

Information Culture to Information Society: a Pattern of Formation

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Abstract—The relevance of the study is due to the fact that it attempted to create a model for the formation of the information culture of the future specialist. In this regard, the purpose of this article is to consider the conditions for its formation in the modern information society, taking into account the main social contradictions of today's information environment. Methods of studying this problem are the analysis and synthesis of scientific literature, the study and synthesis of pedagogical experience, pedagogical observation and modeling. On the basis of the conducted research, the psychological and pedagogical conditions for the formation of the information culture of a specialist are identified, the integrative criteria for the formation of the information culture and six groups of functional indicators are determined: information activity, information style of thinking, readiness for information communication, technological readiness, emotional activity, world outlook activity, which characterize the formation of the information culture in accordance with its content.

Keywords—*information culture; information society; professional competencies; levels of formation of information culture; evaluation criteria; forms; methods and means; pedagogical modeling.*

I. INTRODUCTION

Today it is officially recognized that education is one of the decisive factors for the survival and development of Earth civilization, is among the global problems of mankind. In this regard, the solution to the problem of the intensification of human intelligence due to the possibilities possessed by informatization acquires a special role. In the information society, knowledge about the information laws, about the means of interaction with information becomes the basis, the

methodology of the informatization era, and therefore, there is a need to form the information culture of the society and the individual.

II. MATERIAL AND METHODS

When writing the article the theoretical methods such as analysis and synthesis of scientific literature, abstraction, description, analogy, comparison, and the empirical methods such as pedagogical observation, questioning, interviews, testing, pedagogical modeling, pedagogical experiment, and statistical and mathematical methods for processing experimental data were used.

2.1. Actual scientific research and issues analysis

Modern ideas about the information culture of a specialist have developed as a result of the impact of informatization processes on the professional sphere. For this study, the concepts substantiating the socio-cultural essence of informatization are of significant methodological importance. These concepts are considered in the works of I.M. Gurevich [1], A.I. Arnoldova [2], N.P. Vashchekin [3], A.I. Rakitov [4]. Of great importance are the works, which reflect the concepts of the information society, developed both by domestic (R.F. Abdeev [5], V.A. Kopylov [6], A.D. Ursul [7]), and by foreign scientists (D. Bell [8], G. Kahn [9], O. Toffler [10]). The researches that determined the tendencies of changes in the professional sphere under the influence of informatization processes were carried out by K.K. Kolin [11], Yu. Dus [12].

The philosophical and ideological approach to the problem appeared in the works of A.L. Semenov [13] and was further

developed by such scientists as K.K. Kolin [11], A.D. Ursul [7], I.I. Yuzvishin [14].

The cultural approach in the scientific development of this phenomenon becomes dominant and is reflected in the works of A.I. Arnoldov [2.], N.P. Vashchekin [3], A.A. Grechikhin [15].

The psychological and pedagogical literature actively deals with the perception, processing and assimilation of ever-growing volumes of information, the effectiveness of distance education and the use of new information technologies in teaching. These and other problems of information culture, affecting the methodological and methodical aspects in the field of education, are reflected in the works of V. Einstein [16], V.N. Vasiliev [17], S.G. Antonova [18] and many others.

III. TARGET SETTING

In the conditions of the information society, the problem of the formation of information culture is particularly relevant for the sphere of professional education, which ensures the quality of training for economy and science, as well as for other areas of human life. It is a kind of indicator of the viability and lability of society in a continuously changing environment. Awareness of the fundamental role of information in social development, the rapid growth of information, the development of computer engineering and technologies directly affect the field of education and require immediate response from educational structures in terms of developing new educational techniques, including pedagogical modeling. The modeling of the pedagogical process is becoming the link between pedagogical theory and practice.

The analysis of general cultural and professional competencies of a future specialist showed that in the conditions of the so-called "information explosion" the role of such qualities as knowledge of techniques for working with information, acquisition of skills and abilities to search, transfer, process and analyze information and use it to solve professional assignments in the interests of social development is becoming very important. Moreover, taking into account the objectively applicable laws of aging information, it is essential for future specialists to understand the variability and openness of knowledge and develop the need for continuing education. The refined structure of general cultural and professional competences of a future specialist was used as the main system-forming factor in developing the model of the formation of information culture.

IV. RESULTS

The need to develop a model for the formation of information culture of a future specialist and the relevance of its implementation in teaching and educational processes in a university is explained by the presence of acute social contradictions that occur in the modern society and affect students' professional training. They are the following: the contradictions between the level of development of the information environment and the quality of training; the ones between the ever-increasing volumes of information and the individual's capabilities for its perception, processing,

assimilation, transmission and use in professional activities; the ones between the awareness of the need for continuing education in the information society and the unstable motivational base and low level of knowledge and skills to implement this type of activity; the ones between humanitarian and technocratic culture.

The backbone to the creation of this model has become the structure of general cultural and professional competencies that should be formed in the learning process. In foreign literature [19, 20, 21], a rather broad interpretation is given to the concept of "competence". Thus, a competent person is characterized by the knowledge of the basic sciences and the skills associated with them; skills necessary to perform psychomotor functions, professional roles, cognitive activity and interpersonal communication; the need for self-development, as well as the ability to identify and critically analyze problems, the ability to think in a logical and convincing way to express one's thoughts orally and in writing. The most important characteristics of employee's qualifications are the ability of quick and conflict-free adjust to specific working conditions, leadership ability, ability to negotiate and establish contacts, sociability. Summarizing these approaches, we have come to the conclusion that it is possible to analyze professional competences only if future specialists possess the above mentioned knowledge and skills, the personality's inner world is formed and it includes needs, attitudes, vocational orientations, motives and ideas about themselves, about their professional qualities and the results of their own activities.

