Digital Culture and Digital Media: Professional Competences

Olena Voskoboinikova-Huzieva, Larysa Masimova, Nina Vernoymora, Viktoriia Soshynska

Abstract: The article provides the results of a scientific research, which purpose is to find out if there is a need for introducing curriculums and academic disciplines aimed at the development of digital and media competences to the students studying under bachelor and master programs. To achieve the purpose set, there has been held a questionnaire to learn the influence of digital culture and digital media on the academic activity and professional formation of students majoring in different areas. Particularly, the questionnaire covered bachelor and master students majoring in ‘Journalism’, ‘Philology’, ‘Information, Library and Archival Science’, ‘Pedagogical Education: Primary Education’, ‘Pedagogical Education: Preschool Education’. The empirical research results have been put into the basis of theoretic comprehension of current opportunities and challenges of new specific information-and-virtual forms of culture and cultural communication.

There were used a number of methods of scientific cognition to obtain objective results: a questionnaire, an expert judgment, methods of statistical analysis (a factor analysis: a principal component analysis, a correlation analysis), general scientific methods (an analysis, a synthesis, a summarizing), logical-and-analytical methods (an induction, a deduction), as well as graphic and mathematic methods.

The results received prove the practicability of introducing a comprehensive block of disciplines, oriented towards the development of digital and media competences for academic degrees of bachelor and master in different areas.

The practical importance of the results is that they can be applied to new curriculums and academic disciplines for a bachelor degree program for both professionals of social communication and information technologies and students of non-humanitarian areas. The results of the study will be useful for creation a master degree program, in particular for inter-disciplinary educational-professional programs oriented towards the teaching of information specialists who are able to work in social, economic and technological areas.

Also, the results of the study can develop technology for measuring digital and media competences of specialists in different areas.

Keywords: digital competence, higher information education, education standard, bachelor degree program, master degree program, journalism, Information, Library and Archival Science, publishing business, pedagogical education, philology.

I. INTRODUCTION

The research topicality is specified by the fact that the media area and media technologies have become a phenomenon of an ordinary life both for students and teachers. A concept of media literacy has also become an important component in this chain, since it is the prosumeristic information consumption that gives constructive results in studying and acquiring vocational skills. According to a new concept of media-and-information literacy, implemented by UNESCO in its strategy, media-and-information literacy unites four interrelated complexes of competence – information literacy, media literacy, technological literacy and digital literacy [1, p. 30].

Information literacy means an ability to find, to analyze and to use information. Media literacy is an ability to receive an access to media resources, to analyze content, to estimate a media message as well as to create content for self-actualization and communication. Technological and digital literacies specify an ability to use modern information technologies and software taking into account all the opportunities the contemporary world provides. Also, digital competence is one of eight basic competences of a modern educated person, as determined by the European Commission [2, p. 9-10].

Media-and-information literacy is an important component in preparation of future specialists in the information area; different aspects of media literacy can become a subject of research and be implemented into business practice of publishing houses, information centres, libraries, news agencies, etc.

L. H. Havrylova and Y. V. Topolnyk, theoreticians, say that ‘basic sense-bearing accents of the digital culture relate to new specific informational-and-virtual forms of culture and cultural communication arisen. The digital literacy means, first of all, the thorough use of electronic means, formed abilities and skills how to work with ‘digits’. The determination of the digital competence results from general understanding of competence as an integrated capability of a personality; and it comprises relevant knowledge, skills, experience, values and relations that can be implemented in practice as a whole’ [3, p. 9]. The theme of research is also topical in the view of governmental initiatives. This refers to Digital Agenda for Ukraine 2020 [4], a project presented by the Cabinet of Ministers of Ukraine, which is the first step to integration into global processes of ‘digitalization’.
Spreading the digital education is among the first-priority areas and initiatives of Ukraine’s digitalization. The notions of ‘digital literacy’, ‘digital competence’ and ‘digital intelligence’ are widely used in the document above, particularly, it specifies the topicality of forming a thorough ‘cross-platform’ digital competence, when subjects are studied through the use of ‘digital’ technologies [4, p. 22]. The topicality of the research theme can be proved based on the updated version of key competences for life-long learning, approved by the European Parliament and the Council of the European Union on January 17, 2018 where digital competence is specified as ‘one of the most important in the contemporary society’ [5], as well as on Standards and Guidelines for Quality Assurance in the European Higher Education Area, approved by the Ministerial Conference in Yerevan, May 14–15, 2015 [6]. This document, drawn up by the European Association for Quality Assurance in Higher Education, European Students’ Union, European University Association and European Association of Institutions in Higher Education, says, among other factors, that the educational institutions provide students with academic knowledge and skills, particularly, those of wide application, encouraging the development of students as personalities and of their future careers [6, p. 11].

