The Role of Journalism Teachers in the Media Literacy Development

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The study aimed to test the effectiveness of the introduction of mediatized materials and methods for developing teachers' media literacy in advanced training courses. The methodological background of the work involved the ideas of systemic, culturological, environmental, and learner-centered approaches. The data was collected through a questionnaire to identify teachers' preference for media technologies. The questionnaire questions were divided into blocks according to the criteria for assessing the teacher's media culture level. Descriptive and analytical statistics were used for data analysis. The study allows concluding that media culture is a determinant of the teacher's qualification portrait at the current stage of education. It is determined that the high level of media culture allows the teacher to navigate in the media environment as a specifically organized symbolic visual and emotional space; design their professional activities in the field of media education by creating new information and knowledge with the help of available tools and media formats; choose effective strategies for students self-learning in the media space.

Keywords: media, media culture, media competence, media education, media literacy, teacher

INTRODUCTION

Digital and media literacy have become a priority in compulsory education in Europe and globally in the age of the digital revolution (European Commission, 2016; UNESCO, 2011). Media literacy is traditionally interpreted as a process or set of skills based on critical thinking. In modern terms, media literacy typically consists of five components: youth participation, teacher training and learning resources, parental support, policy initiatives, and the creation of actual database (Bulger & Davison, 2018). At the beginning of the new century, the issue of media education is largely related to the teaching of media literacy to students (Akimova, Akimova & Akimova, A. (2022). Highly developed mass communication technologies, feedback technologies, interactivity reduces the category of media literacy to a special rank of special and general skills which are in demand in society.

So, the outlined problems determine the need to study the problem of developing teachers' media literacy. Given these premises, the research hypothesis was determined as follows: the inclusion of mediatized materials and methods in the advanced training courses will contribute to the successful establishment and development of teacher media culture. The research topicality involved the main objectives that need to be fulfilled:

1. Identify the main problems of teachers' media literacy development;
2. Create diagnostic tools for assessing teachers' media literacy;
3. Determine what materials and methods contribute to the successful establishment and development of teachers' media culture.

LITERATURE REVIEW

Media literacy is defined by most researchers as being able to get, analyse and create information to achieve particular goals. This definition emphasizes its critical nature and highlights the skills needed to access, critically understand and actively use a variety of tools and formats to create original messages. Critical understanding in this area means studying (a) audio-visual languages used by different media; (b) how the media represent reality and the relationship between facts and fiction in the media; (c) media production processes; and (d) media-audience relationships (Buckingham, 2019). The issues remain about the extent and way of the adaptation and expansion of media education (Buckingham, 2019, p. 44) to meet the challenges of today's digital media environment.

The problem of training media teachers is especially acute, because if teachers are to provide their students with effective media education, they must: a) be media literate enough; b) have the necessary competencies to promote media literacy among students (Simons et al., 2017). So, the development of teachers' media literacy is an urgent problem of postgraduate pedagogical education.

Hart (2018) notes the rapid development of media education and the lack of appropriate expansion of teacher training opportunities. At the same time, Ivanović (2014) argues that the acquisition of media literacy can be truly successful only if the relationship between the specifics of the media and the understanding of these features by learners is taken into account. Ranieri and others (2019) note that media literacy teacher training is limited and is represented by very short courses. As for advanced teacher training, it is not mandatory and is mainly based on the teachers' striving to attend particular programmes, as well as the capability of school networks and managers to arrange them. Therefore, teacher training should be in line with current trends and achievements in media education, while being consistent.

