Development of Media Education in Ukraine: Current State and Modern Requirements

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Abstract: In order to perform professional functions in the modern educational media space, the future computer science teacher must have skills of working with information and communication technologies, be aware of the methods of teaching educational material using media, be able to develop critical and analytical thinking and apply multimedia technologies in the educational process. The article focuses on the peculiarities of the introduction media education in Ukraine and highlights the importance of media education development. The authors emphasizes the importance of media education and media literacy, which open up many opportunities for both students and teachers. As a result, the teacher develops the ability to assess information security, competently use sources of information, assess the reliability, see the correlation of information and knowledge, and properly organize the information process. Media education opens up great opportunities, helps to develop intellectual and creative potential, as well as critical thinking. The article describes the criteria for the future computer science teachers' media competence development.

1 INTRODUCTION

It goes without saying that our time is called the epoch of the information revolution. Rapid development of new technologies is causing an avalanche of information. Humanity is constantly evolving. In addition, the pace of change is steadily accelerating. It is becoming increasingly important for both the individual and the country to be able to respond to these changes so as not to stay away from the progress.

But, of course, it does not mean that people need to hide in a shell and isolate themselves from information flows. Nowadays, it is simply impossible. They need to be able to work with information. This is the focus of media literacy classes, which have been a part of the school curriculum in the United States, Great Britain, Germany, Australia, and Northern Europe for several decades. Finally, Ukraine has joined this movement. We have to prepare children for the successful development of the world. Today the most important component of this mastery is the ability to work competently with information (Ivanov and Volosheniuk, 2012).

Problems of media education and media literacy attract the attention of representatives of various sciences (Bondarevskaya et al., 2017; Yankovych et al., 2019; Tereshchuk et al., 2019; Krylova-Grek and Shyshkina, 2020; Pokulyta and Kolotylo, 2021). The reason of it is not only that media literacy is an important component of the information society, but also that it has an interdisciplinary nature. To understand the processes, taking place in the modern media environment, young people, including teachers, should have special knowledge, communication and information skills, ability to critically analyze (i.e. have media literacy), which can be formed through organized and focused media education.

According to the logical conclusions of modern researchers of media education, there exists a need to develop a new more modern concept that combines media and information literacy. It should be borne in mind that media education policy has quite obvious national features. After all, the current course of modernization of media education is impossible without a media-competent person who is knowledgeable about information on current events, phenomena, and trends. In Ukraine, the development of media education policy is impossible without a scientific analysis of the situation, clarification of concepts, devel-

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opment of modern concepts, standards, and markers. The most important criterion for the effectiveness of media education development is the level of competence of those who take responsibility for its implementation. Unfortunately, in this field, which scientists are actively working on, there appear some problems: we need a massive increase in the competence of heads of departments and agencies, officials of various levels, administrative staff in the field of media, mass communications and information culture.

The study of this issue is impossible without the contribution of scientists who focused their research works on identifying the fundamentals of media education and media literacy. For our research the works (Buckingham, 2020; Considine, 2002; Masterman, 2013; Nazarov et al., 2020; Onkovich, 2013; Sharikov, 2021) are of great value. Research works of ascertaining character, which contain information on the perception of media texts in different countries and by different age categories, on the criteria and levels of audience development are done by Levshina (Levshina, 1978), Tyner (Tyner, 2020) etc.

2 FEATURES OF THE INTRODUCTION OF MEDIA EDUCATION IN MODERN SOCIETY

Nowadays, a person is required not to master some special information, but to be able to navigate information flows, be mobile, learn new technologies, self-learn, search for and use missing knowledge or other resources. In this regard, there appears an issue of studying the development of media education, which main task is "to prepare new generation of people for the life in modern information conditions, for high-quality perception of information and mastering communication methods through technical means and modern information technologies" and to develop Soft skills (sociability, self-presentation, ability to work in a team). It is worth noting that in most Ukrainian higher education institutions, media education still remains fragmented, which actualizes the desire to implement an effective media education system in Ukraine which is able to provide the improvement of the educational process and guarantee the European quality of higher education. Media education contributes to the establishment of democracy, education of media literate individuals who are able to think critically, develop creative skills and are ready to live in a modern information society (Sheina, 2017).

