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COMPARATIVE ANALYSIS OF THE LEVEL OF DIGITAL COMPETENCES OF FUTURE TEACHERS IN POLAND AND UKRAINE

Abstract. Digital transformation requires continuous development from the individual, including the development of media competences. Effective education of the young generation requires teachers to have digital competences. On the other hand, teachers are prepared to work in the era of new technologies at universities, where students gain important knowledge and skills. Therefore, the author focused on the digital/media competences of pedagogy students. According to the Digital Competence of Educators [1], these include information and data skills, communication and collaboration, digital content creation, safety, and problem-solving. The article presents the results of its own research, which showed the level of media competence of pedagogy students in Poland and Ukraine and possible differences in this area noticeable in future teachers from the two European countries. 84 students from Ukraine and 102 from Poland participated ~~took part~~ in the survey. The questionnaire was developed on the basis of relevant sources and tools for examining the level of digital competence of teachers: Digital Competence of Educators [1], Simons, Meeus, Sas [2], Selfie for Teachers [3]. The questionnaire covered three areas: media use, media understanding and use, and media creation and transmission. A Likert scale from 1 to 5 was used. In the analysis of the collected data, the following tests were used: Kolmogorov-Smirnov, Mann-Whitney U. Statistical analysis of the obtained data allowed to confirm the hypothesis regarding the lack of statistically significant differences in the level of digital competences of future teachers. The results of the research indicated certain tendencies - a slightly higher level of media competence of students from Ukraine in terms of, m.in knowledge, knowledge of online communication tools with students, netiquette of the use of tools to communicate with colleagues. Therefore, future teachers from both countries are prepared for rational and selective use of media in their didactic and educational work. It is important to constantly supplement the study programs with content corresponding to technological, economic and socio-cultural development.

Keywords: digital competences; new technologies; students; teachers.

1. INTRODUCTION

The development of new technologies means progress in the area of the possibility of using them by the individual at work, study or everyday duties. However, it is related to the need to adapt to new conditions~~,~~ and, therefore, to have digital competences and then develop them. Ekmen and Bakar [4] emphasize that increasing the pace of development and distribution of technology in the knowledge society that emerged from the transformation process has made digital literacy not a right- but a requirement. Without digital competences, an individual cannot fully benefit from their usefulness. It is worth noting that they include not only the ability to use media tools but also, above all, selective and critical reception of media messages.

In the context of the topic of this article, it is important to pay attention to the media competence of teachers. This is important for two reasons. First, digital media play an important role in the teacher's work, and therefore it is necessary to transform traditional educational practices and integrate technology into them [5]. Secondly, the media competence of teachers is essential in a school of the 21st century, attended by representatives of the Alpha generation. From the moment they are born, modern students have digital media around them, which is an immanent part of their everyday life and learning. Therefore, teachers must expand their media competences in the process of lifelong learning.

This paper aims to benchmark the level of digital competences of future teachers in Poland and Ukraine in three areas. The author has built her own questionnaire based on the available tools. As Tułodziecki and Grafe [6] emphasize, "future research should focus on the further development and validation of appropriate research instruments to assess the level of media competence and their use in empirical assessments". Due to the similar number of respondents from both countries who study pedagogy, the null hypothesis is that no significant differences between students' digital competences from Poland and Ukraine are noticed. However, data on individual components contained in the three dimensions may reveal slight differences or trends.

2. DIGITAL COMPETENCES OF TEACHERS

The use of digital resources and the possibilities of digital technologies require teachers to have digital competences. They allow you to create interactive materials, draw inspiration for conducting classes, and cooperate with students, parents, and teachers. What is more, new media provide an opportunity to engage students, develop their critical thinking or solve problems.

It is, therefore, necessary for teachers to acquire digital competences in order to use the media effectively and rationally and to build a digital learning environment. It should be emphasized that a lot depends on the preparation of future teachers in pedagogical studies. The study program should respond to the rapid changes in the environment. Students of pedagogy should acquire knowledge and skills in the field of new technologies in the course of their studies. Therefore, it is important to use different technologies correctly in the classroom to develop the ability to access, create, and share accurate information, and to use technology in learning and teaching processes [7]. It is necessary to develop in students not only technical skills, but also critical reception of media messages, searching for and selecting information.