According to Manca and others (2021), most current studies consider global social media skills, while only a few examine skill sets specific to a particular social media platform. This issue is especially topical for developing media literacy of teachers who use different social platforms for teaching students. According to Nagle (2018), online spaces can be dangerous. In particular, Twitter, which is the social networking site used and promoted by many educators to collaborate on professional learning networks, is full of misogyny and racial violence. A survey by Carpenter and others (2020) allowed determining that educators are actively using Instagram. A review of 841 responses found that participants used Instagram intensively and shared both professional knowledge and wisdom, as well as emotional support. In addition

to listing the benefits of Instagram, some participants criticized its professional usefulness. The use of social networks is only one of the problems in teachers' media literacy. We agree with Trültzsch-Wijnen and others (2019) that the motivation is important for the development of media literacy, because personal interest and desire of teachers is crucial for the successful implementation of media and digital literacy policies.

Today, the mission to prepare the new generation for life in current information society, for the perception of various information, to teach people to understand it, to become aware of the implications of its impact on the psyche belongs to the media educator. Todino and others (2018) define media teacher as a person mastering a new profession, who is engaged in educational and pedagogical activities aimed at ensuring that people understand the media (their nature, methods and languages). Bazalgette (2018), however, concluded that media teachers tend to be ambivalent or insecure about what they teach and professional media practice.

So, there are many problems and contradictions despite quite rapid development of media pedagogy, like all other media resources. Fedorov and Levitskaya (2018) note that it is necessary to introduce media education wherever possible in curricula (schools, universities), as well as in the context of additional, informal education and lifelong self-learning. The complexity of curriculum development processes, as well as the challenges and gaps described between intent and practice, suggest the need for some new rethinking and renewal of efforts to develop media education (Lemish D. & Lemish P., 2018).

So, a literature review on teachers' media literacy revealed a number of contradictions in the system of additional professional education between the growing importance and practical demand for teachers' media competence and insufficient attention to its development in the course of advanced training, especially for older teachers (Vuojärvi et al., 2021); as well as between the potential of advanced training courses and the lack of a system for their use to develop teachers' media literacy. The problem of creating diagnostic tools for diagnosing the levels of teachers' media literacy remains urgent. The outlined problem becomes especially urgent in the context of distance learning because of Covid-19 (Austin et al., 2021).

METHODS AND MATERIALS

The study was arranged in three stages during 2020-2021. The empirical study was conducted in stages. The first stage was preparatory and involved the selection, substantiation and theoretical understanding of the problem and research topic; analysis of the educational programmes for teacher training, as well as review of foreign and domestic experience in the development of teachers' media literacy; the development of a programme and experimental technique. The second (main) stage included pre-experimental and post-experimental measurement, as well as pedagogical experiment. Thematic modules "Teacher's navigation in the media space", "Using the media environment potential in pedagogical activities", "Media communication of participants in the educational process", etc. were included in the teacher training. Teachers got a practical opportunity to create their own methodological media materials. The third stage (final) included: processing of measurement data using software packages; interpretation of statistical indicators, comparison of the obtained results with the expected ones and previous researches on the chosen problem; presentation of research results. The methodological background of the study were the ideas of systemic, cultural, environmental and learner-centred approaches.

Generalization of practical experience of media education, diagnostic methods (questionnaires, observation of statistical indicators of pedagogical activity of teachers in the media space), pedagogical experiment were the main methods of work.

The experiment on the level of the teachers' media culture involved 93 teachers of secondary schools No. 250, No. 249, No. 263 in Kyiv, who studied at the advanced training courses. Participants in the experiment to identify the dynamics of teachers' media culture were divided into two homogeneous groups — control (CG, 46 people) and experimental (EG, 47 people).

We identified a set of criteria and indicators to assess the teacher's media culture (Table 1). Three levels of manifestation of the teacher's media culture are determined: cognitive, value, activity (Figure 1).