The key skills, that are now considered to be a basis of education and should be embedded in the curricula, are available to every modern person. After all, humanity is developing rapidly, replacing many hard skills by robotics, neural networks, and artificial intelligence. There is a tendency that sooner or later in many areas of their activity people will be replaced by artificial intelligence. Neural networks, which are able not just to communicate with a person, answering questions, but to joke in response and even anticipate the continuation of the dialogue; works of art created by artificial intelligence, cars with full autopilot – all these factors become a reality that cannot be ignored. In the future all the physical capabilities of a man can be replaced by a robot, but artificial intelligence lacks some human skills (the robot cannot think emotionally), so a person still has some preferences such as emotions and skills of professional communication. This means that media education, as a process that allows you to immerse yourself in the training of key skills, is an educational process that is most relevant today. For example, some leading European schools have integrated the Soft skills into the learning process. There is a focus on serious theoretical and practical training in all areas of media education, which makes educational process an exciting and effective one.

The relevance of media education depends on the rapid development of informatization and globalization which have made our perception of the world dependent on how it is presented by the media. Unfortunately, the latter doesn't respond properly to the growing responsibility: the information is poorly checked, it contains elements of manipulation and fraud. In these conditions, media education is a way for people to develop the ability to protect themselves from unscrupulous media information.

Media education as an intellectual and communicative network can be researched from several points of view. In particular, on the one hand, we can talk about the peculiarities of the network of mass media (global, state, regional, etc.). However, on the other hand, a network of purely media education is being more and more discussed, as it covers an increasing scope of information and educational space and is aimed at personal development. Many scholars consider media education as a process of learning, mastering media literacy. Media literacy is the ability to use, analyze and evaluate media products. Some researchers define "media literacy" as a key concept of media education, while the concepts of "media literacy" and "media education" are considered by many educators and researchers to be synonyms. In fact, media literacy makes it possible to use media sources more effectively, which generally increases not only

media competence but also competence in its broader sense (Onkovyc, 2008).

Fedorov (Fedorov, 2014) gives the following definition of media education: it is a process of personal development with the help and on the material of the media in order to form a culture of communication with the media, develop creative, communicative skills, critical thinking, skills of perception, interpretation, analysis and evaluation of media texts, to acquire different forms of self-expression with the help of media techniques.

Media education should be resulted in an increase of the level of media literacy, which is a set of motives, knowledge, skills and abilities that contribute to the selection, use, critical analysis, evaluation, design and dissemination of media texts of various forms, genres; it also promotes the ability to analyze complex media processes in the society.

Media education is a part of the basic rights of every citizen in every country of the world to freedom of expression and access to information; an instrument for the development and observance of democracy. Media education is related to the study of all media communications and includes the printed word, graphics, sound and moving images delivered by any technology. Media education provides an opportunity to understand the methods of mass media used in the society, and to master the skills of using these media in communication with others (Ivanov and Voloshenіuk, 2012).

One of the most reputable media educators and media theorists Masterman (Masterman, 1993) has substantiated seven reasons for the priority and relevance of media education in the modern world:

1. High level of media consumption and saturation of modern society with mass media.
2. Ideological importance of the media, and its impact as an industry on the public consciousness.
3. Rapid growth in the amount of media information, strengthening mechanisms for its management and dissemination.
4. Intensification of media penetration into the main democratic processes.
5. Increase in the importance of visual communication and information in all areas.
6. Need to teach schoolchildren/students with a focus on compliance with future requirements.
7. Growth of national and international processes of information privatization.

Onkovych (Onkovych, 2007a) notes that the stakeholders of media education should not be limited only to students: media literacy is also needed by adults. In addition, she reasonably draws attention to the need for independent media education. In her theoretical concept Onkovych (Onkovych, 2007b) puts forward the ideas of media didactics.

Since children and young people are most exposed to information, adults (in particular, teachers and parents) must be able to manage the process of a child's entry into the information world. In order to do this, the adults themselves have to first learn to use information flows properly, to master the means of communication. Only under these conditions teachers and parents will be able to effectively prepare children and youth for conscious, competent, and most importantly, safe use of information resources. They should also develop the culture of information users.

Therefore, today media education is a rather serious and deep issue of education development in general, it is a part of the educational process aimed at the formation of media culture in the society, preparation of individuals for the interaction with the modern media system – and not only with traditional media (printed word, radio, cinema, television), but also with the latest technologies (communication via computer and the Internet) (Naidenova, 2013).

Accordingly, the education system faces the task of forming and developing students' competencies that allow them to effectively interact with numerous information sources and flows, analyze the information received, assess its reliability and usefulness in solving various life problems. Media education has to achieve this goal. Concept of implementation of media education in Ukraine defines media education as "a part of the educational process aimed at the formation of media culture in the society, preparation of individuals for safe and effective interaction with the modern media system, including both traditional (printed word, radio, cinema, television) and new (computer-mediated communication, Internet, mobile telephony) media" (Institute of Social and Political Psychology of the National Academy of Pedagogical Sciences of Ukraine, 2018). Therefore, the immediate task of media education is the formation of such important skills as structuring and analysis of information received from various sources, determining the reliability and quality assessment, highlighting the most important aspects of media messages.

