

UDC 378.147:811.111:004]:355.92:005.336.2(043)

Nataliia V. Maiier

Habilitated Doctor of Pedagogy, Full Professor of
Department of Foreign Language Teaching Methods, Information and Communication Technologies
Kyiv National Linguistic University, Kyiv, Ukraine
ORCID ID 0000-0001-7074-8135
nv_maiier@ukr.net

Violetta O. Yukhymenko

Associate Professor of Department of Foreign Languages
Military Institute of Telecommunications and Information Technologies named after Heroiv Krut, Kyiv, Ukraine
ORCID ID 0000-0002-7039-4741
violetta-yukhymenko@ukr.net

MOBILE TECHNOLOGIES IN THE DEVELOPMENT OF PROFESSIONALLY ORIENTED ENGLISH SPEECH INTERACTION COMPETENCE IN INFORMATION SYSTEMS AND TECHNOLOGY MILITARY STUDENTS

Abstract. The purpose of learning a foreign language by future information systems and technology officers is the development of practical skills to the extent that is necessary for communication in various professional situations. The intensive integration of mobile technologies into the higher education system encourages research of the challenges of their use for the development of professionally oriented English speech interaction competence in future information systems and technology officers. The study describes the officers' survey results regarding their needs in professional foreign language communication. It analyzes the use of mobile technologies (the uniquely designed mobile application "English Speaking Skills", the YouTube channel "Military Speaking Skills in Use" and the group chat "English Speaking" in the Telegram mobile messenger) during experimental training in professionally oriented English communication conducted for information systems and technology cadets and officers from a higher military education institution. The study showed that a specially created mobile learning environment for the development of professionally oriented English speech interaction competence in future information systems and technology officers provides opportunities for interactive communication between all participants of the educational process. It develops speech skills and increases the effectiveness of mastering the specific terminology of the military industry. Further use of mobile technologies (didactic educational material) can facilitate the perception of new information in English, motivate to study, and become a learning tool for the development of practical speech skills in the process of verbal and nonverbal communication of information systems and technology cadets with native speakers.

Keywords: mobile technologies; English speech interaction; designed mobile application; military students.

1. INTRODUCTION

The problem statement. In the context of the rapidly expanding cooperation between international military organizations, military higher educational institutions are facing the task of improving the effectiveness of English training for the information systems and technology military students. According to NATO language standard STANAG 6001, professionally oriented English speech interaction competence of such students has to be developed at a level sufficient for communication within their professional military environment in order to perform professional tasks with military personnel of other countries during military exercises, peacekeeping operations, etc [1].

An effective way to promote positive changes in developing the professionally oriented English speech interaction competence in the information systems and technology military

students is to use mobile technologies that are defined as a set of personal information and communication tools with installed software that make it possible to receive, store, process and reproduce text, graphic, audio and video materials online in order to support personality-oriented learning [2, p. 4]. The most important characteristics of mobile technologies in the educational process are portability, the ability to use them anywhere and at any time, as well as the immediacy of communication, which enhances the learning potential [3, p. 265]. Additionally, teaching a foreign language can be performed by using such mobile technologies as a web forum, Google Class, e-mail, mobile applications, electronic dictionaries, blog technology and others [4, p. 203].

Analysis of recent research and publications. A whole number of recent publications are devoted to mobile technologies and possibilities of their use in teaching a foreign language: Behúnová, Ádám & Pietriková [5], Šimonová [6], Alhawiti [7], Van Praag & Sanchez [8] Wang [9]. It is evident that teaching with the help of mobile technologies differs depending on the programme and major offered in any given educational institution [10]. Behúnová, Ádám & Pietriková [5] focus on the process of learning foreign languages with an effective transformation to learning through smartphones. As a result, an e-learning Android application is presented, taking advantages of the popular and successful Callan learning method. The special aspects of using mobile devices for the development of listening skills in the process of mastering a foreign language for specific purposes by undergraduate students during extracurricular activities have been studied. The use of mobile devices by students of linguistics, pre-service foreign language teachers, outside the university and on-campus, and their vision of the potential usefulness of such devices for language learning at the tertiary level, the use of mobile phones and/or smartphones and their apps for teaching foreign languages, specifically English, have been studied [11]. Their benefits and limitations for teaching English as a foreign language [12], different factors and incentives that could influence students' behaviour regarding the use of mobile technologies for learning have been highlighted [13]. Rationale for the theoretical foundation and its pragmatic application to design learning activities with mobile technologies in individual, collaborative, and situated learning has been provided [14]. Kumar's & Bervell's [15] research is devoted to modelling the initial perceptions of students in Google Classroom for mobile learning in higher education. In the process of multi-case study, Qing Ma [16] identified the factors influencing the personalization of language learning. The mobile devices that students use in the process of learning English, in particular in the process of individual work, have been analyzed. Some examples of mobile applications that fit this purpose have been provided [6], the influence of using mobile technologies on the effectiveness of mastering a foreign language for special purposes has been researched [7], the factors that affect the effectiveness of using mobile technologies in teaching a second foreign language have been identified [17]. Grant [17] offered a framework of design characteristics for mobile learning environments, seven design characteristics are identified.

