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Media Competence of a Modern Student: An Analytical Study

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Abstract

Media competence of young people is one of the basic factors for implementing successful life strategies, effectively using information in professional and personal life, and resisting the processes of public opinion manipulation. In the course of this study, the tasks were set to analyze the skills of working with information in the student environment, determine the dependencies between the level of students' media competence and such variables as the gender of respondents, the status of the university, the profile and level of education. The identified assessments in the target groups of respondents do not have clearly expressed significant differences. Some variational differences (for example, lower assessments of information skills among master's students compared to bachelor's students) can serve as a basis for further research. During the questionnaire survey, it was found that students assess the level of their media competence quite highly for most parameters. An exception is the students' statement about using a narrow range of sources in the process of searching for information, as well as the limited use of information skills during training. The factors that determined these negative trends are the following: dysfunctions of knowledge control, lowered teacher requirements, simplified assignment format, distorted understanding of digital ethics standards.

Keywords: student, higher education, media competence, digital literacy, information skills.

1. Introduction

Digital literacy and media competence of an individual are mutually complementary components of a student's professional development. This fact makes their formation a significant goal of students' educational training. In addition, the relationship between digital literacy and media competence of an individual is due to the large-scale digitalization of all spheres of public life, the penetration of digital technologies into the sphere of economy, culture, leisure and education. Search, analysis, interpretation and production of media texts in modern conditions is not possible without skills of working in the digital space. Thus, digital communication often displaces other forms of communication and feedback. This trend implies not only the presence of knowledge, norms of digital ethics, but also skills of contact communication, network interaction. Similarly, in many educational organizations, training is based on digital technologies, the use of digital platforms and digital data (Hase, Kuhl, 2024).

The lack of an appropriate level of media competence and digital literacy among student youth provokes the presence of risks for personal development and initiates the formation of educational destruction (Tyurikov et al., 2022). It can be assumed that inequality in access to information and digital technologies becomes the trigger point for social exclusion, limits an individual's ability to achieve personal and professional success, and provokes the risks of

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victimization in the digital environment. Mastering media competencies is of particular importance in the transition from education to work. Professionalism in modern conditions implies mastering the skills of working with information in a networked, digital and globalized environment. Despite the efforts of universities to develop these skills in students, research results indicate that there are gaps between the competencies acquired during education and the skills that are in demand in the labor market (Pažur Aničić et al., 2023).

2. Materials and methods

The materials presented below continue the series of publications devoted to the study of various aspects of the formation of students' media competence (Frolova, 2024; Rogach, 2024). In this article presents some empirical data to assess the level of development of students' information skills, their differentiated analysis by a number of variables. The dependent variables are: respondents' gender, university status, profile and level of education. The selection of this list of variables is determined by their possible influence on the formation of students' media competence depending on: stereotyping of gender characteristics (respondents' gender), opportunities of the educational environment of the university (capital or regional university), content of the educational program (profile and level of education). The specified logic of the study allowed us to determine the list of methods used to collect information (analysis of scientific sources, sociological methods), form the design of the study, and formulate research hypotheses.

The objectives of the study are defined as follows:

1. Conduct self-diagnosis of students' level of digital literacy development.
2. Assess the presence of certain information handling skills in students.
3. Establish a relationship between students' assessments of information handling skills and dependent variables.

The key research method is a questionnaire survey of students (N=633). Using a spontaneous sample, the author selected students studying in Moscow (78.6 %) and regional (21.3 %) universities. The low representation of students from regional universities is due to the organizational difficulties of obtaining feedback from respondents. Of the resulting sample, more than half were girls (59.4 %); young men – 40.6 %. All respondents were distributed among 4 educational profiles: humanitarian profile (17.2 %), technical specialties (24.2 %), socio-economic (26.1 %) and natural science (32.5 %) training profiles. Since the sample was spontaneous, the proportions by levels of education were not observed: students in bachelor's and master's degrees were 61.9 % and 6.0 %, respectively; in specialist's degrees – 32.1 %. The uneven representation of different categories of respondents in the sample can be considered as a certain limitation of this study. At the same time, the obtained empirical material allows us to test the hypotheses of the study and evaluate the media competence of a modern student.

