Formation of Students' Media Culture in the Conditions of Digitalization of Education in Kazakhstan

Zhansaya T. Suleimenova ⬤**, Elena N. Pristupa** ⬤**, Angela V. Babayan** ⬤**, Oksana G. Prokhorova** ⬤**, and Lyudmila P. Illarionova** ⬤

Abstract Digitalization is a trend followed by countries striving to develop a competitive economy and improve the quality of human capital. One of the main conditions for improving Kazakhstan's national competitiveness in the global world is the transition of all levels of education to the digital system and improvement of the quality of human capital. Digitalization of the educational process requires the formation of a media culture of future pedagogical specialists. The article analyzes the current state of digitalization of higher education in Kazakhstan, as well as the implementation of state programs in several directions: the creation of a national open educational platform, the integration of ICT into educational programs of universities, the opening of ICT departments of universities on the production base, the introduction of new specialties related to information and communication technologies, an increase in the number of state grants in this field the region, as well as the intensification of work on the development of distance learning. The central place of the research is the analysis of the problem of teachers' media culture, which is considered as a condition for the development of media education and media competence of students. This is crucial for the formation of a digital educational environment,

Z. T. Suleimenova
L. N. Gumilev, Eurasian National University (ENU), Astana, Kazakhstan

E. N. Pristupa
Federal State Budgetary Scientific Institution "Institute of Child Development, Health and Adaptation", Moscow, Russia

A. V. Babayan (✉)
Pyatigorsk State University, Pyatigorsk, Russia
e-mail: baanwl@pgu.ru

O. G. Prokhorova
Moscow State University of Psychology and Pedagogy, Moscow, Russia

L. P. Illarionova
Moscow State Regional Pedagogical University, Mytishchi, Russia

involving the training of specialists with media competence, who are able to effectively use digital resources in their professional activities. The effectiveness of the introduction of basic or elective training courses aimed at the formation of media education and media culture into the educational program of pedagogical specialties is considered. The results of the experimental work are presented.

1 Introduction

In the modern digital era, information technologies are being actively introduced into the field of education, radically changing the educational paradigm. The improvement of the quality of human capital and the development of its competitive advantages are one of the main global trends today, along with the digitalization of most spheres of activity of the state and society. In this regard, since 2017, the Republic of Kazakhstan has been implementing the Digital Kazakhstan program [1], which involves the widespread introduction of digital technologies into the processes of education, science, production, cultural content, communications, etc. The consequence of the process of widespread digitalization is that an increasing part of social life is transferred to the virtual environment of digital communications.

In accordance with the strategic goal of the state programs for the development of education and science of the Republic of Kazakhstan, which is to "increase the global competitiveness of Kazakhstan's education and science" and its main objectives "to ensure the high status of the teaching profession and the modernization of pedagogical education", the problems of university training of future teachers to carry out their professional activities in the conditions of digitalization and cybersocialization come to the fore. The strategic article "A look into the future: Modernization of public consciousness" says, "The peculiarity of tomorrow is that it is the competitiveness of a person, and not the availability of mineral resources, that becomes the success factor of the nation." Therefore, any citizen of Kazakhstan, as well as the nation as a whole, must have a set of qualities inherent in a man of the XXI century. Among the prerequisites for this are such factors as computer literacy, knowledge of foreign languages, cultural openness. Therefore, such programs as "Digital Kazakhstan", "Trilingual education", "Cultural and confessional harmony" are part of the training of all citizens of Kazakhstan for life in the XXI century" [2].

Today, universities in Kazakhstan have become a digital educational environment, involving the training of specialists with media competence who are able to effectively use digital resources in their professional activities. The analysis of the

literature revealed 4 different trends in the digitalization of education and science in Kazakhstan: the introduction of digital tools and technologies into the program of traditional education and academic disciplines; the creation of a virtual educational environment; the development of online education; a change in the orientation of the management of educational organizations.

Kazakhstan is working on digitalization of higher education in several directions. Among them it can be noted: the creation of a National open educational platform, the integration of ICT into the disciplines of all educational programs for 80% of universities, the opening of ICT departments of universities on the production base, the introduction of new specialties "Cloud Computing", "Artificial Intelligence", etc., an increase in the number of state grants for the specialty of information and communication technologies and the activation of work on the development of distance education. Taking into account transformational processes, education solves the problem of training competitive personnel in the field of "artificial intelligence" and "extensive data", which will eventually lead to the formation of digital competence of future teachers, "adapted to global competition in the field of education."

The following platforms and applications are prioritized as a digital tool in universities of Kazakhstan: Video platforms (Microsoft Teams, Zoom, Skype, Webex, Google Meet, etc.); Mail services (Outlook, Gmail, Mail.ru etc.); Instant messaging applications (Slack, What's App, Telegram); Learning management systems (Moodle, Platonus, etc.).

