

# Distance Learning for Higher Education Applicants in War: Information Competence

Truba Hanna<sup>1</sup>, Radziivska Iryna<sup>2</sup>, Sherman Mykhailo<sup>3</sup>, Morska Nataliia<sup>4</sup>, Kulichenko Alla<sup>5</sup>, Havryliuk Nataliia<sup>6</sup>

[1233566789b@gmail.com](mailto:1233566789b@gmail.com) [vasyl.malets2021@gmail.com](mailto:vasyl.malets2021@gmail.com)

[3182009060@ukr.net](mailto:3182009060@ukr.net), [raisin0303@gmail.com](mailto:raisin0303@gmail.com), [Sherman\\_m@ukr.net](mailto:Sherman_m@ukr.net), [morska-n@ukr.net](mailto:morska-n@ukr.net), [alla.kulichenko@gmail.com](mailto:alla.kulichenko@gmail.com),  
[ngavriluk774@gmail.com](mailto:ngavriluk774@gmail.com)

<sup>1</sup>Applied Linguistics Department, Odesa Mechnikov National University  
65082, Odessa, Dvoryanska st, 2, Ukraine

<sup>2</sup>Cherkasy Medical Academy, Department of Fundamental Disciplines, 18002, Cherkasy, Khreshchatyk str., 215,

<sup>3</sup>Department of Computer Science and Software Engineering Faculty of Computer Science Kherson State University,  
Physics and Mathematics, 73000, Kherson, University, 27 st., Ukraine

<sup>4</sup>Department, Faculty of History Ternopil Volodymyr Hnatiuk National Pedagogical University, Ternopil National  
Pedagogical University 46027, Ternopil 2 Maxyma Kryvonosa str., Ternopil, Ukraine

<sup>5</sup>Department of Foreign Languages Zaporizhzhia State Medical University, International Faculty No. 2, Department of  
Foreign Languages, 69035, Maiakovskiy avenue 26, Zaporizhzhia, Ukraine

<sup>6</sup>Vinnitsia Institute of Trade and Economics of Kyiv National University of Trade and Economics, Faculty of  
Accounting and Finance, Foreign Phylology and Translation Department, Vinnitsia, 21050, Soborna St, 87, Ukraine

## Summary

Modern challenges in the educational environment force scientists and practitioners to search for an adequate answer. In particular, the war in Ukraine demonstrated the importance of developing information competence as one of the main means of distinguishing true information from a whole stream of fake news. This is especially relevant in connection with the introduction of distance learning when students must find and process a large amount of information on their own. Therefore, the purpose of the article is to analyze the training of higher education students through the prism of acquiring the necessary level of informational competence in war conditions. For this, general scientific and special research methods, as well as the experimental method, were used. In the results, the peculiarities of the interpretation of information competence in the distance form of education among modern researchers are determined, the psychological components of resistance to fakes are analyzed. Based on the conducted empirical measurements, it was established that thorough work on student education gives positive skills when working independently with Internet materials, strengthens the ability to distinguish false information and propaganda from the real state of affairs. The conclusions summarize the results of the empirical research and suggest ways to improve the situation with the formation of information competence.

**Keywords:** *high education, competencies, war, Internet, psychology.*

## 1. Introduction

The COVID-19 pandemic has posed the latest challenges to the global society as a whole, including the educational system. The use of modern techniques and distance learning technologies has demonstrated their effectiveness against the backdrop of a number of advantages, such as cost reduction and savings in higher education, opportunities for effective management of own time for students and teachers, the use of the latest operational solutions to improve the educational process [16].

At the same time, the possibilities of distance learning have opened a number of dangers, which (due to the impossibility to return to the traditional ways of acquiring knowledge) [2; 14]. Among them is the hybrid threat, which is deliberately used primarily by governments of authoritarian countries through a number of bot farms and other Internet tools. Its essence is to influence the perception of reality, which is deliberately distorted in the direction necessary for the customers. In the zone of special risk are the countries that have been subjected to aggression (direct and indirect). Aggressors, using their influence, will at all costs form an information picture, profitable to them.

From this point of view, the mechanisms of counteraction to such threats due to the long absence of direct conflicts in Europe is a relevant subject of research. This article aims to analyze the distance learning of higher education applicants in the context of war through the prism of information competence.