In order to verify the obtained data and adjust the hypotheses, the focus group research method was used. Students of the capital's universities of the socio-economic profile (Russian State Social University and Financial University under the Government of the Russian Federation) and technical profile (MIREA – Russian Technological University) were invited to participate in the focus groups. In total, 2 focus groups were held with the number of participants n1 = 9 and n2 = 11. The distribution of informants in the focus groups by gender and levels of education have equal representation. The recruitment of informants was carried out by personally contacting students. General data on informants were obtained from the personal cards of students by contacting the dean's office of the university. All informants participated on a voluntary basis, without payment for their time of participation.

To process the research materials, comparative data analysis and contingency table analysis were used.

Research hypotheses:

1. The main problems of students' media competence include insufficient skills for systematic information search and recourse to a narrow range of sources.
2. The level of students' media competence is determined by the profile of training and the level of education.

3. Discussion

Russian scientists consider digital literacy as a fundamental component of media competence development. Digital literacy forms a conscious attitude towards digital security, lays down the

norms of digital ethics, and focuses on the consumption of legal digital content (Yefanov et al., 2020). Media competence of an individual in modern conditions is an integral attribute of the successful implementation of a person's life strategies, his/her integration into social and communication processes (Frolova, Rogach, 2022). Empirical studies have shown that digital interaction and interpersonal communication skills help overcome loneliness, receive social support, and establish sustainable social connections (Doman, Le Roux, 2012; Van Tonder et al., 2023). The spread of digital products and online communications actualize the importance of media competence of young people based on digital skills of working on the Internet (Wu et al., 2024). At the same time, basic skills for working with digital information become the foundation for developing an individual's research competencies (Mieg et al., 2024). The importance of digital literacy and a high level of media competence is recognized today not only by teachers, but also by students (Yu et al., 2023). Young people articulate their needs in this area, and they believe that modern university education should include not only the formation of basic professional knowledge, but also the skills of searching and exchanging information, and interacting in a digital society (Smith, Storrs, 2023).

According to foreign scientists, media competence in a narrow sense includes a set of knowledge and skills that allow not only to consume, but also to produce information. In a broad sense, media competence can include "language, technology, interaction, production and distribution, ideology and values, as well as aesthetics" (Romero-Rodríguez et al., 2019). In the work of A.V. Fedorov, the multifaceted nature of personal qualities that determine the level of media competence is noted. These include the following: readiness to search for information; sociability in the communication process; mastery of the conceptual apparatus, the ability to emotionally and semantically reflect texts, interpret information, critically analyze and generalize it. Particular importance is attached to the skills of applying media knowledge in practice (Fedorov, 2012). Media competence in the context of digitalization and excess information allows an individual to maintain information hygiene, critically perceive large-scale information flows, and resist the imposition of opinions from outside (Troyanskaya, 2014). Effective practices for developing media competence can be considered as a factor in preserving the country's human capital, preserving cultural identity and traditions (Kamenev et al., 2019)

Modern students, who are essentially digital natives, have a very good level of digital literacy when entering university. Students actively use digital tools in everyday life and communication, but scientists note a gap between the actual level of competence and social expectations in the professional sphere (Grant et al., 2019; Kennedy, Fox, 2013). In addition, research findings show that today's youth have difficulty assessing the reliability of online information (Frings et al., 2022). There are problems in using existing digital skills and competencies in the learning process (Öncül, 2021). An analysis of scientific literature on the development of media competence in young people draws attention to the need to study the level of digital literacy, which provides the ability to search, understand information in the digital space, as well as communications and cooperation. No less relevant are issues related to the factors of media competence development, basic determinants that affect the skills of systematic information search, its reflection, critical understanding of digital products.