In its 2018 Recommendation, the Council of the European Union defined that "digital competence includes the confident, critical and responsible use of and interest in digital technologies for the purposes of learning, work, and participation in society. These include information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), security (including digital comfort and cybersecurity competences), intellectual property issues, problem-solving and critical thinking [8]. In addition, the European Digital Competence Framework DigCompEdu was launched in 2017. They are in line with the institutional and contextual requirements of different countries and are recognized by countries in Europe and beyond as a common reference for the training of educators [9; 10; 11]. It is worth highlighting the established areas of competence: information and data skills, communication and collaboration, digital content creation, security, and problem-solving [1]. The author also used the framework when creating the research tool. She made this decision on the basis of research that confirmed the use of DigCompEdu to assess the digital competences of educators [12; 13] and the use of the indicated framework as a tool during teacher training [14]

It is also worth recalling UNESCO's ICT Competence Framework for Teachers, which covers five areas of teachers' media competence: digital competence, knowledge development, knowledge creation, knowledge sharing, and knowledge preservation [15]. Ng [16], on the other hand, described three dimensions of digital competence: technical, cognitive, and social-emotional. The first involves the use of digital tools and the ability to handle various types of digital media. The cognitive area is related to the knowledge of copyright, netiquette, media education, and the ability to search for and select information. The last dimension refers to the use of digital technologies in a conscious and critical way.

It should be noted that the level of teachers' competences could be best observed during remote education caused by the COVID-19 pandemic. Moreover, this form of the process has shown the possibilities of transferring the teaching process online or integrating face-to-face teaching with online teaching. It is extremely important to develop teachers' digital competences from university to support them at the next stages of their careers. The results of the research point to the need for a constant commitment to nurture and further strengthen teachers' affirmative attitudes towards online teaching in order to effectively navigate the ever-changing landscape of education [17].

3. DIGITAL COMPETENCES OF TEACHERS – STATE OF RESEARCH

Research results indicate that teachers use digital media in their daily work and show a positive attitude [18; 19]. Paying attention to specific ways of using digital technologies, the researchers mention searching for information, developing their own content, and checking students' knowledge. Perifanou, Economides, and Tzafilkou [19] indicate that two-thirds of teachers use digital tools to search for educational materials and create content on their own in the form of, for example, presentations, games, or a blog. The presented data confirm other studies in which teachers best assess their competence in the use of educational resources and their preparation for students [20; 21]. In addition, as the results of the study show, teachers use digital tools to check and assess students' knowledge. They prepare quizzes, tests, or various types of exercises and tasks [19].

Teachers' media literacy has an impact on the use of digital technologies in their daily work. Kerckaert, Vanderlinde, van Braak [22] linked the use of digital media with teachers' self-assessment of ICT (information and communication technology) competences, ICT professional development, and teachers' attitudes towards ICT opportunities. That is why it is so important for educators to have these competences at a high level and to be aware of this to be able to use them.

Attention should also be paid to the conditions for the development of teachers' digital competences. Fursykova, Habelko, Chernii [23] argue that an important role in this aspect is played by preparing students of pedagogy in higher education institutions and then providing opportunities for the development of these competences of teachers in the course of their work. Competences should be developed in the process of lifelong learning in order to follow the changes taking place and enrich one's workshop for the benefit of students.

4. RESEARCH METHODS

The study was quantitative in nature. The author constructed a survey questionnaire in two languages, which was sent via an online form to students of the National Pedagogical University. M. P. Dragomanowa in Kiev (in Ukrainian) and the Jan Kochanowski University in Kielce (in Polish). The questionnaire development phase involved an inventory of digital competence concepts and models. Three sources were considered highly relevant: Digital Competence of Educators [1], Simons, Meeus, Sas [2], Selfie for Teachers [3]. Firstly, they were addressed to teachers. Secondly, they were the most up-to-date, and thirdly, they included several areas of media competences. Taking into account the previously presented models of media competences, individual digital competences were grouped. Three groups were created: using the media, understanding and using the media, creating and transmitting media messages. A Likert scale from 1 to 5 was used, where 1 means I strongly disagree and 5 means I strongly agree. The components assigned to each range are shown in Table 1.

Table 1

Digital competence – division into three areas

Media Use	● I can use multimedia devices, i.e. a computer, tablet, smartphone, interactive whiteboard; ● I can consciously choose between different media of the device, depending on their function; ● I can use various sources of information to expand my knowledge; ● I can use the media to convey knowledge to students; ● I know what tools to use to communicate online with students.
Media Understanding and Use	● I can interpret media messages; I know the mechanisms of media reception and influence on recipients; ● I see and understand the psychological and educational dangers of the media (e.g. cyberbullying, addictions); I know what netiquette is; ● I know how to use media to help students understand and apply knowledge; ● I know how the media can help with project-based work; ● I know what media education is and what its goals are.
III. **Creating and transmitting media messages**	● I am aware of my own behavior in the media (e.g. copyright, illegal downloading); ● I can create text materials, presentations; ● I can start a blog; ● I can communicate and present content through media; ● I can participate in public debate through the media (e.g. posting comments, reactions, m.in. in social media; ● I know what tools to use to engage students in creating their own multimedia projects; ● I know what tools to use to communicate with colleagues, promote the facility, and innovate

The designed study adopted research problems to which answers were sought during data analysis.