Despite the conducted research and the results obtained, the specifics of the development of professionally oriented English speech interaction competence in the information systems and technology military students have not been sufficiently studied. After all, mobile technologies are harmoniously combined with traditional training [18] and provide an opportunity to create a personalized professionally oriented mobile environment for students, set up both self-guided or independent and group training [19, pp. 7-8], which is extremely important given the specifics of organizing the educational process in higher military educational institutions.

Therefore, **the aim of the study** is to describe mobile technologies for the formation of professional competence in English oral interaction of prospective information systems and technologies military students, focusing on the author's mobile application "English Speaking

Skills”, specially created YouTube channel “Military Speaking Skills in use” and group chat “English Speaking” in the mobile messenger Telegram.

2. RESEARCH METHODS

The methods of quantitative and qualitative research were used. The qualitative research method gave the possibility to identify the information systems and technology military students' needs and difficulties in: 1) the exchange of necessary information (military and technical information, operational manuals for the equipment, job instructions, exchange of military messages); 2) mastering the lexical and grammatical minimum, cliches, nonverbal means of communication in professionally oriented English speech interaction. A questionnaire was used for that purpose. Also, to determine the military students' attitude towards studying English dialogue with the help of a mobile app, the other questionnaire was suggested. To process the results of the experiment, Cronbach's alpha coefficient of reliability was used as the quantitative research method [20]. Then the collected data were analyzed and interpreted.

63 information systems and technology military students from Kyiv Military Institute of Telecommunication and Information Technologies named after the Heroes of Krut volunteered to participate in the study conducted in 2020-2021. 28 officers voluntarily participated in the experiment too.

During the experimental learning we used questionnaires for military students and officers, selected training materials, created exercises and tasks that were implemented into the educational process using mobile technologies. We developed the mobile application "English Speaking Skills", the YouTube channel "Military Speaking Skills in Use", and the group chat "English Speaking" in the Telegram mobile messenger.

The designed mobile application "English Speaking Skills" (access mode: <https://drive.google.com/drive/u/5/folders/1ghOjcFUbwDa06kvBOt2vyTL3fnoSY5l>) is compatible with the Android operating system. The mobile application "Military Speaking Skills" is independent from other sites on the Internet, does not require their support, and can be used by military students in the process of foreign language classroom work as well as independent work in distance learning during extracurricular hours.

The mobile application "English Speaking Skills" includes topics that the officers indicated to be the most frequent ones for speech interaction during the survey: armed conflict, special operations, information briefing.

The mobile application "English Speaking Skills" contains the following elements:

1. Account – an account that displays personal information about each military student after registration in the app. Through the military students' personal account, the teacher tracks task completion and consolidates the results in the spreadsheet of achievements, which allows them to analyze the work of the information systems and technology military students during classroom and extracurricular independent work.

2. Main menu – the main menu (the first page) displays the number of groups the teacher works with.

3. Group1/Group2 – contains nine topics each (Topic 1 – Topic 9), with a cycle of classes dedicated to each of them (Lesson 1 – Lesson 4). Each lesson includes a number of tasks (Task1 – Task 17), which are developed by the teacher and uploaded to the mobile application. The tasks contain professionally oriented lexical and grammatical material essential for producing dialogues.

4. Vocabulary – a section for the selection of a lexical minimum by a military student in order to fill out a personal electronic dictionary. It also allows the students to search for and reproduce an English word using the mobile application.

