



ПЕДАГОГІЧНА АКАДЕМІЯ:
НАУКОВІ ЗАПИСКИ

ІНФОРМАЦІЙНО-КОМУНІКАЦІЙНІ ТЕХНОЛОГІЇ В ОСВІТІ

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Digital tools for forming communicative competencies in higher education institutions

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***Abstract.** The purpose of the article is to analyze the experience of using digital tools in teaching Maritime English with the aim of mastering communicative competencies by students of higher education institutions. The research methods used in the article are theoretical (analysis, synthesis, generalization) and empirical (observation, testing). In the study results, the author describes various digital tools and their application using the example of the Kherson State Maritime Academy.*

Media and information literacy are recognized as two of the most important competencies in the current realities of the digital transformation of society. Neglecting them can lead to chaos in ideas about the world. Taking into account the challenges facing us the author outlined important tasks facing the sphere of higher education. Based on the analysis of global trends, scientific literature and expert opinions, the problems facing our country in the sphere of innovative transformation of the educational sphere into a free unified space that promotes the development of intellectual human capital in the context of digitalization have been identified. In addition, digitalization processes and the rapid development of information and



*communication technologies make the issue of mastering media and information literacy competencies relevant. The paper defines the capabilities of Google Classroom and Zoom web services, Moodle, Kahoot!, Vseosvita, LearningApps, Canva, Rebus1.com platforms, the educational project NaUrok, the Google Forms program for the formation of general competencies of education applicants. The features of the methodology of gamification of the educational process and the organization of quality control of education with the involvement of modern digital tools are considered taking into account the specifics of the formation of unified methodological approaches to teaching Maritime English in higher education institutions. Their advantages and disadvantages are also determined. In the **conclusions**, attention is drawn to the benefits of using digital tools, which were identified in the process of their direct application in the educational process.*

***Keywords:** digitalization of education, higher education, Maritime English, gamification, digital generation.*

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**Цифрові інструменти формування комунікативних компетенцій у
вищих навчальних закладах**

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старший викладач кафедри англійської мови з підготовки морських спеціалістів за скороченою програмою Херсонської державної морської академії, 73009, м. Херсон, пр. Ущакова, 20, Україна, ORCID <https://orcid.org/0000-0002-0809-5978>

***Анотація.** Метою статті є аналіз досвіду використання цифрових інструментів у навчанні морській англійській мові з метою оволодіння*



комунікативними компетенціями студентів вищих навчальних закладів. **Методи** дослідження, використані у статті, — теоретичні (аналіз, синтез, узагальнення) та емпіричні (спостереження, тестування). У **результатах** дослідження автор описує різноманітні цифрові інструменти та їх застосування на прикладі Херсонської державної морської академії.

Медійна та інформаційна грамотність визнаються двома найважливішими компетенціями у сучасних реаліях цифрової трансформації суспільства. Нехтування ними може призвести до хаосу уявлення про світ. З урахуванням викликів, що стоять перед нами, автором позначено важливі завдання, що стоять перед сферою вищої освіти. На основі аналізу світових тенденцій, наукової літератури та думок експертів виявлено проблеми, які стоять перед нашою країною у сфері інноваційної трансформації освітньої сфери у вільний єдиний простір, що сприяє розвитку інтелектуального людського капіталу в умовах цифровізації. Крім того, процеси цифровізації та стрімкий розвиток інформаційно-комунікаційних технологій роблять актуальним питання освоєння компетенцій медійної та інформаційної грамотності. У статті визначено можливості веб-сервісів Google Classroom та Zoom, платформ Moodle, Kahoot!, Vseosvita, LearningApps, Canva, Rebus1.com, освітнього проекту NaUrok, програми Google Forms для формування загальних компетенцій студентів вищих навчальних закладів. Розглянуто особливості методики гейміфікації освітнього процесу та організації контролю якості освіти із залученням сучасних цифрових інструментів з урахуванням специфіки формування єдиних методичних підходів до викладання морської англійської мови у вищих навчальних закладах. Також визначено їх переваги та недоліки. У **висновках** звернено увагу на переваги використання цифрових інструментів, які були виявлені в процесі безпосереднього їх застосування в освітньому процесі.



