

Digital technologies in intellectual and moral development of personality

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Abstract. The purpose of the chapter is to analyze guided by the humanistic personality-oriented educational paradigm, digitalization of the modern education system. Design/methodology/approach: The authors used such method as method of studying literary sources, method of concrete historical analysis, modeling method. The use of these methods of scientific and pedagogical research made it possible to use library funds, catalogs, bibliographic indexes and descriptions, relying on comparison, generalization, systematization, search arguments for modeling the process of forming the information culture of a student's personality and determining factors closely related to it. Findings: It shown that the structural model of formation of the information culture of the student depends on personal characteristics of students and information and communication technologies. Originality/value: A perspective method of solving the determined problem is use of modeling method and on the base of culturological approach formation of the information culture of the future teacher.

1 Introduction

Among the main national interests, the Strategy national security of the Russian Federation, approved by the Decree of the President of the Russian Federation dated 02.07.2021 No. 400, calls "strengthening the traditional Russian spiritual and moral values, preserving the cultural and historical heritage of the people of Russia" [2]. "Education and upbringing of children and youth on the basis of traditional Russian spiritual, moral and cultural and historical values" considered as an important means of "achieving the goals of state policy in the field of savings the people of Russia and the development of human potential" [2]. The educational system of our country is called upon to solve these extremely complex and important tasks. . Considering the fact that the vast majority of growing citizens of the Russian Federation pass through the system of preschool and general education, it is necessary to recognize the extraordinary role and responsibility of the Parent, Educator and Teacher in ensuring the national security of Russia. That is the reason that determines the role, place, significance, mission of the Teacher in our modern society and state, which should actualize the attention of scientists, statesmen, public figures and teachers to the problems of quality of pedagogical education and the quality of the personality of the future

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teacher. Guided by the humanistic personality-oriented educational paradigm, the modern education system aimed at creating favorable conditions for the comprehensive development of the personality of all participants in the educational process, as evidenced by the regulatory legal documents of Russia.

E.K. Dvoryankina, considering "the modeling of sociocultural space, where made the formation of a citizen as a subject of intellectual and spiritual self-development, as a bearer of ideas and norms of creative transformation of reality", emphasizes that "the spiritual space in human society is the semantic world of people, the spiritual environment" [4], which ICT has become a full-fledged factor of influence. The role of information and communication technologies in the life of every person has become especially relevant since the beginning of the coronavirus pandemic, when educational, cultural, professional activities have moved to the Internet, to a distant format.

This required from teachers and students, in particular, to quickly mastering ICT competencies, the means of implementing educational programs using e-learning and distance educational technologies for solution professional and educational tasks. The 16 Article the Law "Of Education" Russian Federation states that under e-learning understood «the organization of educational activity with the usage information contained in databases and used in the implementation of educational programs and information technologies, technical means, and information and telecommunication networks ensuring transmission through communication lines the specified information, the interaction between students and pedagogical workers. Under distance learning technologies are understood educational technologies implemented mainly with the use of information and telecommunication networks with indirect (at a distance) interaction between students and teachers» [1].

On this path, the participants of the pedagogical process found not only a significant means of continuing the process of education and upbringing, but also faced with a number of difficulties and problems. The problems lying "on the surface" helped to identify the earlier conducted by us research in two schools of the Abinsky district of the Krasnodar Territory, in which pupils of the 4th, 8th and 11th grades acted as respondents. [7]. Methods of scientific and pedagogical researches (interviewing and questioning) made it possible to conclude that senior pupils and students turned out to be the most adapted to the digital environment; younger students mostly need of direct communication with the teacher; excessive communication with a computer limits the possibilities of real interaction of adolescents and provokes a deterioration in the physical health of schoolchildren, raises doubts about the objectivity of the assessment of learning outcomes [7]. At the same time, teachers must take into account the negative aspects directly related with the content of the Internet World Wide Web.

At the same time, it would be unreasonable to deny the significant pedagogical potential of information-communication technologies.