## 2. Methodology

The study is built on the use of general scientific research methods: analysis, synthesis, deduction, and induction. By means of the method of concretization, it was possible to allocate the general conditions for the introduction of techniques of counteraction to hybrid threats through the improvement of information competence at applicants for higher education. The method of abstraction was required to model certain educational conditions suitable for improving the learning process. Also, the paper used the comparison methodology, which became supportive in identifying more effective ways to establish disciplines that improve information competence among students. Thanks to the systematic method of research, it was possible to consider information competence as a complex system, each element of which plays an important role in confronting hybrid challenges.

Let us pay special attention to empirical research methods. In particular, it is said about the use of experiment and sociological survey, allowing applicants for higher education to independently assess the level of mastery of information competence and compare the data obtained with the results of their knowledge obtained during the training. The above method was implemented by creating a focus group of 50 applicants and applicants for higher education and developing an online questionnaire, which included questions to identify the positive aspects of using distance education (with the possibility of multiple responses) on the perceived benefits of online learning (the possibility of) multiple responses). Next, a question on the perceived disadvantages of distance education relative to the perceived disadvantages of distance education (multiple response option), answers on the mental effectiveness, attractiveness, and predictability of learning in confronting hybrid threats. The range of scores was from 1 (very bad) to 10 (very good). Later, after information competency training, the scores were repeated. This made it possible to take into account the dynamics of information competence improvement in higher education applicants.

## 3. Results

### Information competence in distance learning and the challenges of the digital society

The traditional model of education is undergoing a significant transformation at all stages of the educational process. The introduction of innovations in higher education among different spectrums of other ways to improve the quality of the educational process is focused on increasing the thorough training of specialists and ensuring the demand for higher education applicants in the labor market [2]. At the same time, the new education aims to provide a potential professional with the basic educational services of fundamental education and the formation of special pedagogical conditions in order to activate the independent development of personality [16]. Active improvement of information technologies, implementation of sustainable development concepts, application of individual means of communication in the refreshing process cause transformation of the information environment of universities. For this reason, the large-scale application of information technologies in the educational process (especially in distance learning) affects the formation of information competence, which is currently in demand in the labor market. Information competence is the ability of students and teachers to navigate in a large-scale information environment, correctly apply modern information and communication tools in accordance with the requirements of education [4]. At the same time, some scientists understand the term informational competence as an integral competence, which is formed from such key elements as personal, general, and professional competence [6]. At the same time, the implementation of information competence manifests itself based on educational expediency, objectivity, consistency, humanitarianization, and continuity [4].

At present, thanks to the use of the latest information and communication technologies, future specialists not only get the opportunity to find, study, process information but also are provided with modern means of communication, affecting the organization of e-learning using the system of modular object-oriented learning space (primarily about the platform. Moodle)[17]. Information competence is a necessary set of abilities, skills, and knowledge important for a modern person in an information society. Information competence skills influence the search for important reliable information, information filtering, formation of network security, protect against manipulative media [5].

The experience of the Russian-Ukrainian hybrid war and the introduction of e-learning during the COVID-19 pandemic clearly demonstrated that information literacy is an important skill. Russia's propaganda and information war against Ukraine has brought about significant changes

in the motivation and essence of media education, with a key focus on building critical thinking skills and immunity to modern manipulative technologies for students and teachers alike.

Ukrainian society needs a broad formation of information competence skills in the realities of the propaganda war. Despite this, higher education institutions are the very institutions that have the capacity to join the process of forming information literacy of the consumer [4; 18]. However, let us note that it is important for both teachers and students to become media literate, to acquire some skills related to activities in the information space. The formation of this competence is also influenced by critical thinking skills - a set of conscious skills and actions applied when evaluating information [15].

Information competence is integrated into the system of teaching in many European countries, first of all, through the prism of studying the influence of messages (media references) on power, politics, historical events, etc. [12]. At the same time, the British Open Institute has characterized 10 informationally important trends of the latest higher education [7]. These are primarily social learning, learning through events, narrative pedagogy, dynamic assessment, etc. (See Table 1).

Table 1: 10 trends in modern computerized education

10 trends in modern computerized education
1. Mass social education
2. Formation of learning based on analytical data
3. Flipped classrooms.
4. Digitalization (Bring your own devices)
5. The purpose of learning - education for the sake of learning
6. A system of dynamic assessment
7. Learning through events
8. Narrative pedagogy
9. A new way of looking at everyday life
10. Collage system of learning

Source: Developed by the authors of the article

Among the above trends, 5 out of 10 contain elements of information literacy. Consequently, modern higher education is impossible without media competence skills. A modern student should be able to perceive, interpret, evaluate, analyze informational texts [17]. At the same time, the teacher must develop students' ability to apply, evaluate, and disseminate the information message in various forms [8; 13].