1. Exploratory and diagnostic research problem: what is the level of media competences (in three areas: using the media, understanding and using the media, creating and transmitting media messages) of pedagogy students in Poland and Ukraine?;
2. Verification research problem: are there differences between the level of digital competences of future teachers from two European countries?

In the research process, it is important to establish hypotheses that will be confirmed, refuted, or partially confirmed based on the analysis of the research results. The hypotheses are presented as follows.

H1. There are slight differences in the level of competence of students from Ukraine and Poland in using the media.

H2. There are slight differences in the level of competence of students from Ukraine and Poland in understanding and using the media.
H3. There are slight differences in the level of competences of students from Ukraine and Poland in creating and transmitting media messages.
H4. There are no statistically significant differences between the level of media competences of students from Ukraine and Poland.
Thanks to the similar number of respondents, a reliable and accurate statistical analysis of the collected data was possible. The following tests were used: Kolmogorov-Smirnov, Mann-Whitney U.

5. THE RESULTS AND DISCUSSION

5.1. Analysis of the normality of variable distributions

On the basis of questions belonging to given competence groups, competence indicators were created by averaging the results in each group. A general indicator was also created, which is the average value of all competences.

In order to verify whether the distributions of the results of the analyzed scales are close to the normal distributions, the analysis using the Kolmogorov-Smirnov test was carried out.

Table 2

Results of the normality analysis of variable distributions

	Kolmogorov-Smirnov		
	Statistics	Df	Significance
Use of multimedia devices, i.e. computer, tablet, smartphone, interactive whiteboard	0.285	159	0.000
Conscious choice between different devices, depending on their functions	0.252	159	0.000
Using various sources of information to expand your knowledge	0.294	159	0.000
Using the media to teach students	0.295	159	0.000
Knowledge of tools that can be used to communicate online with students	0.273	159	0.000
Interpreting media messages	0.26	159	0.000
Knowledge of the mechanisms of reception and the influence of the media on the audience	0.25	159	0.000
Knowledge of the psychological and educational dangers of the media (e.g. cyberbullying, addictions)	0.26	159	0.000
Knowledge of netiquette	0.214	159	0.000
Using media to help students understand and apply knowledge	0.257	159	0.000
Know how media can help with project-based work	0.268	159	0.000
Knowledge of what media literacy is and what its goals are	0.273	159	0.000

Awareness of media behaviour (e.g. copyright, illegal downloads)	0.212	159	0.000
Creating text materials, presentations	0.312	159	0.000
Starting a blog	0.185	159	0.000
Communication and presentation of content through media	0.286	159	0.000
Participation in public debate through the media (e.g. posting comments, reactions, m.in. on social media)	0.231	159	0.000
Knowing what tools to use to engage students in creating their own multimedia projects	0.266	159	0.000
Knowledge of what tools to use to communicate with colleagues, promote the facility, and innovate	0.251	159	0.000
Media Use	0.150	159	0.000
Media Understanding and Use	0.131	159	0.000
Creating and communicating media messages	0.128	159	0.000
Overall score	0.135	159	0.000

As a result of the analysis, it was noted that none of the analyzed scales is characterized by a distribution of results similar to the normal distribution ($p<0.001$). Due to the fact that the analyzed scales are not characterized by distributions of results close to the normal distribution, in order to verify the differences between nationality affiliation and the level of the scales: media use, media comprehension and use, and media creation and transmission, nonparametric Mann-Whitney U tests were used.

5.2. Analysis of the differences between the place of study and the level of scales of media use

The first area to be analysed was media literacy. It includes the use of multimedia devices, their conscious choice in teaching and online communication, and the use of media to expand their knowledge and transfer knowledge to students.

The analysis showed that the average level of knowledge about the tools that can be used to communicate online with students in a group of students from Ukraine (M=4.07; SD=0.98) is statistically significantly higher than in the group of students from Poland (M=3.84; SD=0.87).

Table 3

Results of the analysis of the differences between the place of study and the level of media use scales

		N	M	SD	U	p
Use of multimedia devices, i.e. computer, tablet, smartphone, interactive whiteboard	Poland	104	4.13	1.03	3233	0.173
	Ukraine	70	4.33	0.96		
	Poland	103	4	0.93	3462	0.638

Conscious choice between different devices, depending on their functions	Ukraine	70	4.04	0.98		
Using various sources of information to expand your knowledge	Poland	104	4.38	0.75	3519	0.678
	Ukraine	70	4.26	1.14		
Using the media to teach students	Poland	102	4.06	0.93	3204	0.371
	Ukraine	68	3.79	1.26		
Knowledge of tools that can be used to communicate online with students	Poland	104	3.84	0.87	2950	0.023
	Ukraine	70	4.07	0.98		
Media Use	Poland	102	4.08	0.68	3148	0.305
	Ukraine	68	4.09	0.86		