The introduction of media education in Ukraine is also due to the urgent task of our country's entry into the single European educational and information space. It should also be noted that it is in European countries (along with Canada, the United States and Australia) that the issue of media education is traditionally given the most attention.

Media education in Ukraine is currently at the be-

ginning of an active phase of its development. In June, 1999 according to the resolution of the Academic Council of I. Franko Lviv National University, Institute of Ecology of Mass Information was founded. Its founders consider media ecology as a synthesis of philosophical-academic and purely applied directions of work connected with neutralization of pathogenic information streams. Research topics required an interdisciplinary approach and were mainly focused on the training of media professionals. Ten years later, in 2009, at V.N. Karazin Kharkiv National University a new Department of media communications was opened and an experimental Master's program was launched.

Nowadays, media ecology is increasingly being introduced into teaching practice in higher and secondary schools. There are also positive changes in conceptual approaches that meet European and global trends: if at first the attention of domestic experts was focused on the "detrimental impact of the media and the Internet", now positive approach is becoming more common, which primarily involves learning to interact effectively with various types of information (including protection against possible negative impact).

Since 2010, the already mentioned Concept of implementation of media education in Ukraine (Institute of Social and Political Psychology of the National Academy of Pedagogical Sciences of Ukraine, 2018) came into force. Its aim is "to promote the development of an effective media education system in Ukraine in order to ensure comprehensive preparation of children and youth for the safe and effective interaction with the modern media system, development of their media awareness, media literacy and media competence in accordance with their age and individual characteristics". By 2020, the concept envisages the implementation of the experimental phase, the gradual introduction of media education and standardization of requirements (2014–2016) and further development of media education and completion of its mass implementation (2017–2020).

Priority areas for the development of an effective media education system in Ukraine include "the creation of a school media education system, which provides for the development of psychologically sound primary school curricula for integrated education, promoting the integration of media education elements into various subjects syllabi, design of optional media education programs for adolescents" and comprehensive training of the teaching staff (Institute of Social and Political Psychology of the National Academy of Pedagogical Sciences of Ukraine, 2018).

In this regard, it is worth noting a very positive trend – the introduction of media education in the domestic education system is planned in close connection with existing courses. The provisions of the Concept have already been quite actively implemented in practice. A positive fact is that media education is implemented in cooperation with the Ministry of Education and Science of Ukraine, scientists of the National Academy of Educational Sciences of Ukraine and representatives of professional public organizations, especially the Academy of Ukrainian Press, which, in particular, did a great part of the work on the textbook "Media Education and Media Literacy" (Ivanov and Volosheniuk, 2012), which was specially designed to provide an appropriate course in higher education institutions and in the system of postgraduate teacher training.

Based on the research of scientists, the stages of formation of future computer science teachers' media competence in the process of their professional training in pedagogical universities have been identified.

The *first stage* includes the formation of motives and value orientations, and consists of the following operations: motivation to action, understanding the significance of the problem, identification of motives and their consolidation.

The *second stage* involves the development of future computer science teachers' ability to comprehend the content of the media competence formation. It consists of theoretical, research-reproductive and interpretive-creative periods. Theoretical period performs an informational, orientation and developmental function and is aimed at mastering the general content of media competence through such forms as lectures, seminars, consultations, interviews, explanations, problem-based presentations of the material and such teaching aids as syllabi and videos. Research-reproductive period is characterized by an unconscious manifestation of media competence. So that students will be able to outgrow this phenomenon, the teacher uses such forms as practical classes, lectures, seminars, consultations, trainings, explanations, learning experience, project works and such teaching aids as publications, videos, various media texts, etc.

Interpretive-creative period of the stage of mastering the content of the formation of future computer science teachers' media competence performs developmental, educational and training functions. It is carried out in order to gain experience in working with the media through the use of such forms as practical and laboratory classes, future computer science teachers' independent work in the process of their studying the professional-oriented disciplines, methods of modeling, problem and business games, etc.

The *third stage* deals with monitoring the process of formation of future computer science teachers' media competence during the period of their training.

The *fourth stage*, evaluative-corrective, involves the collection and accumulation of data on the level of media competence formation with further processing and analysis of data in order to identify the need for corrective actions.

In order to identify the effectiveness of the introduction of media education and formation of future computer science teachers' media competence, it is necessary to single out the components, criteria, levels and indicators of the formation of future computer science teachers' media competence.