Digitalization creates conditions for the formation of students' qualities and skills that are the most important and necessary for the society of the XXI century: the ability to use digital resources, information literacy, media culture, global thinking, the ability to participate in various events and scientific seminars in any country, regardless of distance, continuous improvement of their knowledge and a creative approach to performing any tasks and etc.

Digital education includes information management systems of an educational institution; the content of digital education; the individual trajectory of education and the level of media literacy of the individual; allows students to continuously improve their knowledge based on individual inclinations, mobility and freedom; the organization of the virtual library and virtual laboratory creates the possibility of easy collaboration between educational organizations. The digital space forms a mobile management structure of the educational process, organizing the interaction of teachers and students as a cultural and social reality at the stage of the dynamic transition of mankind from the stage of industrial development to a new civilizational picture.

2 Materials and Methods

At the present stage of reforming the education system of the Republic of Kazakhstan, the main goal is to train media and cultural specialists who possess the skills of the twenty-first century, while the future teacher is a professional, a person who is able to

follow the flow of information in a digital society, freely use digital and information technologies, with competencies for the effective implementation of his pedagogical activity.

One of the conditions for the digitalization of education is the formation of an intercultural personality. Media culture refers to the relationship between media and culture. Media is a periodical printed publication, television, radio channel, documentary films, audiovisual recording and other form of periodic or continuous public distribution of mass media, including Internet resources. Culture is the changes that are formed through the actions of people as a result of social, cultural relations.

In our research, we have implemented theoretical study, comparison, as well as inductive-deductive analysis of psychological and pedagogical literature. In the scientific works of Kazakhstani researchers, media culture implies a cultural and critical perception of media texts distributed through the mass media. It consists of the culture of human capacity to transmit information and the culture of its perception. Media culture is an indicator of the development of a person who is able to analyze, perceive and evaluate it, who is engaged in media creativity, constantly replenishes their knowledge in the field of media with new information.

In the study of the problem of media culture, Kazakh scientists use the works of foreign scientists as a scientific basis (from Russia: Penzin [11], Konovalova [5], Fedorov [3], Kuzmina [6], Paranina [10] and from other countries: Masterman [8], Fraillon, Ainley et al. [4], Mehrvarz [9], etc.). Kazakh scientists Seitkazy [13], Sarzhanova [12], Masanov [7] and others consider the problems of using information technologies in the educational process, the possibilities of computer tools in educational conditions.

3   Results

Experimental work was carried out on the basis of the L. N. Gumilyov Eurasian National University. 98 students of pedagogical specialties were involved in the research work. During the study, the following theoretical methods were used: analysis, comparison, inductive-deductive analysis of psychological and pedagogical literature. Methods of pedagogical experiment, survey, test, examination of training courses were also used. The following training courses have been introduced into the educational program of pedagogical specialties of the Gumilev Eurasian National University: "Media Pedagogy", "Media Education", "Methods and technologies of media education in higher education", "Technologies of media education in school"; "Digital pedagogy", "Digitalization of socio-pedagogical education", "Media technologies of digital education" and others. The content and purpose of these training courses are aimed at improving the media education and media culture of students. These training courses cover three levels of professional training (bachelor's degree, master's degree, doctoral degree).

The formation of the media culture of future teachers requires, first of all, that students have a need for media culture and a motivational-value attitude. An important phenomenon is the presence of a motive for purposeful activity. Testing was conducted to determine the level of motivation of future teachers for the development of media culture. It was revealed that 43% of respondents consider the effectiveness of an online lecture to be low compared to the classroom one. 13% of respondents welcome learning in a mixed form, i.e. lectures and theoretical classes can be conducted online, and laboratory and practical classes in the traditional form with direct communication with the teacher.

A stable and positive motivation to master media culture generates a student's desire to fulfill the tasks assigned to him. In the process of forming a media culture, a student faces a whole system of interrelated goals. Guiding the student's goals and actions on the right path in relation to the media sphere, as well as the implementation of quality control of these actions gives optimal results. The data obtained during the study indicate that a large amount of online materials can cause fatigue and refusal to work with online materials. Students studying online have high indicators of the degree of "flexibility", "mobility", and they also have such signs as a high level of self-control, the desire of closed rivalry with others. Online learning creates effective conditions for the formation of students' motivation to achieve success, but does not affect the development of personal qualities of the student.

Motivational, conceptual, communicative and activity criteria were chosen as the main criteria for the formation of the media culture of future teachers. Each criterion will be evaluated at high, medium and low levels. Table 1 shows the criteria and levels of formation of the media culture of future teachers.

In the course of the research work, an examination of educational programs (EP) of pedagogical specialties was carried out, a survey of students was conducted. Various approaches and proposals for the introduction of educational courses forming the media culture of students into the educational program of pedagogical specialties have been identified. 75% of respondents expressed support for the idea of teaching media culture as a separate subject, 25% indicated that integrated media culture teaching in the content of other compulsory and elective courses would be effective.