Based on our own teaching experience, we will form methodological recommendations for the formation of information competence in students. For the effective organization of independent, independent, and creative activity the significant stage is the instruction on the search, processing of information sources. At the same time, it is necessary to familiarize students with the tools - means of information search. These tools can be various kinds of Internet platforms (search sites) where professional

educational materials (training materials) are located. We are talking about such platforms as Web of Science, Scopus, Google Scholar, Chemical Abstracts, PubMed, etc. The next period is the detailed processing of the information obtained from the sources by organizing the deductive method, systematic or meta-analysis. At the same time note that in the conditions of e-learning should be placed on learning platforms (Moodle) additional training materials, tutorials, webinars, multimedia lectures, questions for self-monitoring, etc. In this way, it will be easier for students to find the materials they need. This will not only contribute to the overall orientation of students in the information learning space but also affect the improvement of the educational process as a whole. In addition, teachers should also develop special skills of working with informational texts:

1. Organization of information search in sources of different direction and type;
2. Critical analysis of acquired sources;
3. Analysis of information presented in different iconic structures (text, table, map, scheme, etc.). 4;
4. Recognizing in the structure of information such elements as: fact, opinion, manipulation, explanation;
5. Participating in discussions and various issues related to information resources, formulating one's own opinion on certain problems, using truthful sources of information to argue one's position [3].

At the same time, in order to form the information competence of students in a distance learning environment, they must be provided with such conditions and have such skills:

1. Have access to visual, electronic, and printed information sources
2. Understand that media messages have all kinds of manipulative elements.
3. Be aware of the fact that all media texts contain messages
4. Be able to decode and analyze informational messages [5].
5. Think critically about media texts in the broader information environment

Based on the acquired skills and abilities, be able to form their own media texts of various plans, discuss various media projects and messages [10].

Thus, information competence includes such elements as creative, aesthetic, interactive, and critical skills. Note that critical thinking as a component of information literacy affects the interpretation, awareness of the role of media content [4]. In turn, the student can evaluate them, applying a variety of analytical mechanisms [4]. Forms and methods of educational media expression are actively developing (it becomes especially noticeable under distance learning conditions). Consequently, information competence skills should be systematically improved. So, let us distinguish

the periods of development of students' information competence based on several aspects (See Table 2).

Table 2: Basic aspects of information competence in higher education

Basic aspects of information competence in higher education		
The aspect of information accessibility	The aspect of the analysis of informational texts	A study of informational texts
Research work	Exploring the classification of the facets found in informational resources (messages)	Analyzing the difference between the depicted event and the real one
Analysis of the language of informational texts	Using previously acquired skills and abilities	Forming questions about the content of an information message based on prior knowledge
Understanding of terminology of the most important parts of remote invalid equipment (projector, camera, computer, slide). Ability to implement key operations with this equipment	Identifying and describing different stereotypes in informational messages  Awareness of the differences between different types of media	Describing some parts of the information message. Exploring the ways in which the media can influence people
Ability to analyze, distinguish between individual parts of an informational text	Awareness of certain ways and means of organizing the message in a media text	Carefully and critically evaluating informational messages. Exploring the impact of informative texts on others.
Selection of different types of information messages	Awareness that verbal or visual messages form some meaning in analyzing the different types of stories used in messages, documentary texts, or advertisements.	The formation of the difference between the actual event and the covered event, the discussion about it. Analysis of concrete and abstract meanings in the informative field
Access to information sources for analysis, representation of the problems under study	Understanding that the key essence of an informational text is transformed through a combination of certain elements (perspective, frame, sound, etc.).	Using informational texts for research, critically analyzing them, explaining the impact of informational resources
Access to major academic databases (says media library, library) in order to find primary and secondary sources for the implementation of scientific work	Awareness of ways to organize and present information projects	Expressing the benefits of the sources studied, justification.