It should be noted that in the scientific literature the problem of criteria is solved ambiguously. Kazakova (Kazakova, 1999) shows a lack of generally accepted criteria for "effective pedagogy" or the ways to determine the teachers and students' "quality of work", criteria for the effectiveness of each stage of personality development.

Chechel (Chechel, 1998) has defined the criteria as follows: "These are the properties of the object which provide it with an interconnected system of characteristics; that is why they become a subject for evaluation. It is possible to detect such a system, only on the condition of using a system-structural approach". The following requirements are set for the criteria:

a) objectivity;
b) stability and sustainability;
c) recurrence in the subject;
d) the ability to establish the degree of conformity of the subject to its ideal.

Gal'perin (Gal'perin, 2012), Podlasyi (Podlasyi, 1982), Usova (Usova, 2002) etc. have established various criteria for the formation of educational and cognitive skills. "Since each activity consists of a system of elementary actions and operations, composition and quality of operations, awareness of them, completeness and coagulation can be identified as the main criteria common to all cognitive skills" (Usova and Bobrov, 1987).

Scientists, who have studied the formation of professional skills, identify different criteria: Andrukhiv (Andrukhiv, 2008) – value-semantic, action-related, and cognitive criteria; Kuchugurova (Kuchugurova, 2006) – awareness of actions and their correctness; Suvorova (Suvorova, 1999) – degree of awareness of the actions performed, quality of actions performed, ability to apply skills in a new changed environment; Sukhodolsky (Sukhodolsky, 2008) – criteria of axiology, variability, motivation.

Taking into account the analysis of research done by media educators (Sysoieva, 2011; Bondarenko, 2003), it should be noted that the classification of levels of media competence can be even more detailed. One of these options is proposed by Khilko (Khilko, 2001):

1) recreational and hedonistic level of media perception (limited by entertaining motivation, aesthetic comprehension of the image);
2) household level (household, utilitarian motivation and corresponding characters);
3) aesthetic level (personal motivation, aesthetic comprehension of the image);
4) interpretative level (revealing the personal meaning and spiritual content of the piece of work, a vivid expression of inner vision);
5) microsocial level (manifested in the connection with the microenvironment, psychological motivations of the characters are given, connection with the perception of works by a particular audience is established);
6) macrosocial level (provides a critical analysis of the problem and its deployment in time and space, orientation for the society);
7) level of artistic image awareness (detailed description of the screen image, its components, selection of semantic units of the story);
8) level of the author's concept understanding (the ability to draw conclusions about what idea the author wanted to convey, based on the system of artistic perception of the piece of work);
9) level of personal concept emergence (autonomous) and the formation of autonomous vision: individual conclusions on the problem touched upon by the author and polemical dialogue with the author's concept.

After analyzing the scientific and pedagogical literature, we have come to the conclusion that there are several recurring criteria among mentioned above: motivational (motivation to develop the skills, awareness of the importance of these skills in the structure of the professional activity), action-related (level of skills necessary for professional activity, professional literacy, ability to transfer skills to changing situations), personal (formation of professionally significant traits of personality, character traits).

Based on this, let's take these criteria as a foundation, but clarify them taking into account the specifics of organizational and pedagogical activities. Assessment of the future teacher's work is complicated by the creative nature of this activity.

In addition, the outcomes of the formation of future computer science teachers' media competence will be manifested later in the professional activity.

Educational and pedagogical activities require a system of knowledge on the means and methods of resisting the manipulation of various media resources, patterns of behavior which are necessary for the successful pedagogical activity, especially for computer science teachers, because their work is inextricably linked to modern information technology. Thus, among the criteria for the formation of future computer science teachers' media competence, we should mention action-related and interpretative-creative criteria – a system of knowledge on the ways and means of resisting media manipulation, application of critical thinking skills when working with information of various types and selection of a system of necessary actions. The criteria of effectiveness include indicators that reflect the objective side of the activity outcomes and the subjective attitude of students to this activity. The system of criteria should be unified, i.e. all indicators included in it in terms of content and mathematical expression, should not oppose each other (Friedman, 1999).

Successful implementation of various activities requires the orientation of the personality for the value-oriented attitude, interest, awareness of personal and social significance. As a result, the next criterion for the formation of future computer science teachers' media competence is a motivational one.

Cognitive criterion combines a system of knowledge on the features of the media and reflects the theoretical side of students' learning; ability to identify the causes and patterns, which will increase the efficiency of the educational process; ability to reveal contradictions that give rise to the research problem; ability to get innovative experience in order to find ways and means to increase the efficiency of the educational process; ability to observe, analyze and generalize; awareness of professional self-development and personal self-improvement which include professionally important qualities; ability to perceive the media, which the level of formation of media competence depends on; ability to find, use, deliver, and put into practice the theoretical and practical knowledge.

