galbraith gives the following definition of the word technology as “systematic use of technologies for solving practical issues” [4, p12]. D. Bell, H. Bruks and S. Kasprshik focus mainly on the possibility of applying technology worked out on the scientific basis to any spheres of human activity to fulfill individual or social goals. [6, p. 245-246].

During the period of studing scientific and technological revolution process different reseach approaches changed each other: attributive, commutative, pragmatic, technologic, systematic.

According to the scientists of post industrial society technologic approach today maybe applied to the different aspects of social life.

Theoretical and practical aspects of the modern technological revolution are covered in V. G. Afanasiev, G. N. Volkov, N. A. Drjahlov, B. M. Kedrov, V. A., Kutyrev, N. I. Markova, N. N. Moses, J. Moss, T. V. Pulyaeva, V. S. Stepin, B. P.

Shulyndin. However, the multidimensional nature of scientific and technological revolution has led to difficulty in distinguishing the concepts of the content, direction and essence of the modern technological revolution.

In our opinion, deserves special attention the position of the authors that define the essence of the modern technological revolution based on fundamental changes in human existence, in his relations with the world at large. The essence of this change is the appearance of mankind, its practice beyond commensurate with the person part of the world, beyond everyday human experience [15].

We agree with the interpretation of the content of the modern technological revolution as a set of interrelated qualitative changes that have unfolded in the system “science– technology – manufacturing (practice)”.

Consider what is the essence of these transformations.

The first qualitative change occurs in science. It is the output of scientific knowledge beyond that part of the objectively existing reality, in which formed and exists the human body and which is accessible to sensory perception of man.

The roots of this transformation of M. K. Mamardashvili sees the unique human ability to think about what he is not and what cannot be, guidance of the highest order and the desire to know about him, that is, “to know that is irrelevant to the consequences for human existence and interests, incommensurable with them and none of them may be restricted” [8, p.123-124].

According to V. S. Stepin the specifics of the fourth global scientific revolution is the implementation of comprehensive research programs for the development of historically developing systems, characterized by the synergistic effects of a fundamental irreversibility of processes. Special attention is paid to natural complexes that include as components: objects of global ecology, biotechnology (especially genetic engineering), systems “man–machine” (including complex information systems and systems of artificial intelligence), medical and biological objects [13].

Activities with a historically developing system is a prime example of the movement of science beyond the boundaries of the “human world”. This qualitative

transformation associated with the processes of informatization of science as a social institution.

The second change related to the content of the scientific and technological revolution, is the emergence of qualitatively new technology, assuming the functions of the universal logical thinking that is specifically designed for information processing and decision-making, “replacing” the human brain and is able to act in something better. Thus, in the development of technology observed the same trend as in the development of science: out of scope commensurate with himself. It can be seen in the growth of the information sector, reflected in the transition to digital methods of storing, processing of information and the increasing demands for its quality and security, creation of intellectual systems and informalism [2, p.11].

Third, a qualitative transformation takes place in the interaction of science and technology. It is the “change leader” in a bunch of “science – technology”, advancing science technology. In XVIII-XIX centuries and even, as a rule, in the early twentieth century, science was able to formulate and solve only those tasks which brought the material practice in the face of technology and production. The principal novelty of the present situation lies in the fact that scientific knowledge is not just used in manufacturing and engineering, and pave the way for their progressive development. The role of “drill” function of science (B. M. Kedrov) is so great that without prior cognitive activity would be impossible the development of nuclear power, cybernetics, electronics, aerospace, bionics, etc.

The fourth transformation is closely related to the previous is happening in the sphere of production. Changes in science and technology today allow people to get out of the direct technological process leaving behind the most important functions: formulation goals and objectives, general management, common control equipment, its design, choice of the optimum solution from among the proposed computer full set of alternatives, prediction of results, development of new strategies of action.

The nature of these types of actions, as well as the expansion of fields of activity where throughout the period of labour activity of man is several generations of technology, requires a high professional and cultural level, ability to operate in

conditions of uncertainty, in a situation of alternative solutions and changing socio-cultural background, it is a creative style of activity. In terms of didactics is the “self-activity competence” of the individual (M. A. Fedorova) [3].

A reflection of fundamental changes occurring in the human being in the process of deploying modern technological revolution is observed in the world of information transformation of educational systems. The effectiveness of the content of vocational education today is associated with how it aims to advance change in science, engineering and technology, as well as on the timing of their introduction. The effectiveness of teaching methods is determined by the degree of their conformity with modern methods of scientific knowledge and social patterns.

