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### **ABSTRACT**

The article is devoted to the problem of forming the media competence of future teachers, where the authors propose to use media texts of different types as the main tool. It provides detailed analysis of the views of scientists on the essence and content of the definition of “media competence of the individual”, which is interpreted today in line with the psychological, pedagogical, and technological approaches.

As a result of the ascertaining section, a predominantly low level of the formation of the media competence of future teachers was determined, which necessitated the theoretical substantiation and implementation of a number of pedagogical conditions. These include: the formation of a positive motivation among future specialists for the use of media in the educational process; organization of an educational media environment in higher education institutions aimed at developing media competence among future teachers; attraction of future specialists to purposeful, creative media activity and the creation of their own media product. The research introduced the testing of such conditions which provided for the systematic work of students with media texts of various types (posts on social networks and comments to them, movies, cartoons, videos of classes, lessons, and other forms of work with students, webinars, scientific, educational, and other texts in the open access, audio recordings (music, songs, audio books), iconic signs (photos, drawings, infographics)). A number of effective media texts have been identified and introduced into the educational process from the point of view of the formation of media competence of future teachers.

**Keywords:** media competence of personality; media competence of the future teacher; media tools; media product; media text; media environment.

### **1. INTRODUCTION**

Modern society is rapidly developing, transforming through the active penetration of information and communication technology (ICT) in all spheres of human activity. Accordingly, it makes new demands on the individual: to be able to navigate in cyberspace, critically comprehend information, possess the skills and abilities to work with various media, respond promptly to the challenges of technological progress, etc. It should be noted that modern children of Generation Z (or “Thumb”), starting from preschool age, actively use media (gadgets) in everyday life, most often for entertainment purposes. On the other hand, the analysis of the Concept of the New Ukrainian School [1] shows that an important task of a modern school already at the stage of primary school age is the formation of information and digital competence of students, which the document interprets as the critical use of ICT to create, search, process, exchange information at work, in public space and private communication. The components of this competence include information and media literacy, knowledge of programming basics, understanding of information ethics (copyright, intellectual property, etc.), developed algorithmic thinking, database skills, ability to work safely on the Internet, etc. At the same time, teachers are not always prepared to effectively implement such a task and help students master the modern world of media for lack of appropriate knowledge, skills, and abilities to work with them in the educational process. This causes the need to revise the content of higher education, given its rapid informatization, on the other hand - actualizes the importance of forming a specific competence in higher education applicants pedagogical profile, which would allow the graduate at a high level to master the skills of working with media, create their own media products, become a facilitator for students in the process of effectively mastering the Internet space and the capabilities of media with an educational purpose. Modern researchers (L. Masterman [2], L. Naidonova [3], O. Fedorov [4], etc.) refer to this type of competence as media competence, which integrates appropriate knowledge, abilities, skills, and those personal qualities that contribute to its formation. So, certain

contradictions are determined between: the requirements of society for the formation of information and digital competence of junior high school students and the practical unpreparedness of most teachers for this process; the need to form media competence of future teachers and the lack of specially developed technologies, methods, appropriate pedagogical conditions for the effectiveness of this process. On the other hand, during professional training, applicants for education constantly work with media texts of various types (texts in monographs, textbooks, scientific and methodological journals, including in electronic form, audio and video texts, posts on social networks, infographics, etc.) which have a powerful potential to form media competence of students. The relevance of using media texts as a means of forming media competence of personality is reflected in the studios of L. Masterman [2], N. Chycheryna [5], O. Fedorov [4] and others. Analysis of the works of the above-mentioned scientists allows outlining a number of provisions regarding the feasibility of using media texts during the professional training of future teachers in order to form their media competence: the high level of saturation of the educational process with various media texts (A. Fedorov) [4]; the importance of visual presentation of information in the form of media texts (L. Masterman) [2]; the need to work with a large flow of information, the ability to organize it, critically comprehend, interpret (N. Chycheryna) [5]; media-text is a part of everyday life, contributes to the knowledge of the universe D. Alvermann, M. Hagood [6]. So, the problem of formation of media competence of future teachers by means of media texts is quite relevant but requires careful study at the theoretical and methodological and practical levels.