TABLE 1
CRITERIA AND INDICATORS FOR ASSESSING TEACHER'S MEDIA CULTURE

Item No.	Media culture assessment criteria	Teacher's media culture indicators
1.	Knowledge of the field of information security in the media space (cognitive criterion)	Critical perception of information, free orientation in the media space, competent media navigation, selection of information, protection of personal data
2.	Motivation of media educational activities and skills of information retrieval in the media environment (motivational criterion)	Effective compilation of search queries in search engines, selection of information by specified parameters, motivation to search for new relevant information in the media environment
3.	Perception and interpretation of media text (reflective estimation criterion)	Conscious perception, understanding of the general idea and context of information, the hidden meaning of media texts based on their multifaceted analysis and comparison, the ability to build their own concept of media text, their own opinion about the information, experience of visual and problematic perception of media content
4.	Media creativity in teaching (creative criterion)	Use of media materials in pedagogical activity, creation of own media products
5.	Communication skills in the media space (communicative criterion)	Overcoming communication barriers, adhering to the ethics of communication in the media space, establishing media dialogue

FIGURE 1
TEACHER'S MEDIA CULTURE LEVELS

We developed a questionnaire to identify teachers' preference for media technology, as well as to establish the role of media education methods and technologies in their lives and professional activities in order to study the level of teachers' media culture and collect data on its development. The link to the web questionnaire was posted in groups of students on WhatsApp. They were asked to fill it out to collect data. Data analysis was performed trough SPSS statistical software. Descriptive and analytical statistics were used for data analysis. Student's t-test was used for the statistical analysis of the data obtained. The following formula was used to calculate Student's t-test in order to compare the average values of the survey results in CG and EG:

$$t = \frac{M1 - M2}{\sqrt{\frac{\sigma 2}{1} + \frac{\sigma 2}{2}}}, \quad (1)$$

where M_1 – arithmetic mean of the CG survey, M^2 — arithmetic mean of the survey, EG_2 — variance, that is scatter of individual data, CG_2 — variance, that is scatter of individual data, EG_1 — number of members, CG_2 — number of EG members.

We found the number of degrees of freedom by the following formula to correctly interpret the obtained Student's t-test:

$$f = (N1 + N2) - 2 \quad (2)$$

The questions of the questionnaire were divided into blocks according to the criteria for assessing the level of teachers' media culture:

1) description of the cognitive criterion of media culture based on the assessment of the teachers' general knowledge the field of information security in the media space;
2) an idea of the motivational criterion of media culture based on the analysis of the effectiveness of the teacher's search queries, selection of information on the specified parameters, motivation to search for new relevant information in the media environment;
3) description of reflective estimation criterion based on perception awareness, understanding of the general idea of media text, revealing the hidden meaning of media context on the basis of its integrated analysis, ability to build their own concept, express and argue their opinion on information;
4) evaluation of the creative criterion as the teacher's orientation to the use of media materials in pedagogical activities, the desire to create their own media materials;
5) identification of the communicative criterion as the ability to overcome communicative barriers in the media space, compliance with the communication ethics, the establishment of mediatized dialogue.

RESULTS

A questionnaire survey conducted at the beginning of the study showed similar results in both groups: most teachers demonstrated the cognitive level of media culture, some respondents — the value level, while only a small number of respondents — the activity level (Table 2).