Each new generation draws its own norms and principles of the ideology and culture of its society from the experience of previous generations. But, at the same time, young people, schoolchildren, students, including future teachers, actively perceive all innovations, especially those related with information-communication technologies and their use in the process of life (in communication, in education and self-education, in the process of forming a system of value orientations).

The formation students' information competence plays a positive role in increasing the level of their information culture as future teachers. The information culture of a teacher should considered as part of his professional and general culture. Today, scientific-educational networks necessity for all educators. Users have troubles finding information through the Internet, that is, the problem of finding reliable information in this network is becoming more and more urgent. Therefore, the allocation of scientific-educational information and simplification of access to it for scientists and teachers, students and

schoolchildren, the formation of the ability to single out relevant reliable information based on traditional values are very significant tasks. Within the implementation of government decisions, the process of creating a system of electronic educational literature accelerated. This, when in the conditions of scientific-technological progress, the amount of information is continuously increasing, will help to solve the problem of the prompt transfer of updated educational material for use by all participants in the educational process. Practice confirms that the development of computer and digital technologies opens up great opportunities for self-education, significantly increases the relevance of innovative changes in the system of organizing students' independent work. It should also be borne in mind that in schools there is a process of mastering the achievements of information-communication technologies, and for their rapid implementation, trained personnel needed.

The organization of independent work of schoolchildren and students in modern conditions should also guide by the latest technologies. This is due to the increasingly active use of telecommunication technologies, the introduction of electronic educational resources, in particular, full-text educational materials posted on electronic media data. Significantly grows the role of libraries, which play a special role in organizing the independent work of young people. A special role plays the ability of students to use electronic catalogs of available educational and scientific materials. Placement electronic catalogs in information-communication networks requires a completely different level of training for a growing personality and the organization of independent work. Thus, in modern conditions, the effectiveness of a student's independent work largely depends on the level of his information culture.

Consequently, the effectiveness of the organization of independent activities of students of pedagogical faculties can ensure by creating conditions where the implementation of various types of independent work is core.

Modernization of higher education in the direction of widespread use of information-communication technologies in the educational process helps future teachers to build their professional activities in a new way. It should be borne in mind that today in the system of secondary general education the first stage of the formation of the information culture of graduates-future teachers is ending - the stage of the formation of computer literacy. Equipping schools with information-computer facilities created conditions for the formation of teacher's computer literacy. The next stage on the development information culture of teacher are changes in the organization of the learning process itself, the formation of skills to create computer information products, curricula, etc. It is clear that simple computer skills are only the first step towards the implementation of the teacher's professional informational activity. The formation and development of a teacher's information culture, of course, is an integral part of the modernization of education, and the training of future teachers should be focused specifically on the changes taking place in the information society and also to form an appropriate attitude towards information sources and the ability to navigate in them and adequately assess. ICT tools for educational destination - information and communication technologies tools, used together with educational, methodological, regulatory, technical-organizational and instructional materials, ensure the achievement of pedagogical goals.

In the process of studying, diverse application and use of ICT tools, a person who is able to act not only according to the model, but also independently, receiving the necessary information from the largest possible number of sources; able to analyze it, build models, experiment and draw conclusions, make decisions in difficult situations formed. In the process of using ICT, the student's personality develops, prepares him for a free and comfortable life in the context of information communication, including:

- development of visual-figurative, visual-effective, theoretical, intuitive, creative types of thinking;

- aesthetic education through the use of the capabilities of computer graphics, multimedia technology;
- development of communication skills;
- the formation of skills to make the best decision or offer options for solutions in a difficult situation.

The computer acts as a personal assistant for the learner, it corresponds to almost all human senses. Relative problem-free concretion of a computer with various technical means provides computer hearing, sight, touch, the ability to speak speech [12]. The computer allows significantly change the ways of managing educational activities, to attract students to active work, for example, by immersing them in a certain game situation. The computer is interactive: the student himself can set the computer how to present the educational material.

«The information culture of a post-industrial society can be formed when an individual who uses a computer becomes a subject of culture, its main character. In all spheres of human activity, the computer acts not only as a powerful technological tool, but also as a means of human self-realization, as an instrument of creativity that stimulates a person to better known himself, fully open his abilities, to show his individuality. In such activities, the author's self-expression is important» [13].

