Formation of conditions to develop critical thinking for increasing media competences

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Abstract

The study focuses on assessing the possible effectiveness of the program used to teach media competence of student teachers. The study contributes to the investigation over the types of students' motivation to develop their critical thinking skills. At the same time, this research evaluates the degree of influence of teacher students' media competence on the formation process of a springboard for critical thinking development. The research was carried out on the basis of the Abai Kazakh National Pedagogical University and in parallel at Teraz Pedagogical University. Data collection was done through a media consumption literacy poll and by using Lukyanova's methodology for motivation assessment named "Fight against cyber extremism". The results indicate the presence of a significant increase in the level of motivation and academic achievement in the field of media competence in the group that applied the training program proposed by the authors in training. A high level of motivation to learn was observed in the experimental group, 13.6%, and in the control group, 12.5%; 11.2% of participants in the experimental group showed a higher cognitive level (10.2% in the control group); higher academic achievements - 10.5% in the experimental group and 9.5% in the control group.

Keywords: critical thinking, Internet, media competence, media education, psychological and pedagogical conditions.

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1. Introduction

Understanding media literacy today includes a number of components. Among them, the most important is the ability of a person to understand and independently evaluate the information provided by the media. Other components of media literacy are the skills of reading multi-format media messages, written literacy, as well as protecting young people from negative and inhuman information influences (Boulianne & Theocharis, 2020; Colás-Bravo et al., 2019; Hobbs, 2017). The importance of media competence is perceived to be so high that sometimes, based on the totality of features, it is assessed as equivalent to social competence, especially with regard to adolescents (Booker & Dunsmore, 2017).

The globalized media space offers many new types of risks. Among them, researchers most often name advertising practices and the use of pre-election technologies (Mihailidis, 2018). All such practices specialize in latent influence, in which the percipient is not aware. The dominant effect on consciousness is built in this kind of practice in such a way that the object of influence has a strong motivation to perform certain actions, even if, from a critical point of view, they are not effective or do not lead to the result necessary for a given personality (Kahne & Bowyer, 2019).

Attempts to control consciousness are focused on deliberately pushing the percipient to take actions contrary to his real intentions. Based on this, the development of media competence is an important part of protecting the human personality from the uncontrolled influence of the information field. Media competence includes such significant skills as the adequate use of media products and information flows. This skill implies, in particular, the ability to protect oneself from media manipulation. The goal of media pedagogy is to fully master such defense mechanisms (Haider & Sundin, 2022).

Modern media is heavily mobile-based and offers itself in a mobile way. The ability to manage mobile applications and the skills of interacting with media through mobile applications are most effectively established from an early age (Papadakis, 2020).

One of the most important tasks of training is to prevent the most often dominant negative influence of a random choice of media products in the course of the educational process. This process has an extremely detrimental effect on higher education and requires special pedagogical measures, the search for tools and methods for the formation of media competence. Students need a deeper study of the practical base of media competence based on accumulated empirical research. This problem is gradually being solved in the process of forming adequate media education, first of all, among future young professionals in the pedagogical field. It is in relation to this set of media competence skills that the definition of "digital citizenship" seems to be formulated (Xu et al., 2019). Raising the level of media training of teachers and providing them with an adequate and high-quality set of teaching methods can gradually turn media education into a natural part of the process of learning about the world from an early age.

Despite sufficient research on social media in teaching and learning, social media literacy remains under-researched (Manca et al., 2021) Digitization in learning is seen as a pathway for social media to influence competence development and student learning (Zeniali Khorchani et al., 2019). Decontextualized practices on which teachers tend to focus more (literacy as something that needs to be acquired) will certainly affect the context of the information that students have to learn, analyze and apply in practice (Valtonen et al., 2019) The current research generally looks into global media skills from the perspective of entertainment, shaping a springboard for their application in the professional domain. In addition, most of the skills developed through the application of digital

learning tools relate to decontextualized practices, and very little research highlights the importance of promoting contextual media practices (McDougall et al., 2018).