Our research also rests on the media literacy model offered by the Dutch Centre of Expertise for Media Literacy [7].

II. METHOD

A. Research Type

The study of digital culture and digital media influence is based on an empiric research the results of which have been systematized, analyzed and summarized.

The study was realized in several stages. The first stage involved the formation of questions for the questionnaire by an expert group (authors of the article). The second stage involved a questionnaire of students using the Google form. The research has been made in structural units of Borys Grinchenko Kyiv University (Institute of Journalism, Institute of Philology, Pedagogical Institute and other structural units). The total amount of the people under questionnaire – 470, who are studying under bachelor and master degrees’ programs. The third stage was dedicated to the processing data using methods of statistical analysis, synthesis, summarizing and others, the use of which is described in the following parts of research.

B. Data, Instrument, and Data Collection

Such special methods of scientific cognition as questionnaire and expert judgment have been used to find out the results required. For the questionnaire, there has been developed a form of 9 questions providing an opportunity to analyze comprehensively students’ need for acquiring required skills, competences on their way to professional self-actualization. The group of scientists has organized an expert commission to study the questionnaire results. Methods of statistical analysis have been used at the stage of data processing, particularly, a factor analysis: data visualization has been developed using a principal component analysis; a correlation analysis has been used while estimating the ratio found to the linear one.

C. Data Analysis

Such general scientific methods as analysis, synthesis, summarizing, induction, and deduction have been used for data analysis. The questionnaire results have been studied and verified using logical-and-analytical methods of induction and deduction. The results have been selected thematically at the stage of data synthesis. Common components for different educational areas have been found out using the summarizing of the results under questionnaire. Graphic methods have been used while building schemes, diagrams and tables. Mathemetic methods have been applied to process the questionnaire data. The descriptive method has been helpful at the stage of the research results issuance.

III. RESULTS AND DISCUSSION

A. Summarized questionnaire results

470 people took part in the research, among them 89% were women, 11% – men, also the students of 1st – 6th years of Grinchenko University majoring in different areas: Journalism; Information, Library and Archival Science; History and Archeology; Management; Education and Pedagogy; Political Science; Philology; Philosophy, etc. The most active were the representatives of such specialties as Journalism – 159 (36.3%); Philology – 53 (12.1%); Primary Education – 32 (7.3%); Information, Library and Archival Science – 21 (4.8%); Preschool Education – 19 (4.3%). The first year students became the leaders under the questionnaire – 34%; 2nd-year students amounted to 16.7%; the opinion of the 3rd and 4th year students is almost equal – 22.9% and 22.1% correspondingly; the smallest part of the people under questionnaire was the students under the master degree program – 5th and 6th years students – 4.3% in total. Fig. 1 demonstrates the distribution of the respondents in compliance with the year of education.

![Fig. 1. Distribution of the respondents in compliance with the year of education.](image)

470 responses were received to the questionnaire offered, the summarised results of the questionnaire is provided in Table-I.
Table-I. Summarised results of the questionnaire

<table>
<thead>
<tr>
<th>Question</th>
<th>Priorities and percentage</th>
<th>Amount 10-7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 How do you estimate the influence of the digital culture and digital media on your personal life?</td>
<td>81 (17.2%)</td>
<td>92 (19.5%)</td>
</tr>
<tr>
<td>2 What role does the digital culture play in your professional formation?</td>
<td>109 (23.1%)</td>
<td>110 (23.4%)</td>
</tr>
<tr>
<td>3 What role does digital media literacy play in your professional formation?</td>
<td>167 (35.5%)</td>
<td>100 (21.3%)</td>
</tr>
<tr>
<td>4 How important is the ability to popularize the results of own professional activity?</td>
<td>196 (41.8%)</td>
<td>85 (18.1%)</td>
</tr>
<tr>
<td>5 Is the knowledge of digital communication technologies obligatory in your professional activity?</td>
<td>226 (48.1%)</td>
<td>67 (14.3%)</td>
</tr>
<tr>
<td>6 How necessary for your professional development is an ability to create qualitative content for digital media?</td>
<td>206 (43.7%)</td>
<td>72 (15.3%)</td>
</tr>
<tr>
<td>7 How important is an ability to generate new ideas in the area of digital media?</td>
<td>203 (43.2%)</td>
<td>82 (17.4%)</td>
</tr>
<tr>
<td>8 Is an ability to use Internet resources and technologies necessary to solve experimental, practical and prognostic assignments in the area of professional activity?</td>
<td>187 (40.0%)</td>
<td>105 (22.5%)</td>
</tr>
<tr>
<td>9 How important is an ability to use computer technologies in order to master professional activity?</td>
<td>230 (49.0%)</td>
<td>91 (19.4%)</td>
</tr>
</tbody>
</table>