### **Analysis of recent research and publications.**

The problem of professional and vocational training of future teachers in modern conditions of continuous digitalization is widely covered in the fundamental works of I. Bekh, A. Verbytskyi, O. Dubaseniuk, V. Kremen, V. Ohnev'iuk, L. Panchenko, O. Savchenko, O. Spirin, S. Shekhavtsova et al. On the other hand, the essence and content of the category "media competence of the future specialist" is studied by both foreign (D. Baacke, S. Baran, P. Winterhoff-Spurk, R. Kubey, L. Masterman, W. J. Potter, A. Silverblatt, G. Tulodziecki, M. Weber, M. Zhyzhyna, B. Iskakov, V. Gura, O. Fedorov), and domestic scientists (O. Boryshpolets, L. Naidonova, H. Onkovych, I. Tolmachova, T. Fursykova, V. Sharko and others). A detailed theoretical analysis of the studies presented showed the gradual formation of three approaches to the interpretation of the concept, researched, in particular: psychological, pedagogical, and technological. Thus, the representatives of the psychological approach (P. Winterhoff-Spurk [7], M. Zhyzhyna [8], T. Fursykova [9]) understand the media competence of a future specialist through the prism of the formation of the necessary psychological qualities and new formations in the structure of professional competence, allowing to interact effectively with the media and use them in further professional activities. The important components of media competence, according to this approach, are motivational and emotional components that contribute to the interest of applicants for education in working with media (P. Winterhoff-Spurk [7], T. Fursykova [9]). In the second - pedagogical - approach, the media competence of future teachers is viewed through the prism of established knowledge, skills, and abilities to work with media tools, effective interaction with media space and the ability to work with various media texts (O. Boryshpolets [10], L. Masterman [2], H. Onkovych [11], L. Naidonova [10], O. Fedorov [4]). That is, this interpretation is closely related to the competence approach in education. And, finally, the understanding of a future teacher's media competence in the framework of the technological approach is explained through the ability to use all the possibilities of media to create an authorial media product (B. Iskakov [12], O. Fedorov [4], etc.). Proceeding from the understanding of the essence of media competence of future teachers, considering the highlighted approaches, it becomes obvious that applicants for education are constantly involved in the work with media texts with different semantic content and axiological content. In addition, most scholars (L. Masterman [2], A. Silverblatt [13], O. Fedorov) [4] note that media competence is associated with the understanding, critical evaluation, and awareness of the value semantic content of media texts, which determines the further professional orientation of specialists, affects the formation of their value orientations. The first attempts to interpret the concept of "media text" were made by A. Bell, P. Garrett [14]. The essence of the media text as a tool for the educational process in educational institutions is covered in the works of D. Alvermann [6], N. Chycheryna [5], O. Fedorov [4]. The leading characteristics of media texts, in particular, mediativeness, massiveness, integrativeness, intertextuality, etc., are revealed in the works of M. Kazak, O. Krasnoiarova [15, p. 323]; [16, p. 85 - 100]. Instead, the problem of forming the media competence of future teachers with the use of media texts has not been specifically studied.

On the basis of a thorough analysis of the scientific literature to study the essence and structure of the media competence of the future teacher, to determine the primary level of its formation and to evaluate the effectiveness of the proposed pedagogical conditions of formation of media competence of future teachers by means of media texts.

## **2. RESEARCH METHODS**

To implement the purpose, we used a number of methods of both theoretical and empirical nature. The first included the analysis of scientific and methodological literature to clarify the state of the research problem;