Based on the above, this study assumes a reliable solution to the issue of widespread penetration of media literacy through the pedagogical preparation of the future university pedagogical stuff. In this work, the task is to apply in practice and check the conditions in which the media competence of future teachers is optimally increased during training. Creation of the necessary level of media competence and an increased level of motivation for teachers of any level of education to develop in this specific area throughout their lives allows us to hope for the sustainable development of the whole social environment in the rapidly developing environment of world digital media (Rieckmann, 2018; Turgunbaeva & Tazhenova, 2018; Tynjälä et al., 2016).

An effective solution to the purpose at hand depends on the use of a suitable methodological approach. From the point of view of the methodological foundations of science, we believe that association of the axiological and semiotic components of the unity of activity and competence should be considered for solving this problem.

The analysis of academic research in the field of media education focuses on the problems of the component approach. Competence in literature is predominantly defined as the ability to focus on certain knowledge. It is also the ability of an individual to adequately act within the framework of problem situations, relying not on a limited set of previously acquired knowledge, but on his own skills.

Some researchers consider the concept of "competence" as a wide range of human qualities, closely related to each other by their manifestations. These qualities depend on other factors or processes necessary for the high-quality and productive action of the qualities in question (Rieckmann, 2018).

At the heart of any human activity is the principle of the unity of the psyche and the performed action. In the application to the competence-based approach, the recognition and transformation of the human environment through the activity of the individual is considered as an action (Roth & Jornet, 2017).

A competent approach to the development of media competence should effectively contribute to the renewal of the position of subjectivity of each student. Mastering media competence requires finding a natural subjectivity and the manifestation of active and constantly acting cognitive activity. From the point of view of the practical manifestation of this process, we can say that the organization of media education in general takes place in the context of specific cognitive actions of students and contributes to the development of certain types of behavior and competent actions of students. The practice of developing media competence includes interaction with a teacher, for whom students are subjects of media education (Bravenboer & Lester, 2016; Haryanto et al., 2019).

Previous studies have already identified sets of approaches to determining axiological competence in the development of students' media competence. A number of studies link the axiology of competence with the concepts of life values, worldview and principles of human life (Downie, 2020; Sagiv et al., 2017). The analysis of academic literature presents an axiological approach as a way of organizing interaction that leads to actions that have a specific goal. Targeted actions motivate participants in the learning process to achieve media competence as a subjectively significant goal. This approach, used in the course of teacher training, is aimed at further increasing the level of media

competence of students of those universities, whom these teachers will teach. Also, this approach helps to attract students to more active creative work on solving the problems of the media sphere.

The teacher should, within the framework of the described approach, provide all students, indifferent to their personal abilities, equal opportunities so that they can express their own thoughts and opinions, make suggestions or express criticism. The teacher should contribute to the absence of emotional stress, relieve intellectual stress, help to eliminate stress or feelings of being overshadowed. The teacher's abandonment of the tyrannical function of control and imposition seeks to eliminate limitations or areas that cannot be discussed. The actions of the teacher described above reflect the axiological competence approach for the formation of media competence.

The most important condition for the formation of media competence is the development of students' skills of a critical attitude to the consumption of any media product. The media is the "fourth estate" that demonstrates great strength in society. The media promote specific individual and social models of behavior, as well as impose certain social values. The need for the development of critical thinking among young people is associated with the prevention of errors in the use of media products (Hitchcock, 2018; Al-Zou'bi, 2021).

Critical thinking in this context is described as the application of cognitive strategies and techniques that increase the likelihood of obtaining the subject's expected result. The thinker uses effective thinking skills to achieve a goal or obtain a certain type of event (Yuan et al., 2020). On the other hand, critical thinking can also be viewed as independent social thinking. It is characterized by the initial formulation of the question for the search or the identification of the problem area. Critical thinking is about finding and using convincing evidence (Yuan et al., 2020). The author of the study emphasizes that obtaining information is not the end of the cycle of critical thinking, but its starting point.