Ключові слова: цифровізація освіти, вища освіта, морська англійська мова, гейміфікація, цифрове покоління.

A general statement of the problem and its connection with important scientific or practical tasks (Introduction). Digital transformation of all spheres of human activity is a global trend. Over the past few years, it has become one of the leading areas of development in Ukraine. New challenges for Ukrainian society (first, Covid-19, and now the country's state of martial law) have led to the use of online learning, which is impossible without the digitalization of education and ensuring its interactivity. That is why the digitalization of education is an objective pattern of development of modern society and a means of its qualitative restructuring. This involves the effective introduction of new tools and information resources into the educational process, digitization of the educational process based on such basic technologies as mobile communications and the Internet. These technologies make it possible to intensify the educational process, increase the speed and quality of perception, improve understanding and assimilation of knowledge [3, p. 4-5].

Analysis of recent research and publications. In recent years, issues of digitalization of education have received increasing attention, both in foreign and domestic publications. Some aspects were considered by A. Huraliuk [3], I. Kucherak [6], V. Dobrovolska [4].

The issue of developing digital competence is the subject of the works of researchers V. Bykov [1], A. Hurzhii [5], M. Zhaldak [11], N. Morze [7], O. Ovcharuk [8], S. Semerikov [14], N. Soroko [13], O. Spirin [12] and others.

It should be noted that many scientists in their works note the insufficient level of digital competencies, which in turn holds back the development of communicative competencies in students. For example, O. Ovcharuk [15], O. Spirin [12], I. Hevko [2] and others.



Highlighting previously unresolved parts of the overall problem. A review of scientific papers showed that despite existing research on digital tools in higher education institutions, the question of how they facilitate higher education applicants to form the communicative competencies remains unresolved.

Formulation of the article goals (setting the task). The purpose of the article is to analyze the experience of using digital tools in teaching Maritime English with the aim of mastering communicative competencies by students of higher education institutions using the example of the Kherson State Maritime Academy.

Research objectives:

- characterize the unity of methodological approaches to the step-by-step training of students in higher educational institutions for the formation of communicative competencies in the process of teaching Maritime English;
- analyze the experience of using digital tools in the process of learning maritime English at the Kherson State Maritime Academy, namely the Zoom web service and the Moodle platform;
- reveal the importance of gamification of the educational process and the effectiveness of using such digital tools as platforms Kahoot!, LearningApps, Canva, Rebus1.com, the national educational platform Vseosvita, the educational project NaUrok, Google Forms for the formation of communicative competencies.

Presentation of the main material of the study with a full justification of the obtained scientific results (Results of the study). The digitalization of the educational process is caused by the modernization of society, the urgent need for the active implementation of innovative technologies, updating the requirements for specialists, in particular for the formation of communicative competencies. [2, p. 41].

The current generation of students born after 2000 is the first fully digital generation. Today, representatives of this particular generation study in higher education institutions (for example, the Kherson State Maritime Academy), and this



requires innovation in the training of future specialists in order to increase their competitiveness in the labor market [9].

The digital generation has some socio-psychological characteristics that teachers should pay attention to in order to obtain a positive result [3, p. 3]: multitasking, impatience, Internet addiction, fragmented imaginative thinking. This leads to the fact that representatives of the digital generation are not able to maintain attention on anything for more than 15–20 minutes, which is a sign of clip thinking. Therefore, it is effective to use the capabilities of modern digital tools (Learning Apps, Kahoot, Canva, Google forms, etc.), which create a visual space for solving problems, provide gamification feedback.

However, digitalization of educational activities should not be perceived solely as an aim in itself. This is a paradigm shift in how we reason, what tools we choose for action, what strategies we prefer in communicating with other participants in the educational process and with the external environment [10, p. 11].

Modern higher education is focused on a competency-based approach. A component of student training is the formation of general competencies, i.e. a graduate of any higher education institution must obtain communicative competencies regardless of the specialty received. In author's opinion, modern methods of teaching Maritime English should be universal and take into account, on the one hand, professional specifics, and on the other, the state requirements for the level of education of graduates. It is also necessary to ensure the unity of methodological approaches to step-by-step training, which will facilitate the adaptation of graduates of vocational higher education institutions to continue their studies in the full cycle of bachelor's educational and professional programs [4, p. 115].