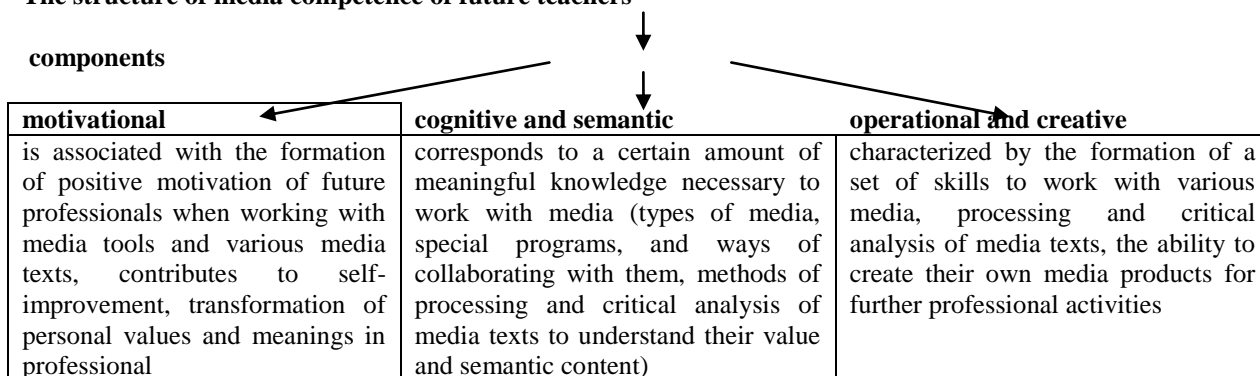
synthesis and generalization to formulate the essence of the leading categories of research; design and modeling to identify and characterize the pedagogical conditions of formation of media competence of future teachers in the process of professional training, the selection of relevant media texts of meaningful content. Empirical methods include: questioning, testing, methods of mathematical data processing in the course of the ascertaining and control experiments - to determine the levels of formation of media competence of future teachers, the forming experiment (implementation of reasonable pedagogical conditions based on the use of meaningful media texts of various types), control experiment to evaluate the effectiveness of the proposed pedagogical conditions.

### 3. RESEARCH RESULTS

#### 3.1. The essence and structure of media competence of future teachers.

The analysis of scientific studies of foreign and domestic scientists on the essence of the concept of “media competence” allows us to formulate the author's vision of the world. So, we understand the media competence of a future teacher as an integrated characteristic of competencies, as well as individual personality traits of the applicant, allowing the ability to use media tools and create authorial media products for further professional activity. We consider the following to be the structural components of a future teacher's media competence: motivational component - aimed at the formation of positive motivation of future professionals when working with media tools and various media texts, promotes self-improvement, transformation of personal values and meanings into professional ones; cognitive semantic component - related to the knowledge and degree of their comprehension necessary to work with media tools (types of media, special programs and ways of working with them, processing and critical methods of media processing). The cognitive and semantic component reflects not only the knowledge that should be formed in future teachers to achieve a high level of media competence, but also the degree of their awareness, comprehension, recognition as such, which are valuable; operational and creative - a set of skills and abilities to work with various media tools, processing and critical analysis of media texts, the ability to create authoring media products in the form of meaningful media texts for further professional activities (see Fig.1).

**The structure of media competence of future teachers**



**Fig.1: The structure of the media competence of the future teacher**

As we see, the structure of media competence of the future teacher is represented by the unity of the three components: motivational, cognitive-meaningful, and operational-creative, which quite reflects the leading bases of competence and activity approaches in education on the one hand, on the other - meets the ideas of semantic teaching applicants on the axiological basis.

#### 3.2. The study of the primary level of formation of media competence of future teachers

We conducted a primary study of the level of formation of media competence of future teachers on the basis of the State Institution “Taras Shevchenko Lugansk National University” (Starobelsk). To the experiment were involved 317 applicants for education of different specialties pedagogical profile, namely: the future teachers of preschool educational institutions, future teachers at elementary school, future teachers of geography and biology (EG - 159 students, the CG - 158 students). The survey showed that future teachers have a predominantly low level of formation of media competence, because they are not fully aware of the importance of the information space, its impact on the educational process in educational institutions of various types, as well as on the personality of students. Most respondents noted that they use modern media on a daily basis, but mostly for entertainment or communication purposes, and less frequently for educational purposes. Unfortunately, most applicants for education admit that they read and watch different media texts (news on the Internet, posts on social networks, movies, music, etc.) every day, using the available media (smartphone, tablet,

laptop, etc.), but rarely analyze them critically and are not always aware of their semantic context and leading purpose. The observation showed that most future specialists are ready to create educational media products only in text documents (in Microsoft Word) or with the help of Microsoft PowerPoint (presentations). On the other hand, such text media products, more often than not, are edited incorrectly (ignoring the given font, indentation, spacing, low level of formation of skills of working with tables, pictures, etc.), and the presentation is such that it is not always attractive, motivating, mainly includes a significant amount of text and a number of iconic characters. Interestingly, every job seeker authored social media posts (posts with their own photos with meaningful comments about their daily life) quite often (at least once a week). The vast majority of teacher education applicants are not ready to work with Smartboard, they lack the skills to create media support for classes or lessons using Smartboard. Most applicants indicated that they lacked the skills to work in video creation and editing software. In summary, it is difficult for future educators to create media products using such programs as Microsoft Excel, Microsoft Paint 3D, Pivot Animator, Proshow Producer, Mind Meister, SmartNotebook, etc. Note that future teachers showed a predominantly low level of formation of skills in working with cloud services, in particular, creating a blog, uploading information to platforms in various forms (text, photos, video, graphics, etc.), creating links to information sources and the like. Most of them, working in the system "Moodle" for more than three or four years, as well as with "Zoom", "Microsoft Teams", "Google Meet", still do not use all the features of the platforms. An important conclusion was that most future teachers are absolutely uncritical about the information they receive from various Internet sources, media, etc., taking it on faith, which provokes deformation of the value and semantic sphere of education applicants, which in the future will be one of the leading values for the younger generation. For better clarity, we present the data of the ascertaining cut in the form of Table 1.