The view of critical thinking described above, some French media educators define the desire to educate the student as a free and open citizen in a truly democratic society. Such a citizen, first of all, should have the ability to think autonomously (Skjönsberg, 2019). The well-known British researcher R. Ferguson agrees with these views, emphasizing that the teacher should provide students with the opportunity to connect personality and politics. He places greater emphasis on preparing students for a more active citizenship in a wide range of social interactions (Mihailidis, 2018; Kahne & Bowyer, 2019; Haider & Sundin, 2022).

The study suggests that the application of critical thinking is capable of generating distortions, thinking errors, misinterpretation of information, etc. (Kačinová, 2018). Critical analysis for a media text involves a number of mental operations that determine different properties and specific relationships of all its separate parts (Ku et al., 2019). The process of perception and then understanding of media texts requires a certain technological support. This provision implies the effective application of a number of specialized technologies, methods and systems. Among them are the processes of comparing, clustering and generalizing facts, properties, and phenomena, and the processes of establishing connections between them, drawing conclusions based on the information available, and applying the knowledge obtained through the analysis of media texts in everyday life. Another example is the process of forming an opinion about whatever is reported in the media (Gálik, 2020).

The purpose of our work is to develop media competence and use the methods of its development and the results of the obtained media competence in lectures, seminars to promote critical thinking of students. The development of media competence and associated critical thinking should lead to the fact that students can conclusively draw their own conclusions, form an opinion, make decisions, and

communicate conclusions to other participants in the discussion. Also, students should be able to consume media products through personal, pair and group analysis. Among the methods of analysis, the analysis of media texts is used, the perception of different points of view on the problem, to form a deep understanding of the problem. The development of one's own evidence-based opinion increases responsibility and creates a good basis for solving future pedagogical problems.

Based on critically studied sources and the developed approach, the authors identified the following set of conditions for pedagogical activity, which is necessary for the formation of media competence in students:

- the development of media competence should be combined with the methodological work of teachers; it should include competence-based, axiological and semiotic approaches;

- students must form a critical attitude towards how to consume media products;

- students must master the methods of manipulation used by the media;

- the process of perception and further understanding of media texts by students should have adequate technological support.

The first point should provide a methodological solution to the issue, the second point - psychological, and the following - methodological and technological. All points create conditions for the most effective solution of the research problem (Roth & Jornet, 2017; Turgunbaeva & Tazhenova, 2018; Xu et al., 2019). The Republic of Kazakhstan provides a wide range of opportunities for media education for students at universities. Improvement of media education is necessary within the framework of higher education (Huisman, 2019) and this is one of the objectives of our research.

Summing up, we conclude that media competence increases the ability to perceive and fix the dominant influence of the media on the consciousness of users of media products. Media competence allows you to resist such influence due to the development of special skills of perception and analysis, critical thinking. Media competence includes knowledge about the media and the peculiarities of their functioning, knowledge of terms and the ability to use them correctly; forms the ability to consume media products through orientation in the modern media space and critical thinking. Media competence provides the key to the use of new media technologies and methods of their application, and also increases the ability to deeply analyze information obtained from media content.

The novelty of the research lies in the study of various motivations for the development of critical thinking among students and its role in the formation of media competence. In this case, various methods were used, which increases the reliability of the results.

The aim of the study is to compare the level of motivation and types of motivation of students who received professional training in media competence and those who did not receive such training.

The main objectives of the study are:

1. To determine whether the program proposed in this study is effective for increasing the level of media competence and the level of motivation for development in this area.

2. Practical verification of the applied tests and methods for assessing the level of motivation for learning and the possibility of their use in the future on the example of other audiences.

3. To assess the prospects for widespread state use of programs to improve media competence and their impact on students.

2. Materials and methods

2.1. Research design and sample

Research was carried out in the Abai Kazakh National Pedagogical University and Taraz Pedagogical University in 2016-2018. Both groups contained from 188 students each of 4th and 5th grades in "Pedagogy and Psychology" and "Pedagogy and Methodology of Primary Education" specializations were invited. These students were compiled experimental and control groups, each of them was composed of 94 people (44 women and 50 men each group).