ICT practically solve the problem of individualization of learning. Usually, students who are slower than others learn the teacher's explanations are embarrassed to raise their hand and ask questions. Having a computer as a partner, they can repeat the material many times at a convenient pace and control the degree of its learning. It is useful to use computer programs and abilities of networks to form virtual educational space. Students can use them in:

- work with the modular part of the electronic manual (learning new things, exercises, laboratory works, tests);
- independent mastering of a subject using an electronic textbook;
- free travel through the space of culture.

That is why the role of the use of modern information and communication technologies in the organization of students' independent work is growing.

As is known, students spend more and more of their study time on personal computers (electronic textbooks, curriculum, electronic library resources, the Internet). That is why the role of the use of modern information-communication technologies in the organization of training and educational work with students in a variety of forms of classes that would contribute to increasing interest and general motivation for learning, its individualization is increasing. The adoption of information-communication technologies as a new component of the living and educational space actualizes the task of analysis, generalization, systematization and conceptualization the structure the process of forming information culture individual as a result of his intellectual and moral development.

2 Materials and method

For achieving the goal of the research and solvation the problems the researchers facing with, theoretical methods of scientific and pedagogical research used. To familiarize themselves with the results of studies already carried out in this area, systematize material on the selected problem, search for areas of application of our own research efforts, the method of studying literary sources used: legal normative documents, monographic and reference literature, scientific papers, conference materials, periodical pedagogical publications, archival materials, etc. The study of theoretical sources of pedagogical information and theoretical processing of research results carried out using other groups of

methods open up opportunities for: secondary processing of available data and searches for cause-and-effect relationships, identifying trends and patterns, building systems, etc.

The method of specifically historical analysis, based on the principle of social conditioning of the pedagogical process, made it possible to study pedagogical phenomena taking into account the place, time and conditions of their leaking, and also the connections and dependencies in which they consisted or are in reality, taking into account specific historical conditions and cause-and-effect relationships of the emergence, leaking and transformation of a pedagogical phenomenon, which allows us to adopt the best from the pedagogical past and prevent mistakes that have already been experienced before.

The modeling method as a vividly figurative image of pedagogical processes in the form of diagrams and matrices made it possible to reveal the full essential visibility of the process of formation of information culture and determine its place in a wider community of cultural phenomena.

Sharing the point of view of academician A.M. Novikov on the understanding of the pedagogical essence the process of development [10], also taking into account accumulated by pedagogical science approaches to the interpretation of the essence of this phenomenon, we propose to proceed from our definition of the essence of development as a process of quantitative and qualitative changes in consciousness, thinking, personal behavior under the influence of the environment in the result of the struggle between external and internal contradictions.

At one time, the Italian humanist philosopher L.K. Salyutati noted, "it is necessary to educate a new person who possesses humanitas - the ability to do good" [3]. This ability is not given to a person at birth, it develops by education, life experience and is the result of persistent work of the soul, through the mastering of the humanitarian disciplines - studia humanitatis: grammar, rhetoric, philosophy, the center of the latter is ethics, leading a person through improvement.

Wellknown Swiss teacher and founder of the theory of elementary education, I. G. Pestalozzi [11], considered the process of the child's moral development, the formation of human dignity, a sense of trust and friendship, to be inseparable from work. In his "Letter to a comrade about his stay in Stanza," he wrote: "All elementary moral education generally based on three principles: to develop with the help of good feelings a certain moral state; to exercise morality in fair and good deeds, conquering oneself and making efforts; and, finally, to form moral views through reflections, comparing the legal and moral conditions in which the child finds himself in virtue of his origin and his environment" [11]. I.G. Pestalozzi argued that "the achievement of all the tasks of moral education and mental education" of a child depends on "an obligatory combination of means of development - observation, language and love" [11].