The ranking of priorities among different specialties is provided in Fig. 2.

Fig. 2. Ranking of priorities.

B. The role of digital culture and media literacy in professional formation; priorities of responses

A range of questions in the questionnaire have been devoted to the study of nature of competences required to obtain digital culture. As the results show, more than 80% of the people under questionnaire consider the influence of digital culture and digital media on their lives quite significant (question 1).

The response to the question “What role does digital media literacy play in your professional formation?” is even higher – 87% of respondents specified the importance of digital culture exactly for the professional growth, rating it from 10 to 7 (question 2).

The respondents demonstrated stable understanding of interrelation between digital communication technologies and future professional activity, which is confirmed by the analysis of the responses to questions 5 and 9. Almost 90% of the students involved into questionnaire have confirmed that the knowledge of digital communication technologies in their professional activity is obligatory and 48% of the respondents demonstrated it through the rate of ‘10’.

93% of respondents showed understanding the importance of computer technologies use to enhance professionalism (49% rated the importance of this competence as ‘10’). It should be stressed that the prevailing majority of the respondents are the representatives of social and humanitarian professions – journalists, representatives of a publishing industry, advertising specialists, future teachers at secondary and higher education institutions, researchers-historians, managers of different levels, but they are the people who understand the mechanisms of their professional growth through information and communication technologies.

This position of the respondents confirms the thesis about importance or, perhaps, priority of ‘digital competence’. Person’s knowledge and skills aimed at the implementation of such digital competence aspects as ‘digital welfare’ and ‘digital identity’, a possibility of self-actualization in the digital society, digital communicativeness and the ability to cooperate in online-communities, the understanding of a necessity to follow the ethic code in social circles, the support of academic integrity, knowing how to use cyber security technologies, etc. are topical in the conditions of the information society. Digital skills are especially topical for future specialists who work immediately with the information, information communications [8].

The competence put into question 8 ‘Is an ability to use Internet resources and technologies necessary to solve experimental, practical and prognostic assignments in the area of professional activity?’ was rated identically highly: 93.4%, 40% of respondents rated it as ‘10’. Thus, the specialists from different areas, such as journalism, pedagogy, information studies, history and philosophy, management and law confirm unanimously a necessity of
using Internet-resources and technologies to solve different professional issues in the future. Note that the ‘digital culture’ or ‘digital humanitaristics’ is an individual course of preparation of bachelors and masters in many higher education institutions in the world, and the experience of such countries as, for example, Canada, is worth implementation, particularly, in Ukraine [9].

Digital media literacy specifies an ability to search, estimate and analyze information in the digital media environment using digital tools. However, the most important skills are the creation of qualitative digital content, its competent expansion among the target audience. Thus, digital media literacy allows avoiding communicative failures in the digital media environment.

The response to question 3 ‘What role does the digital culture play in your professional formation?’ allows finding the grade of understanding by the respondents of influence the digital media literacy have on their professional formation; that means that the level of conscious participation as a representative of a particular professional community in the life of media society (35.6% – 10; 21.3% – 9; 18.8% – 8; 14.3% – 7).

The majority of the students asked (90%) admitted the importance of digital media literacy in their professional development.

It was interesting that the highest average rate among specialties for which media literacy is not a professional requirement was for the specialty of Information, Library and Archival Science – 8.83.

Question 4 ‘How important is the ability to popularize the results of own professional activity?’ that relates to the use of digital technologies and media content for self-expression, creative self-actualization became interesting for 86.5% of respondents, and the results according to the priorities were as follows (41.8% – 10; 18.1% – 9; 16.4% – 8; 10.2% – 7).