The choice of described group of subjects is due to the fact that these are students whose level of personal professional experience is still very low, but the level of knowledge acquired during training is already high enough to make an adequate self-assessment. It is also the group of future young teachers who will influence the students of the school, so their level of media literacy and motivation to learn is especially important.

For the purpose of primary data collection, the following methods were chosen:

- "How literate are you in consuming media products?" questionnaire;

- method of diagnosing the level of motivation by Lukyanova named "Fight against cyber extremism" (Lukyanova, 2011).

Questionnaire named "How literate are you in consuming media products?" created directly by the authors for the purpose of conducting a descriptive statistical study. The survey offered participants to independently determine the level of their own literacy in the consumption of media products on a scale of three positions: low, medium and high.

Lukyanova proposed a number of universal, widely used tests to determine motivation. One version of her motivation test called "Fight against cyber extremism" was used in this study to examine the level and type of motivation of students to develop their media competence). This method offers 18 questions with 4 answer options for each. The respondent must choose one answer to each question. The key table determines the score obtained as a result of each possible question. Each answer corresponds to one of the types of motivation assumed by this method: evaluative (for the purpose of obtaining an assessment during training), positional, social (motivational), cognitive. Evaluative motivation indicates the lowest level of general motivation, cognitive - the highest level of motivation. The predominant type of selected answers on the table of keys allows you to determine the prevailing type of motivation, and the number of points scored - the relative strength of motivation, which is divided into 5 levels (5th - the strongest motivation).

The reliability of the questionnaire was verified using Cronbach's alpha. The Cronbach's alpha values are as follows: $\alpha > 0.9$, Excellent; > 0.8, Good; > 0.7, Acceptable; > 0.6, Questionable; > 0.5, Poor (Gliem & Gliem, 2003). The value of Cronbach's alpha is 0.92. Hence, the questionnaire is reliable and can be used for the survey purposes.

2.2. Experiment

Participants offered two tests by e-mail and then have completed them within one week. Both tests were conducted under the same conditions and with the same content before and after passing training using the program "Development of critical thinking through reading and writing" (RWCT), after which the results were statistically processed and analyzed. All questionnaires during the survey before and after participating in the program were completed correctly and found suitable.

Study participants participated in the implementation of the interactive methods of media literacy program "Development of critical thinking through reading and writing" (RWCT), which has been presented in Kazakhstan since 2016. The specialized elective course "Fundamentals of Media Education" was designed to train students in psychological and pedagogical professions. It contains 2 academic credits and provides for 30 hours of classroom work over 15 academic weeks. The set of theoretical studies assumes 15 academic hours, a set of practical or seminar classes of the teacher's choice also contains 15 academic hours. In total, 90 academic hours are supposed to be used for mastering the course. The program includes online training in critical thinking and fact-checking techniques, comparison of information, critique of sources, search for primary sources and a variety of tools for evaluating media content for ordinary and professional users. During the experiment, I used the following series of methods for analyzing media products.

2.3. Method of media biography

The methodology used determines how experienced students are in using media products and allows them to assess their preferences. The following questions are used to study the problem:

1. What media products were especially important to you personally?

2. How does your family feel about the media? Were there any rules for the consumption of media content?

3. Was there any media talk at school?

4. Have you used certain media products?

5. How can you estimate your own media consumption?

6. How would you rate your own media literacy?

7. What area of media competency development appeals to you the most?

The responses received contain information about the individual history of consumer use of certain media products. Such data will guide the preparation of further research in the field of media literacy. Analysis of advertising based on the method of critical thinking is carried out as follows. In the first step, subjects receive a viewing of the ad role three times, each 20 seconds long. There are three minute breaks between the video. This approach leaves plenty of time for an independent and critical assessment of the advertising message's motives. Media product creators emphasize the use of suggestive technologies to deepen the impact on the user. They analyze the impact of form and color factors in advertising messages. This method allows you to achieve a higher level of critical thinking when processing the primary perception of an advertising message. The parameters of pedagogical support of both experimental and practical components of this work are part of the concentration base of the experiment in the pedagogical sphere. The proposed parameters allow us to assess the content of the educational and methodological complex of the educational program for increasing media competence proposed by the authors in general, with its tasks, methods, goals, tools, special exercises and practice-oriented creative tasks for students. All these elements are focused on the accelerated development of participants' media competence based on the development of critical thinking.