N – number of subjects; M- mean value; SD – standard deviation; U – Mann-Whitney U test result; p- materiality level

However, no statistically significant differences were observed between the place of study and the scales:

- use of multimedia devices U=3222.0 ; p=0.173; c
- onscious choice between different devices depending on their function: U=3462; p=0.638; using various sources of information to expand their knowledge: U=3518.5; p=0.678;
- the use of media to transfer knowledge to students: U=3204; p=0.371;

Therefore, the statistical analysis allows us to conclude that there are no statistically significant differences between where young educators study and the use of the media: U=3148; p=0.305.

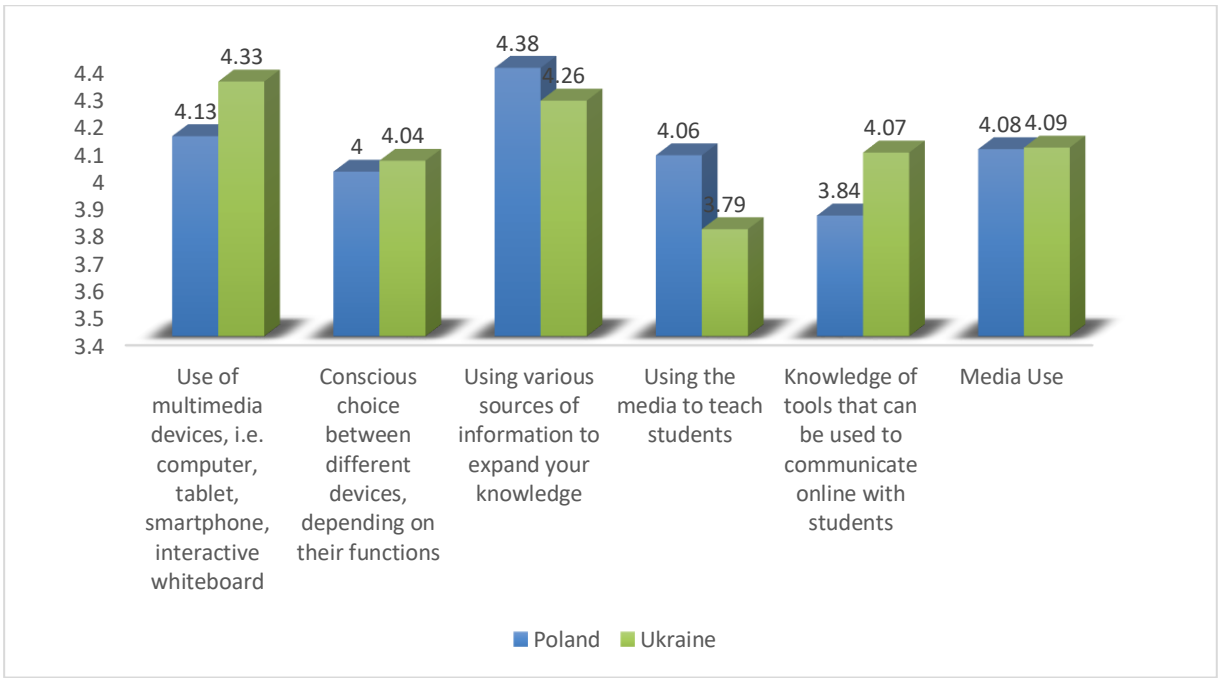

Fig. 1: Results of the analysis of the differences between the place of study and the level of scales: media use

5.3. Analysis of the differences between the place of study and the level of scales of understanding and use of media

Another area of media literacy is the understanding and use of media. Therefore, teachers should have knowledge of media education, netiquette, as well as the ability to interpret and critically evaluate media messages.

As a result of the conducted analyses, it was observed that the average level of knowledge about netiquette in the group of Ukrainian students (M = 3.84; SD=1.25) is statistically significantly higher than in the group of Polish citizens (M=3.33; SD=1.27): U=2717.5; p=0.003.