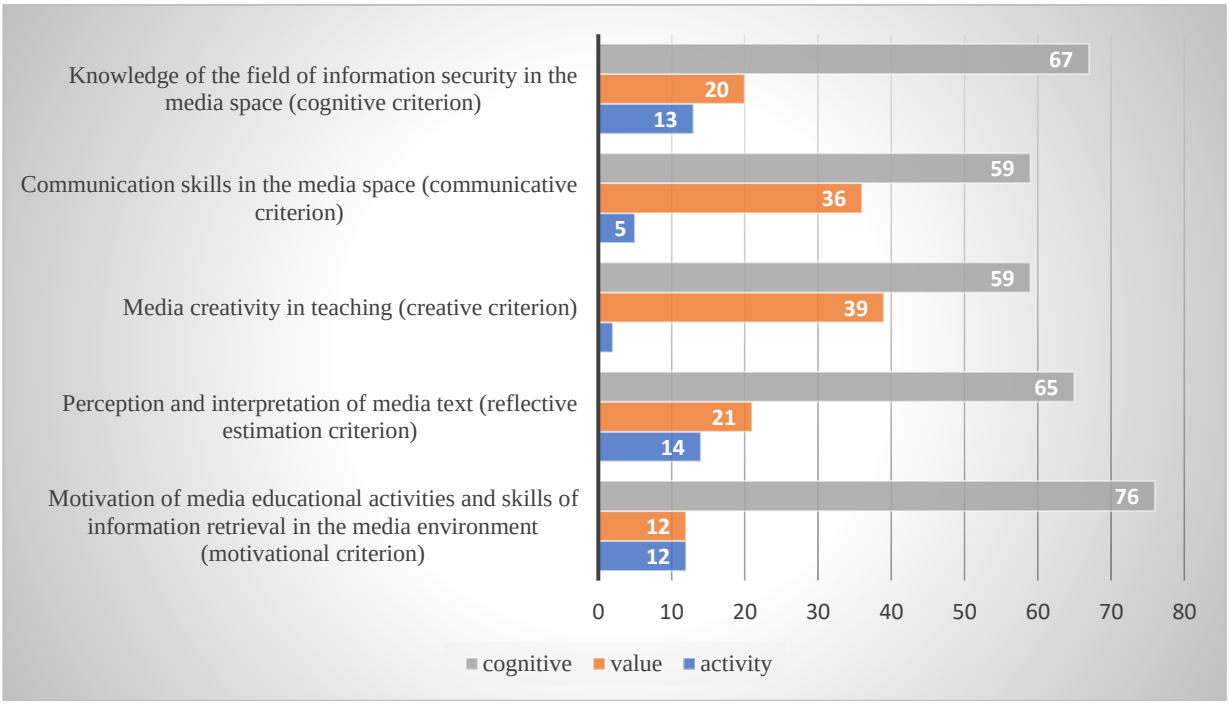
TABLE 2
THE RESULTS OF THE EVALUATION OF TEACHER MEDIA CULTURE IN THE CONTROL AND EXPERIMENTAL GROUPS AT THE BEGINNING OF THE EXPERIMENT, %

Teacher's media culture assessment criteria	Teacher's media culture levels					
	cognitive		value		activity	
	CG	EG	CG	EG	CG	EG
Knowledge of the field of information security in the media space (cognitive criterion)	67	66	20	18	13	16
Motivation of media educational activities and skills of information retrieval in the media environment (motivational criterion)	76	78	12	11	12	11

Perception and interpretation of media text (reflective estimation criterion)	65	67	21	23	14	10
Media creativity in teaching (creative criterion)	59	57	39	39	2	4
Communication skills in the media space (communicative criterion)	59	59	36	34	5	7

The distribution of teachers by media culture levels in CG and EG at the beginning of the experiment is presented in Figures 2 and 3, respectively.

FIGURE 2
TEACHER MEDIA CULTURE ASSESSMENT INDICATORS IN THE CONTROL GROUP AT THE BEGINNING OF THE EXPERIMENT



At the beginning of the experiment, teachers showed unreasonably distrustful attitude to media materials, poorly oriented in the media space, had mostly theoretical ideas about the didactic potential of media products, methodological and practical media education methods, technologies and techniques. The CG participants in the experiment were trained in advanced training courses using the standard programme, and the EG used a programme that includes many media educational assignments.

A re-survey was conducted to determine the level of teacher media culture upon completing the advanced training courses (Table 3).