5. Grammar – an application for saving grammar cards "Save image" to the military students' personal phone, which allows them to create a personal electronic Grammar Reference Book.

6. Answers – in this section, after completing exercises and tasks, the military students have an opportunity to test their own knowledge and look at the correct answers using hyperlinks. At the same time, after checking the keys, the military students' responses cannot be changed and are saved in their original form. Figure 1 shows the structure of the mobile app "Military Speaking Skills" with its functions.

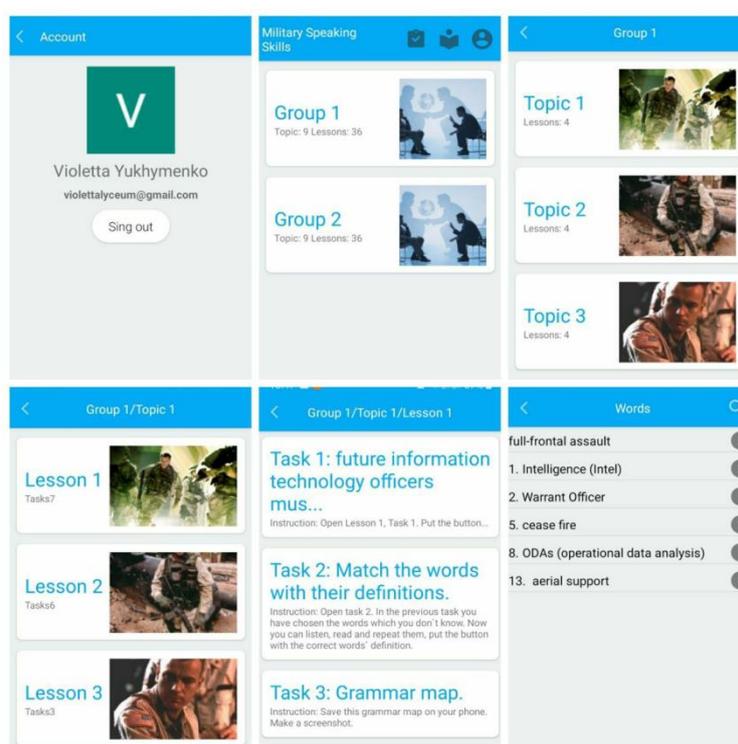


Figure 1. Sample structure of the "Military Speaking Skills" mobile app

When creating the exercises for the mobile application, we referred to the stages of development of professionally oriented English speech interaction competence in information systems and technology military students. The educational process at each stage is carried out by doing exercises and performing tasks within the corresponding training cycles (Lesson) in the mobile application. The stage of mastering the skills of replication (classroom independent work) (Lesson 1) involves preparing the military students to watch a sample video dialogue, semanticizing lexical units and performing lexical and grammatical exercises, followed by creation of their own electronic dictionary and grammar reference, as well as completing test tasks and doing exercises in the format of simulating live-talk video chat communication. At the stage of learning to produce dialogues (classroom work) (Lesson 2) by doing exercises using different supports (Lesson 3), the military students learn to identify the functional type of an English video dialogue sample, combine dialogue units into a mini-dialogue, and exchange utterances within the professional situation suggested. They do exercises, replacing utterances in a dialogue sample on behalf of one of the characters, reproducing the discussion dialogue from a characteristic set of dialogue units, and producing dialogue sample parts on the level of dialogue units. The stage of mastering the skills in making a mini dialogue (Lesson 4) is implemented during the military students' extracurricular independent work by doing exercises using verbal supports (mini dialogue – a

substitution table, a functional dialogue scheme) to develop the ability to produce their own mini discussion dialogue following a video sample. To master these skills in the mobile application, the military students are offered exercises to analyze the structure of a mini discussion dialogue, simulate communication in the live-talk video chat format, and create their own mini discussion dialogue based on a video sample. At the stage of mastering the skills in making a discussion dialogue (Lesson 4) (extracurricular work), the students complete a communication task to create a discussion dialogue on professional situation suggested in the mobile application.

In order to get started with the mobile app, cadets have to install it on their phones via the link <https://drive.google.com/drive/u/5/folders/1ghOjcFUbwrDa06kvBOt2vyTL3fnoSY5l>. After that, they need to register in the Account section by pressing the "Sign in" button and selecting their email address (Google profile).