Friedman (Friedman, 1998) notes that "any mental activity should have these three components (in particular, need-motivational, operational-active, reflexive-evaluative), and the most important task of education is to teach students to organize their own activity as a full-fledged, mental, in which all three components are balanced, sufficiently developed, realized and fully implemented".

In order to identify the criteria for assessing the effectiveness of students' learning, we consider it necessary to take into account the main areas of personality, namely: needs-motivational, operational and criterial-evaluative. Let's try to give a brief description of the selected areas.

The needs-motivational sphere of personality is an integral quality characterized by a set of social guidelines; value orientations, interests that form the basis of motives.

The operational sphere of the individual's activity is an integral quality characterized by a set of common and special knowledge, skills and abilities.

The next criterion that helps to identify the outcomes and analyze your own activity is a reflexive one. It is necessarily included into human activity and is aimed at understanding your own actions and deeds. Reflection-based self-analysis and self-assessment provide control, ability for self-cognition, ability to analyze your own actions, deeds, motives, correction and self-improvement; it actively cultivates the individuality and creative potential (Skripnichenko, 1989).

Thus, on the basis of the analyzed scientific and pedagogical literature and in accordance with the specifics of pedagogical activity of computer science teachers, we have identified the following criteria for the formation of future computer science teachers' media competence (figure 1): motivational; interpretative-creative; cognitive; action-related; reflexive.

It is possible to speak about the process of formation of future computer science teachers' media competence on the basis of comparison of indicators and levels of media educational abilities and skills received at the initial and final stages of the experiment.

The classification of indicators of personality's media competence has been designed by us (figure 2). When developing the classification of the formation of future computer science teachers' media competence, we also took into account the characteristics of high and low levels, presented in (Potter, 2018).

Characteristics of a high level of media competence formation (Potter, 2018): ability to get the main meaning of the media text; analysis: identification of the main elements of the media text; comparison: identification of similar and unique fragments of media text; assessment of the value of the media text or its fragment; judgments based on the comparison against certain criterion; abstracting: ability to provide a short, clear and accurate description of the media text; generalization; deduction: use of general principles to explain certain information; induction: derivation of general principles based on the observation of single pieces of information; synthesis: ability

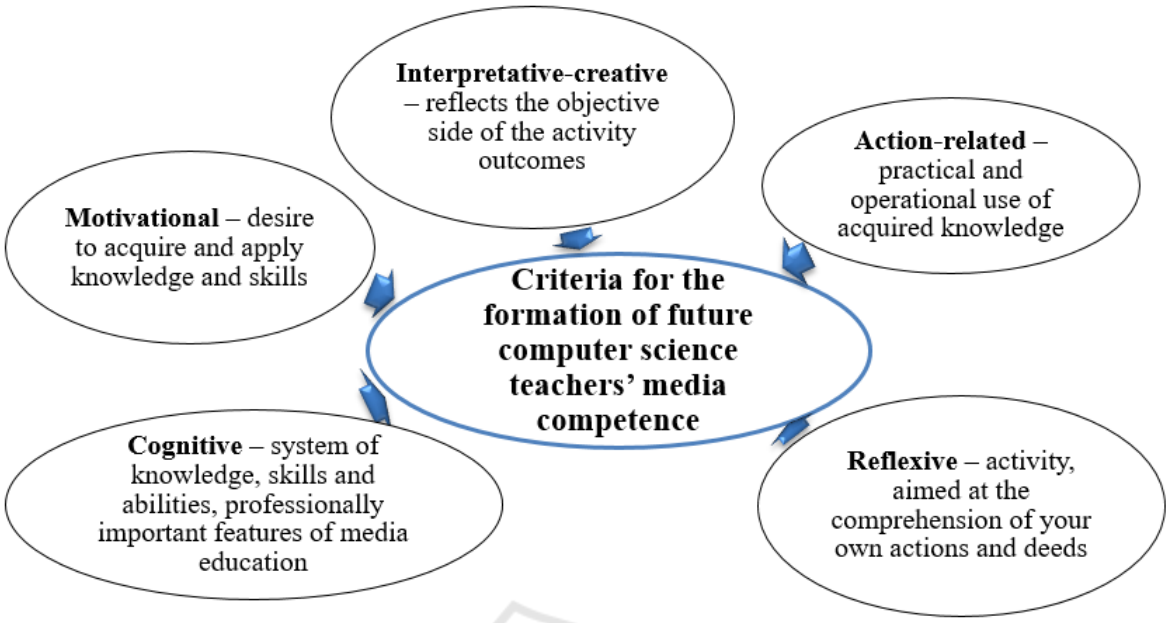

Figure 1: Criteria for the formation of future computer science teachers' media competence.

to reassemble elements into a new structure.