4. Results

During the study, respondents were asked a direct question about their assessment of their level of digital literacy. A 5-point scale was used for assessment, where «1» point is a very low level, and «5» points is a high level of digital literacy. The results obtained indicate a fairly high self-assessment of modern students: 2/3 of them assessed their level of digital literacy at «4» and «5» points, respectively. Only 3-4 students out of 100 assess it as very low (in total, 3.5 % assessed the level of development of their digital literacy at «1» or «2» points). A quarter of respondents (24.6 %) are characterized by more restrained assessments, which can be expressed as an average level of digital literacy.

The focus group materials confirm the high assessment judgments of most students.

Young men, bachelor's degree: "Today, the ability to use digital devices is not some super rare skill. Even if you didn't know something initially, you quickly develop it... no, not at the university, they don't teach this here, it's, well, more for everyday life, for business, work or leisure."

Girl, bachelor's degree: "I easily use digital gadgets, now everything is digital, this is the base or something. You asked about understanding modern technologies, probably yes, I understand and can use them effectively. For study and for my personal life."

During the questionnaire survey, students were asked to assess the availability of a number of skills for working with information. For this purpose, they were asked to express agreement or denial with a number of judgments (Figure 1). According to the data obtained, 9 out of 10 students note that they have the skill of systematically searching for data necessary for study on information platforms. At the same time, 87.7 % of respondents agree that they use only a narrow range of Internet resources in the process of searching for information; and 57.5 % mainly use information from social media. Thus, the research materials posed new research questions: do students really know how to carry out a systematic search for information, is access to a small number of sources and social media a sufficient norm for organizing their educational process or are these signs of low media competence?

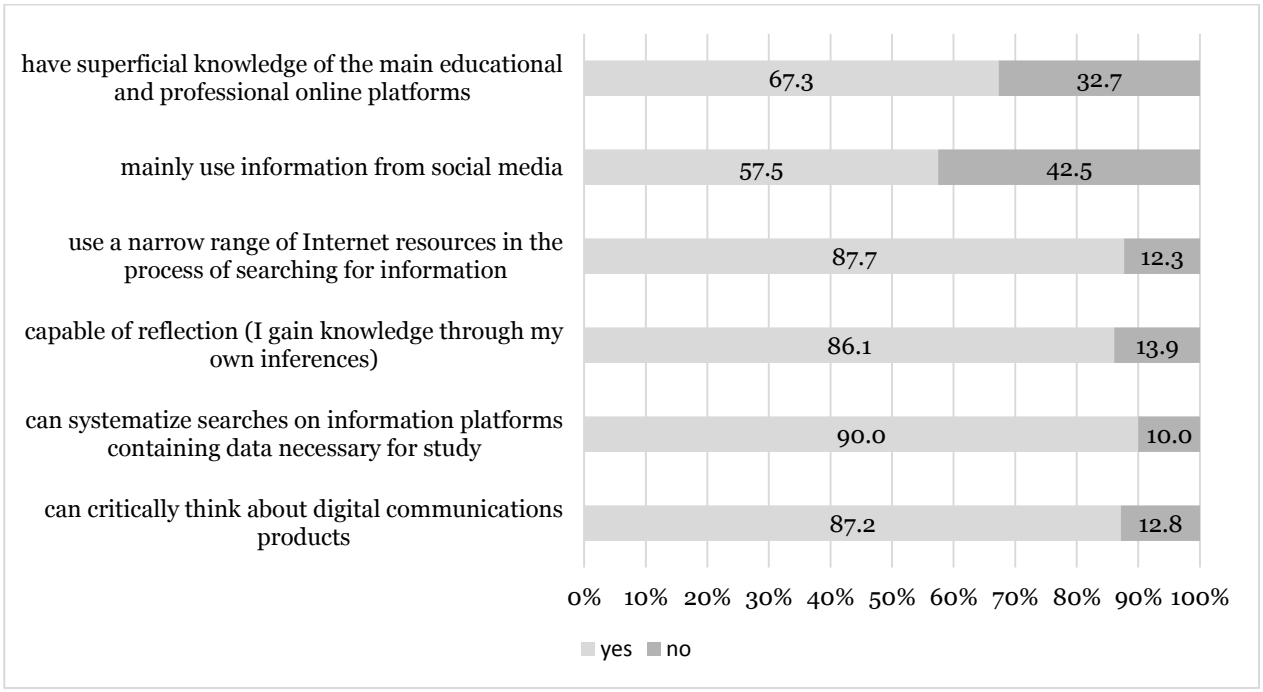

Fig. 1. Distribution of responses to the question: “Assess whether you have the following skills for working with information…”, %