The motivational component including needs, interests and motives is also very important and plays the role of regulating mechanism of the individual's behavior. Modeling the process of the formation of information culture, we took into account its complexity, multidimensionality and continuity. The formation of information culture of the individual is carried out within the framework of various social institutions, and this process can be controlled or uncontrolled [23]. The process of the formation of information culture is manageable, if its development and formation occur in the conditions of training and education. If the formation of information culture occurs in the process of self-development of the individual, then it is carried out spontaneously, chaotically. Thus, the zone of the formation of information culture of a specialist can be identified, on the one hand, by the educational process at a university, and on the other, by the process of self-education of the individual.

The pedagogical essence of the model is that it allows identifying current and future aims for the formation of information culture and represents its components:

- the formation of the information worldview (worldview component);
- the formation of an information thesaurus (social component);
- developing the information style of thinking (psychological component);

- mastering the moral and ethical norms of behaviour in the information environment (moral and ethical component);
- mastering effective techniques for getting, processing and using information (technological component);
- students' awareness of the necessity to use the entire diversity of information sources, which will contribute to the development of higher social feelings and aesthetic taste (emotional and aesthetic component).

There are different methods for the formation of future specialists' information culture in the framework of the educational process in a university and in terms of self-development of the individual. Methods of pedagogical influence on the individual are classified into educational methods and teaching methods, and then, in accordance with various reasons they are divided into: direct and indirect; verbal, visual and practical; methods for the formation of the individual's consciousness and value orientations; active learning methods; methods for organizing cognitive and practical activities of the individual; problem teaching methods and others. These methods are always applied in certain combinations, since for the full development of the individual it is important to influence simultaneously the consciousness, activity and behavior as well as the motives, interests and needs.

As far as the forms are concerned, in our opinion, lectures of a problematic nature, seminars-debates, seminars-interviews, practical training when using information technologies are the most effective in the formation of information culture in the conditions of educational institutions. In terms of independent work with various sources of information the most effective are the consultations which provide an individual assistance.

In order to clarify the generalized components and to conduct qualitative diagnostics we have developed functional indicators characterizing the information culture in accordance with its content. They include:

1) the information activity, which determines the formation of the social component of the information culture. The information activity is a process in which the individual realizes his or her information needs, interests and research abilities. As a rule, it defines a certain level of understanding of information phenomena and processes. It manifests itself in the form of interest in receiving new information. The information activity contributes to the formation of a thesaurus and personal outlook, which in its turn is formed on the basis of the obtained information. The formed level of information activity affects the quality of information and multicultural knowledge (its depth, completeness, consistency, distribution). In the structure of information culture, the information activity performs the function of a regulator that admits and classifies information.

2) the readiness for information communication, which characterizes the moral and ethical level of information culture. The readiness for information communication is realized in the process of communication and it is one of the

most important characteristics of a person's behavior in the information environment. The readiness for information communication is one of the basic needs of the individual and is implemented in a certain individual style, form and volume. The need for information communication is carried out on the basis of the norms, principles and patterns of behavior that exist in the information environment. The readiness for information communication is characterized by such factors as accuracy and responsibility for choosing an individual position in conflict situations in terms of meanings and values, responsibility for disseminating information, correct behavior in the information environment, communication culture.

3) the information style of thinking that characterizes the psychological component of information culture. The information style of thinking manifests itself in the ability to evaluate the qualitative side of information, select reliable information from the mass of information, correlate it with the information already available; critically rethink, collapse and expand information obtained, complete the missing links, correctly interpret and use that information for making various kinds of decisions, taking into account rational, moral, ethical and aesthetic criteria when evaluating alternatives. Mastering the methods of analytic-synthetic information processing is an important indicator of the information style of future specialist's thinking.

4) the technological readiness, which characterizes the technological component of information culture. The technological readiness is realized in the process of information activity and is formed on the basis of knowledge of information sources and the ability to use them in the search for the necessary information. The technological readiness is characterized by the ability to flexibly and consciously use the capabilities of computer technologies, the ability to choose own goals and behavior in the information space, the independence in assessing the phenomena and products of information activities, high computer literacy.

5) the emotional activity of the individual, which characterizes the emotional-aesthetic component of information culture. The emotional activity can be represented as a process in which the emotions, emotional states, experiences and feelings that accompany information activity and behavior of the individual in the information environment, regulate and orient its actions and actions caused by the need for information. The emotional activity is determined by the level of the development of high feelings which are formed in the process of information activity, and serve as a regulator of the value orientation of experiences. The more diverse and deeper the emotional experience of a person is, the higher level of the emotional activity is formed.

6) the world outlook activity, which determines the level of the formation of the information worldview. The information worldview activity represents a process in which the attitude of each person to informatization processes occurring in the society, the need for value orientations and the possibility to defend and establish them acting rationally are implemented. The information worldview activity is expressed in the formation of a system of beliefs and value

attitudes based on evaluative knowledge and orientations in the process of axiological information activity.

Thus, the developed criteria make it possible to evaluate the results of the implementation of the model, which is reflected in the totality of the formed knowledge and skills that characterize the information culture of a specialist.

V. DISCUSSION

This study does not claim to an exhaustive consideration of all aspects of the complex and multifaceted problem of the formation of information culture. The content of information culture, the coordination of the activities of all social institutions that are called upon to participate in its formation require further study. The issues of psychological and pedagogical diagnostics of the formation of information culture have not also been sufficiently studied.

VI. CONCLUSION

The developed model is a theoretical basis for the development of a targeted integrated program and the organization of experimental work on the formation of information culture of a future specialist.

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