Characteristics of a low level of media competence development (Potter, 2018): low level of intelligence (in terms of problem solving and creativity), feeling that "everything goes in its turn"; weak memory when a person sometimes is able to remember only very important things (for example, the night before the exam); thematic dependence, lack of insight, i.e. lack of understanding of what is important in the messages; need for a mentor, assistant, handbook, or guide while studying; low level of tolerance to the ambiguity of media texts, uncertainty; weak conceptual differentiation when having a few categories of messages; negative attitude to new messages that do not correspond to the usual categories, or simplification of this media text – transferring it to the easiest category; high impulsiveness of quickly made decisions with sacrifice of accuracy.

Let's find out what indicators characterize each of the selected criteria (figure 2):

- Indicators of the motivational criterion are: a high level of motivation to learn and awareness of positive motivation lead to the active use of methods of critical analysis in professional activity; need to master media competence and understand its role in achieving professional success; motivation to develop skills that allow you to operate with any information freely and correctly (receive, analyze, synthesize), cognitive need; formation and manifestation of personal qualities (persistence, purposefulness, endurance, self-control, emotionality) and professionally important qualities (constructive (ability to set the goal and objectives of the educational process taking into account current trends in media development and dissemination; ability to identify such forms and methods of educational work that will help to achieve the goal), cognitive (desire to be engaged in continuous professional development and self-improvement, analysis of pedagogical experience, wish to expand the range of your own knowledge, ability to freely navigate in the content of the educational process).
- Indicators of the cognitive criterion are: the amount of knowledge acquired, ability to identify the causes and patterns, which will increase the efficiency of the educational process using media technology; awareness of acquired knowledge; ability to reveal contradictions and resist various manipulations and as a result to create a research problem; ability to predict the outcomes of learning and plan the activities of students, which will contribute to the achievement of the outcomes; ability to study and analyze the activities of media educators, different types and genres of media texts, in order to find ways and means to increase the effectiveness of the educational process.
- Indicators of the interpretative-creative criterion are: the ability to apply a critical analysis of the media and various media texts functioning in the society; ability to apply existing knowledge in the context of any particular media text; ability to

