The Deutsch.info Platform as a Means of Organizing German Language Students' Independent Study

Oksana Storonska[1](✉), Halyna Palytsya[2], Mariia Vorobel[3], Natalia Horodetska[4],
Natalia Havryshkiv[4], Mariana Havran[2]
[1]Drohobych Ivan Franko State Pedagogical University, Drohobych, Ukraine
[2]Lviv Polytechnic National University, Lviv, Ukraine
[3]Ivan Boberskyi Lviv State University of Physical Culture, Lviv, Ukraine
[4]Lviv National Environmental University, Dublyany, Ukraine
`o.storonska@dspu.edu.ua`

Abstract—The article investigates the didactic properties of the deutsch.info German language learning online platform used by students of Drohobych Ivan Franko State Pedagogical University (Ukraine) in their independent educational activities. The aim of the present research is to identify the functional, content-related, technical, and aesthetic features of this web resource in the context of the current requirements for foreign language learning tools, to collect and analyze student feedback on deutsch.info based on their first-hand experience of using it, and to determine the conditions for its rational implementation into German language learning practice. Based on a survey featuring 37 students of the Faculty of Ukrainian and Foreign Philology of Drohobych Ivan Franko State Pedagogical University (Speciality 035 Philology. Germanic Languages and Literatures (Including Translation), Major: English), an empirical information research base is formed, which represents the full range of the students' evaluations of the deutsch.info online platform as a means of independent study of the German language. The results obtained suggest that the majority of the respondents approve of the use of the web resource for an independent acquisition of German language knowledge and skills despite the lack of a German-Ukrainian dictionary and the inaccessibility of the site in an offline format. The platform benefits are reported to be its diverse and authentic content as well as its convenient navigation system. The collected data summarization allows for determining the conditions for the effective use of the deutsch.info platform in the practice of German language learning.

Keywords—German language teaching, German language communicative competence, independent study, website, online platform, deutsch.info, content, design, usability, reception

1 Introduction

The globalization, computerization and technological advances affecting all aspects of life in Ukrainian society and education alike require a novel outlook on the traditional foreign language teaching paradigm, a revision of the conventional instructional

approaches as well as a reevaluation of the established learning practices in the context of modern cultural, scientific, technological, etc. innovations. The importance of regularly updating the system of teaching foreign languages on an innovative basis is emphasized in a number of regulatory documents, in particular the Education State National Programme within the framework of 21st Century Ukraine (adopted in 1996 by the Ministry of Education and Science of Ukraine) [1], the National Education Development Doctrine of Ukraine (adopted in 2002 by the Ministry of Education and Science of Ukraine) [2], the National Education Development Strategy of Ukraine (adopted in 2013 by the Ministry of Education and Science of Ukraine) [3] and others. Their provisions focus on a continuous and systematic introduction of modern information technologies into foreign language teaching practice in order to optimally prepare young generations for life in the conditions of an open and multilingual world.

The diversity of state-of-the-art information technologies opens up extensive prospects for improving foreign language teaching at all the education system levels, including higher education. They make it possible to provide students with the entire range of linguistic, communicative, sociocultural, etc. foreign language competences that are based on rich authentic material and acquired in an original virtual format coupled with unusual interactive forms. At the same time, despite such wide didactic opportunities, the guarantee of the information technologies proving effective is their preliminary approbation in educational practice, which results in the substantiation of conditions for their constructive application in the educative process.

Given the obvious importance of the rational introduction of cutting-edge information technologies into the foreign language teaching process in Ukrainian higher education institutions, our article is aimed at the study of the deutsch.info platform as a modern means of mastering German in the process of university students' self-study. Achieving this goal involves the general characterization of the deutsch.info platform as a German language learning tool, the study of the students' feedback about its use in the process of independent German language learning and the determination of the conditions for the effective organization of independent study involving this resource.