The issue regarding the popularization of own professional activity results is topical concerning two aspects. The first aspect relates to the creation of own digital identity. One should mention, that digital identity is an ‘artificial identity’, which an individual builds up for him/herself as a break from the real world. In the cyber space a real thing is virtual, so the relations established are independent and absolutely differ from the real world. The basis for the relations established is photographs of publications demonstrated on the window of digital identity (social media). The profiles of social media also allow the real world relations to go to the cyber world.

The individual takes part in social groups and introduces his/her digital identity to group members and, receiving a chance to meet the group members and establish new relations, he/she also receives a new place where he or she can feel belonging to, even if it is virtual [10].

A modern person obtains digital identity showing him/herself in the digital environment, present him/herself, creates own professional portfolio. The result of digital professional identity is wide opportunities for employment, interesting professional communication and experience exchange, qualitative professional growth.

The growing popularity of the profession, attraction of public attention to possible problems, engagement of professional and public communities to solve top-priority problems in a particular area are an important result of professional activity achievements popularization.

Currently the popularization of own professional achievements is the most efficient in the digital environment. This type of activity is especially important for small business; popularization is, by its matter, promotion of his/her own activity, own services and products.

The ability to popularize the result of professional activity assumes the knowledge where to look for the target audience to spread the information. It is also important to be able to process photo and video materials, edit the texts of messages. It is necessary to offer qualitative content not to damage business reputation. The comparative characteristics of two interrelated categories are provided in Table-II.

**Table-II. Comparative characteristics of two interrelated categories**

<table>
<thead>
<tr>
<th>Rate 1-10, where 1 is minimum, 10 is maximum</th>
<th>How important is the ability to popularize the results of own professional activity</th>
<th>How necessary for your professional development is an ability to create qualitative content for digital media?</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>41.8%</td>
<td>43.7%</td>
<td>1.9%</td>
</tr>
<tr>
<td>9</td>
<td>18.1%</td>
<td>15.3%</td>
<td>2.8%</td>
</tr>
<tr>
<td>8</td>
<td>16.4%</td>
<td>17.8%</td>
<td>1.4%</td>
</tr>
<tr>
<td>7</td>
<td>10.2%</td>
<td>7.2%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Total</td>
<td>86.5%</td>
<td>84%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

86.5% of students admitted the importance of popularization of their professional activity; among them the highest rate (10) was 41.8%. However, curriculums do not specify the competences related to the professional activity results popularization, as a rule.

Question 6 ‘How necessary for your professional development is an ability to create qualitative content for digital media?’ can be considered as a control one because for the popularization of one’s professional activity, one should be represented in digital media and that means an ability to create media content making you visible in the digital environment. Thus, the questionnaire results had to correlate with the responses to question 4. This what has happened. A slight difference (2.5%) can be explained by other forms of work available in the real environment. If to consider individual specialties, the response of the students of journalism specialty, who demonstrated high average rate (9.2) for this issue is completely predictable, since this is their professional competence. However, quite a high average rate among such specialties as Information, Library and Archival Science (8.7), Pedagogy (8.27), Philology (7.65) is surprising. This certifies a demand for digital media literacy competences among modern students and a necessity to implement them in the curriculum. Quite a high rate (87.8%) of importance to generate new ideas in the area of digital media certifies (question 7) that the majority of the students are active media prosumers and have demonstrated creativity in the area of digital media. Any creative work presents positive emotions, enjoyment from working. In digital media, innovations provide additional advantages.
New ideas help to stand out, catch attention, get new audience involved in the digital environment. The ability to generate new ideas in the area of digital media allows, in fact, showing their leadership features and develop a social capital. Thus, we see that modern students are included into digital content production. That is why it is important for this process to be conscious, to be based on the principles of socially responsible journalism and to become a competitive product on demand socially.

A response to the questions related to media competences certifies that the students are aware of the fact that currently it is impossible to implement own personal and professional potential without active, creative and conscious participation in digital media. Digital media have become an instrument and a field of opportunities for achieving goals and implementing cognitive, communicative and professional purposes.

C. The analysis of the responses with regard to the specialties

As it was specified above, the representatives of 17 specialties under which the students at Grinchenko University study have participated in the questionnaire. Let us consider its results among the students of five specialties that were the most active in the research, particularly: ‘Journalism’, ‘Information, Library and Archival Science’, ‘Philology’, ‘Pedagogy’, ‘History and Archeology’. Two the highest and two the lowest rates there have been selected for the analysis. The results are shown in Table-III.