The teacher is the one who fills the mobile application with educational materials through a specially designed private website – an administrative panel, which is available only to the teacher. It also allows them to monitor task results of each student and displays usage statistics. The website content is automatically displayed in the mobile application "English Speaking Skills", installed on the student's personal phone, in the form of distribution of topics, lessons and exercises. The website has the following sections: groups, lessons, topics, statistics, add a group, add a topic, add a lesson. In each section, the teacher can make changes using the "Edit" or "Delete" buttons. The "Statistics" section is equipped with an additional function – "Highlighting answers" to help the teacher with checking tasks. Green color means the answer is correct, while red indicates an error.

Completing exercises and tasks for the development of professionally oriented English speech interaction competence involves military students working with authentic video materials from the professional military sphere. We selected these videos from authentic English movies "Green Zone", "Strong", "Black Hawk Down", etc., dissected them (using the Wondershare Filmora 9 programs) and presented them in the private free YouTube channel "Military Speaking Skills in Use". The length of the video clips prepared is up to 60 seconds, and their content is balanced by varieties of English dialect spoken by the representatives of different NATO member countries [21]. We use such video fragments as sample dialogues for producing professionally oriented discussion. With the video dialogues created this way, the military students work by completing the exercises and tasks presented in the mobile application. They can watch professionally oriented video dialogues, practise new lexical and grammatical material, perform tasks in the format of simulating live-talk video chat communication.

The group chat "English Speaking" in the Telegram mobile messenger was created by us to provide constant communication between all participants of the educational process and online support from the teacher – sending messages (explanations, instructions) regarding educational activities in the mobile application, conducting consultations, etc. Using the group chat, it is possible for a student to send audio recordings of the dialogues they created for the teacher to assess and for other students of the group to listen to.

The experimental study was conducted in four stages. At the first stage, we conducted an anonymous survey among the officers in order to identify the situations of professionally oriented communication; the type of dialogue most frequently used in these situations, and the difficulties they encounter while producing it, as well as the officers' attitude towards the use of digital technologies for teaching professionally oriented speech interaction at the university. The survey was anonymous and the officers had 5-7 minutes to answer the questions. Here are the questions from the questionnaire:

1. Within what topics do you most often have oral communication with your foreign colleagues? (several answers are possible).

- (a) military training at military bases
- (b) individual combat equipment
- (c) safety at the firing range
- (d) official duties
- (e) armed conflict
- (f) special operations
- (g) information briefing
- (h) enforcement of public order.

2. What type of dialogue do you have when communicating with foreign colleagues on professional topics? (several answers are possible).

- (a) etiquette dialogue
- (b) questioning dialogue
- (c) exchange of views dialogue
- (d) discussion

3. What difficulties do you encounter in the process of producing a dialogue? (several answers are possible).

- (a) use of professional terminology
- (b) grammatical difficulties
- (c) difficulties with pronunciation
- (d) initiating (starting) a dialogue
- (e) responding to the partner's remark
- (f) maintaining the dialogue
- (g) finishing the dialogue

4. Do you think that the use of digital technologies can be effective for the development of professionally oriented English speech interaction competence during university years?

- (a) yes
- (b) no

At the second stage, we formed two experimental groups. The military students were randomly selected to join them. In order to test the entry level of development of professionally oriented English speech interaction competence, we conducted pre-experimental testing. The students were offered a situation in which they needed to produce a dialogue, which was evaluated according to the following criteria: relevance of the discussion to the communication situation, use of professional terminology, grammatical correctness, phonetic correctness, volume of utterance. For each criterion, a student could get up to 5 points, which is 25 points total. In general, the identified assessment criteria correlate with the requirements for the level of speaking competence according to the NATO STANAG 6001 language standard for the CMP2 level [22]. When identifying the volume of utterance, we used the study by Synekop [23]. According to its results, the duration of the discussion dialogue should be up to 4 minutes.

After that, we conducted an anonymous survey to identify the difficulties that the military students have when producing a dialogue, and their opinion on the specifics of using professionally oriented video materials and digital technologies. The anonymous survey consisted of 4 questions, and the cadets had 5 minutes to answer them. The questions were as follows:

1. What difficulties do you encounter in the process of producing a discussion? (several answers are possible)

- (a) use of professional terminology
- (b) grammatical difficulties
- (c) difficulties with pronunciation
- (d) initiating (starting) a dialogue
- (e) responding to the partner's remark
- (f) maintaining the dialogue
- (g) finishing the dialogue

2. From your point of view, what is the most effective way to present a professionally oriented sample video dialogue, and then organize educational work based on its materials for the purpose of mastering the skills to independently produce a discussion in English?