FIGURE 3
TEACHER MEDIA CULTURE ASSESSMENT INDICATORS IN THE EXPERIMENTAL GROUP AT THE BEGINNING OF THE EXPERIMENT

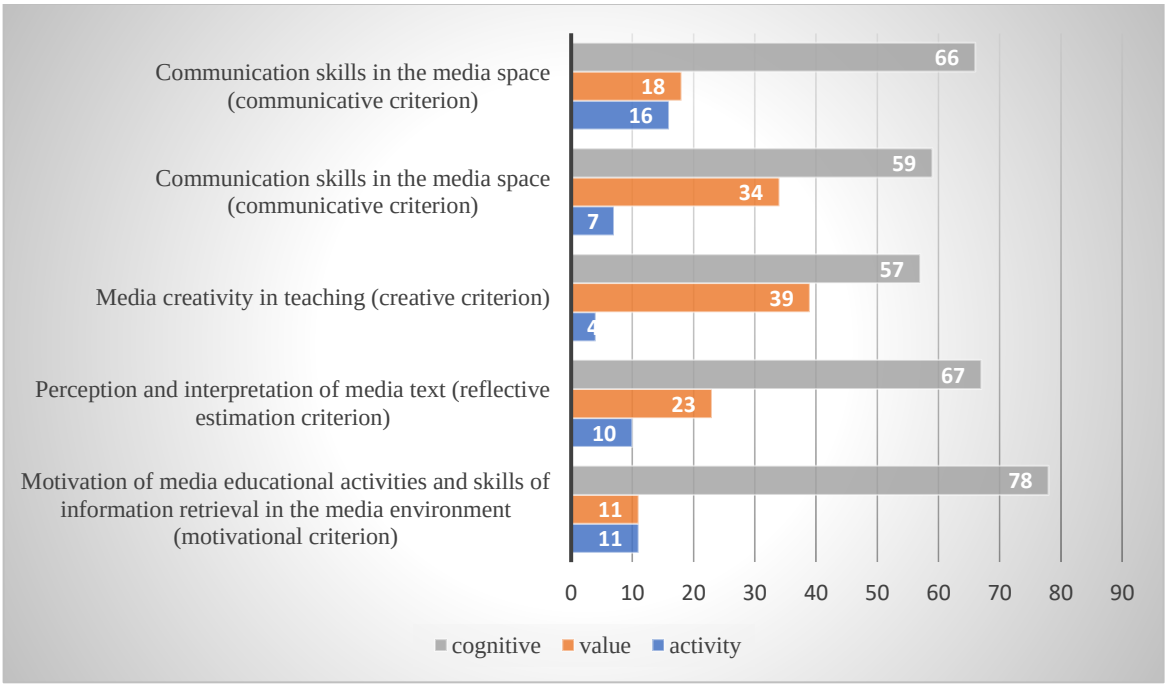


TABLE 3
TEACHER MEDIA CULTURE ASSESSMENT IN THE CONTROL AND EXPERIMENTAL GROUPS AT THE END OF THE EXPERIMENT, %

Teacher's media culture assessment criteria	Teacher's media culture levels					
	cognitive		value		activity	
	CG	EG	CG	EG	CG	EG
Knowledge of the field of information security in the media space (cognitive criterion)	64	16	22	20	14	64
Motivation of media educational activities and skills of information retrieval in the media environment (motivational criterion)	73	28	14	13	13	59
Perception and interpretation of media text (reflective estimation criterion)	63	17	22	29	15	54
Media creativity in teaching (creative criterion)	59	14	38	41	3	45
Communication skills in the media space (communicative criterion)	57	19	37	37	6	44

Teachers' media culture was evaluated according to the developed criteria and indicators. The distribution of the number of teachers by levels of media culture in CG and EG at the end of the experiment is shown in Figures 4 and 5.