I. Kant in his work "Critique of practical mind" deduced a law according to which a person freely chooses moral behavior - the law of a categorical moral imperative [6]. Man and humanity should be only an aim, not a mean. According to I. Kant, behavior will be virtuous if its purpose is one's own moral improvement and the happiness of others. «The moral upbringing of a person», he wrote in his work «On primitive evil in human nature,» should begin not with the correction of nature, but with the transformation of the way of thinking and the assertion of character» [6]. The main thesis of the views of the german teacher I. Herbart was that human morality is the core of the harmonious development of all his abilities: «Education without moral upbringing is a means without a goal, and moral education ... without training is a goal without means» [5]. The concept of upbringing education, therefore, consists in the development of all-round interest - intellectual own performance, which is conditioned by training and forms "own free mental status" [5]. Moral education as part of the pedagogical process should shape the freedom and character of the future member of society.

Based on the understanding of the word as the center of a person's spiritual life, its great importance in pedagogical activity, K.D. Ushinsky formed the thesis about folk language: «... the entire trace of their spiritual life people carefully preserve in the folk word». The native language is the best teacher for a child, teaching easily and without difficulty. The role of the native language, from the point of view of the teacher, lies precisely in the fact that in the child he “develops the spirit” [14]. The purpose of upbringing in the process of teaching the native language K.D. Ushinsky calls the development of children "natural mental ability, which is called the gift of speech" [15].

3 Results

The ideas expressed by teachers and philosophers of the past about the role of the native language, the learning process, the will of a person in the intellectual and moral development of a personality confirm the adequacy developed by the authors the structural model of the factors influence on the formation of information culture a student (see Fig. 1).

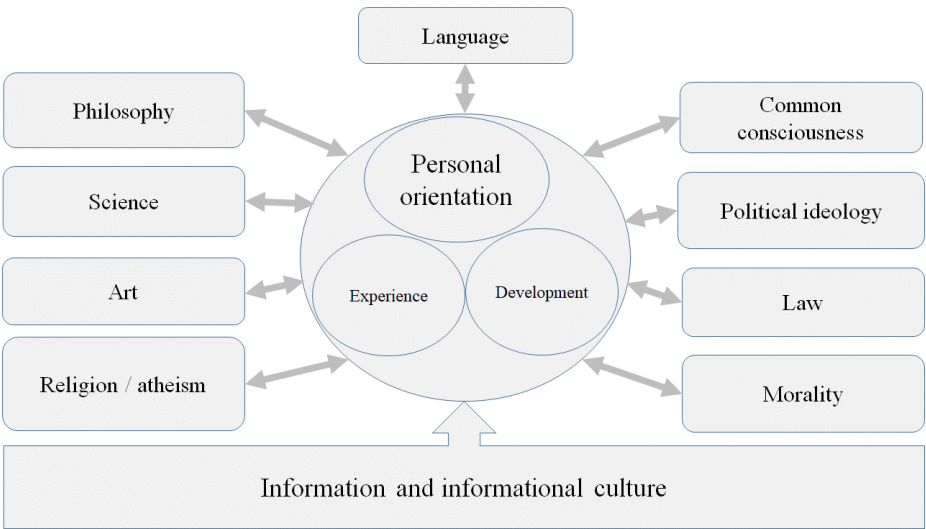


Fig. 1 Factors the formation of information culture. *Source* Built by the authors.

The center of the proposed model, we have defined a person, a personality in the aggregate of such phenomena as the orientation of the personality, including worldview, value orientations, aspirations, beliefs, interests; experience (knowledge, skills, competencies, habits) and development (intellectual, moral, will, feelings, etc.) [10], which represent the subjective results of culture in the form of human strength and abilities. The formation and development of these components of culture can facilitate modern ICT, as discussed above.

Information-communication technologies can act as an important means of interconnection and mutual influence between all components of culture represented in the model: language, common consciousness, political ideology, law, morality, philosophy, science, art and religion. The language used on the Internet, in social networks, its lexical content can't help but influence the perception of the person. On the one hand, information from the Internet can expand the student's knowledge in various thematic areas, which is a positive point, and, on the other hand, the quality of many materials and social correspondence leaves much desired, which negatively affects the correct application and use of the Russian language. , littering it with foreign borrowings, slang words, distortions

of the Russian language. A computer and computer programs can serve as effective means of teaching the Russian language, broadening one's horizons, and increasing the level of literacy of an individual. The more successful learning of the language takes place, than the overall development of the personality will advance at a faster pace, both intellectual and moral. Because language allows you to master the entire cumulative experience of mankind, in whatever forms it is expressed [9].