Source: Developed by the authors of the article

Taking into account different levels of students' assimilation of educational information in general (familiarization, reproductive, transformative (reconstructive), creative) we will form the main periods of

information competence formation, which theoretically should be passed by the student during information research. The first stage is familiarization. At this stage, the student gets acquainted with the material, determines the amount of information on the available problem and the main possibilities of its elaboration. At the second stage, reproduction occurs - the student researches an array of information materials on the problem, accumulates it. At the third stage transformation occurs [5]. Here also passes thorough comparativism and comparison of certain fragments from various sources of the same problem, determination of their truthfulness, generalization of the studied information. The last stage is called "creative". During this period the creation of a personal mind language product based on the received earlier and transformed information [5] takes place. In particular, at this stage passes formulation of own theories, judgments, hypotheses, conclusions, their verification or proof, formation of personal concepts, writing a creative research paper, etc.

**Formation of information competence in war conditions: the psychological aspect**

Russian information aggression has overloaded the Ukrainian media space with false messages and distorted information. The problem can partially be solved by professional journalists who are competent in countering hybrid threats, which requires additional psychological knowledge and skills. Therefore, the responsibility of individual professionals is growing, because correct presentation and comprehension of materials, refutation of lies in conditions of war is becoming commonplace. Accordingly, modern professionals need certain additional communicative knowledge, which is used by professionals in hybrid conflicts and during active military propaganda.

If we analyze the essence of propaganda, it aspires to psychological influence on many individuals. Thanks to this (separate communication technologies) it is possible to change behavioral paradigms, to modify the vision of the picture of the world (supplementing it with a constructed reality) by pre-directed transformations of information flows. For example, such methods are reticence of some information, selection, distortion of facts and juggling conclusions, conscious construction of information [4]. Modern Ukrainian media space developed chaotically, there were no mechanisms to counteract the disorientation of the audience, a special build-up of anxiety, and any attempts to control the process of presenting information were met with accusations of the introduction of censorship [10].

The situation with the use of Internet resources was similar. This vulnerability was especially evident during distance learning when independent work with material presented on the Web became the predominant form of students' work. For this reason, the growth of media literacy has become an indispensable aspect of educational

activity. At the same time, the formation of information competence is impossible without specific psychological characteristics, which should be emphasized during training. We are talking about:

1. An internal sense of logical contradictions. Manipulative ways of presenting information are very often based on certain logical contradictions, flaws, or false arguments added to other, quite fair information. Internal sensitivity allows us to identify logical contradictions when dealing with information at a certain intuitive level.

2. Knowledge and understanding of the working methods of current influence techniques. The ability to identify manipulative suggestive techniques that may operate in different forms and apply in different circumstances. This skill is important because current military conflicts are accompanied by the latest information techniques of influencing the psychology of others [1; 5].

3. The ability to perceive information impartially. The study of information in terms of logical contradictions, elements of influence allows further impartial perception of information (e.g., different points of view), with its clear arguments.

4. The ability to reconcile views and positions with one another. It consists in the ability to understand and create messages based on a balanced consideration of often opposing viewpoints in order to avoid any intolerance in society.

5. Awareness of the results of one's actions, of the consequences of one's statements not only for oneself but also for others. It is a matter of deepening one's understanding of one's comments, textual expressions, video, and audio recordings. Voicing one's own position should be based on the principles of balance, since amid hostilities one may be exposed to panic, hostile propaganda, etc. Therefore, a sense of responsibility for one's own words and actions should restrain one from making hasty decisions and implementing them.

Based on the use of an experiment and a sociological survey, we will assess the level of mastery of information competence in higher education applicants and compare the data obtained with the results of their knowledge obtained during the training. This was done by creating a group of 50 students and developing an online questionnaire, which included questions to identify controversial points in the application of distance education.

According to the results of the experiment, it was possible to establish that the students had a generally positive attitude to the introduction of distance education (in total - 8.7-8.8 points out of 10 possible). Such an assessment was to be expected, since for the past few semesters the training took place only in this format, so all its advantages are well known. At the same time, Russia's armed aggression has made the challenges and threats in the online environment apparent to higher education applicants. Many interviewees sensed an increase in propaganda and "double-

speak" material (which had a partial truthful basis but led to false conclusions that were aggressively imposed) on the Web. By mastering information competence, the effectiveness of overcoming such threats increased from 5.8 to 7.0 (out of a possible 10). The applicants also indicated during the questionnaire that they had mastered information competence well (from 6.5 at the beginning of their studies to 8.1 after taking the relevant disciplines), which correlates well with their overall performance. Whereas students had a poor basic understanding of the importance of working in the information space at the beginning of the course, their understanding improved significantly after the relevant disciplines.