2   Literature review

The variability of modern information and communication technologies and the multidimensionality of their application in foreign language teaching practice has led to the emergence of a number of scientific publications on the relevant subject. The works in question highlight, on the one hand, the theoretical, conceptual and methodological foundations of informatization and technologization of foreign language teaching in general [4–11], and, on the other, the applicability of various Internet resources, computer programs, mobile applications, electronic developments, etc. for the formation of foreign language communicative competence [12–28].

A number of works dealing with this topical issue reveal the effectiveness of specific web resources in improving various aspects of foreign language communicative competence based on the results of their practical approbation. Thus, a study by J. A. Mompean and J. Fouz-González [29] is aimed at experimentally testing the effectiveness of the Twitter social network in improving the English phonetic competence of

secondary school students, namely its impact on their acquisition of lexical items presenting difficulties in terms of articulation. According to its results, the authors ascertain a positive effect of using the Twitter network to improve the students' pronunciation of the target words primarily due to the authenticity of the relevant educational material and to its clear focus on atypical phonological and orthographic elements. In addition, the researchers use a questionnaire, which shows the students' general approval of this approach to learning the norms of articulating those lexical items that are difficult to pronounce and, in the end, agree on the relevance of using the Twitter network in English language teaching practice.

The focus of another research, by K. Polok and J. Harężak [30], is the assessment of the effectiveness of the Facebook social network primarily as a means of developing foreign language learning motivation. The work is aimed at either refuting or confirming the hypotheses about, firstly, the students' approval of this resource as a means of enhancing their English language knowledge and skills; secondly, its positive effect on their motivation to learn English; thirdly, its higher didactic potential compared to traditional learning tools. Therefore, an experimental test is conducted that confirms the positive effect of the Facebook network on the English language students' performance, which results in the better academic progress of the experimental group compared to the control group at the end of the post-test. In addition, based on the observation materials, the authors note the students' increased interest in mastering English (owing to the use of this social network to diversify their routine study with traditional textbooks) and emphasize their positive feedback about the use of the resource in the process of learning English.

The article by E. Zarzycka-Piskorz [31] revolves around the Kahoot service as a gamification tool for teaching English grammar. In particular, the study involves the creation of online games for the development of English grammar knowledge and skills based on this resource as well as its practical approbation, followed by a survey of the students about the relevance of this form of learning English grammar. The results of the research reveal the respondents' positive impression of the English grammar game tasks on the Kahoot online platform as they are associated with entertainment and excitement. The students equally state their intentions to continue mastering English grammar material in this format. Taking into account all the survey data, the researcher substantiates the wide opportunities of the Kahoot platform in the design and implementation of online English grammar games and offers practical recommendations for the service use.

The range of issues addressed by N. Gunduz and D. Ozcan [32] focus on the Moodle system as a means of organizing English language learning in terms of its assessment by both students and teachers. In particular, the article is aimed at identifying the respondents' general attitude to the use of the platform for conducting survey-based English language classes. As a result, the researchers establish the students' general approval of the platform primarily due to its usability but, at the same time, the relatively low frequency of its actual use. The authors explain this data inconsistency by various factors, in particular the shortcomings of the platform itself, namely its lack of structuredness, the impossibility of using it without an Internet connection, the students' cursory preparation to its use along with the teachers' superficial knowledge of its functions and

methods of application, based on which, in the end, the academics provide recommendations for solving the problems above.

Yet another research by I. Humeniuk et al. [33] concerns the popular TED Talks video hosting as a tool for forming students' communicative competence in English. The results of the experiment conducted show a higher level of English language skill formation in the experimental group compared to the control group, primarily in listening and speaking. The authors attribute the effectiveness of the TED Talks video resource to the high quality of its video materials, which represent a phonetically, lexically, grammatically, and stylistically perfect command of the English language. In addition, they note the relevance, problematic nature, and personal significance of the verbal content, which encourages speech activity in the form of discussions, debates, etc. Based on the research results obtained, the authors also determine the prerequisites for the effective use of TED Talks video hosting materials in the practice of teaching English.