Based on the data obtained as a result of the study, it can be argued that the system for presenting theoretical information and competence practices, combined into seminars, lectures and practical classes, accelerates student media education, increases media competence, provides access to theories and basic concepts of history and stages of development of medical education. Students

acquire the skills of critical analysis of media texts, the ability to understand the goals of the media. The shaping experiment ends with a diagnostic that repeats the initial measurements prior to the start of the training course to verify the results of its application.

2.4. Data analysis

The results of the test "How literate are you in consuming media products?" Were evaluated in the form of descriptive statistics on the number of participants who gave one or another answer. Lukyanova's method of estimating motivation was also evaluated both in the form of descriptive statistics (Figures 1 and 2) and was statistically evaluated by arithmetic means for various types of motivation. The application of this particular test survey method is determined precisely by the possibility of measuring various metrics of motivation for the perception of media products within the framework of one questionnaire. The statistical data obtained as a result of the survey using the "Diagnosis of the level of motivation to combat cyber extremism" method were processed using the Student's t-test for independent samples. The objective of this statistical study was to compare the results of the control and experimental groups to determine the presence of significant differences between the level of media knowledge and media competence between the two groups.

The assessment of the reliabilities of the results of the research presented here was carried out using the "Chi-square" criterion; the formula for calculating the required size is presented below:

$$\chi_n^2 = \sum_{i=1}^{n} \frac{(O_i - E_i)^2}{E_i} \tag{1}$$

The mean values of the Student's t-test for checking and confirming the results were used as shown in the formula:

$$t = \frac{M_1 - M_2}{\sqrt{m_1^2 + m_2^2}} \tag{2}$$

$$t_{emp} = \frac{|\bar{x} - \bar{y}|}{\sqrt{n_1 \cdot D_x + n_2 \cdot D_y}} \cdot \sqrt{\frac{n_1 \cdot n_2}{n_1 + n_2} \cdot (n_1 + n_2 - 2)} \tag{3}$$

M_1- is the arithmetic mean of the 1st relative set,

m_2 is the arithmetic mean of the 2nd relative set,

 m_1 is the error of the 1st arithmetic mean, m_2 is the error of the 2nd arithmetic mean.

2.5. Statistical processing

The SPSS 21.0 software package was used for statistical analysis of the study results; MS Excel 360 was used to visualize the results.

2.6. Research limitations

The study focused on the subjective assessments of media literacy and self-motivation provided by participants. Therefore, the received assessment of this level demonstrates not real literacy, but its self-assessment of the respondents. Also, the study did not delve into the study of differences between genders or people of different ages in motivation for media competence, which may be a question for further research.

2.7. Ethical issues

All study participants were pre-invited by e-mail and gave their consent to participate in the experiment. To ensure confidentiality, each participant received a random identification number and e-mail address with which the questionnaire was sent and processed. No personal data of the participants was collected or used.

3. Results

The result of survey with questionnaire "How literate are you in consuming media products?" presented below (Figure 1) as the two groups participants' indicators of media competence.
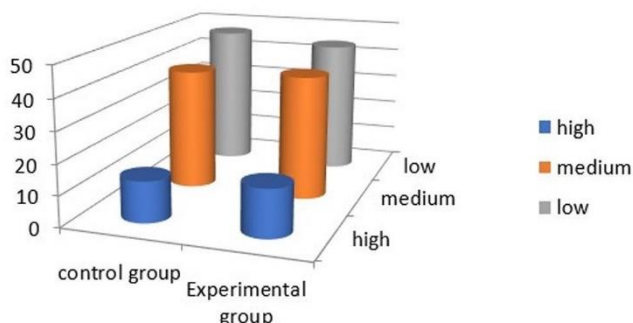

Figure 1. "How literate are you in consuming media products?" the relative control/experimental groups survey percentage (%)

From the information presented in Figure 1, it follows that 13.45% of students in the control group received a high level, and 39.64% received an average level, respectively, and another 46.89% determined with a low level. The corresponding data for the experimental group showed 15.56% with a high level, 40.59% with a medium level and 44.04% indicated a low level.