The level tenure of language reflects a person's ways of thinking, his knowledge, skills, competencies, habits, beliefs, values, worldview, the general level of erudition, culture, upbringing, in a word, everything that together represents the subjective components of culture, internal forces and human abilities, reflecting the moral and intellectual development of the individual. Subjective elements of culture through language interact with all forms of social consciousness: political ideology, law, morality, philosophy, science, art, religion and common consciousness.. The process of interaction of elements of culture can carried out in a verbal, non-verbal, computerized form, which makes it possible to combine verbal and non-verbal means for mastering social experience. The combination of various forms of presenting information using ICT activated the organs of perception, including them in work, thereby creating favorable conditions for the development of personality. In order to form an environment conducive to the development of the student, in which it will be possible organically include computer technologies, the teacher must have a sufficient level of information culture, for which we can propose a system of work with future specialists at the university level. Features of the organization of classroom and extracurricular activities to form the information culture of the personality of the future specialist, and the future teacher, in particular, determine approaches to goal-setting based on the role that the student takes on himself: first he acts as a simple consumer of information, then added the role a distributor of information, and later added the role of organizer of work with information. This means that the younger courses, it is advisable to focus efforts on the development of students' skills quickly navigate in educational, household, socio-cultural information; on mastering computer literacy, rules and skills of note-taking, reviewing, drawing up a plan and abstracts through various forms, such as an information bureau, press center, editorial stuff, etc. In a generalized structured way, it presented in Fig. 2.

Necessity	Features of the manifestation of needs and the differentiation of the tasks of upbringing work at different age stages			Result
	I course	II – III courses	IV course	
Necessity in information	Aim: to study work with information «Who own information, those own everything»			Informational culture
	Tasks: 1. Learning of information technologies of education: ▪ possession computer; ▪ work in local and global network; ▪ use of electronic communication.	Practicing the ability to attach information a certain form Formation of skills to organize work with information		
	Main position			
	Consumer of information	User and distributor of information	Organizer work with information	
	Formation of skills quickly navigate in information (educational, household, sociocultural, etc.). Assimilation of methods of working with information: note-taking, reviewing, making plan, thesising, etc. Mastering computer literacy. Participation in the work of "Informburo" and "Press Center". Issue of thematic wall newspapers	Formation of a mechanism for targeted selection and processing of information (systematization, bundling, registration, etc.). Formation of skills to disseminate information (articles, speeches, interviews, abstracts, term papers, etc.). Organization of work of "Informburo" and "Press Center". Participation in the work of the "Labor Exchange". Working with editorial staff in summer health centers.	Preparation of information-methodological materials: • "To the enrollee". • "Freshman" • ... Teaching children and junior students information technology. Use of the global computer network for educational and scientific purposes. Advertising activity.	

Fig. 2 The scheme of the formation of the information culture of the future teacher based on the culturological approach. *Source* Built by the authors.

As they grow up and move from course to course, to the role of a user of various information added to the role of a distributor of information, which the student shares with others. At this time, a mechanism for targeted selection and processing of information is being formed on the basis of systematization, packaging, appropriate design, etc., the

formation of skills to disseminate information through articles, speeches, interviews, abstracts, term papers, joint work in editorial stuffs in children's centers.

Mastering ICT competencies accompanied by the formation of organizational skills for the preparation of information-methodological materials for enrollees, freshmen, schoolchildren regarding working with information sources. Students of senior courses can be involved in teaching information technology to children and junior students, the rules for using the global computer network for educational and scientific purposes, for the implementation of advertising and career guidance activities.

Wide opportunities for the formation of information culture, for the moral and intellectual development of the individual open up educational activities, extracurricular, extracurricular activities, as discussed in the article "Extracurricular activities of students - a means of forming professional motivation" [8].