**Table 1: The level of media competence of future teachers: the ascertaining cut (in%)**

Levels/ Criteria	Motivational		Cognitive and semantic		Operational-creative		Overall figures	
	CG	EG	CG	EG	CG	EG	CG	EG
High	27,4	23,5	22,9	32,9	32,7	41,9	<b>27,7</b>	<b>32,7</b>
Middle	30,6	30,0	26,6	31,2	19,9	27,5	<b>25,6</b>	<b>29,6</b>
Low	42,0	46,5	50,5	35,9	47,4	30,6	<b>46,7</b>	<b>37,7</b>

Table 1 shows that the vast majority of future teachers have reached a low level of formation of media competence - 46.7% of applicants in the CG and 37.7 of the EG, indicating the need for systematic work in this area.

### 3.3. Pedagogical conditions for the formation of media competence of future teachers by means of media texts

The results of the experiment proved the need to implement systematic work with future teachers to form their media competence. To this end, we justified and implemented a number of pedagogical conditions, namely: the formation of future specialists' positive motivation for the use of media in the educational process; organization of educational media environment in higher education institutions (HEI), aimed at the formation of future teacher's media competence; involving future specialists in purposeful, creative media and creation of their own media product (meaningful media texts). Implementation of certain pedagogical conditions is associated with the systematic work of future teachers on meaningful media texts. Analysis of theoretical studies on the essence and content of media texts allows us to characterize the above definition as: media culture in general, so it can be treated as a system of symbols, signs and meanings (semiotic information approach); means of communication in the systems "society – person", "person – person" (communication approach); the total product of mass communication (media product, which can create a layman, but is intended for a wide audience, which necessitates a critical understanding of m In our study, we consider the media text from the perspective of the multicultural approach. First, the semiotic informational approach presents the media text as a reflection of culture itself, which is interpreted in such a text in the form of a certain meaning. Culture itself, according to K. Stetsiura, appears as a "megatext" - "a fabric, a web of media texts that define human patterns of behavior that can be adhered to and followed [17, p. 56 – 62]. Secondly, the communicative approach to the interpretation of the media text determines the semantic space where there is a mutual exchange and mutual enrichment of knowledge, values between subjects (culture in general, subjects of the system of formation of value and meaning orientations of future teachers); thirdly, the problem of critical analysis of media texts by future specialists is particularly acute, due to the fact that each text contains a different context and can be created by anyone, which actualizes the implementation of technology development of critical thinking of future teachers. Among the leading characteristics of media texts M. Kazak, O. Krasnoiarovadetermine: mediativeness - the embodiment of the text through a variety of media (TV, personal computer, tablet, smartphone, etc.). );



massiveness - accessibility of one text to a large audience; integrativeness - a combination of several semiotic codes, meanings, subtexts into one whole; intertextuality (openness) - interaction with a broad society, finding in the field of other texts, the possibility of intercommunication [15, p. 323]; [16, p. 85 - 100]. We consider such characteristics to be significant in terms of their didactic purpose. First, when working with mediatexts, future teachers are aware not only of the meaning of the content, but also of the sub-context, which has value and meaningful content; secondly, mediatext is a field for dialogue, exchange of opinions, meanings between the subjects of communication about what they read, saw or heard; thirdly, the media text, more often than not, synthesizes the effects on all visual, auditory senses and the emotional-personal sphere of the individual, which makes it more understandable on the one hand, and such that affects the inner world of the applicant - on the other. Based on the analysis of existing types of media texts, we selected those that are the most effective for the formation of media competence of future teachers, considering the specifics of their future professional activities. To these we referred: media texts in social networks (posts and comments to them on Facebook, Instagram) and on channels YouTube, Vimeo, movies (feature and documentary), cartoons, videos of classes and lessons and other forms of work with students, webinars, scientific, educational texts (articles, textbooks, monographs in the public domain), audio recordings (music, song, audio books), iconic signs (photos, drawings, infographics, reproductions), etc. The ways in which different media texts influence the formation of media competence of future teachers using different methods of work are reflected in Table 2.