FIGURE 4
TEACHER MEDIA CULTURE ASSESSMENT INDICATORS IN THE CONTROL GROUP AT THE END OF THE EXPERIMENT

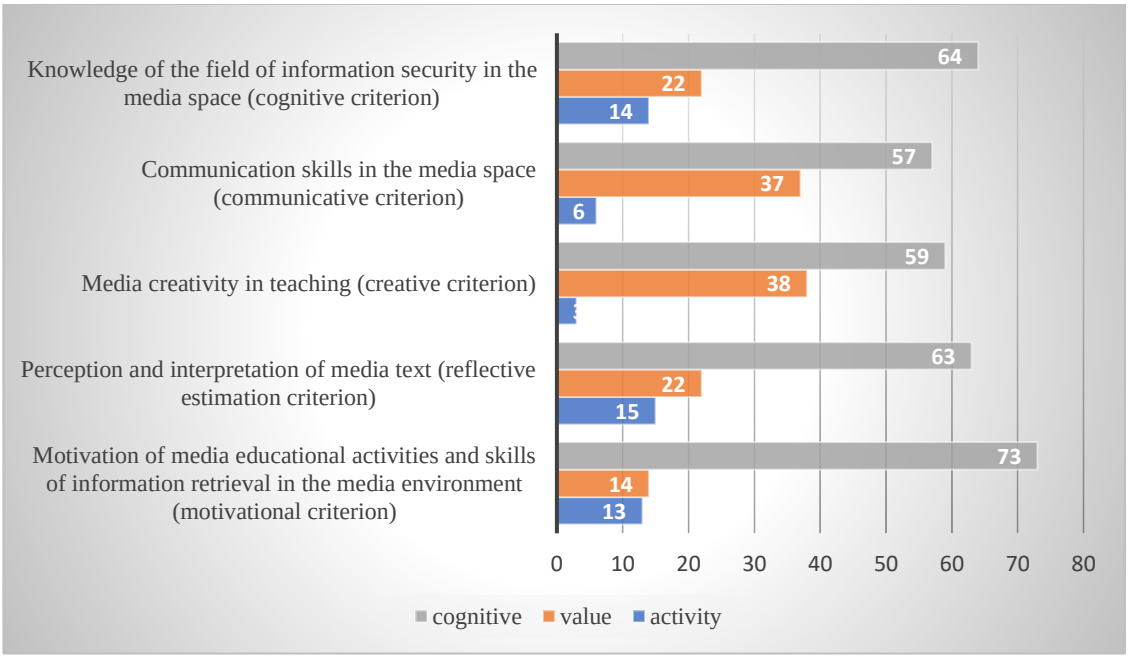
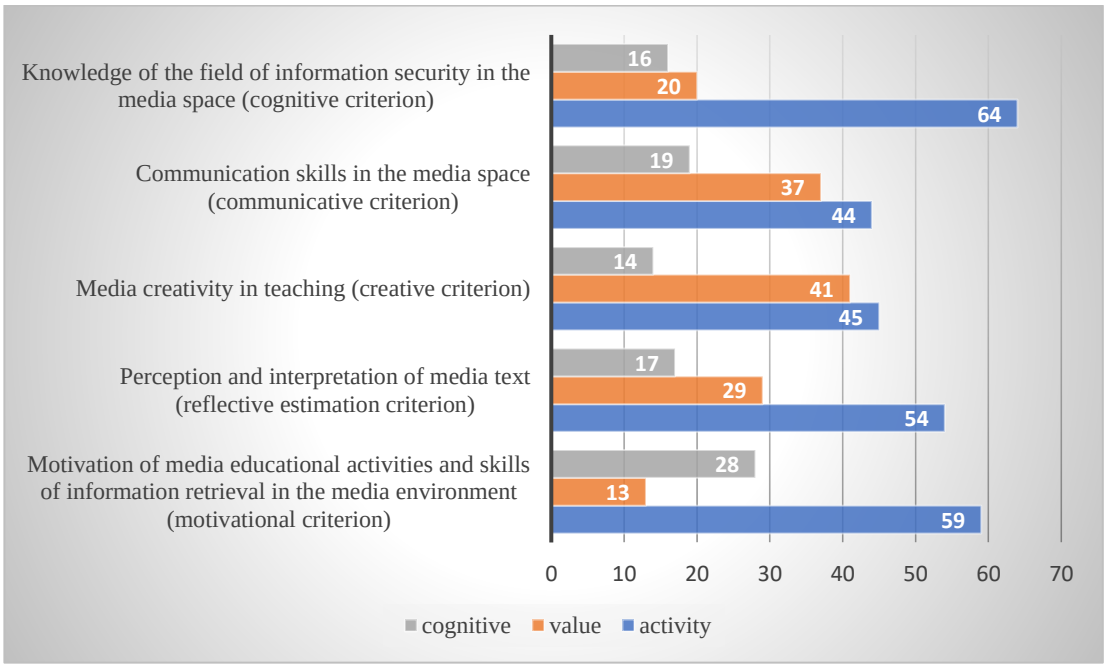