Since an effective way to form a media culture is to increase the media education of students, we have developed a working curriculum of the course "Fundamentals of Media Education and Media Culture", which can be included in the educational program of pedagogical specialties as a basic or elective course.

The purpose of the training course "Fundamentals of media education and media culture": analysis of the possibilities of using media in the educational process; historical and cultural consideration of the formation and development of media culture at the world level and in Kazakhstan; formation of media culture with increased media education of future specialists. The objectives of the course include: the study of the theoretical and methodological foundations of media education and media culture; analysis of the world and Kazakhstan experience in the formation of a media cultural personality, the study of methods for the development of media culture and critical thinking of students; analysis of the creation and preparation of methods and technologies for organizing media education classes, etc.

Table 1 Criteria and levels of formation of the media culture of future teachers at the university

Criteria	Levels of media culture formation		
	High level	Medium level	Low level
Motivational	The student shows a constant constructive interest in the media and strives to become a media cultural personality in a certain or several media fields	The student shows interest in media products, but does not know the ways and opportunities to become a media cultural personality	The student's interest in media is not constant, but arises only because of a certain situation, but he does not refuse the possibility of using it
Conceptual	The student has a complete understanding of the media sphere and can independently apply his knowledge in practice	The student has an adequate understanding of the media sphere and complements it in the educational process	The student's understanding of the media sphere is formed only at the level of simple basic terms and definitions
Communicative	The student quickly absorbs media information, adequately defines the essence of the text, analyzes the consequences of its impact on consciousness	The student has no difficulties in perceiving media information and analyzing the essence of the media text	The student does not always adequately analyze media information and understands only some parts of the media text
Activity	The student is independently able to use the technical means of media in practice and is ready to share with his peers practical, operational, technological and activity experience	The student is constantly expanding his experience in the use of technical media and demonstrates a certain level of technical skills	The use of technical media in practice is problematic for the student, but he tries to master them

Source Developed and compiled by the authors

The content of the discipline included the basic concepts and functions of media education; foreign and Kazakh experience in studying the problems of media culture formation; conceptual ideas of media culture formation of future specialists based on media education; technologies and methods of media text analysis, etc. The content of the course "Fundamentals of Media education and media culture" includes the following topics:

1. *The concept of the information environment.* Types of information: text information; digital information; sound and language information; graphic information, animation and videos, etc. General characteristics and main functions of mass media.
2. *History of the development of mass media.* The emergence and development of book publishing. Formation and development of the press. The emergence and development of photography. From telegraph and telephone to sound recording and radio. The emergence and first study of the concept of cinematography.

The emergence and development of television and video recording. Features of the emergence of computer systems and the Internet. Stages of formation and development of media education in various countries (USA, Canada, Japan, Germany, Great Britain, Finland, Russia, etc.).

3. *Features of formation and development of media education in Kazakhstan.* The current state of the study of media education and media culture in Kazakhstan; types of mass media and the level of openness in the dissemination of information. Review of works that considered the use of information and communication technologies.

4. *Goals and basic concepts of media education and media culture.* Goals and objectives of media education. Terminology: artificial intelligence, information systems, media technologies, etc. The relationship and difference between the concepts of media education and media culture.

5. *Society and media structures in the era of globalization.* Media education in the modern world and its impact on personal development. A brief description of the development of the press, photography, sound recording, cinematography, radio, television, video, Internet. Features in modern digital, socio-cultural conditions (computer, film and video rental, cable, terrestrial, satellite TV, etc.).

6. *Basic theories of media education.* Analysis of the main directions and concepts of media education. The connection of media education with pedagogy and other areas of humanities and social sciences. Characteristics of the directions and positions of organizations that contributed to the development of media education (UNESCO, Council of Europe, European Union).

7. *Media (digital) educational resources.* Classification and typology of digital educational resources. Requirements for digital educational resources. The effectiveness of the use of media resources in the learning process for teachers and students.

8. *Media manipulation and personal information security.* The essence of informational and manipulative influence. The danger posed by the spread of misinformation. The concept, essence and characteristics of psychological protection. Information and psychological security of the individual. Psychological protection as a way to ensure information and psychological security of the individual.

9. *Information and communication technologies.* Didactic possibilities of information and communication technologies. Information technologies and their types. The most important areas of information technology application. The work carried out in Kazakhstan on the introduction of ICT disciplines into the learning process.

10. *Distance learning technology.* Basic principles and directions of distance learning. Basic models and basic technologies of distance learning. The possibility of remote, online learning through various platforms and management systems.