**Table 2 : Types of media texts and their influence on the formation of media competence of future teachers**

Type of media text	Ways to create media competence	Methods of working with media text
Social media posts and comments on them	Critical reflection on the media text, expression of their own position, the formation of skills to use various media tools in the process of finding, storing, and working with texts; the formation of skills to correctly create their own posts informational, educational, philosophical, and semantic character, to attract the attention of the audience to the discussion of the meaning of posts.	Methods of critical thinking and interactive technology, dialogue, discussion, technology for solving moral dilemmas, conversation.
Movies	Motivation to work with various media (laptop, tablet, TV, Internet, Smart-board) in future professional activities; awareness of the importance of visualization of educational material and group discussion of the problem field of media texts; development of critical thinking, reflexive constructs; formation of skills to use various media tools in the search, storage and work with texts.	Dialogue, discussion, problem questions, essays, methods of interactive technology and technology of development of critical thinking.
Animated films		
Video recordings of classes, lessons, and other forms of work with students, webinars		
Scientific, educational, and other texts in the public domain	Critical analysis of media texts, development of one's own position on the problem; formation of skills to use various media tools in the process of searching, storing, and working with texts.	Dialogue, discussion, method of solving moral dilemmas, methods of critical thinking development technology
Audio recordings (music, songs, audio books)	Formation of the ability to use various media in the process of finding, storing, and working with texts; awareness of the importance of audio classes, lessons, and other forms of organizing the educational process; using audio texts to create your own media product.	Dialogue, problem questions, essays, method of solving moral dilemmas.
Cult signs (photos, drawings, infographics, reproductions)	Critical reflection on media texts, developing one's own point of view on the problem; the formation of skills to use various media tools in searching, storing, and working with texts; the	Dialogue, discussion, interactive technology methods, essays.

	formation of reflexive skills; the use of iconic signs to create one's own media product.	
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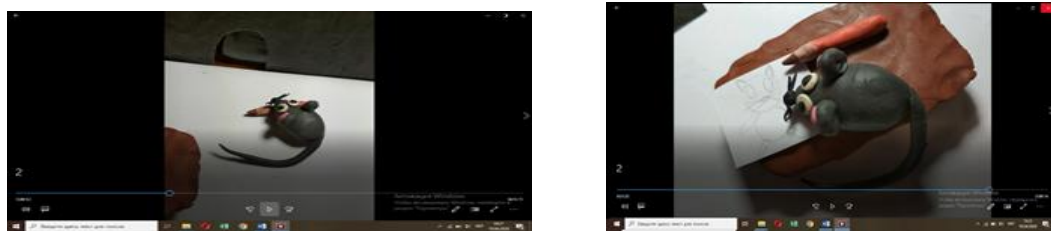
Let us illustrate by examples of the use of various media texts in the professional training of future teachers, based on those pedagogical conditions, which were highlighted by us. So, under the first pedagogical condition - the formation of future professionals' positive motivation for the use of media in the educational process - we used media texts motivating orientation. Work with films as a variety of media texts was of the greatest interest among future specialists, because feature films directly affect the inner world of the individual. We used the following films as "Pedagogical poem" (by A. Makarenko), "Asterisks on Earth" (2007), "Boy in the striped pajamas" (2008), "Castle of Glass" (2017), "Bury me under the baseboard" (2009), "My aunt came" (2013), "Unloving" (2017), etc. The work with animated films was also interesting, among which the liveliest discussions were such "Puzzle", "Ballerina", "Sandman", "Never Give Up", "Father and Daughter", and others. Such media texts had a solid semantic content, a wide field of discourse on the problems of teaching and educating personality on the one hand and motivated the applicants for education to apply media tools in the educational process of kindergartens and schools in the future professional activities, led to the need for self-improvement, self-development. Video recordings of classes, lessons, and other forms of work with students proved to be informative, and we saw them both as media texts and as media products. Watching these videos helped motivate future teachers to fully analyze classes, lessons, and other forms of organizing the educational process, to set students up for mastering pedagogical disciplines to independently model a high-quality lesson, and to realize the value of the pedagogical profession. Participation of future teachers in webinars allowed not only to increase the level of motivation to master the basics of the profession, the use of media in the educational process to visualize the educational material (smartphone, tablet, laptop, Smart-board, etc.), but also to attract to the discussion of current problems of modern psychological and pedagogical science, prompted the development of critical thinking, reasoning about cultural meaning through active reflection, reasoning their own position, awareness of the values and meanings of the future profession. The webinars shown on such resources as: "Na Urok", "Vseosvita", "MCFR" and others. Some of the most interesting webinars were: "Using Internet resources at mathematics lessons", "Is there a standoff between Internet resources and traditional educational tools", "Be afraid of banality, or how to diversify learning with ICT?", "Using Internet resources at social studies lessons", "Modern challenges and trends in education" and others. Also, one of the most meaningful texts offered to students for reading and further discussion was the bestselling book by K. Kelly "The Inevitable. 12 technologies that are shaping our future", where we are talking about leading trends in the near future of life on the entire planet, and the main one is virtual reality and artificial intelligence. It was motivating to work with various iconic signs, which were used within the framework of special disciplines. These included: meaningful photos, drawings, reproductions (demonstrated with the help of various media, in particular: laptop, Smart-board, etc.) followed by a discussion of their sub-context (Fig. 2).