FIGURE 5
TEACHER MEDIA CULTURE ASSESSMENT INDICATORS IN THE EXPERIMENTAL GROUP AT THE END OF THE EXPERIMENT



The situation remained unchanged in the CG, while there were significant changes in the EG: the indicators of motivation for media education and the level of skills of information retrieval in the media

environment, perception and interpretation of information significantly increased; the values of the teacher knowledge of the field of information security in the media space maintained and increased; the number of teachers who position themselves as being able to create and implement their own media products in pedagogical practice increased.

The values of media culture indicators after the cycle of media education classes provided by advanced training courses indicate positive changes in the teachers' media culture levels, the predominance of the activity level. Consider the effects of media education on all the criteria subject to assessment.

Cognitive Criterion

Positions of the activity level of teacher media culture development in EG increased from 16 to 64%, while the number of teachers who demonstrate the cognitive level of this indicator decreased from 66 to 16%. Competently and confidently navigating and filtering information in the media environment, freely navigating in the media space, teachers began to perceive media texts more adequately and critically, demonstrated media security skills.

Motivational Criterion

The figure for cognitive, value and activity levels in EG were 28, 13 and 59%, respectively (preliminary diagnostics revealed mainly cognitive level of motivational indicator (76%), while 12% of respondents showed value and activity levels). Teachers began to quickly find the necessary information by making effective search queries. Their motivation to have up-to-date information provided by media technologies, as well as their value attitude to media educational methods and technologies have increased.

Reflective Estimation Criterion

The number of teachers with a cognitive level of media culture has significantly decreased — to 17% (initially — 67%), and with a value level —to 23%. There were 54% of EG teachers who reached the activity level (10% at the beginning of the experiment). Teachers began to confidently express their own opinion about media resources, reveal the hidden meanings of media information on the basis of rational understanding and interpreting the meanings embedded in media texts.

Creative Criterion

The cognitive level was demonstrated by 14%, the value level — by 41%, the activity level — by 45% of EG teachers (at the beginning of the experiment 57% of respondents had the cognitive, 39% — value, 4% — activity levels). The participants of the experiment began to show interest in pedagogical media creativity, striving not only to use ready-made media products, but also to create their own educational media materials.

Communicative Criterion

After the experiment, 45% of EG teachers had the activity level, 41% —the value level, and 14% had the cognitive level. Initial diagnostics revealed the values of 7, 34 and 59%, respectively. Teachers became able to establish a mediatized dialogue, adhere to the communication ethics in the media space, realized the communicative effect of media products.

The analysis of the indicators obtained as a result of the experiment showed that the general population represented by samples of the data obtained, is distributed according to the law close to normal, which allows to use Student's t-test to determine the statistical significance of experimental data.

After that, the critical value of Student's t-test for the required level of significance ($p = 0.05$) and the number of degrees of freedom f was determined according to the table (t). Table 4 presents the results of the calculations.

TABLE 4
STATISTICAL INDICATORS OF THE RESULTS OF THE EXPERIMENT OF TEACHERS' MEDIA LITERACY DEVELOPMENT

Competence	CG	EG
Media literacy	The arithmetic mean of the compared set of answers (M)	
	16.6	34.3
	Variance (□)	
	1.485	1.768
	Number of degrees of freedom (f)	
	298	
	Student's t-test	
	8.467	

The reliability of the experimental results is confirmed by their statistical significance. The reliability of differences in teachers' media culture at the beginning and end of the experiment for cognitive, value and activity levels was proved Based on the use of Student's t-test calculation method in the experimental group. The difference between the activity level of media culture in CG and EG after the experiment is substantiated, and the conclusion is made that the hypothesis is correct: the inclusion of mediatized materials and methods in the advanced training courses contributes to the successful establishment and development of teacher media culture.