The experiment demonstrated the importance of information competence, with which the effectiveness of confronting fake and hybrid information increases significantly. Targeted training in such countermeasures is an important part of the educational process in the context of war, as well as for the possible war to be avoided.

#### 4. Conclusions

Thus, in the conditions of an informatized society and in the realities of war, information competence is important for higher education applicants in the distance learning system. In this connection, the requirements for personal information competence as a key component of professional competence become sharply in demand. As it has been established, information competence focuses on the skills of critical thinking, independent elaboration, search, selection, analysis, evaluation, organization, modeling, and transfer of information. The work formed methodological recommendations for the formation of information competence in applicants for higher education. First of all, instruction in information retrieval and processing is important, later an important stage is a familiarization with information retrieval tools (Web of Science, Scopus, Google Scholar, Chemical Abstracts, PubMed, etc.). Later, it is important to be able to analyze the information obtained from sources using deductive or systematic methods. In addition, we recommend learning platforms (Moodle) to place additional learning materials, which will contribute to the formation of students' orientation in the information learning space and influence the improvement of the learning process in general.

The empirical study demonstrated the importance of information competence, based on which the effectiveness of confronting fakes and hybrid information increases significantly. The experimental study showed that with the help of individual educational elements it was possible to improve the information competence of the focus group under study.

The article formed the main periods of information competence formation: introductory, reproductive, transformative, and creative.

Consequently, we believe that the Ukrainian society will require wide implementation of the system of information competence formation in the sphere of education in the realities of a propaganda war. This will promote critical thinking of students, their orientation in the information space against the manipulative possibilities of the media. For this reason, information competence should become an obligatory element of educational competence, which is necessary for the current specialist of any industry, because the ability to self-improvement throughout life is a key feature of the personality of the information society.

## References

- [1] G. Rani, P. Kaur, and T. Sharma, "Digital education challenges and opportunities," *Journal of Engineering Education Transformations*, vol. 35, no. 4, pp. 121–128, Apr. 2022. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.16920/jeet/2022/v35i4/22111>
- [2] G. Bucăța, F. Popescu, and C. Tileagă, "Digital transformation of the higher education system," *International Conference Knowledge-based organization*, vol. 28, no. 1, pp. 158–168, Jun. 2022. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.2478/kbo-2022-0025>
- [3] O. Yasar-Akyar, C. Rosa-Feliz, S. Sunday-Oyelere, D. Muñoz, and G. Demirhan, "Special Education Teacher's professional development through digital storytelling," *Comunicar*, vol. 30, no. 71, pp. 93–104, Apr. 2022. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.3916/c71-2022-07>
- [4] G. Yushko, "Development of information competence," *Modern Technologies and Scientific and Technological Progress*, vol. 2022, no. 1, pp. 321–322, May. 2022. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.36629/2686-9896-2022-1-321-322>
- [5] B. Banić, I. Banić, J. Siniša, M. Andevski, and P. Stojanović, "Competence and media competence in the age of the Internet," in *Sinteza 2020*, Beograd, Serbia, Oct. 17, 2020. Beograd, Serbia: Singidunum University, 2020. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.15308/sinteza-2020-112-119>
- [6] V. Kovalenko and D. Martseniuk, "Communicative competence as a component of the social worker's professional competence," *Young Scientist*, vol. 4, no. 80, Apr. 2020. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.32839/2304-5809/2020-4-80-17>
- [7] "Global trends and the future of education," in *Trends Shaping Education 2022*. OECD, 2022. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.1787/bbdf63c5-en>
- [8] D. M. J. Bhatt, "Innovations in teacher education," *International Journal of Scientific Research*, vol. 2, no. 11, pp. 137–139, Jun. 2012. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.15373/22778179/nov2013/44>
- [9] S. Voloshynov, V. Osadchy, and K. Osadcha, "Modern trends for higher education in Ukraine," *Engineering and Educational Technologies*, vol. 6, no. 4, pp. 38–46, Dec. 2018. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.30929/2307-9770.2018.06.04.04>
- [10] I. Chaplay, "Modern potential of state education management in Ukraine," *Electronic Scientific Publication "Public Administration and National Security"*, no. 1, Sep. 2018. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.25313/2617-572x-2018-1-4123>
- [11] O. Kanash, "Current forms of higher education duality in Ukraine," in *Modern Transformations in Economics and Management*. Publishing House "Baltija Publishing", 2022. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.30525/978-9934-26-222-7-14>
- [12] A. G. Richards, "Cultural diversity, conceptual pedagogy, and educating students for their futures," in *Arts Education and Cultural Diversity*. Singapore: Springer Singapore, 2019, pp. 183–205. Accessed: Sep. 14, 2022. [Online]. Available: [https://doi.org/10.1007/978-981-13-8004-4\\_16](https://doi.org/10.1007/978-981-13-8004-4_16)
- [13] R. Almonte, "Soft skills in a digital age," in *A Practical Guide to Soft Skills*. New York: Routledge, 2021, pp. 1–18. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.4324/9781003212942-1>
- [14] M. M. Pinheiro and V. Santos, "Building the future of distance and online learning," in *Online Distance Learning Course Design and Multimedia in E-Learning*. IGI Global, 2022, pp. 114–141. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.4018/978-1-7998-9706-4.ch005>
- [15] U.-D. Ehlers, "Future skills and higher education "future skill readiness"," *EDEN Conference Proceedings*, no. 1, pp. 85–96, Jun. 2019. Accessed: Sep. 15, 2022. [Online]. Available: <https://doi.org/10.38069/edenconf-2019-ac-0011>
- [16] U. Demiray, "Is digital age "A tsunami" for distance education?," in *Advances in Educational Technologies*