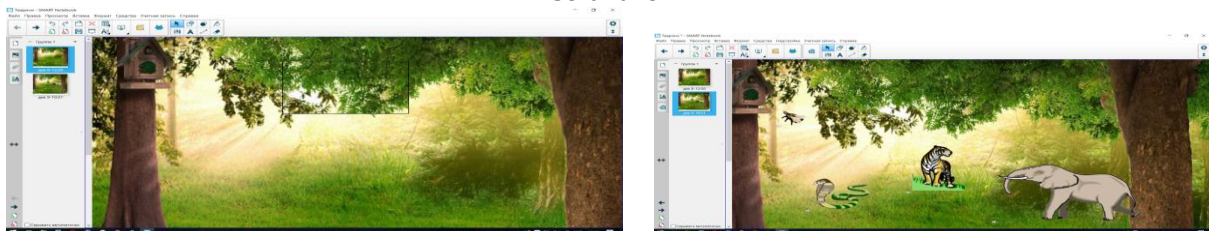
**Fig.2 : Examples of Iconic Signs Used in the Work of with future teachers**

The media texts used were aimed at creating a positive motivation for future teachers to work with various media tools, prompted a critical understanding of the content, awareness of priority pedagogical values and, on this basis, motivated to create an author's media product for use in future professional activities. To implement the second pedagogical condition - the organization of an educational media environment in higher education institutions aimed at developing media competence among future teachers - we tried to create an appropriate media environment, which in our study is interpreted as a set of conditions (material and technical, didactic, organizational and pedagogical), allowing to form positive motivation for future teachers to work with media, contribute to the formation of skills in working with various media, electronic platforms, services, mobile applications, computer programs, form the skills of creating author's media products. To the components of the media environment of higher education institutions, the purpose of which is to form the media competence of future teachers, we include: organizational - structural subdivisions of HEIs involved in the professional training of future teachers; classroom and extracurricular work with future specialists, pedagogical practices (educational, production), appropriate documentary support of the educational process); informational - the exchange of information between the subjects of the educational process, its critical understanding; material and technical - all types of media that are available to service pedagogical specialties (computers, laptops, tablets,