- (a) watching the entire sample video dialogue, followed by completing exercises and tasks
 - (b) watching the sample video dialogue fragment by fragment, and completing exercises and tasks during the pauses
3. Do you think that the use of digital technologies can be effective for the development of professionally oriented English speech interaction competence?
- (a) yes, during classroom work
 - (b) yes, during extracurricular work
 - (c) yes, during classroom and extracurricular work
 - (d) no, I don't find it effective
4. What digital technologies or learning tools would you like to use for this purpose? (several answers are possible).
- (a) means of synchronous internet communication
 - (b) Internet services
 - (c) electronic textbook
 - (d) training platforms
 - (e) mobile application
 - (f) computer training program

At the third stage, we selected video materials based on the criteria of authenticity, contextuality, novelty, comprehensibility, length, abundance of professional terminology, and created sets of exercises and tasks for the development of skills needed to produce professionally oriented dialogues in English. Then we identified mobile technologies and used them to implement the sets of exercises and tasks.

The fourth stage addressed the military students' actual educational activities, dedicated to the development of professionally oriented English speech interaction competence based on the developed methodology. In the first experimental group, the students first watched a sample video dialogue, then they were offered exercises and tasks to learn how to produce a discussion. In the second experimental group, the cadets watched the same video clip with pauses, during which they did the same exercises and performed the same tasks as the students in the first experimental group. After conducting experimental training, we analyzed and interpreted its results.

To identify the result level of development of professionally oriented English competence, we administered the post-experimental test and used the same assessment procedure and the same criteria for evaluation it.

3. FINDINGS

The survey of the officers showed that the most frequent communication situations were "military training at military bases" – 14%, "individual combat equipment" – 16%, "safety at the firing range" – 9%, "official duties" – 21%, "armed conflict" – 67%, "special operations" – 74%, "information briefing" – 86%, "enforcement of public order" – 19%.

The most common types of dialogues identified were: etiquette dialogue (29%), questioning dialogue (43%), exchange of views dialogue (37%), and discussion (52%). So, the most frequent situations and types of dialogue are considered to be those indicated by more than 50% of the respondents. This information was used to determine the content needed for developing professionally oriented English speech interaction competence in the military students.

We also found out that the majority of officers experienced the following difficulties in the process of communication with foreign colleagues: the use of professional terminology

(64%), grammatical difficulties (59%), initiating a dialogue (72%), responding to the partner's remark (82%), maintaining the dialogue (84%), ending the dialogue (56%).

74% of the respondents suggested that the use of digital technologies could be effective for the development of professionally oriented English speech interaction competence during educational process at university level.

The results of the military students' anonymous survey proved that they experienced the following difficulties when producing discussion dialogues – the use of professional terminology (65%), grammatical difficulties (48%), pronunciation difficulties (31%), initiating a dialogue (67%), responding to the partner's remark (76%), maintaining the dialogue (79%), ending the dialogue (32%). Therefore, in the learning process, it is necessary to provide exercises to overcome these difficulties.

Regarding the presentation method of the video dialogue sample and arrangement of exercises based on its material, the respondents' opinions were distributed as follows: 49% consider it more effective to watch the whole video sample, followed by exercises and tasks, and 50% – to watch the video sample in fragments and do the exercises and perform tasks during the pauses. 1% did not respond. Since the respondents' points of view were distributed almost equally between the two options, it is worth testing both options in the experimental learning.

83% of the students noted that the use of digital technologies could be effective for the development of professionally oriented English speech interaction competence during classroom and extracurricular work.

Among the digital technologies or learning tools that the military students would like to use in the process of developing professionally oriented English speech interaction competence, 88% singled out tools for synchronous internet communication, 83% – Internet services, 42% – an electronic textbook, 47% – training platforms, 94% – a mobile application, 39% – a computer training program. These results allowed us to decide on digital technologies and training tools for the development of the desired competence – we developed a mobile application "English Speaking Skills", created a private free YouTube channel "Military Speaking Skills in Use", set up a group chat "English Speaking" in the Telegram mobile messenger.