As is known, creative activities, considered today as a necessary component of competence of the individual, can form only in terms of the contradictions between sustainable features of the activities constituting element of social experience, and the new, changed conditions in work, knowledge, communication. As the interrelated conditions for the successful solution of this task can increase the quality of independent work of students and use of learning technologies adequate to the modern stage of scientific and technological development.

The problem of organization of independent work of students originated in the works of ancient philosophers (Socrates, Plato, Aristotle) and has not lost its relevance today. Theoretical justification received in the works of P. I. Pidkasistyj, government independent work in two aspects: as a means of organizing and management of independent work of students (by teachers); as a specific form of educational knowledge (of students) [11, p. 150].

Since the mid-twentieth century the development of independent activity of students has become a subject of study of higher education, gradually acquiring the character of an integrative scientific phenomenon that includes data from different approaches: theoretical (E. J. Golant, B. P. Esipov, L. V. Zharov, A. S. Lynd, R. M. Mickelson, P. I. Pidkasistyj, M. N. Skatkin, etc.); technological (V. P. Bespalko, M. V. Klarin, G. K. Selevko, A. I. Uman, etc.); personal [3, p. 17].

Many aspects of the problem of organization of independent work of students and today remain controversial. In particular, there is no common understanding of the nature, content, principles of organization of independent work, the ratio of the didactic concepts with the concepts of “autonomy”, “self-employment”. According to share a point of view independent work is the form of organization of self-educational activities [3, p. 19]. The last components are causing the motive, the objective of activity formulation and solution of cognitive tasks, monitor the progress and result of the implementation. Independent activity aimed at learning the content of education and the development of individual autonomy.

It is noteworthy that the position of the researchers, considering independence in two different but interrelated aspects: as a characteristic activity of the learner in a particular learning situation and as a personality trait. The outward signs of learner autonomy are: planning its activities, executing tasks without direct participation of the teacher, self-monitoring and correction. The inner side of the academic independence form the requirement of motivational sphere, the mental, moral and volitional efforts of the student to achieve the goal without assistance [14, p. 126].

Of course, the complete independence of the student - unrealistic phenomenon in the educational process, the level of autonomy should be determined based on the extent to which objectively requires the participation of the teacher. In didactic literature of recent years there are the following levels of independence: reproductive and productive. As noted above, the last level becomes in terms of the modern technological revolution of special importance.

In understanding the results of independent work of bachelors of all specialties included knowledge of laws of development of nature, society, thinking, the basic values of world culture; and knowledge of the basic tools of information management, ability to work in global computer networks. Actual problem of modern didactics is the search for appropriate learning technologies. Specialists pay special attention to the implementation of information and communication technologies (ICT), especially Internet technologies. So, I. V. Robert, justifies the “didactics of ICT in education” from the point of view of realization of the didactic potential of

ICT [12]. M. N. Berulava, developing a methodological platform of network education strategy. The author focuses on the advantages of the virtual education space, which include: initiative information entity; high motivation to its acquisition; psychological comfort; with dominant in the subject of cognitive, communication and affective styles and strategies [1, p.9-11].

The solution of educational tasks, adequate to the modern stage of scientific and technological development, increasingly associated with Web 2.0, allowing users to work together and to use network information in various forms (interpretation of Tim O'Reilly) [9]. The development of social services has led to the emergence of phenomena which are called differently: the wisdom of crowds, crowdsourcing, wikipedias, social support [10, p.114]. The basis of these phenomena lies the possibility of attracting the masses to participate in the creation of a new collective of documents, books, standards. In didactic literature of recent years discusses the specifics of the basic principles of the educational system, adequate education in the post-industrial era called Education 2.0 (similar to Web 2.0) [5].

However, the problem of organization of independent work of students in the process of studying humanitarian disciplines by using ICT (especially Web 2.0 technologies) is not fully understood.

According to the partial view, the independent work of students at the rate of philosophy can be defined as a special form of educational activity involving the student awareness of their abilities, motives, goals and objectives, methods and techniques of studying philosophy, control and self-management, and development of cognitive independence.

Under the information and communication technologies, followed by G. A. Kruchinina, will understand the “body of knowledge about the ways and means of organizing training in the use of computers and itself (qualitatively new) the process of learning in the use of computers as technical learning tools” [7, p. 61].