digital TVs, printers, scanners, the Internet, software, digital media, educational and methodological literature on digital media, etc.); technological - forms, methods, means, stages of the formation of media competence of future teachers using media texts. In order to create our characterized media environment, where the leading unit is the media text, we tried to integrate its use in each specific component. It is obvious that the organizational component mainly reflects the process of modeling the professional training of future teachers to form media competence, but it provides the main reference point for collaborating with applicants for education with the use of mediasubjects, which is reflected in the normative support of all types of activities. The informational component reflects the way the subjects of the educational process interact, which focuses on a dialogic discussion of media texts, their value and meaningful content. Note that the awareness of knowledge, values and their further transformation into value and meaning orientations and integration into the structure of media competence, becomes possible only with active learning, not the transfer of a ready set of knowledge from the teacher to the student (theory of autopoiesis F. Varela, H. Maturana) [18]. Therefore, the information component of the media environment is designed to provide the subject-subject interaction in the systems “teacher-student”, “student-student”, which gives the opportunity to freely express their position on the problems discussed, develop critical thinking, the ability to reflexion. Media-environment cannot be created without appropriate media tools, the presence of which is fundamentally important in higher education institutions. Based on the research O. Kravchyshyna [19], we identify such media tools that are fundamentally important for the creation of media environment of higher education institutions and the further work and development of media texts by future teachers: laptop, computer, tablet, smartphone, printer, scanner, Smart-board; printed publications, also information of educational and methodological nature on digital media; radio and television; Internet, Wi-Fi access points; software, etc. The technological component is represented by those technologies that we used to work with media texts. These include: interactive technology, technology for the development of critical thinking, dialogue technology, technology for solving moral dilemmas, the technology of training and the like. Each of them is directed, first of all, on forming own position of value, development of ability to analyze, critically treat information from various sources, to reflect on the received knowledge and own abilities on effective work with children in the future. On this basis, in fact, the work with future teachers on the formation of their media competence is built. To implement the last pedagogical condition - engaging future specialists in purposeful, creative media activities and creating their own media product - we used various programs in which future teachers were able to create their own media texts. Note that the authors have developed a special course for future teachers “Fundamentals of mediatization of modern education”, in which education applicants were introduced to the basics of working in such programs: Windows Movie Maker, Movavi (for creating such media texts as video records of lessons, lessons, philosophical reflections of children); Microsoft Word and Microsoft Excel (for writing outlines of lessons and lessons, research papers and other types of work on relevant design, creating infographics), Microsoft Power Pont (for creating multimedia presentations for media support of lessons, lessons and other forms of educational process in various educational institutions), Smart Notebook (version 17. 1) and Intech Iwb Wite Board (for creating lessons as media products), Mind Meister (for creating mind maps), etc. Let us illustrate the media texts created by future teachers with examples for better clarity (Fig. 3, 4).



**Fig.3: Fragments of a semantic media text (cartoon) created by future specialists using Movavi software**



**Fig.4:Fragments of a Smart Lesson created by future professionals using the Smart Notebook program (the “I Explore the World” lesson, 2nd grade)**



Note that work with media texts was conducted both in the classroom (within the educational components of professional direction, special courses “Fundamentals of mediatization of modern education”, “Axiological foundations of modern education”) and in extracurricular activities (student clubs, hubs, problem groups, as creative tasks in the research and independent work), which corresponds to the purpose of the media environment we created.

### 3.4. Results of experimental work

After repeating the experiment at the control stage of the study we state the effectiveness and efficiency of the work performed. If at the beginning of the experiment in the EG we observed the results close to the low level, then after the forming stage we record a tendency to increase the level of formation of media competence at high and medium levels. Analyzing the data obtained in the EG and CG we determine the improvement of the results in the EG, which is not observed in the CG. Generalized results of the control stage of the experimental study are shown in Table 3.

**Table 3: Levels of formation of media competence of future teachers according to the results of the control stage of the experiment**

Level	CG	EG
High	26,0	36,7
Middle	30,0	33,6
Low	44,0	29,7

As can be seen from Table 3, it was in the EG that significant positive shifts took place in relation to the levels of formation of the media competence of future teachers. Thus, applicants became more motivated to use media in the educational process (they determined that media significantly facilitate the perception process, sought to present the learning outcomes in the form of media products, in particular: high-quality presentations, video clips, visual accompaniment to lessons) improved the necessary skills and work skills from a media tool, which facilitated the process of creating author's media products (media texts using Microsoft Word, Microsoft Excel, Microsoft Power Pont, Windows Movie Maker, Movavi, Smart Notebook, Intech Iwb Wite Board, Mind Meister, etc.; semantic posts on social networks for wide discussion problems of the modern education system), taking into account the axiological component. To compare the distributions of CG and EG future teachers on the levels of formation of media competence we used statistical methods, in particular the statistical Pearson criterion  $\chi^2$ . This criterion allows us to compare two empirical distributions and solve the question of whether the differences between them are random or not. In our work as such empirical distributions are the distributions of the control and experimental group at the beginning and at the end of the experiment [20].