During the focus groups, an attempt was made to clarify these points:

Girl, specialist's degrees: “No, I don’t look for information for my studies on social networks, unless I need some kind of shock content… But I don’t strain myself too much for my studies, I won’t leaf through a ton of literature to write an essay or something else, it’s not necessary, I go out, give a speech, no one really listens or checks, why waste time?”

Young men, master's degrees: “Two or three sources, that’s the maximum, if I immediately find something more or less suitable, then I definitely won’t dig further.”

Young men, master's degrees: “The assignments are such that I google and immediately find something suitable from the first link, insert a picture [in the essay] and that’s it.”

The results of the focus group study allow us to conclude that students, if they have the skill of systematic information search, are not inclined to use it during their studies. Selecting a source based on the primary criterion of compliance with the topic of the task does not allow students to "immerse themselves" in the information space of the educational environment and develop the skills of selecting and comparing information data, their critical understanding and generating new knowledge. Perhaps the dysfunctions lie not only in the reduced motivation of students ("*this is not required", "why waste time", "nobody listens",* etc.), but also in the design of the educational tasks themselves. The key task for the student essentially becomes the search for information by keywords, and not its analysis.

The results of the questionnaire survey indirectly indicate that students see the problem in the quality of the assignments, and not in their abilities. In particular, 87.2 % of respondents believe that they have the skill of critically understanding digital communications products. Moreover, 86.1 % of respondents expressed the opinion that they are capable of reflection and gain knowledge through their own conclusions. Thus, students demonstrate a high self-assessment of their ability to critically understand, process and generate new knowledge. However, during the focus groups, students were not able to clearly explain how this can be done using only a narrow range of information sources:

Young men, master's degrees: "Maybe I don't understand reflection correctly, but if I immediately found the information and realized that it is suitable, then I have understood it? You can draw a conclusion not only based on scientific literature, everything is visible in practice, in experience and what is around [in professional circles]."

A number of informants turn to the capabilities of artificial intelligence in their responses, thereby shifting responsibility for searching and processing information for study.

Girl, bachelor's degree: "I don't want to waste time and sort through a mountain of literature, now it [artificial intelligence] will do everything and give you the most necessary. Of course, I will critically look at what I got, and sometimes when I understand that it's not quite right, I set up a different search... experience probably allows me to draw conclusions, information from practice, so to speak, so there is no need to look for a lot of information, I can comprehend it from experience."

At the same time, there is reason to believe that students in general do not find it difficult to obtain additional information about assignments from the teacher and do not express sufficient interest in educational information resources. Indirect evidence is the fact that 2/3 of respondents have superficial knowledge of the main educational and professional online platforms. Low interest of students in familiarization with the digital infrastructure of the university can be caused by a number of factors from disappointment in the chosen specialty, to a certain degree of laziness and inability to self-organize. These questions were not asked in the study, so clarifying wording was asked during focus groups.

Young men, bachelor's degree: "Does the DLS [distance learning system] count? Then I know something <laughs>... but it hangs all the time, you need to load a lot, and if everyone starts, the system crashes."

Young men, specialist's degrees: «I sometimes watch open online lectures from other universities, I don't know exactly how useful it is in my studies, but I watch what interests me more for my profession».

In the course of the questionnaire survey, we attempted to establish differences in students' assessments of the availability of skills for working with information, according to some variables. First of all, we introduced the variable – student's gender (Table 1). This is related to stereotypes of gender characteristics in the analysis and processing of information. According to the data obtained, in general, gender does not play a role in students' assessments: the existing discrepancies do not exceed the possible sampling error (< 5 %). Slightly more men believe that they have developed skills for reflecting on information and the ability to generate knowledge based on their own conclusions. In the remaining responses, it is women who demonstrate slightly more positive choices. The assessment of such a skill as "use a narrow range of Internet resources in the process of searching for information" stands out from the relatively heterogeneous responses. Women more often than men (91.0 % versus 82.9 %) believe that they have it.