It is possible to identify a number of principles of organization of the independent work of students in the course of philosophy with the use of ICT, contributing to the formation of students ' productive level of independence: 1)

personalization of learning, designed to build individual trajectories of development of students; 2) combination of differentiation and integrative learning; 3) the unity and integrity of organization and self-organization of self-educational activities, the gradual transfer of management functions from the teacher to the student; 4) consistency and correlation of the internal potential of the individual and the external environment in which it is implemented; 5) variability of the educational environment, fixing the contradictions between sustainable features of the activities constituting element of social experience, and the new, changed conditions in the cognition and communication of students, ensuring a situation of choice; 6) dialogical learning, create a reflective learning environment [16].

In the process of organization of the independent work of students can distinguish a number of stages: diagnostic and analytic, formative and reflective evaluation.

For diagnostic and analytical phase, a survey was conducted of the level of autonomy of bachelors first year of the Nizhny Novgorod Institute of management methods interviews, questionnaires, observation. It should be noted that students are adequately assessed their skills of independent work with philosophical information. So, 47% of respondents indicated that they can only retell the lecture materials and the textbook within the program of the University of 15.5% – can be primary sources and special philosophical literature. Carry out an independent search of the primary sources and special philosophical literature on relevant problems 33.5% of the students. Feel free to discuss the philosophical problem of 10.8%.

Study of development of motives of educational activity demonstrated understanding of the importance of the study of philosophy for the development of a common culture (72.6 per cent). However, personal interest in philosophical problems half of the respondents (48.3 percent) was average. Students will understand the importance of using information and communication technologies in their future professional activities (average of 4.1 points on a scale) and demonstrated a desire to work on a philosophy course with the help of ICT.

At the stage of forming experiment, students were offered differentiated assignments (your choice) of reproductive and productive character, suggesting the use of ICT. Independent work on the reproductive level includes work with dictionaries, encyclopedias, directories, electronic books and manuals. The ability to work remotely with educational and scientific publications provided by access to electronic library systems, for example: <http://e.lanbook.com/books>; <http://biblio-online.ru>; <http://www.iprbookshop.ru/>. For independent work students are recommended websites containing journal articles, for example: http://www.scepsis.ru/tags/id_99.html; <http://philosophy.ru/library/vopros/00.html>; <http://niu.ranepa.ru/nauka/Journal.php> and others.

Reproductive level includes the work of students in the system "Internet-simulators in the field of education" (www.i-exam.ru). The choice of modes of "Learning" and "Self-control" provides the possibility of multiple re-test tasks solution, addressing the texts right decisions, prompts to wrong answers. Forms of control of students' knowledge are surveys, interviews, University control testing.

Productive independent activity of students using Internet technologies was represented by creating public pages in social networks and running a blog. These materials were used in discussions in seminars, business games, writing abstracts and essays. This type of productive activity chosen by 23.5 % of students.

Then at the reflexive and analytic stage students had to evaluate effectiveness of their independent work. Students who chose site construction, were inspired by the possibility of creating new documents, supporting schemes, media materials, links, making glossaries

Involving students in productive activities with the use of is a key factor to maintaining constant interest to learning process. So, Students involved in creating web sites and blogs evaluated practice usage from information technologies on 7-8 (from 10), for their interest to the subject they gave 9-10 grades from 10. They pointed out that such kind of work was also useful because other students would have the possibility to use it.

Students working independently, evaluated the use of information technologies via learning philosophy on 4-5 (from 10), for they own interest of the subject they gave 5-6 scores.

There are reasons to say that Web 2.0 technology gives the possibility to combine specific of (including philosophy) and advantages, given by means of Information technologies. It is possible to observe some methods relevant to the philosophic spirit: independent search analysis, conversion of information, publishing of working results, a properly organized communication process.

It is necessary to note a number of difficulties that occurred via organizing process with the help of such technologies. Running a blog, working at the web-site requires lots of time-investment from students. Philosophic material is quit difficult, there is a problem of highlighting the most important in the information stream as well as the issue of finding reliable sources of information. It was noted that students had different communication problems.

It is possible to come to the conclusion that students independent work becomes more efficient if different forms of work exist with the combination of different task, competent usage of active and interactive methods of students` activities, internet technologies and technologies, which include face to face communication: role games, disputes, project work, “brainstorming”, case studies and others.

Methods and principles of work mentioned below encourage students` independency, stimulating their professional and personal skills according to leading tendencies of scientific and technologic development.

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