4 Conclusion

In our time, the time of returning to traditional value orientations, and in the process of personality formation, the problem of intellectual and moral development, the formation of spiritual values of learning youth remains very urgent. The use of computer programs optimizes the process of teaching and upbringing. This is a relatively new form of teaching-upbringing work, which raised the interest to schoolchildren and teachers, students and teachers, because it is in constant development and functions in various forms. Computer multimedia training programs allow for a short period of time to convey to students a larger amount of material, to replenish theoretical information with historical facts and events.

It would be pedagogically expedient the development special computer program containing a large amount of interesting information, videos, vivid drawings, voice accompaniment, which would contribute to the active participation of young people in the discussion when discussing a certain topic or problem.

In general, summing up, we can say that communication with a computer contributes to the development of the intellectual, spiritual and moral potential of young people, fosters the ability to plan and rationally build labor operations, accurately determine the goals of activities, forms accuracy, precision and binding nature. But with all the positive aspects of the introduction of ICT into the educational process and their use for intellectual and moral development, one cannot ignore the problems that are likely with using information-communication technologies to solve the problems of development, education and upbringing of the individual, but this is a subject for our further research.

References

1. On Education in the Russian Federation. Federal Law 273-FZ, dated 29.12.2012. http://www.consultant.ru/document/cons_doc_LAW_140174 (date accessed: 10/11/2021).
2. The National Security Strategy of the Russian Federation, approved by Decree of the President of the Russian Federation No. 400 of 02.07.2021. URL: <http://static.kremlin.ru/media/events/files/ru/QZw6hSk5z9gWq0pID1ZzmR5cER0g5tZC.pdf> (date accessed: 10/11/2021).
3. Bragin, L.M. (2004)/ Humanistic thought of the Italian Renaissance. Nauka, Moscow.
4. Dvoryankina, E.K. (2007). Professional training of future teachers at the university as a pedagogical problem. Modern problems of science and education, 5. URL: <https://science-education.ru/ru/article/view?id=546> (date accessed: 10/07/2021).

5. Herbart, I.F. (1940). Selected pedagogical works. Uchpedgiz, Moscow.
6. Kant, I. (1965). Works in six volumes. Mysl, Moscow.
7. Marchenko, G.V., Murzina, S.M., Timofeev, S.A., Vodopyanova, K.M. (2021). Digitalization of education: advantages and problems. INTERAGROMASH 2021 XIV International Scientific and Practical Conference “State and Prospects for the Development of Agribusiness - INTERAGROMASH 2021”. URL: https://www.e3s-conferences.org/articles/e3sconf/pdf/2021/49/e3sconf_interagromash2021_12058.pdf (date accessed: 10/11/2021).
8. Marchenko, G.V., Vodopyanova, K.M., Timofeev, S.A. (2020). Extracurricular activities of students - a means of forming professional motivation. Innovative Technologies in Science and Education (ITSE-2020), Volume 210, <https://doi.org/10.1051/e3sconf/202021018028> (date accessed: 10/11/2021).
9. Marchenko, G.V., Vodopyanova, K.M., Timofeev, S.A., Maximets, S.V. (2020). Russian language as a means of developing cross-border education. Innovative Technologies in Science and Education (ITSE-2020), Volume 210, URL: <https://doi.org/10.1051/e3sconf/202021018066> (date accessed: 10/11/2021).
10. Novikov, A.M. (2010). Foundations of pedagogy: A guide for textbook authors and teachers. PH “EGVES”, Moscow.
11. Pestalozzi, I.G. (1963). Selected pedagogical works in three volumes. RAS, Moscow.
12. Sarantsev, G.I. (2008). Information support of methodical training of students of the teacher training university. *Pedagogika*, 4, 64-72.
13. Selevko, G.K. (2006). Encyclopedia of images of technologies: in 2 vol. Research Institute of School Technologies, Moscow.
14. Ushinsky, K.D. (1988). On the moral element in Russian education. *Pedagogika*, Moscow.
15. Ushinsky, K.D. Native word. Works: in 6 volumes. Shkola, Kiev.