Therefore, the pedagogical literature analyzed points to the undeniable topicality of informatizing the foreign language teaching system in view of the dynamic development of digital technologies as well as the need for their practical approbation with further consideration of the expediency and possibilities of their extensive implementation. As a result, the above determines the choice of the research subject of our article, the deutsch.info online resource, which has not yet been the focus of specialist educational studies.

3　Methodology

The integrated nature of research on the deutsch.info platform as a tool for learning German in the process of students' independent work necessitates a combination of various theoretical and empirical methods. In particular, for its characterization in the light of modern requirements for language learning aids (viewed both in the panlinguistic and German language contexts), the methods of analysis, interpretation and comparison are used. The practical experience of the students' independent work with the web resource is investigated with the help of the methods of observation and survey. The calculation and presentation of the quantitative data involves the application of statistical methods. Outlining the prospects for improving the platform and the conditions for its effective use in the independent learning of the German language is made possible through the utilization of the methods of systematization, generalization, and forecasting.

The survey involves 37 students of Drohobych Ivan Franko State Pedagogical University (Speciality 035 Philology. Germanic Languages and Literatures (Including Translation), Major: English). The respondents are obtaining the qualification of an English and German translator/interpreter in compliance with the requirements for

the First (Bachelor) Level of Higher Education, which provides for the study of the German language as a second major starting from Term 3. The survey is preceded by informing its participants in detail about the essence of the research and the application of its results, training them to work on the deutsch.info platform and encouraging their voluntary systematic use of it in their independent study during the term. At the same time, in order to ensure the objectivity of the students' answers, an explanation of the tasks of the questionnaire and the algorithms for filling them out is carried out during the survey itself. As a result, 34 completely filled questionnaires are obtained.

The questionnaire as the main tool for collecting the empirical research base is designed electronically, using the Google Forms application, and represents a logically structured set of 5 questions concerning, in accordance with the objectives of the research, the general qualitative parameters of the deutsch.info platform, its content characteristics, the difficulties arising in its use, the key results of its application, and the students' intentions to (not) use it further in their independent study. Each question involves choosing one of the five proposed options or formulating one's own answer. The survey results are processed using statistical calculation, which is followed by the systematization of the obtained quantitative data in the format of an Excel table containing the frequency count of the identical answers and their percentages.

The present experimental research is characterized by compliance with human rights and ethical principles. The experiment was preceded by providing each participant with the full information regarding the aim, nature, and duration of the research procedures as well as about his/her rights to freely participate in them, quit, or terminate them at any time. The survey was immediately declared anonymous in order to prevent any inconvenience or discomfort and to guarantee complete freedom of expressing one's views, so no questions allowing for the participants' identification based on their personal data were included.

4 Results and discussion

The deutsch.info online platform is a free multidisciplinary resource for learning German, created with the financial support of the European Commission and available at https://deutsch.info. It attracts attention primarily with its design style, especially artistic and graphic minimalism, laconic and symmetrical shapes of its decorative details, and its bright colour scheme. This graphic and colour scheme of the platform contributes not only to its aesthetics, but also to its functionality, which results from its main elements, namely information structure, logo, and navigation bar, being properly foregrounded (see Figure 1).

Fig. 1. Deutsch.info platform homepage screenshot

The functional characteristics of the website include its well-thought-out design and information architecture as well as a user-friendly navigation system that offers hyper-links to access all the web pages of the resource as well as its detailed categories, in particular topic, complexity level, etc. The navigation provides a clear scheme of transitions between all the website pages and provides a quick constructive choice of the trajectory of movement in its information environment. Therefore, the logical layout and the user-friendly artistic and graphic representation of all the website elements according to their significance along with the clear information content structuring indicate the appropriate degree of its ergonomic design.