The introduction of the second variable allowed us to consider the presence of students' skills in working with information depending on the status of the university (Table 2). It has been established that the assessments of their skills received from a student differ significantly depending on where they receive their education, in a capital city university or in a region. It is significant that students from Moscow higher education institutions rate their ability to critically comprehend digital communications products more highly (11.1 % higher than students from the region), and more often note the ability to reflect (10.6 % higher than students from the region). However, it is worth paying attention to one more aspect: the spread in students' assessments is higher where an assessment of information analysis and reflection skills is required. Where the skills to one degree or another relate to access to information sources, the difference in responses does not go beyond the limits of a possible sampling error. Students from the regions, just like the capital's youth, use a narrow range of Internet resources in the process of searching for information

(85.2 % and 88.4 %, respectively), have superficial knowledge of the main educational and professional online platforms (69.6 % and 66.7 %, respectively) and believe that they can systematize the search on information platforms (85.9 % and 91.2 %, respectively). The exception is the use of social media in the search for information; among students from the regions, the share of negative answers is 7.1 percentage points higher.

Table 1. Distribution of responses to the question: "Please rate your level of information handling skills…?", depending on the respondent's gender, %

Rate your level of information handling skills	*The respondent's gender*	
	young men	*girl*
can critically think about digital communications products		
yes	86.8	87.5
no	13.2	12.5
can systematize searches on information platforms containing data necessary for study		
yes	89.9	90.2
no	10.1	9.8
capable of reflection (I gain knowledge through my own inferences)		
yes	88.3	84.6
no	11.7	15.4
use a narrow range of Internet resources in the process of searching for information		
yes	82.9	91.0
no	17.1	9.0
mainly use information from social media		
yes	56.0	58.5
no	44.0	41.5
have superficial knowledge of the main educational and professional online platforms		
yes	66.9	67.5
no	33.1	32.5

Table 2. Distribution of responses to the question: "Please rate your level of information handling skills…?", depending on the status of the university, %

Rate your level of information handling skills	*Please indicate the status of your university*	
	capital university	regional university
can critically think about digital communications products		
yes	89.6	78.5
no	10.4	21.5
can systematize searches on information platforms containing data necessary for study		
yes	91.2	85.9
no	8.8	14.1
capable of reflection (I gain knowledge through my own inferences)		
yes	88.4	77.8
no	11.6	22.2
use a narrow range of Internet resources in the process of searching for information		
yes	88.4	85.2
no	11.6	14.8
mainly use information from social media		
yes	59.0	51.9
no	41.0	48.1
have superficial knowledge of the main educational and professional online platforms		
yes	66.7	69.6
no	33.3	30.4

The third variable was the profile of the specialty in which the students are studying (Table 3). It is worth noting that the profile of study had no effect on the students' assessment of the skills of critical understanding of digital communications products, the skills of searching and reflecting on data necessary for study. However, in the skills that can be attributed to the choice of channel (information platforms / social media), the assessments of students of different profiles showed significant differences. In particular, among students of the humanities, the proportion of those who mainly use information from social media is significantly higher (66.1 %), while the lowest figure was noted among students of the natural sciences profile – 51.9 %. Students of the socio-economic profile more often than in the sample as a whole note that they have superficial knowledge of the main educational and professional online platforms (74.5 %), while among students of technical specialties the proportion of positive answers is lower than the average for the sample and is 62.1 %.

The fourth variable was the level of education. In the general sample of students, the proportion of master's students is significantly smaller, so the obtained estimates should be approached with a certain degree of assumption and not extended to the entire general population.