Let us consider the use of digital tools used by maritime English teachers in higher education using the example of the Kherson State Maritime Academy, and their role in the process of developing communicative competencies.



Next, we will talk about the methods of teaching Maritime English at the higher education institutions level.

Let us analyze in more detail the digital tools for blended learning used by KSMA teachers to develop such communicative competencies as the use of IMO Standard Marine Communication Phrases and the use of English in written and oral forms.

At KSMA, the educational process in modern conditions is carried out using the Zoom web service and the Moodle platform - a modular object-oriented dynamic learning environment, which is also called a learning management system (LMS), or simply a learning platform that provides teachers and students with a developed set of tools for computer-based learning.

Zoom and Moodle can be effectively used in teaching students both during online meetings and for independent study at home. These digital learning tools allow you to work both synchronously and asynchronously, when the lesson was recorded by the teacher, and the cadet/student, at a convenient time and if technically possible, views it and completes tasks, implementing an individual educational trajectory.

Considerable attention in teaching Maritime English is paid to developing the ability to work in a team and have interpersonal interaction skills, and for this purpose gamification of educational activities is used. Effective in this regard are the use of the capabilities of the gaming educational platforms such as Kahoot!, LearningApps, Rebus1.com, the national educational platform Vsevosvita, NaUrok, Google applications.

Quizzes, intellectual tournaments and battles in the classroom are always of interest to students, therefore, taking into account the specifics of the digital generation, we use the Kahoot! platform to organize them. For example, while studying the topic Bridge Team students play a quiz in Kahoot! containing a question with one correct answer, yes/no (true/false). Depending on the form of training, you can choose two



modes of playing the game: asynchronously (convenient for distance learning, when each player participates autonomously, receives a link to the platform and, after the completion of the quiz time, can see the winners and their place among the participants) and live (convenient to conduct in the classroom, when students can rally in teams, see questions on the big screen and answer on their gadgets, immediately receiving feedback, observing changes in the standings directly during the game).

The LearningApps platform provides even more opportunities for a variety of forms of conducting classes, since many more types of tasks are available: matching, classification, rating, image fragments, quiz, fill in the gaps, audio and video content, crossword puzzle, finding words, etc. The following exercises received the greatest number of positive reviews from students: puzzle (an image related to the topic is closed with puzzles with the names of concepts, geographical objects, which are proposed to be divided into groups to open the image), exercise Where is it? (you must use a mark on the map to indicate the location of the object according to the description), racing (choose from the proposed options, you can play with other players during the lesson, or you can play with the computer), My First Million (modeled on the famous game). All types of exercises can be created not only by the teacher, but also by students, which contributes to the formation of skills in the use of information and communication technologies, and the presentation of these exercises in class, in particular, playing the role of the presenter of My First Million, created with one's own hand, develops the ability to act socially responsibly and consciously, work in a team, have interpersonal skills.

At KSMA, interactive exercises created using the LearningApps online service are used in distance learning courses on the Moodle platform. This happens in several ways: as a web link to a LearningApps resource, as embedded HTML documents, and by exporting exercises to a SCORM package. The latter method allows you to use all the tools provided in LMS Moodle for effective quality control of educational



activities: the points received are automatically taken into account in the cumulative system for issuing the final grade.

The national platform Vseosvita offers webquests of Ukrainian teachers, and also provides the opportunity to create your own using a variety of templates and an encoder, taking into account the specifics of the disciplines and the level of training of education applicants.

NaUrok offers one of the most modern digital tools - chat based on ChatGPT. It can be used to develop critical thinking because the answer of artificial intelligence must be verified. Each dialogue is unique, and the study of any topic becomes much more interesting.

One of the ways to increase students' motivation for classroom learning and independent study, and to enhance intellectual, logical and thinking activity is to solve puzzles. The online platform Rebus1.com helps you create your own puzzles or practice solving existing ones. The puzzle generator allows you to encrypt any word or phrase in English, create a puzzle in accordance with the difficulty level, use the database of ready-made puzzles. This platform contains background information on the principles of creating puzzles and the history of rebuses. The generated puzzles are actively used in classes when working with new terms and concepts, at the stage of consolidating the studied topic, which contributes to the development of non-standard thinking.