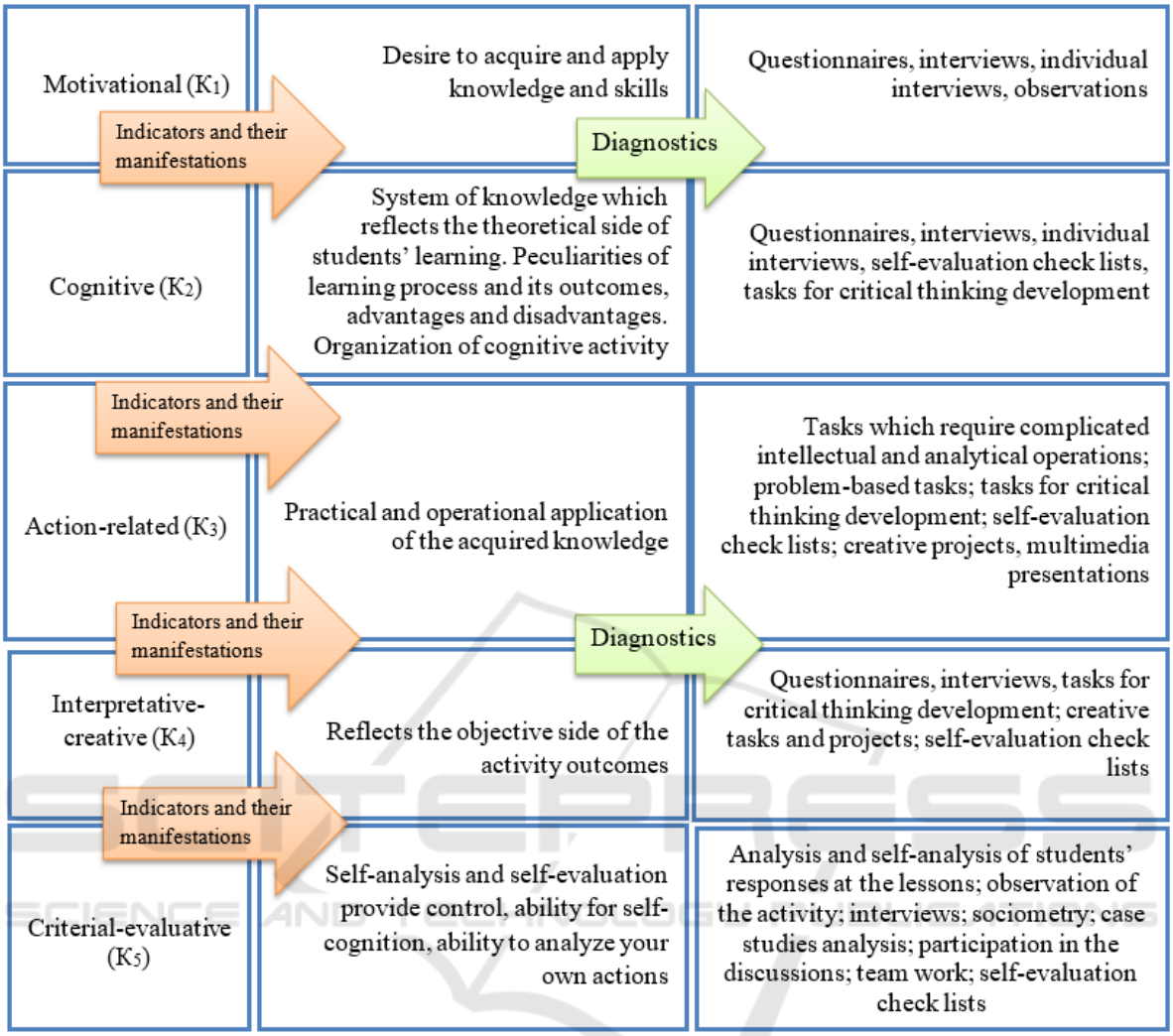

Figure 2: The system of criteria for the formation of future computer science teachers' media competence.

draw parallels during critical analysis; development of creative potential in various aspects of activities related to the media (gaming, art, research, etc.).

- The indicators of the action-related criterion are: the level of mastering a set of actions that allow you to critically analyze existing media, distribute and design your own media texts; ability to put the acquired knowledge into practice; desire for self-education in the field of media.
- Indicators of the criterial-evaluative criterion are: the ability to identify the effectiveness of the media product and feasibility of its use; ability to subjectively evaluate the results of your own activities; ability to assess the compliance of used pedagogical technologies (technologies for critical thinking development, information technology, distance learning technology, etc.) to modern requirements.

Levels of effectiveness of learning can be theoretically substantiated according to a five-point scale: negative (very low), passive (low), moderately active (satisfactory), active-productive (high) and creative (very high). But in fact it is possible to limit it to a three-point scale of a level of formation of future computer science teachers' media competence: low (conditionally marked as I); medium (II) and high (III).

Taking into account the conclusions of scientists, developed criteria and qualitative characteristics of future computer science teachers' media competence according to three levels (high, medium, low), we have developed the characteristics of each level.

K1 – motivational criterion.

- The high level of the motivational criterion formation is characterized by future teachers' increased interest in the use of media technologies in teaching computer science lessons; high activity and independence in pedagogical activity, orientation for creativity, predominant analytical activity, experience of positive emotions while participating in educational process; predominance of internal motives over the external ones.
- The following features are typical for the medium level: teachers demonstrate an occasional interest in the use of media technologies in teaching computer science lessons; motives do not correspond to individual possibilities and desires, episodic instructions for creative activity; lack of positive emotions in the process of pedagogical activity.
- The following indicators are typical for the low level: future teachers have a lack of formed intentions; values that do not reflect the objective content of the work are predominant ones; utilitarian motivation to master media technologies prevails; teachers demonstrate vagueness of interests and inclinations.

K2 – cognitive criterion.

- The high level of cognitive criterion is characterized by the following: awareness of basic terms, theories, basic facts of the media education history, creativity of media figures, a clear understanding of the process of mass communication and media impact in the real world context; compliance of the content of basic professional training with the current state and prospects of subject area development and interaction with the media; design of individual learning trajectories by students (Spirin, 2010).
- The following features are characteristic for the medium level: awareness of some basic terms, theories, some facts of the media development history, mass communication, media impact, creativity of individual media figures.
- The following indicators are typical for the low level: lack of awareness (or minimal knowledge in this area) of basic terms, theories, facts of the history of media development, mass communication, media impact, creativity of media figures.

K3 – action-related criterion.

- Future computer science teachers with a high level of the action-related criterion development clearly demonstrate the need to realize their abilities in the educational process; they have a high degree of critical analysis; the purpose and tasks of the classes are characterized by creative approach; such teachers use action-related approach in teaching computer science, their teaching is characterized by the predominance of active teaching methods; they have practical skills of independent choice, design and distribution of media texts of different types and genres, practice active self-education in the media sphere.
- The future computer science teachers with a medium level of action-related criterion have an unclear need to apply the abilities and acquired knowledge in the educational process; activity in mastering important knowledge and skills is not enough demonstrated; such teachers are able to select and design media texts of different types and genres only with the help of expert consultations.
- Future computer science teachers with a low level of this criterion rarely use any methods to intensify their work; their practical skills of selection and design of media texts, skills of self-education in the media sphere are not well developed or they demonstrate unwillingness to develop them.