Table 3. Distribution of responses to the question: “Please rate your level of information handling skills…?”, depending on the specialty profile, %

Rate your level of information handling skills	*Please indicate your specialty profile*			
	natural science	humanitarian	socio-economic	technological
can critically think about digital communications products				
yes	86.4	88.1	86.7	88.2
no	13.6	11.9	13.3	11.8
can systematize searches on information platforms containing data necessary for study				
yes	87.9	90.9	90.3	92.2
no	12.1	9.1	9.7	7.8
capable of reflection (I gain knowledge through my own inferences)				
yes	84.0	86.2	87.9	86.9
no	16.0	13.8	12.1	13.1
use a narrow range of Internet resources in the process of searching for information				
yes	87,4	86.2	89.1	87.6
no	12,6	13.8	10.9	12.4
mainly use information from social media				
yes	51.9	66.1	61.2	54.9
no	48.1	33.9	38.8	45.1
have superficial knowledge of the main educational and professional online platforms				
yes	64.1	69.7	74.5	62.1
no	35.9	30.3	25.5	37.9

At the same time, for further research directions, the study of the following features seems promising (Table 4). Among bachelors, the proportion of respondents who noted that they had such a skill as “I gain knowledge through my own inferences” was higher (87.5 %), while among master's students this figure was lower than the sample average by 7.2 % (78.9 %).

It is worth noting that the largest gaps in the distribution of respondents' answers are observed between the bachelor's and master's degrees, while the frequency of choosing the "yes" answer (even if it concerns the lack of skills) is higher among the first group. An example is the following distribution: bachelors mainly use information from social media (61.7 %), while for master's students this share is only 50.0 %.

Table 4. Distribution of responses to the question: “Please rate your level of information handling skills…?”, depending on the level of study, %

Rate your level of information handling skills	*The level of study*		
	bachelor's degrees	master's degrees	specialist's degrees
can critically think about digital communications products			
yes	87.0	89.5	87.2
no	13.0	10.5	12.8
can systematize searches on information platforms containing data necessary for study			
yes	91.3	92.1	87.2
no	8.7	7.9	12.8
capable of reflection (I gain knowledge through my own inferences)			
yes	87.5	78.9	84.7
no	12.5	21.1	15.3
use a narrow range of Internet resources in the process of searching for information			
yes	88.5	86.8	86.2
no	11.5	13.2	13.8
mainly use information from social media			
yes	61.7	50.0	50.7
no	38.3	50.0	49.3
have superficial knowledge of the main educational and professional online platforms			
yes	68.9	63.2	65.0
no	31.1	36.8	35.0

Among bachelors, the share of those who note that they have superficial knowledge of the main educational and professional online platforms is higher (68.9 % and 63.2 % in the master's degree).

5. Conclusion

The results of the study showed that students generally highly assess both their level of digital literacy and media competence in such parameters as the skill of systematically searching for data necessary for study on information platforms, the ability to reflect on information, and critically understand digital products. Along with positive assessments, most students noted that they use only a narrow range of sources in the process of searching for information. Thus, the hypothesis put forward during the study about the insufficient level of media competence of students was only partially confirmed. The skill of systematically searching for information, despite the high level of self-assessment for this parameter, is not used by students in the learning process. During the focus group, the reasons for this problem were established: dysfunctions of knowledge control, a simplified assignment format, a distorted understanding of the norms of digital ethics. In the context of reduced teacher requirements for the quality of assignments, students tend to reduce their time spent on searching and analyzing information. Information skills are limited to searching by keywords, there is no reflection, critical understanding, and generation of new knowledge. The second reason is related to the specificity of the tasks, which do not require deep processing of information. In addition, the vagueness of the norms of digital ethics allows students to turn to artificial intelligence when preparing tasks. These factors together reduce students' motivation to study and their readiness to use their existing skills in working with information.

The second hypothesis related to the definition of determinants of students' media competence formation was partially confirmed. The variability of the presented data does not allow us to answer the question about the influence of the profile of study and the level of education of students on their skills of working with information unambiguously, however, the established differences give grounds to conclude that there are other determinants (quality of education, students' motivation, etc.) that are formed in this area. Therefore, further directions of research on this topic may be: analysis of factors of students' motivation formation when working with media; definition of the design of educational tasks that allow forming skills of systematization of

information, its comprehension, generation of new knowledge; analysis of the influence of the digital infrastructure of the university on the development of students' media competence.

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