However, we should not forget about the possibilities of using regular presentations: we create original content, present it in online conferences receiving answers from participants orally or in chat. This format of games has been tested for several years and is given positive feedback because in such situation both the awareness of competition and the activity of students increases. There is the possibility of additional explanations from the teacher, as well as varying the time for completing certain tasks. A few years ago, the Power Point was mainly used to create presentations,



but recently the Canva platform has become increasingly popular. There you can create not only classic presentations but also memes, posters, business cards, diagrams, video presentations very quickly.

In practice, the capabilities of several educational platforms and services are used in one lesson. For example, when studying a topic on ECDIS, we use a game created with the help of Kahoot!, LearningApps and Rebus1.com.

A difficult issue is ensuring the objectivity of assessing the level of achievement, the possibility of using multi-level tasks and getting feedback.

At KSMA, they use a variety of tools for this, in particular, the national educational platform Vseosvita and Google Forms. Depending on the specifics of the educational material and the purpose of testing, different types of tasks and tests are used. When learning Maritime English, it is advisable to use the following types of tasks: image search, sequencing and matching tasks, filling in the gaps in the text, as well as regular tasks with one or more answer options. You can upload photos, videos, audio files to format questions and answer options, which makes tasks more vivid and allows you to use different channels of perception and processing of information.

The Vseosvita team pays significant attention to maintaining academic virtue, so the teacher can prohibit several participants from taking tests on one device, show questions and answer options in random order, prohibit or allow work on errors.

To conduct educational testing, in particular as preparation for stop&check (the name of the testing in Maritime English At the KSMA) or final exam, it is advisable to use a simplified testing mode without switching to full-screen mode with demonstration of the answer results after each question. This mode allows you to return to the previous question if you gave the wrong answer, and thus work through the material. You should use the Limit the Number of Questions option, when the required number to complete is randomly selected from the testing database. For example, from



the test database of 150 questions 25 or 30 are selected for a test. As a result, each student receives a unique testing option.

Among the advantages of the testing service at the Vseosvita, we note the possibility to:

- select testing mode. For example, active (you can start testing at any time with a limited time for completing the test), scheduled (enter the date and time of the start of access to the test and its end) or managed (you can start taking it only at the direction of the teacher online);
- determine the grading system (5-point, 12-point, 100-point or any other);
- change the way scores are calculated for multiple choice questions;
- select appearance mode: standard, kahoot, space, for the visually impaired;
- send a link to testing and create a QR code for smartphones to quickly proceed to testing;
- deprive students of the ability to use browsers to search for answers on the Internet when taking tests (when a student tries to exit full-screen mode, the test automatically stops and is assessed based on the points already scored).

Vseosvita facilitates the teacher to process the results by detailed named and generalized statistics of completions and answers provided, as well as the ability to download the group results in EXCEL format.

At KSMA, tests have been developed for each discipline on the Moodle platform for conducting current and final control in a remote format. When teaching Maritime English, various forms of tasks in tests are used: with one or more answer options, with a true/false choice, matching, dragging markers and text fragments, etc. All questions are stored in a database (test bank) and can be used again either in this course or in another one. Tests improve control over the work of cadets, stimulate their cognitive



activity, and provide an objective assessment by the teacher of the level of knowledge of applicants for higher education.

We can make sure that the methodology for organizing the assessment is the same, despite the use of various web tools, which allows not only to evaluate education applicants, but also to develop skills in using information and communication technologies: loading text, geographic maps, scanning them, working with different interfaces, time control.

Conclusions. So, digital tools, in particular the Zoom web service, platforms Moodle, Canva, Kahoot!, LearningApps, Vseosvita, NaUrok, Rebus1.com, Google applications ensure the realization of the creative potential of teachers in creating original educational content, continuity in the approach to organization of educational activities in higher educational institutions, contribute to the formation of communicative competencies of education applicants, increase interest in educational activities in the context of blended learning, and provide additional opportunities to ensure the quality of educational services.

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