Table 4

Results of the analysis of the differences between the place of study and the level of media comprehension and use scales

Group		N	M	SD	U	p
Interpreting media messages	Poland	104	3.64	0.95	3324.0	0.303
	Ukraine	70	3.77	0.97		
Knowledge of the mechanisms of reception and the influence of the media on the audience	Poland	103	3.81	1	3384.5	0.474
	Ukraine	70	3.87	1.12		
Knowledge of the psychological and educational dangers of the media (e.g. cyberbullying, addictions)	Poland	104	4.16	1	3315.5	0.459
	Ukraine	68	4.03	1.09		
Knowledge of netiquette	Poland	104	3.33	1.27	2717.5	0.003
	Ukraine	70	3.84	1.25		
Using media to help students understand and apply knowledge	Poland	104	3.87	0.98	3377.5	0.395
	Ukraine	70	3.96	1.03		
Know how media can help with project-based work	Poland	104	3.94	0.93	3469.5	0.825
	Ukraine	68	3.85	1.12		
Knowledge of what media literacy is and what its goals are	Poland	104	3.86	1	3271.0	0.296
	Ukraine	69	3.97	1.06		
Media Understanding and Use	Poland	103	3.79	0.79	2955.5	0.201
	Ukraine	65	3.89	0.83		

N – number of subjects; M- mean value; SD – standard deviation; U – Mann-Whitney U test result; p- materiality level

However, no statistically significant differences were observed between the places of study:

- and interpreting media messages U=3324; p=0.303;
- and knowledge of the mechanisms of reception and influence of the media on the audience: U=3384.5; p=0.474; and knowledge of psychological and educational dangers from the media: U=3315.5; p=0.459;
- and the use of media to help students understand and apply knowledge: U=3377.5; p=0.395;
- and know how the media can help with project-based work: U=3469.5; p= 0.825;
- and know what media education is and what its goals are: U=3271; p=0.296;

Statistical analysis of data from this area, therefore, does not indicate significant statistical differences taking into account the place of study and the understanding and use of media: U=2955.5; p=0.201.

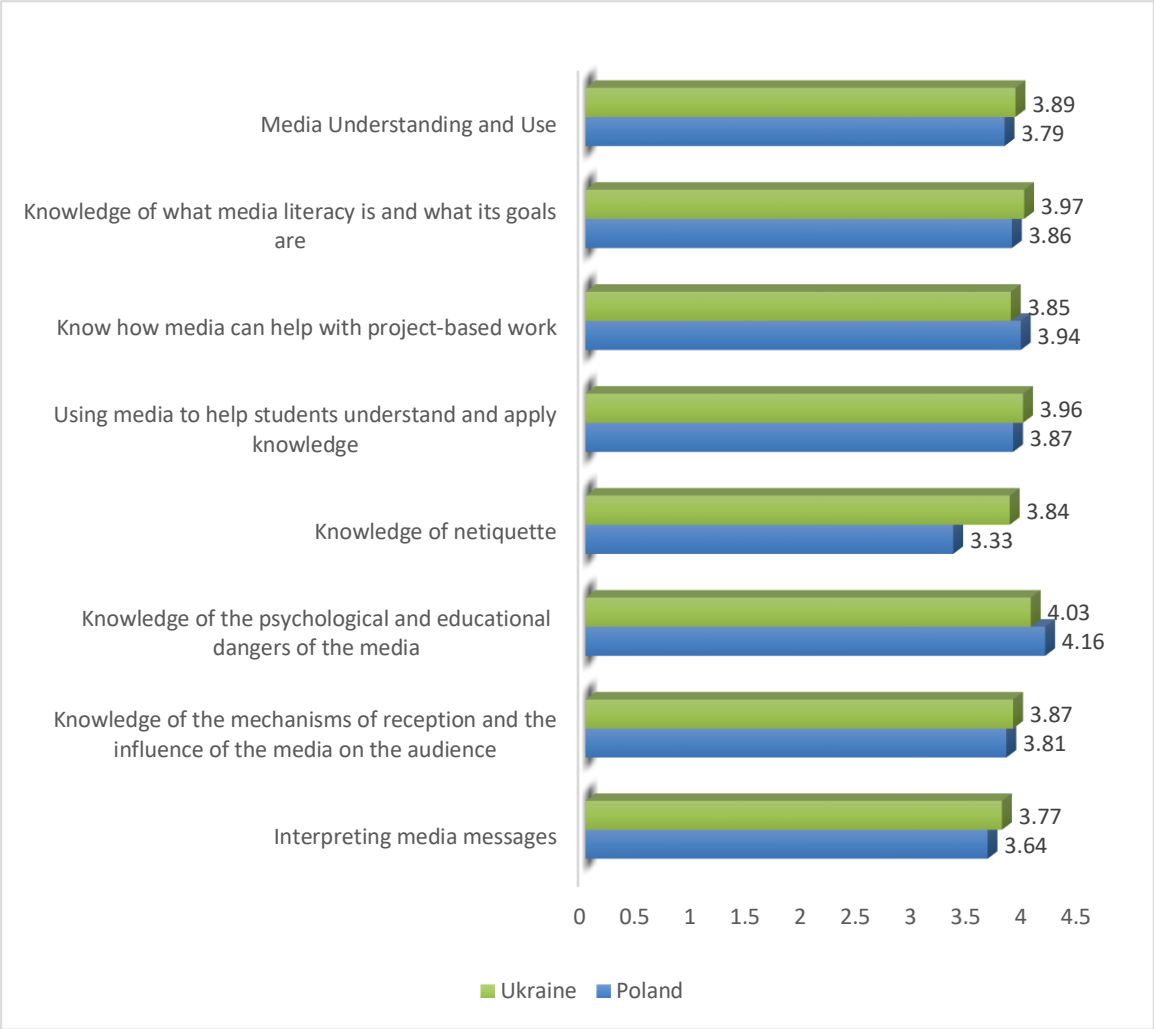

Fig. 2: Results of the analysis of the differences between the place of study and the level of scales: media comprehension and use