11. *Computer software technologies.* Types of computer learning technologies and their characteristics. Computer technologies: artistic computer technology; computer engineering; illustrative computer technology, documentary

computer, cognitive computer technology, etc. areas of computer graphics: two-dimensional graphics; printing; web design; multimedia; 3D graphics and computer animation; video editing; business graphics, etc.

12. *Modern multimedia technologies.* The history of the development of multimedia technologies. History of development and characteristics of multimedia technologies. The essence and role of multimedia technologies in the educational process. Classification of multimedia. Software tools of multimedia technologies (system, application software). The order of application of multimedia technologies. Discussion media clubs. Technology of organization of discussion media clubs. Problems of organizing the work of a media library and an electronic library. Amateur media studio.

13. *Aspects of socio-cultural analysis.* Media text, its essence and content. Foreign models of socio-cultural analysis. Aspects of ideological and philosophical analysis of media culture (media agency, the concept of media, the audience of media education, media technology, media language and media presentation). Aspects of media culture analysis proposed by Russian media educators. Criteria and indicators of critical analysis and determination of the level of perception of media culture.

14. *Methods of media-forming classes.* Public talks, matinee meetings for media culture. Reproductive, heuristic, gaming, problem classes. Methodology and form of conducting classes on the basics of media culture (lecture-conference, dialogue-lecture, interactive seminar, problem method, demonstration, etc.).

15. *Technology of media education at the university.* Features of media education technologies. Indicators of professional knowledge, skills and abilities necessary for the media educational activity of the teacher. Technology of organization of discussion media clubs. Issues of organizing the work of the library and the electronic library.

The main pedagogical conditions in the formation of the media culture of future teachers are taken into account: the motivation of students to independently master the media culture; ensuring the continuous and unhindered development of the media culture of students at the university; adaptation of methods, means, forms of education to the formation of the media culture of students.

The formation of the media culture of students was carried out using the following *forms of education*: lecture, workshop, round table, drafting and support of projects using mass media products, reflection; the following *methods*: active and interactive teaching methods; the following *research methods*: analysis, questionnaire, monitoring, essays and examination of media texts, drafting. The main means are *technical resources* (computers, interactive screens, tablets, mobile devices, video systems, networks); *process management* (media library, distance learning, e-mail, personal accounts on special websites, social networks) and *educational resources* (electronic libraries, electronic educational resources, distance learning systems, teleconferences, webinars).

Table 2 shows the results obtained at the beginning and at the end of the experiment for each criterion.

Table 2 Results on the formation of the media culture of future teachers in the conditions of digitalization

Criteria	Level	The beginning of the experiment (%)	The end of the experiment (%)
Motivational	High level	9.5	18.5
	Medium level	57.5	69.5
	Low level	33	12
Conceptual	High level	5.5	19.5
	Medium level	41	46
	Low level	53.5	34.5
Communicative	High level	10.5	23.5
	Medium level	47	56
	Low level	42.5	20.5
Activity	High Level	–	11.5
	Medium level	42.5	53
	Low level	57.5	35.5

Source Developed and compiled by the authors

The analysis of the results of experimental work has shown the effectiveness of introducing training courses aimed at teaching media education and media culture into the formation of the media culture of future teachers. The dynamics of the growth of the results has proved the possibility of forming media culture of students through media education in a university on the basis of complex and interrelated work.

4 Discussion

So, the digital environment of the university as a source of media information includes: multimedia voiced presentations, texts converted into digital format, interactive tasks and test programs on a specific topic, educational materials in text, digital form, etc.

Students should have knowledge and skills in accordance with the sphere of professional activity, the ability to use them in solving practical problems. The expected results as key competencies include: functional literacy and the ability to solve any tasks correctly; the ability to independently perform analytical work; the ability to set goals depending on the activity performed; the ability to plan their activities; the ability to generalize actions; compare and argue their work; adequate self-assessment; the ability to put into practice acquired skills, abilities, etc.

Media culture is formed in the process of continuous and purposeful development of media-information literacy, media education, skills of interaction in the digital environment. Media competence and media culture are the goal and result of media

education. Media education is defined as education aimed at the formation of media culture in order to educate citizens who are able to express their opinions based on the information received, who have a critical and original attitude to the media. Knowledge in the field of media teaches a person to create messages, choose media that he considers effective for communication, competently analyze media culture, develop information perception skills and effectively use aesthetic tastes and creative opportunities.

5 Conclusion

The growing influence of the process of digitalization and mass media on the development of personality in the higher education system requires future specialists to have special knowledge and media culture in the field of media. The formation of the media culture of future teachers in higher education institutions on the basis of media education orients them to effective pedagogical activity as competitive specialists in the conditions of the digital educational space.

The formation of the media culture of future teachers in the conditions of digitalization requires complex, interrelated work. Therefore, the introduction of basic or elective training courses in the educational program of pedagogical specialties aimed at the formation of media education and media culture of students creates opportunities to achieve high results.

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