The Pearson criterion  $\chi^2$  is calculated by the formula:

$$\chi^2 = \sum_{i=1}^k \sum_{j=1}^l \frac{(N_{ij} - N_{ij}^0)^2}{N_{ij}^0}$$

where  $N_{ij}$  – empirical frequency,  $N_{ij}^0$  – theoretical frequency, which is calculated as  $N_{ij}^0 = \frac{1}{N} N(x_i)N(y_j)$ ,  $N(x_i)$  – marginalized (bottom line) by X,  $N(y_j)$  – by Y, N – total number of objects, k – number of table rows, l – column count.

The value  $f = (k - 1)(l - 1)$  is called the number of degrees of freedom of the correlation table.

The critical value of the Pearson  $\chi_0^2$  (  $f=2, p \leq 0,05$ ) is 5,992. The critical value of Pearson  $\chi_0^2$  (  $f=2, p \leq 0,01$ ) is 9,211. The critical value of Pearson  $\chi_0^2$  (  $f=2, p \leq 0,001$ ) is 13,817.

Analysis of the results of the calculations shows a statistically insignificant difference at the 0.05 level between the CG and EG at the stage of the statistical experiment for all criteria (the empirical value of the Pearson test 0.794; 0.003; 5.820; 0.393; which does not exceed the critical value of 5.99 for two degrees of freedom and the significance level of 0.05).

At the formative stage, on the contrary, it is possible to observe statistically significant difference in comparison of control and experimental groups on all criteria, except for cognitive. Thus, at the 0.001 level we observe differences between the divisions of the control and experimental group on the operational and creative criteria; at the 0.05 level - between the divisions of the control and experimental group on the motivational criteria. When comparing the control group before and after the experiment, we observed no significant differences at

the 0.05 level. As for the experimental group before and after the experiment, we observe significant differences at the 0.001 level for motivational criteria, at the 0.005 level for cognitive and operational-creative.

So, according to the generalized criterion, we did not get differences between the divisions of the control and experimental groups of future teachers at the beginning of the experiment (empirical value of the criterion  $\chi^2_{emp} = 0,393$ ), and we observe significant differences between the divisions at the  $p < 0.05$  level (empirical value of the criterion  $\chi^2_{emp} = 7,576$ ) after the experiment. So, we confirmed the effectiveness of the study.

#### 4. DISCUSSION AND CONCLUSIONS

Thus, the introduction of certain pedagogical conditions was built on the work with different media texts of meaningful content, which contributed to the formation of media competence and, as a result - the formation of skills to create the author of media texts for further professional activity. During the control experiment we were able to prove the effectiveness of the proposed pedagogical conditions.

Thus, we consider the media competence of future teachers as a formation of the necessary knowledge and skills to work with media, the ability to critically evaluate and interpret media texts, understand their value and meaningful content, and, on this basis, to create their own media products, in particular meaningful media texts for further professional activities and the formation of value orientations students.

The results of the preset experiment showed a predominantly low level of formation of the media competence of future teachers (a low level was reached by 46.7% of applicants of the CG and 37.7% of the EG, the average level was reached by 25.6% of students of the CG and 29.6% of the EG, a high level was recorded by 27.7% of applicants of the CG and 32.7% of the EG), which was the reason for conducting the formative experiment.

To increase the level of formation of media competence we proposed to introduce a number of pedagogical conditions, in particular: the formation of future professionals positive motivation to use media tools in the educational process; organization of educational media environment in institutions of higher education, aimed at forming future teachers of media competence; involving future professionals in purposeful, creative media and creation of their own media product (meaningful media texts).

Implementation of these conditions involved future teachers to work with various media texts, among which the most effective were: posts on social networks and comments on them, movies, cartoons, videos of classes, lessons, and other forms of work with students, webinars, scientific, educational, and other texts in the public domain, audio recordings (music, songs, audio books), iconic signs (photos, drawings, infographics, reproductions), etc.

The control sample showed significant dynamics for all criteria of formation of media competence of future teachers, namely: we have an increase in data on the high level by 10.7%, on the average level - by 3.6%, while the low level decreased significantly - by 14, 3%. Data validity was checked using Pearson  $\chi^2$  statistical criterion.

Prospects for further research consider the research of the problem of forming the media competence of teachers of higher education institutions involved in the process of professional training of future teachers.

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