The survey on the methodology "Methods for diagnosing the level of motivation to combat cyber extremism" is presented below (Figure 2) (Lukyanova, 2011).
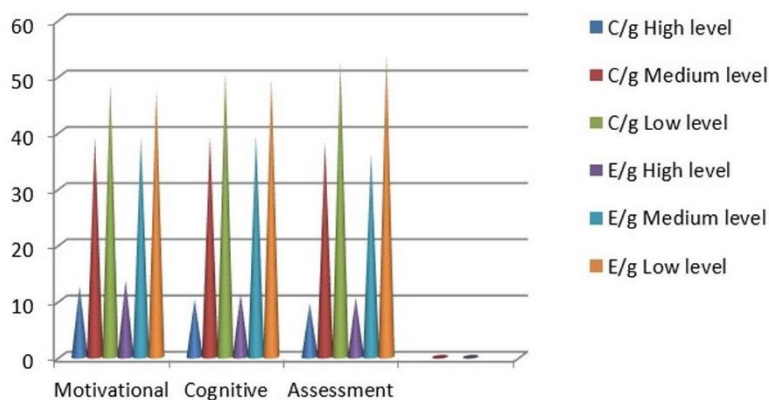

Figure 2. The initial level of comparative results of the survey conducted by the method of Lukyanova "Methods for diagnosing the level of motivation to combat cyber extremism" in control and experimental groups (%)

A high level of assessment in the experimental group was demonstrated by 10.5% of the participants and only 9.5% in the control group. According to the research results, high motivation was demonstrated by 12.5% of the participants in the control group and 13.6% of the experimental group. A high cognitive level was typical for 11.2% of students from the experimental group and 10.2% of students in the control group.

The average level of cognitive skills was demonstrated by 39.1% of participants in the control group and 39% of the experimental group. The indicators of the average level of motivation for both groups

almost coincided: 39.2% for the control group and 39.3% for the experimental group. The indicators of the average level of assessment were 38% for the control and 36% for the experimental groups.

Low levels of motivation were demonstrated by 48.4% of participants in the control and 47.4% of the experimental groups. Low cognitive level was revealed in 50.6% of participants in the control and 49.5% of the experimental groups. 52.5% in the control group and 29.5% in the experimental group received low levels of assessment.

The results of the evaluating experiment show the need for specialized additional preparatory work aimed at developing the media competence of university students. Students were provided with the specialized course described in this work with the appropriate methodology and content for teaching. The author's elective course is aimed at proving the high efficiency of the psychological and pedagogical conditions identified by us for the formation of media competence among students (Table 1).

Table 1. Comparative of "Methods for diagnosing the motivation level to combat cyber extremism" survey results before and after practice (%)

| Development of incentives to combat cyber extremism | Before the experiment | | | | | | After the experiment | | | | | |
| | Control group Levels | | | Experiment group | | | Control group Levels | | | Experiment group | | |
	high	middle	low	high	middle	low	high	middle	low	high	middle	low
Motivational	12.5	39.1	48.4	13.6	39	47.4	51.7	36	12.3	53.4	36	10.6
Cognitive	10.2	39.2	50.6	11.2	39.3	49.5	51.5	37	11.5	51.5	37	11.5
Assessment	9.5	38	52.5	10.5	36	53.5	48.6	38	13.4	49.6	38	12.4
Average value	**10.7**	**38.76**	**50.5**	**11.76**	**38.1**	**50.13**	**50.6**	**37**	**12.4**	**51.5**	**37**	**11.5**

Table 2 presents the comparative results of the mean values of the t-criterion Student's size (formula 2, 3). Determination of the level of reliability of the differences between the two frequencies obtained as a result of the experiment and the expected, using the comparison of the value of χ^2_{crit} with the critical predetermined tabular value of the same criterion χ^2_{crit} (1). The reliability of the differences can be determined only when the value of χ^2_{exp} turns out to be higher than the critical value for a given level of accuracy. In this experiment, $\chi^2_{exp} = 482.071$, and $\chi^2_{crit} = 447.68$. The critical value has been exceeded, indicating that the differences are significant. The level of confidence between experimental groups is expressed as $p = 0.05$ (see Table 2).