5.4. Analysis of the differences between the place of study and the level of scales of creating and transmitting media messages

Creating and transmitting media messages is another scope of media competences of future teachers. It includes knowledge of tools for creating media content, online communication, and their use at work.

The conducted analyses showed that the average level of competence in setting up a blog in the group of Ukrainian students (M=3.54; SD=1.19) is statistically significantly higher than in the group of students from Poland (M=2.88; SD=1.23): U=2522; p=0.001. It was also observed that at the trend level, students from Ukraine scored higher on the scale of knowledge of what tools to use to engage students in creating their own multimedia projects (M=3.88; SD= 1.08) than students from Poland (M=3.63; SD=1.01). U=2987.5; p=0.050. Also, at the level of tendencies, students from Ukraine are characterized by a higher level of competence regarding the knowledge of what tools to use to communicate with colleagues, promote the institution, or innovate (M = 3.96; SD=1.03) than people studying in Poland (M=3.68; SD=1.01): U=3044; SD=0.054.

Table 5

Results of the analysis of the differences between the place of study and the level of scales for creating and transmitting media messages

Group		N	M	SD	U	p
Awareness of media behaviour (e.g. copyright, illegal downloads)	Poland	103	3.86	0.97	3115	0.2
	Ukraine	68	4	1.12		
Creating text materials, presentations	Poland	104	4.39	0.89	3322	0.358
	Ukraine	69	4.19	1.1		
Starting a blog	Poland	103	2.88	1.23	2522	0.001
	Ukraine	70	3.54	1.19		
Communication and presentation of content through media	Poland	104	3.99	0.95	3360.5	0.555
	Ukraine	68	3.87	1.05		
Participation in public debate through the media (e.g. posting comments, reactions, m.in. on social media)	Poland	103	3.54	1.14	3453	0.746
	Ukraine	69	3.55	1.28		
Knowing what tools to use to engage students in creating their own multimedia projects	Poland	104	3.63	1.01	2987.5	0.05
	Ukraine	69	3.88	1.08		
Knowledge of what tools to use to communicate with colleagues, promote the facility, and innovate	Poland	104	3.68	1.01	3044	0.054
	Ukraine	70	3.96	1.03		
Creating and communicating media messages	Poland	101	3.71	0.75	2783	0.097
	Ukraine	65	3.85	0.79		

N – number of subjects; M- mean value; SD – standard deviation; U – Mann-Whitney U test result; p- materiality level

However, no statistically significant differences were observed between the places of study:

- and awareness of behavior in the media: U=3115; p=0.200;
- and the creation of textual materials for the presentation: U=3322; p=0.358;
- and communication and presentation of content by means of media: U=3360; p=0.555;
- and participation in the public debate through the media: U=3453; p=0.746.

Therefore, the statistical analysis allows us to conclude that there are no statistically significant differences between where young educators study and the creation and transmission of media messages: U=2783; p=0.097.