The ability to produce a professionally oriented dialogue was determined in accordance with the "learning coefficient", which was calculated by the formula $K=A/N$, where A is the number of points for the correctly completed task, N is the highest possible number of points for the task, where 0.7 points are considered to be sufficient (with a maximum of 1), which correlates with Cronbach's alpha coefficient of reliability [20]. After experimental training, the level of development of skills to produce a professionally oriented discussion dialogue was significantly higher in the second experimental group than in the first experimental group. The summary of the results is shown in Table 1.

Table 1

Results of the cadets' mastery of skills in producing a professionally oriented discussion dialogue

Group index	Pre-experimental testing	Post-experimental testing
Experimental Group 1	0.58	0.72
Experimental Group 2	0.59	0.84

As it can be seen from Table 1, the increase in knowledge in Experimental Group 2 is 0.25, which is significantly higher compared to the increase in knowledge in Experimental Group 1 (0.14).

We share the opinion of M. Kerni, S. Shaq, K. Berden, P. Aubusson [24], who argue that mobile applications are a convenient addition to textbooks and can be used as extra material for working inside and outside the classroom for development of speech skills and abilities. They contain educational materials with links and provide the option of getting assessments and feedback from the teacher [24, pp. 1-2]. Using mobile technologies in the form of a mobile application, teachers and students can track the learning success inside and outside the classroom (remotely) [25].

The array of mobile technologies, offered by us for the development of skills to produce a professionally oriented English discussion, increases the efficiency and effectiveness of training. Using the mobile app "English Speaking Skills", the military students, first of all, master professional terminology in specific communication situations, improve grammatical skills in the process of performing test tasks and doing exercises, and practise self-control over the result of their activities. Secondly, they have an opportunity to perform tasks in the format of simulating live-talk video chat communication, which allows them to develop the ability to initiate a cue, respond to the cue of an imaginary partner, and maintain a conversation using appropriate cues. During these exercises, lexical, grammatical and phonetic skills are improved. Such exercises and tasks are aimed at overcoming the difficulties that officers may have during real communication with foreign colleagues.

The private YouTube channel "Military Speaking Skills in use" presents video samples of discussion that serve as a model and support the cadets can use to master the skills for such oral interaction. The group chat "English Speaking" in the Telegram mobile messenger is used for teacher consultations, publishing audio files of dialogues, created by the military students on the proposed professionally oriented situation.

4. CONCLUSIONS AND PROSPECTS FOR FURTHER RESEARCH

The developed professionally oriented English speech interaction competence in the information systems and technology military students is a significant factor for successful performance of essential functions in the professional military sphere. Mobile technologies (the original mobile application "English Speaking Skills", the YouTube channel "Military Speaking Skills in Use", created for this purpose, and the group chat "English Speaking" in the Telegram mobile messenger) allow us to create a special mobile training environment for the development of professionally oriented English speech interaction competence in the information systems and technology military students. In such an environment, opportunities are created for interactive communication between all participants of the educational process, teachers' regular consultations, presentation of didactic educational materials (authentic sample video dialogues), practising exercises and tasks (including those imitating a live-talk video chat), realization of students' self-control and teacher's control, creating students' individual trajectories in foreign language training.

The results of implementing the developed methodology into the educational process confirmed its effectiveness – the coefficient of the military students' knowledge after experimental learning was significantly higher compared to the results of pre-experimental testing. It can be used by higher military institutions for the formation of oral English interaction competence in future information systems and technology military students.

This study was limited only to participants from Ukraine. At the same time, similar studies can be conducted in other countries as well in order to obtain new data.

REFERENCES (TRANSLATED AND TRANSLITERATED)

- [1] NATO. 2016. Language proficiency levels. Brussels: NATO. [Online]. Available: <https://www.natobilc.org/files/ATrainP-5%20EDA%20V2%20E.pdf>