K4 – interpretative-creative criterion.

- The teachers with a high level of formation of interpretative-creative criterion are characterized by: the ability to apply critical thinking technologies taking into account various factors in the analysis of various media texts and media sources; ability to analyze, synthesize and design their own media texts taking into account the aspects of space and time; they are able to abstract the material, make comparisons and make their own critical assessment of the media of any complexity.
- The medium level of the interpretative-creative criterion formation is characterized by the following features: the ability to apply technologies of critical analysis of the media, taking into account key factors based on the average development of critical thinking.
- The following indicators are characteristic for the low level of formation of the interpretative-creative criterion: tendency to

external influence, lack of skills and abilities of critical analysis, lack of critical thinking skills.

K5 – criterial-evaluative criterion.

- Students, future computer science teachers with a high level can freely operate their abilities and use them properly in their professional activities; they are capable of self-assessment and self-criticism; they are able to correlate requirements with their personal features, carry out self-diagnostics and are ready for self-development.
- Students with a medium level of formation of the criterial-evaluative criterion are characterized by the following indicators: the average level of orientation in their own abilities, their self-esteem is not always stable but adequate.
- Students, future computer science teachers with a low level of formation of the criterial-evaluative criterion have a low level of orientation in their own abilities; their self-esteem is low, they do not use methods of self-diagnosis; they tend to minimize their own capabilities, do not believe in themselves.

Therefore, media competence is a set of motives, abilities, knowledge and skills (indicators: motivational, cognitive, action-related, interpretative-creative, criterial-evaluative) that promotes selection, critical analysis, design, evaluation and dissemination of various media texts and complex processes of media functioning.

Along with the significant positive experience of introducing media education in Ukraine at the current stage, there are also significant problems. First of all, it is insufficient methodological support of media education in secondary schools – for instance, if there is a curriculum and a textbook for higher education, this issue still remains unsolved for secondary school. This problem becomes even more relevant if we take into account that the most effective way to develop media skills is to integrate them into existing subjects and courses, which obviously requires adjustment of relevant syllabi, teaching aids and methodological materials, additional teacher training. There are also more general problems on the way to the development of modern media education in Ukraine. This is the inertia of the education system, which inherited from the Soviet era the insufficient attention to the development of critical thinking, especially while doing the social science courses. At the same time, first successful steps in terms of introduction of media education in Ukraine, as well as active participation of scientists and representatives of the professional community in this process, give grounds to expect further successful development of media education in our country.

3 CONCLUSIONS

Nowadays, the learning process is a work with a large number of information sources, which are difficult to understand without the ability to work with media information. It is widely accepted around the world that educational institutions should teach students to have a critical attitude to the information provided by the media. One of the ways to involve students in the full understanding of media information is media education – education by means and based on the materials of various media sources. Media education opens great opportunities for the children's development, their intellectual and creative potential, abilities, critical thinking.

Moreover, media education opens up many new opportunities for teachers in terms of use of creative approach in the organization of the educational process.

The media revolution is just beginning. To help our children navigate the world of media, we need to become media literate ourselves. But we do not have time to master media literacy. Therefore, it is very important to do it together with children, to get to know media together, to "read" and critically comprehend media texts together, to create your own media products together. To achieve this goal it is important to qualitatively train a computer science teacher.

The media education of the future computer science teacher can be considered as a resource that can increase the effectiveness of teaching students of secondary schools. Therefore, the future computer science teacher should teach secondary school students to work with the latest information resources, and most importantly prepare them for the integration into the global information space. It should be noted that readiness for professional activity consists of indicators of pedagogical readiness and media competence. Therefore, to assess the effectiveness of the formation of future computer science teachers' media competence, the following criteria have been developed: K1 – motivational (the desire to master and apply knowledge and skills); K2 – cognitive (system of knowledge that reflects the theoretical side of students' learning, features and outcomes of the educational process, advantages and disadvantages, organization of cognitive activity); K3 – action-related (practical and operational appli-

cation of acquired knowledge); K4 – interpretative-creative (reflects the objective side of the activity outcomes); K5 – criterial-evaluative (self-analysis and self-assessment provide control, ability for self-cognition, ability to analyze their own actions). Each of the criteria is diagnosed separately, and based on the information obtained we can identify the level of media competence.

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