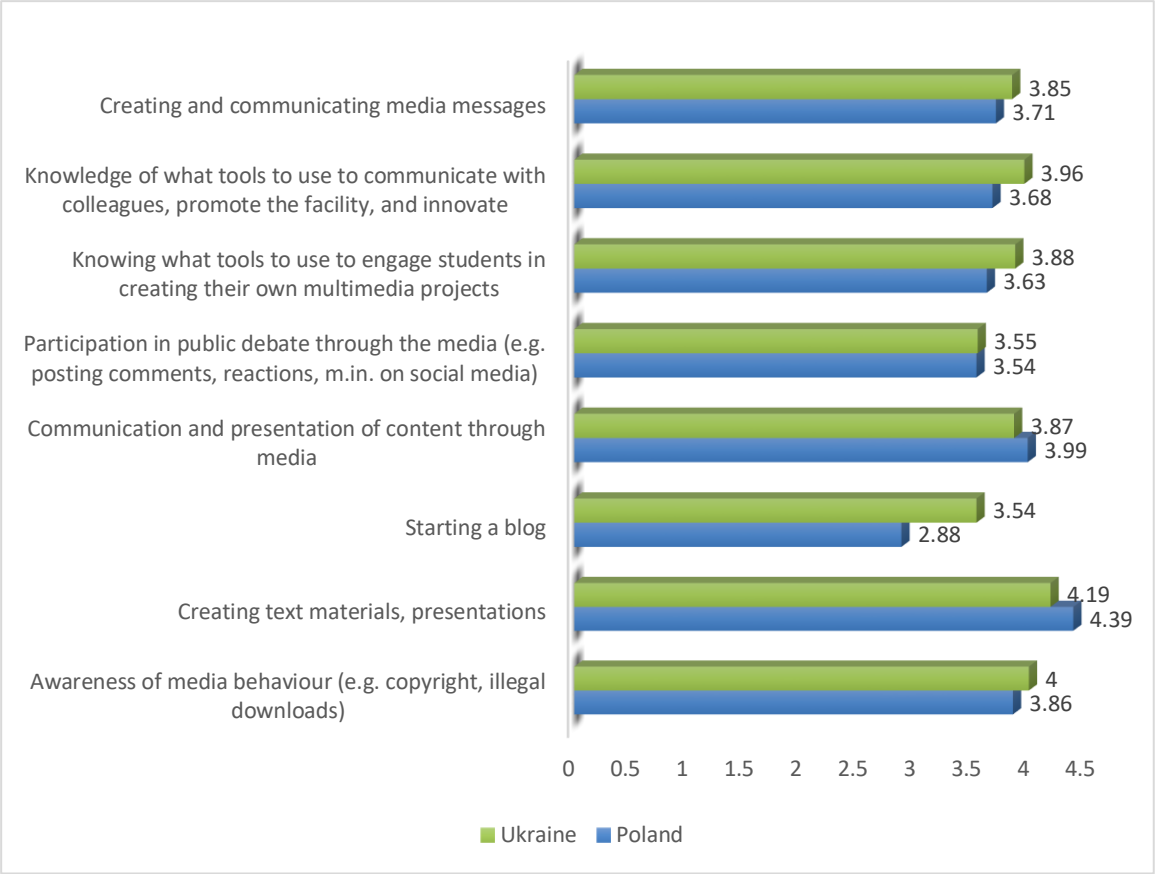

Fig. 3: Results of the analysis of differences between place of residence and level of scales: creation and transmission of media messages

5.5. Analysis of the differences between the place of study and the overall result of the competence

The analysis did not show the existence of statistically significant differences between nationality and the overall competence score. U=2485.5; p=0.074. Therefore, students from both Poland and Ukraine have media competences at a similar level.

Table 6

Results of the analysis of the differences between the place of study and the overall score of competences

Group		N	M	SD	U	p
Overall score	Poland	98	3.82	0.67	2485.5	0.074
	Ukraine	61	3.93	0.75		

5. CONCLUSIONS AND PROSPECTS FOR FURTHER RESEARCH

The results obtained in the field of the sense of digital competences by students of pedagogy from Ukraine and Poland and their statistical analysis allowed us to notice certain trends.

The first research hypothesis concerned small differences in the level of competence of students from Ukraine and Poland in the field of media use. By using tests, it is concluded that students assess their digital competences at a similar level. However, you can see a discrepancy

when considering the individual components. A slightly higher level of knowledge about online communication tools with students was recorded in the group of students from Ukraine.

The results in the second area of media competence - understanding and use of the media - are distributed in a similar way. Students from Poland and Ukraine assess their competences at the same level. In the context of acquiring knowledge and skills during studies in Poland, one can refer to the research of Aksman [24] because most students believe that the development of their competence in critical evaluation of media messages was influenced to an indirect and large extent by classes during their studies. It is worth noting, however, that only in terms of netiquette, students living in Ukraine have a slightly higher level of knowledge.

The level of competence of students from Ukraine and Poland in the field of creating and transmitting media messages is also similar. It is worth noting, however, that there are certain tendencies in the individual components of this dimension of digital competence. Students from Ukraine are characterized by a higher level regarding, for example, setting up a blog, using tools to communicate with colleagues and engaging students in work. It is possible that it results from the adopted directions (five) of digital competences of a pedagogical employee in Ukraine. Among them are m.in, a teacher in a digital society, the use of digital resources, and shaping students' digital competences [25].

The fourth hypothesis was confirmed, which assumed that there were no statistically significant differences between the level of media competence of students from Ukraine and Poland. Research in Poland confirms that the sense of competence in the substantive and practical aspects of pedagogy students is at a good level [26]. At the same time, students indicated the need to use new technologies due to the possibility of increasing students' interest in the topic, helping students absorb content, or facilitating classes [Ibid.]. Study programs in Poland include classes in media use, media education, and programming. Future teachers are, therefore, prepared for rational and selective use of media in teaching and in the process of lifelong learning.