and *Instructional Design*. IGI Global, 2017, pp. 179–194. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.4018/978-1-5225-1692-7.ch009>

- [17] R. Andersone, "Innovations in the improved curriculum content of the competence approach: A case study in Latvia," in *13th International Scientific Conference "Rural Environment. Education. Personality. (REEP)"*. Latvia University of Life Sciences and Technologies. Faculty of Engineering. Institute of Education and Home Economics, 2020. Accessed: Sep. 14, 2022. [Online]. Available: <https://doi.org/10.22616/reep.2020.025>
- [18] V. Kryvoshein, N. Vdovenko, I. Buriak, V. Saienko and A. Kolesnyk "Innovative educational technologies in management training: experience of EU countries," in *International Journal of Computer Science and Network Security*, vol. 22, no. 6, pp. 45-50, 2022. Accessed: Sep. 15, 2022. [Online]. Available: DOI10.22937/IJCSNS.2022.22.6.8

#### **Truba Hanna**

PhD, Associate Professor, Applied Linguistics Department, Odesa Mechnikov National University  
65082, Odessa, Dvoryanska st, 2, 3182009060@ukr.net,  
<http://orcid.org/0000-0001-9944-0476>

#### **Radziievska Iryna**

Candidate of Pedagogical Sciences Vice-rector for educational work  
Cherkasy Medical Academy, Department of Fundamental Disciplines, 18002, Cherkasy, Khreshchatyk str., 215,  
raisin0303@gmail.com, <https://orcid.org/0000-0002-5216-1928>

#### **Sherman Mykhailo**

Doctor of Pedagogical Sciences, Professor Department of Computer Science and Software Engineering Faculty of Computer Science Kherson State University, , Physics and Mathematics, 73000, Kherson, University, 27 st.,  
Sherman\_m@ukr.net, <https://orcid.org/0000-0001-5120-620X>

**Morska Nataliia**, PhD in Philosophical Sciences, Associate Professor Philosophy and Social Sciences Department, Faculty of History Ternopil Volodymyr Hnatiuk National Pedagogical University, Ternopil National Pedagogical University 46027, Ternopil 2 Maxyma Kryvonosa str., Ternopil, Ukraine, morska-n@ukr.net, <https://orcid.org/0000-0002-6533-2802>

#### **Kulichenko Alla**

Candidate of Pedagogical Sciences, Associate Professor of Department of Foreign Languages  
Zaporizhzhia State Medical University, International Faculty No. 2, Department of Foreign Languages  
69035, Maiakovskiyi avenue 26, Zaporizhzhia, Ukraine,  
alla.kulichenko@gmail.com, ORCID ID: 0000-0003-1469-3816

#### **Havryliuk Nataliia**

Candidate of Pedagogical Sciences, Associate Professor Vinnytsia Institute of Trade and Economics of Kyiv National University of Trade and Economics, Faculty of Accounting and Finance, Foreign Phylology and Translation Department, Vinnytsia, 21050, Soborna St, 87,  
ngavriluk774@gmail.com, <https://orcid.org/0000-0002-6031-7777>