<table>
<thead>
<tr>
<th>Question</th>
<th>Responses of respondents by specialties</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How do you estimate the influence of the digital culture and digital media on your personal life?</td>
</tr>
<tr>
<td>2</td>
<td>What role does the digital culture play in your professional formation?</td>
</tr>
<tr>
<td>3</td>
<td>How important is the ability to popularize the results of own professional activity?</td>
</tr>
<tr>
<td>4</td>
<td>Is the knowledge of digital communication technologies obligatory in your professional activity?</td>
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<td>5</td>
<td>How necessary for your professional development is an ability to create qualitative content for digital media?</td>
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</tr>
<tr>
<td>7</td>
<td>How important is an ability to use computer technologies in order to master professional activity?</td>
</tr>
</tbody>
</table>

Thus, for the representatives of the journalists the following issues were the most important: ‘Is the knowledge of digital communication technologies obligatory in your professional activity?’ (question 5) – the highest average rate is 9.21; ‘How necessary for your professional development is an ability to create qualitative content for digital media?’ (question 6) – the highest average rate is 9.20 The lowest average rates were for the questions: ‘How do you estimate the influence of digital culture and digital media on your personal life?’ (question 1) – 7.64 and ‘What role does digital culture play in your professional formation?’ (question 2) – 8.40.

For the student majoring in ‘Information, Library and Archival Science’ question 5 was also the most approved – average rate is 9.30, and ‘Is an ability to use Internet resources and technologies necessary to solve experimental, practical and prognostic assignments in the area of your professional activity?’ (question 8) – 9.05. It is identical for future journalists, question 1 was rated as the lowest – 7.70 and question 2 – 8.50.

The representatives of philologists were at one with the future journalists and information employees in rating question 8 – 8.45 and ‘How important is an ability to use computer technologies in order to master professional activity?’ (question 9) – ranking meets the highest average rate from the representatives in this major – 8.78. The lowest average rate fell on question 2 – 7.64 and question 5 – 7.53. For the future teachers the questionnaire showed that the response to question 9, the same as for philologists, meets the highest average rate – 8.70, and question 8 – 8.55. Question 1 and question 2 received the lowest average rate among the representatives majoring in this area 7.90 and 8.02 correspondingly, the same as for future journalists and information employees.

Among the students-historians, responses to the questions: ‘How important is the ability to popularize the results of own professional activity?’ (question 4) and question 5 were rated at the highest level: 9.22 and 9.00 correspondingly. The students majoring in this area also confirmed a tendency established already that the lowest average rate corresponds to question 1 – 7.44 and question 2 – 7.67.

Thus, the students of all specialties consider with no doubts the communication and computer technologies as determining for their successful professional activity. Future journalists have also chosen reasonably an ability to create qualitative digital content.
The students majoring in three areas stressed on importance of creative use of the information and technologies to solve different types of professional assignment. At the same time, it was quite unexpected that students-historians univocally prefer exactly communication competences, emphasizing the popularization of their professional activity results, rather than their reception. Even the lower boundary is quite high, which certifies the value both for professional development and private life of youth digital culture. We can determine it as ‘a system of new values, knowledge, competences, models of behavior and communications’ [11, p. 180-181] or a system of person’s behavior rules while using information and communication technologies [12].

IV. CONCLUSIONS

According to the realized questionnaire (the total amount of the people under questionnaire – 470, who are studying under bachelor and master degrees’ programs), analysis and interpretation of data, the following conclusions can be drawn. Summarizing general results of studying how digital culture and digital media influence on professional development of future specialists in different areas, we have come to a conclusion that a significant amount of the respondents (almost 90%) understands the important of this component in their professional activity. Acquisition by future specialists of the skills aimed at creation of digital culture units, abilities to use different technologies during the education process and personal communication, skills on creation, assessment and promotion of media content relate, in a wide sense, to digital competence. The research results provide grounds to consider digital competence and media competence as components of professional competences. These components are important not only for the specialties that are immediately involved into the creation and distribution of digital information or for the specialists on social communications and information technologies, but also for the specialties that do not immediately relate to information and communication technologies.

The purpose of the research, which was to find out if there is a need to implement curriculums and academic disciplines aimed at development of digital and media competences for the students studying under the programs of bachelor and master, has been reached. A high level of influence of digital and media cultures onto the popularization of their professional achievements results, rather than their reception. Even the lower boundary is quite high, which certifies the value both for professional development and private life of youth digital culture. We can determine it as ‘a system of new values, knowledge, competences, models of behavior and communications’ [11, p. 180-181] or a system of person’s behavior rules while using information and communication technologies [12].

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