DISCUSSION

The conducted theoretical and empirical research confirmed the hypothesis in general and proved the effectiveness of the developed model of teachers' media literacy development in the system of additional professional education. Our findings are identical to those of Botturi (2019), which show that despite limited curriculum space and available resources, even a short course can change the situation and allow teachers to integrate digital media literacy into their profession.

Teachers' media culture is the ability to think critically, creatively analyse and be creative in processing and creating educational media texts, that is operational knowledge in the field of media use in the educational process and thriving for keeping them current (Lytvyn et al., 2021). Teachers' media culture in the process of professional development is formed by cognitive, value and activity levels of development. Note that the theoretical analysis revealed that the problem of media literacy development is more focused on higher education (Cubbage, 2018) and postgraduate education (Alipour et al., 2021).

The analysis of accredited teacher training programmes is, however, aimed more at acquiring basic or advanced skills in working with digital technologies (as regards the technological aspects of these tools). But teachers lack practicality in courses focused on methodological aspects of the use of teaching aids (Záhorec et al., 2019).

The teachers' media culture development is effective in the process of creating a multimedia educational environment. MOC is understood as a subsystem of the information educational space of a modern school designed by a teacher of educational media texts. Teachers master and create varieties of multimedia educational environment: 1) lesson environment, which can be implemented in preparation for one lesson; components of the environment created by new media are combined with the help of hypermedia technologies, 2) variable complex of the subject — hypertext environment for independent and

creative use, consisting of reference, didactic, methodological and other media texts for several lessons; 3) universal interactive hypertext space — a personal website environment, which is used to place methodological and didactic developments as an activity educational space of teacher-student interaction. When designing a multimedia educational environment, teachers immerse in creative and constructive activities, which are a set of analytical, exploratory, design and creative modelling activities (Goian et al., 2020).

Creative constructive activity of teachers to create MOC as a structure that includes design, creation, analysis and interpretation of artistic media texts, consists of several stages (propaedeutic, axiological, design, activity, analytical) and determines the quality of teachers' media art forms of work (creation of educational films, video clips, collages, multimedia presentations, etc.). Ranieri and others (2019) noted that teachers also had access to new pedagogical strategies during in-service training, while improving their knowledge about the potential of multimedia tools for learning. In particular, they learned new techniques such as media analysis and production. Media literacy influences the professional development and professional growth of teachers (Alici, 2021).

The research results also helped to identify factors that may hinder the teacher in mastering media culture — age and working hours. Older teachers have lower digital literacy compared to younger teachers, while the latter also have a higher level of digital skills (Saripudin et al., 2021). We agree with Hobbs (2017), that it will be important for media literacy teachers to explore new forms of self-study that will enable educators to develop the knowledge and skills needed to incorporate media literacy into curricula.

CONCLUSIONS

The role of media technologies in life and educational practice is continually growing, and the mastery of media culture allows the modern teacher to work more effectively with information and develop students' media competence. In this regard, the search for tools for developing and determining the level of media culture of school teachers is urgent.

The results of the introduction of special modules in the advanced training programmes, which include a set of mediatized assignments, demonstrated the prospects of using similar methods of teacher training. The level of teachers' media culture significantly increased after the experiment. Teachers have mastered media education methods, technologies and techniques, began to confidently navigate the media space. This indicates the practical significance of the study, the results of which were established through our system of criteria.

We used the following criteria as indicators of the level of teachers' media culture: cognitive (knowledge about media information security in the media space), motivational (motivation for media education activities and information retrieval skills in the media environment), reflective estimation (perception), creative (media creativity in pedagogical activities), and communicative (communication skills in the media space).

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