Table 2. Comparative of the "Methods for diagnosing the level of motivation to combat cyber extremism" pre-practice and post-practice level survey results (%) (according to the Student's T-criterion)

Against cyber extremism development of motivation to fight	Before the experiment						After the experiment						Control gr.	Exper. Gr.
	Control group			Experimental group			Control group			Experimental group			Tempo	Tempo
	Level			Level			Level			Level			P	p
	M1	m1	σ1	M1	m1	σ1	M2	m2	σ2	M2	m2	σ2		
M	1.8	0.34	2.1	1.84	0.9	2.73	1.1	1	0.1	1.9	0	1.9	0.440	p=0.05 0.275

T	0.5	0.44	0.1	0.56	1.2	0.63	0.9	0	0.9	0	0	0	0.318	p=0.05 1.604
B	1.2	0.76	2	1.26	2.1	3.37	2	1	1	1.9	0	1.9	0.11	p=0.05 0.452

The presented calculations demonstrate an increase in the results of the experimental group in comparison with the control. In the course of professional training, students were presented with a set of theoretical knowledge and practical skills were developed, focused on understanding the structure and work of media, increasing media literacy, and building media competence. The results of the formative experiment demonstrate, based on the results of comparative tests, a fairly successful implementation of the program goals. Comparison of the previous and final results obtained in the surveys of both groups demonstrates that the changes in the answers of the participants in the control group are insignificant, while the changes in the results for the participants in the experimental group are significant and statistically significant.

The end result of the experiment was the presence of the growth dynamics of individual components identified by the authors in media competence. These are indicators of evaluative, cognitive and motivational indicators as components of media competence.
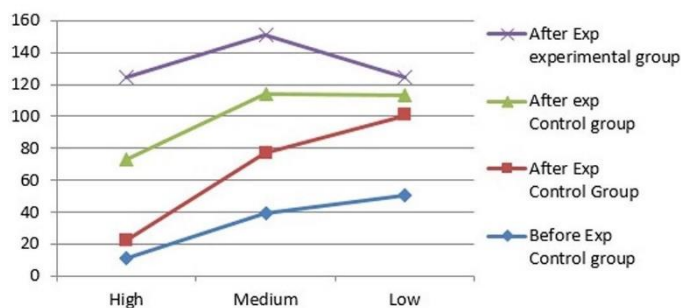

Figure 3. Students' media competence level's indicators before and after the experiment (%)

Figure 3 demonstrates the improvement in results for participants in the experimental group compared to the control group. In accordance with the earlier explanation, the obtained values of the design criterion are higher than the critical value. The data observed in the experimental group are noticeably lower than the t-critical value. Thus, we can conclude that the data for the experimental group are less accurate than for the control group.

4. Discussion

Media competence tends to grow after targeted education in this area, which is confirmed by a number of empirical studies (Kačinová, 2018; Turgunbaeva & Tazhenova, 2018). Researchers emphasize the defining nature of the teacher's efforts and the creation of an appropriate social environment for the formation of strong motivation to increase media, as well as social competence. For the socialization of adolescents and children, the influence of the media is part of the general process of socialization, which most often means that at an early age, the media user tends to succumb to the influence of authoritative opinion and does not apply critical thinking to assess media content (Booker & Dunsmore, 2017). It is possible to cope with this critical situation only with the active participation of the state. A number of researchers are inclined to believe that the most effective type of intervention is the influence of the schoolteacher and the social environment surrounding the child as a whole (McDougall et al., 2018; Tynjälä et al., 2016).

The habit and skill of critical thinking and comprehension of media content increases the social status and social skills of the student in the eyes of his environment, which in itself can serve as an effective motivation for him (Huisman, 2019). In our study, the level of social motivation covers one of the largest groups of respondents. Similar results were demonstrated by studies similar in content (Lang-Wojtasik et al., 2020).