The content of the deutsch.info platform covers a wide range of information resources for learning German, in particular: 1) educational material systematized by levels A1–B2 on the *Courses* web page; 2) thematically organized grammatical information on the *Grammar* web page; 3) additional informative and illustrative tools on the *Media library* web page; 4) a system of multilingual online dictionaries on the *Dictionaries* web page; 5) practical information about life in German-speaking countries on the *Background* web page; 6) a set of tests on German-speaking countries' history, culture, politics, and social structure on the *Quiz* web page; 7) German language study packs on the *Teaching materials* web page. The content diversity testifies to the multifunctionality of the platform seeking to respond to a variety of its wide target audience's needs.

The grammatical material of the web resource is systematized morphologically (with sections such as *Article and noun*, *Pronoun*, *Verb*, *Adjective*, etc.) for a comprehensive study of the relevant grammatical phenomena of the German language. Thus, the *Verb* section allows for approaching the German verb through the prism of tense forms, modality, voice, mood, etc., ensuring its perception in an inextricably linked set of all its grammatical characteristics and properties. The grammatical information is presented in an orderly sequence according to its complexity degree. For example, in the *Syntax* section, the German sentence is analyzed in terms of its types, structure, functions, etc., starting with simple sentences and only then moving on to complex ones with various types of syntactic links. The grammatical material primarily revolves around the communicatively significant phenomena and structures of the German language in accordance with the situational communicative topics offered by the platform.

The phonetic material of the website introduces the German alphabet and the principles of the native pronunciation of German sounds through a system of background information and explanations. The units featured are exclusively those of the segmental level, i.e. phonemes and allophones complemented with their characteristics, the ultimate goal boiling down to the students' acquisition of the basic knowledge and skills of their reproduction. The phonetic material is selected and presented in accordance with its usage and complexity degree. In this regard, the *Phonetics* page briefly formulates the general rules of German pronunciation with further emphasis on its most problematic aspects, in particular on the articulation of long and short vowels, doubled vowels and consonants, diphthongs, etc. At the same time, the information supplied covers not only standard German pronunciation, but also some of its regional differences.

The lexical material of the educational platform is structured according to its complexity level as well as the situational communicative topics selected. It embraces a significant number of modern German lexical items, which, if mastered successively, enable a continuous quantitative and qualitative enrichment of the student's vocabulary. The material represents the German word-stock in all its heterogeneity and variability. The functional diversity manifests itself in the variety of the topics included, representing private (*Friends and family*, *Shopping*, *food and drink*, etc.), public (*Politics and society*, *Offices and authorities*, etc.), educational (*School and education*, *Every day life at the university*, etc.), and professional (*Career and work*, *Working in Germany and Austria*, etc.) communication. The structural diversity accounts for the right balance between univerbal and multiverbal lexical items, namely words, phrases such as clichés and idioms, etc. The territorial diversity familiarizes the platform users with numerous Austrian German and Swiss German words.

The presentation and initial assimilation of the core educational information on the platform is provided by the *Courses* page. Its materials are organized in compliance with the A1–B2 levels into the topical units that integrate the lexical, phonetic, and grammatical phenomena of the German language through the prism of specific communicative situations. Each level covers 7–8 topical units with 4–6 communicative situations. For example, the unit *Shopping*, *food and drink* of the A1 level contains the situations *At the naschmarkt*, *Food in Germany and Austria*, *In the delicatessen*, and *At the restaurant: children and food*. The materials for each of them introduce the relevant lexical, phonetic, and grammatical items studied on specific speech samples and offered in a text format with diverse graphic, animated, audio, and video content. At the

same time, they include different exercises and other tasks for learning the form and content of the relevant items alongside their reproduction in typical speech structures.