- [2] T. I. Koval, (2011). Interactive technologies for teaching foreign languages in higher education. *Information Technologies and Learning Tools*, 26 (6), pp.1-15. [Online]. Available: <http://journal.iitta.gov.ua/index.php/itlt/article/view/546/451>
- [3] J. Wishart, (2009). Use of Mobile Technology for Teacher Training. *Mobile Learning: Transforming the Delivery of Education and Training. Athabasca University: AU Press*, pp. 265-278. [Online]. Available: <http://www.aupress.ca/index.php/books/120155>
- [4] Ya. B. Brukhal, & O. O. Bilyk, (2017). Essential characteristics of mobile foreign language learning technology as a pedagogical innovation. *Young Scientist*, 6 (46), pp.201-205. [Online]. Available: <http://molodyvcheny.in.ua/files/journal/2017/6/44.pdf>
- [5] A. Behúnová, N. Ádám, & E. Pietriková, (2016). Mobile support for learning of foreign languages. *International Conference on Emerging eLearning Technologies and Applications (ICETA)*, pp.15-21. doi: 10.1109/ICETA.2016.7802060.
- [6] I. Simonova, (2016). Mobile Devices in Technical and Engineering Education with Focus on ESP. *International Journal of Interactive Mobile Technologies*, 10 (2), 33-40. [Online]. Available: <https://online-journals.org/index.php/i-jim/article/view/5466>
- [7] M. Alhawiti, (2015). The Effect of Mobile Language Learning on ESP Students' Achievement. *Journal of Modern Education Review*, 5 (3), 272-282. doi: 10.15341/jmer(2155-7993)/03.05.2015/007.,
- [8] B. V. Praag, & H. S. Sanchez, (2015). Mobile technology in second language classrooms: insights into its uses, pedagogical implications, and teacher. *ReCall*, 27 (3), pp. 288-303. doi: <https://doi.org/10.1017/S0958344015000075>.
- [9] Yu-Chun Wang, (2019). Leveraging the Power of Mobile Technology to Enhance ESP Students' Listening Comprehension Ability. *International Journal of English language Education*, 7 (1), pp. 84-99. doi: 10.5296/ijele.v7i1.14934.
- [10] J. Traxler, (2009). Current State of Mobile Learning. *Mobile Learning: Transforming the Delivery of Education and Training. Athabasca University: AU Press*, pp. 9-24. [Online]. Available <http://www.aupress.ca/index.php/books/120155>
- [11] E. Gajek, (2016). Mobile Technologies as Boundary Objects in the Hands of Student Teachers of Languages Inside and Outside the University. *International Journal of Mobile and Blended Learning (IJMBL)* 8 (2), 85-92. doi:10.4018/IJMBL.2016040107.
- [12] B. Klímová, (2018). Mobile phones and/or smartphones and their apps for teaching English as a foreign language. *Education and Information Technologies*, 23, pp. 1091–1099. doi: <https://doi.org/10.1007/s10639-017-9655-5>.
- [13] L. Ponce, A. Pereira, L. Carvalho, J. A. Méndez, & F. García-Peñalvo, (2017). Learning with mobile technologies - Students' behavior. *Computers in Human Behavior*, 72, pp. 612-620. doi:10.1016/j.chb.2016.05.027.
- [14] H. Ryu & D. Parsons, (2009). Designing Learning Activities with Mobile Technologies. *Innovative Mobile Learning: Techniques and Technologies*. IGI Global, 1-20. doi: <http://doi:10.4018/978-1-60566-062-2.ch001>.
- [15] J. A. Kumar, B. Bervell, (2019). Google Classroom for mobile learning in higher education: Modelling the initial perceptions of students. *Education and Information Technologies*, 24, pp. 1793-1817. doi: <https://doi.org/10.1007/s10639-018-09858-z>.
- [16] Ma Qing, (2017). A multi-case study of university students' language-learning experience mediated by mobile technologies: a socio-cultural perspective. *Computer Assisted Language Learning*, 30 (3-4), pp. 183-203. doi: 10.1080/09588221.2017.1301957.
- [17] M. M. Grant, (2019). Difficulties in defining mobile learning: analysis, design characteristics, and implications. *Education Tech Research*, 67, 361-388. doi: <https://doi.org/10.1007/s11423-018-09641-4>.
- [18] S. V. Titova, (2017). *Digital technologies in language teaching: theory and practice*. Moscow, Russia: Editus, 247.
- [19] S. V. Titova, (2016). Didactic problems of integrating mobile applications into the educational process. *Vestnik Tambov University* 7-8 (159-160), pp. 7-14.
- [20] L. J. Cronbach, (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16 (3), 297-334. doi: 10.1007/bf02310555.
- [21] NATO. 2019. Best Practices in STANAG 6001 Testing. Brussels: BILC, pp.1-13. [Online]. Available <https://www.natobilc.org/documents/LanguageTesting/Best%20Practices%20in%20STANAG%206001%20Testing%20March%202019.pdf>
- [22] A. Yakovenko, (2021). English language proficiency test (2, 3) according to NATO standard STANAG 6001. *Ukraine: Chernyakhovskii University*, pp. 1-16. [Online]. Available: https://nuou.org.ua/assets/files/lang_tests/specificationCMP23.pdf
- [23] O. S. Synekop, (2019). Evaluation criteria for differentiated instruction of English for specific purposes to prospective IT-specialists. *Foreign Languages*, 3, pp. 3-17. [Online]. Available: http://nbuv.gov.ua/UJRN/im_2019_3_2