In turn, the level of digital competences of Ukrainian students may be related to the development of the country and the implementation of new solutions, including technological ones. As Biletsky, Onkovych, Yanyshyn [27] emphasize, it is an indisputable fact that media pedagogy, media education and media didactics have entered the scene, being in many countries of the world and their pedagogical achievements often become an innovative point of reference for us. Educational technologies in higher education seem to be almost unlimited – groups, blogs, websites. During studies, the development of media competences is crucial, as indicated by the description of the pedagogue's digital competences, as well as the activities presented in the context of education reform. The reform of pedagogical education assumes activities in the following directions:

I. Development of a modern model of the teaching profession in the context of the needs of society, prospects for the development of the national economy and global technological change.

II. Transformation of higher and vocational education in the pedagogical direction of the specialty.

III. Identification of promising ways of continuous professional development and professional development of teaching staff [28]

In addition, students and teachers in both countries can use the materials and improve their competences thanks to online communities, blogs, or educational websites.

In both countries, there is a noticeable responsibility for preparing future teachers to use the media in the teaching process and to critically perceive media messages. The essence is to equip students of pedagogy with media competences, as well as their further development and improvement of already acquired competences. To this end, it is necessary to implement a model of media competence for teachers. It is worth noting the proposal presented by Põldoja,

Väljataga, Tammets and Laanpere [29]. According to them, the model should consist of five areas:

- prepare and inspire students in a digital environment;
- design and develop learning experiences and a learning environment;
- model and design work environments;
- promote and model digital democracy and accountability;
- participate in professional development.

It should be emphasized that they are related to the scope of digital competences, m.in. information literacy, communication, or digital content creation.

Further research on digital competences should include a group of pedagogy students and teachers in the course of their work. Further and systematic analysis of the level of media competence of pedagogy students is necessary, taking into account various scopes and intermediate variables. Based on the results and taking into account the changes taking place, study programmes should be complemented with content corresponding to technological, economic, and socio-cultural developments. In addition, it is crucial to monitor the further development of teachers' media competences in the course of their teaching work due to the rapid technological development. It is also worth noting in scientific research institutional support for teachers in the process of lifelong learning and development of digital competences. The availability and organization of training for educators and preparing them to create a digital learning environment is important here. Well, the sudden challenges that we are currently observing and the dynamic development of digital technologies indicate the need for teachers to have digital competences.

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ПОРІВНЯЛЬНИЙ АНАЛІЗ РІВНЯ ЦИФРОВИХ КОМПЕТЕНТНОСТЕЙ МАЙБУТНІХ УЧИТЕЛІВ У ПОЛЬЩІ ТА УКРАЇНІ

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Анотація. Цифрова трансформація вимагає від людини постійного розвитку, включно з розвитком медіакомпетентностей. Ефективне виховання молодого покоління вимагає від учителів цифрових компетентностей. Своєю чергою, підготовка викладачів до роботи в епоху нових технологій відбувається в університетах, де студенти здобувають необхідні знання та навички. Тому автор зосередився на цифрових/медійних компетентностях студентів педагогічного факультету. Відповідно до Цифрової компетентності освітян (2017) до них належать: навички інформації та даних, спілкування та співпраця, створення цифрового контенту, безпека, вирішення проблем. У статті подано результати власного дослідження, яке показало рівень медіакомпетентності студентів педагогічного факультету Польщі та України, а також можливі відмінності серед майбутніх учителів двох європейських країн. У дослідженні взяли участь 84 студенти з України та 102 студенти з Польщі. Анкету розроблено на основі значущих джерел та інструментів для дослідження рівня цифрових компетентностей учителів: Digital Competence of Educators (2017), Simons, Meeus, Sas (2017), Selfie for Teachers (2020). Анкета охоплювала три сфери: використання ЗМІ, розуміння та використання ЗМІ, створення та передача медіаповідомлень. Для аналізу зібраних даних використовували шкалу Лайкерта від 1 до 5. Для аналізу зібраних даних були використані тести як-от: Колмогорова-Смірнова, Манна-Уітні U. Статистичний аналіз отриманих даних дозволяє підтвердити гіпотезу щодо відсутності статистично значущих відмінностей у рівні цифрових компетентностей майбутніх учителів. Результати дослідження вказали на певні тенденції – дещо вищий рівень медіакомпетентностей студентів з України у сфері, зокрема, знання про інструменти онлайн-спілкування зі студентами, мережевий етикет використання інструментів для спілкування з колегами. Тому майбутні вчителі обох країн готові до раціонального та вибіркового використання медіа у своїй навчально-виховній роботі. Важливо постійно доповнювати навчальні програми змістом, що відповідає технологічному, економічному та соціокультурному розвитку.

Ключові слова: цифрові компетентності; нові технології; учні; учителі.