The study packs, found on the *Teaching materials* web page and aimed at an additional consolidation of the lexical, phonetic, and grammatical material, are hierarchically subordinated to the topical units of the *Courses* web page. Each study pack ensures a consecutive improvement of German language knowledge, abilities, and skills within the topical unit in various types of communicative activity: listening, speaking, writing, and reading. The structure of such a pack includes text material with a system of post-text exercises; audio content with a set of tests to check its comprehension; situational material for problem-based discussions, debates, projects, etc.; self-assessment assignments; methodological guidelines on how to make the most of the materials; answer keys for self-check; audio scripts.

Therefore, based on our preliminary evaluation of the design, content, and technical properties of the deutsch.info online platform, it can be stated that the latter meets the key requirements for foreign language learning tools, which include communication-oriented language material, integrated educational information, various presentation forms, interactive exercises and tasks, aesthetic illustrative elements, etc. The obvious advantages of the platform are that it is generally available and free of charge, convenient and easy to use, and contains podcasts reproducible without a flash player. At the same time, we consider the restriction of the educational materials to the maximum level of B2 as its drawback, which, however, stems from the general concept of the site and in no way reduces the didactic value of the available German language learning resources.

It is owing to these characteristics that the deutsch.info online platform was offered to the students for the purposes of both self-study and establishing their feedback on its properties through the prism of their own practical experience of using it. Therefore, a wide range of the students' judgments regarding the content as well as the technological and aesthetic qualities of the web resource as a tool for independent study of the German language was established by means of a questionnaire.

The first question is concerned with the identification of the students' evaluation of the general characteristics of the web resource. The respondents' answers reflect the unanimity shared by an absolute majority of the students who note the usability (32.3%), informativeness (26.5%), and interactivity (14.7%) of the deutsch.info online platform. In addition, the students mention the general availability of the web site as well as its automatic progress assessment option and file downloadability, as evidenced by Table 1.

Table 1. A summary of the students' feedback on the deutsch.info
platform as a German language learning tool

Response	Frequency	Percentage
Innovativeness	2	5.9
Design aesthetics	4	11.8
Usability	11	32.3
Informativeness	9	26.5
Interactivity	5	14.7
Other (automatic progress assessment, materials availability, file downloadability)	3	8.8

The second question consists in specifying the students' evaluation of the quality of the information content provided by the web resource. The respondents predominantly note the diversity (29.4%), authenticity (23.5%), and multimediality (23.5%) of the content. Furthermore, 5.9% of the students expand the list by emphasizing the regular updates resulting in the addition of new exercises as well as audio and video content, as presented in detail in Table 2.

Table 2. A summary of the students' feedback on the information content of the deutsch.info platform

Response	Frequency	Percentage
Practical value	4	11.8
Authenticity	8	23.5
Diversity	10	29.4
Structuredness	2	5.9
Multimediality	8	23.5
Other (new exercises, films, audio content)	2	5.9

The third question serves to identify the difficulties that the students face when independently mastering German with the help of the deutsch.info platform. The respondents claim that the key challenges consist in the resource inaccessibility in an offline format (44.1%) and as well as the lack of a German-Ukrainian dictionary (32.3%). The number of the other answer options, including registration difficulties, nonreproducible materials, and broken links, is small, as shown in Table 3.

Table 3. A summary of the students' feedback on the self-study-related difficulties in using the deutsch.info platform

Response	Frequency	Percentage
Registration difficulties	2	5.9
Problems downloading files	4	11.8
Inaccessibility in an offline format	15	44.1
Nonreproducible materials	2	5.9
Broken links	0	0
Other (lack of a German-Ukrainian dictionary)	11	32.3

The fourth question involves the students' feedback on the effectiveness of using the deutsch.info platform in the process of their independent mastery of German. According to the respondents, the resource is especially helpful in enlarging the learners' vocabulary (41.2%), honing their listening (32.3%) and articulation (14.7%) skills, as illustrated in Table 4.