- [24] M, Kearney, S. Schuck, K. Burden, & P. Aubusson, (2012). Viewing mobile learning from a pedagogical perspective. *Research in Learning Technology Journal*, 20 (1), pp. 1-17. doi: 10.3402/rlt.v20i0/14406.
- [25] UNESCO. (2015). Policy Recommendations for Mobile Learning. Paris: UNESCO, 43. [Online]. Available: <https://iite.unesco.org/pics/publications/ru/files/3214738.pdf>.

Text of the article was accepted by Editorial Team 28.12.2021

МОБІЛЬНІ ТЕХНОЛОГІЇ ФОРМУВАННЯ ПРОФЕСІЙНО ОРІЄНТОВАНОЇ АНГЛОМОВНОЇ КОМПЕТЕНТНОСТІ В ДІАЛОГІЧНОМУ МОВЛЕННІ У МАЙБУТНІХ ОФІЦЕРІВ З ІНФОРМАЦІЙНИХ СИСТЕМ ТА ТЕХНОЛОГІЙ

Майєр Наталія Василівна

доктор педагогічних наук, професор,
професорка кафедри методики викладання іноземних мов й інформаційно-комунікаційних технологій
Київський національний лінгвістичний університет, м. Київ, Україна
ORCID ID 0000-0001-7074-8135
nv_maiier@ukr.net

Юхименко Віолетта Олександрівна

старша викладачка кафедри іноземних мов
Військовий інститут телекомунікацій та інформатизації імені Героїв Крут, м. Київ, Україна
ORCID ID 0000-0002-7039-4741
violetta-yukhymenko@ukr.net

Анотація. Визначенню мети вивчення іноземної мови майбутніми офіцерами з інформаційних систем та технологій формування практичних умінь володіння нею в обов'язку, необхідному для спілкування в різних професійних ситуаціях, присвячена ця стаття. Інтенсивне впровадження мобільних технологій у систему вищої освіти спонукає до дослідження проблеми їх використання для формування професійно орієнтованої англомовної компетентності в діалогічному мовленні у майбутніх офіцерів з інформаційних систем та технологій. У дослідженні наведено результати опитування офіцерів щодо їх потреб у професійному спілкуванні іноземною мовою. Описано та проаналізовано використання мобільних технологій (авторський мобільний додаток “English Speaking Skills”, YouTube канал “Military Speaking Skills in use” та груповий чат “English Speaking” мобільного месенджера Telegram) під час експериментального навчання професійно орієнтованого англомовного спілкування курсантів Вищого військового навчального закладу. Наведені дані отримані шляхом проведення анкетного опитування й експериментального навчання, у якому взяли участь курсанти та офіцери з інформаційних систем та технологій. Для обробки даних використано описовий аналіз. Дослідження показало, що спеціально створене навчальне мобільне середовище для формування професійно орієнтованої англомовної компетентності в діалогічному мовленні у майбутніх офіцерів з інформаційних систем та технологій забезпечує можливості для інтерактивної взаємодії всіх суб'єктів освітнього процесу, що є невід'ємною частиною сучасного навчання, розвиває мовленнєві вміння, підвищує ефективність оволодіння спеціальною термінологією військової галузі. Подальше використання мобільних технологій може полегшити сприйняття нової інформації англійською мовою, мотивувати до навчання та виступити засобом навчання для розвитку практичних мовленнєвих умінь у процесі вербального та невербального спілкування курсантів з інформаційних систем та технологій з носіями мови.

Ключові слова: мобільні технології; англомовне діалогічне мовлення; авторський мобільний додаток; курсант.



This work is licensed under Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.