Unlike most of the available academic sources, our research focuses not on individual programs or specialized approaches to the formation of media competence, but examines the effectiveness of the program, which has long been used in various universities in the country, focused on increasing media competence based on the development of critical thinking as a critical skill; at the same time, the level of coverage of society and the creation of social conditions for motivating media competence becomes much wider (Changwong et al., 2018).

The competence-based approach, which was applied on the basis of two universities, made it possible to form skills that prevent the negative impact of the media. The formation of media competence contributed to the development of abilities, the formation of skills closely related to the processes of self-improvement, the acquisition of knowledge in the field of media processes and contributed to an increase in motivation and the development of a number of useful qualities (Lang-Wojtasik et al., 2020; Papadakis, 2020).

Farfieva (2020), on the other hand, believes that using social media in the classroom may have disruptive rather than promising consequences. Based on the aforementioned studies, media can have a negative impact on scientific, critical and creative thinking, for it conveys, among other things, false information, disinformation, and "bad information", the main purpose of which is to make a person experience negative emotions and act in a destructive manner.

A proactive approach to the formation of the media competence of the study participants was practiced. Students were focused on productive and active group and individual work. The preference was given to active teaching methods, reducing the monotony of classes and techniques that increase student interest and engagement. For modern students growing up in a digital environment, mobile applications are becoming an effective means of increasing interest (Haider & Sundin, 2022; Hobbs, 2017). A proactive approach to working with media and the digital environment is emphasized by almost all researchers (Xu et al., 2019). Proactivity contributes to the formation of the most effective type of motivation noted in our study, cognitive, aimed at personal development and cognition (Downie, 2020; Leander & Burriss, 2020).

The main goal of the study was the formation of media competence, orienting future professionals to a higher motivation for the adequate and safe use of media products. This goal was intended to provide students with theoretical knowledge and the development of practical skills related to the use of media. A number of research results indicate a close connection between social competence and the listed results of the development of media competence (Booker & Dunsmore, 2017; Bravenboer & Lester, 2016). Also, the connection between media competencies can be found with the skills of using mobile educational content and special applications focused on the formation of skills in solving practical problems (Kalogiannakis & Papadakis, 2017a, 2017b).

The author's course used for the experimental impact, aimed at increasing the practical skills of using the media by students and the proper use of media products, as evidenced by the results of the statistical evaluation of the results, contributed to the development of critical thinking of the participants. Critical thinking skills may indicate the development of a number of related competencies required by the literate media consumer. Earlier, the formation of such related skills can significantly

affect even professional choice, for example, when training programmers (Zubaidah et al., 2018). Almost all works devoted to the study of media competence emphasize critical thinking skills as key to achieving sustainable results. In this case, the ability for independent and logical thinking and independent conclusions against the background of increasing information pressure in the digital environment is most often called a sustainable result (Hitchcock, 2018).

5. Conclusion

The study concerns the use of a specialized program for improving the media competence of student teachers at the Kazakh National Pedagogical University, as well as at the Taraz Pedagogical University. The increase in media competence was associated with the development of critical thinking. To assess the level of media competence, the learning motivation test by Lukyanova was used. The study characterizes this test in detail and discusses the results of experimental application of the program and test. The experimental group of students used a media literacy course in teaching, and its results showed significantly higher values for a number of evaluated criteria when using Student's t-test. The results indicate the presence of a significant increase in the level of motivation and academic achievement in the field of media competence in the group that applied the training program proposed by the authors in training. A high level of motivation to learn was observed in the experimental group, 13.6%, and in the control group, 12.5%; 11.2% of participants in the experimental group showed a higher cognitive level (10.2% in the control group); higher academic achievements - 10.5% in the experimental group and 9.5% in the control group. Their own subjective assessment of media competence among the participants who underwent professional media appraisal did not change significantly, which is associated with their higher ability to critically assess the results. In practice, the results of the study are important for the dissemination of special training practices in the field of media competence for teachers, the use of the experience of the program proposed by the authors in universities for the training of teachers.

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