Table 4. A summary of the students' feedback on using the deutsch.info
platform based on their self-assessment

Response	Frequency	Percentage
Improving one's articulation skills	5	14.7
Expanding one's grammar knowledge	3	8.8
Enlarging one's vocabulary	14	41.2
Honing one's listening skills	11	32.3
Deepening one's sociocultural knowledge	1	3
Other	0	0

Finally, the effectiveness of the deutsch.info online resource is indirectly confirmed by the respondents' answers to the fifth question concerning the relevance of its further use in their independent study. According to the data collected, 32 students (94%) plan to use it in the future as a self-study tool for improving their German language knowledge, skills, and abilities, 1 student (3%) is undecided and 1 more student (3%) refuses to use it further.

Therefore, according to the students' feedback, the deutsch.info platform proves to be a multi-functional interactive German language learning tool. Their answers indicate its effectiveness primarily in enriching their vocabulary and improving their listening skills owing to its diverse, authentic, and multimedial content that is regularly updated as well as its integrated self-assessment module. At the same time, the limitations of the platform claimed by the respondents include the lack of a German-Ukrainian dictionary and the inaccessibility of the web resource in an offline format, which, however, does not discourage the students from using deutsch.info in their independent learning of German in the future.

The results of our research equally correlate with the findings of the other educational studies on introducing innovative information technologies into general foreign language learning practice. First of all, our investigation confirms the other scholars' conclusions regarding the positive effect of using various Internet resources in foreign language learning [29], [30]; the students' approval of the relevant web content as a means of improving their foreign language knowledge, abilities, and skills [30], [31]; the correlation between the resource effectiveness and the specific conditions and methods of its implementation in the foreign language learning process [32], [33]. Our findings coincide with the results of the other educational researches which focus on the quality of modern language learning web resources and highlight content relevance and authenticity, didactic innovativeness, multifunctionality, and usability [29], [30], [33]. Similarly, the identification of the web resource drawbacks and the need for its improvement are generally recognized by the educationalists covering this academic area [32].

All in all, the data collected in our research allow for outlining several proposals for increasing the efficiency of the deutsch.info platform based both on the requirements for independent study organization at Drohobych Ivan Franko State Pedagogical University and on the students' requests processed in the survey. Firstly, we consider it relevant to develop didactic materials for mastering the German language at the C1 and C2 levels, which would enable a systematic use of the platform as a tool for organizing

students' independent work throughout the entire period of their training. Secondly, we think it appropriate to complement the resource with a German-Ukrainian dictionary in order to eliminate the need for consulting outside sources when using the platform. Thirdly, we consider it expedient to create a mobile version of the site, which would provide the possibility of using it in conditions of poor Internet quality or low signal as well as of designing various mobile training game applications based on its content.

The summarization of all our research findings gives grounds for recommending the deutsch.info web resource as a foreign language learning tool to students majoring in German, which is based on the following conditions: 1) the platform integration into the system of used German language learning tools; 2) the resource orientation towards the level of the students' current German language knowledge, abilities, and skills; 3) the student's preliminary familiarization with deutsch.info in all its functionality and limitations; 4) training the students to independently use the platform materials; 5) advising the students in the process of working with the resource content; 6) relying on the students' interest in using deutsch.info. According to our observations, it is compliance with these requirements that contributes to the optimal implementation of the didactic possibilities of the platform in German language students' independent work.

5 Limitations

Our research involves certain limitations, namely: 1) a relatively small number of the participants, which does not allow for a fully-fledged generalization of our findings; 2) a quite short duration of the students' interaction with deutsch.info, which might have caused their feedback on the use of the platform as a German language learning tool to be somewhat superficial; 3) the individualized use of the resource in one's independent study, based on each respondent's conditions of life, which might have affected to a certain extent his or her answers to the questions.

6 Conclusions

The present article presents one of the first attempts to study the deutsch.info online platform in the context of modern requirements for foreign language learning tools as well as through the prism of students' feedback on its use in the independent study of the German language. The research results indicate the functionality and usability of the web resource as well as its communication-oriented material, integrated educational information, various presentation forms, interactive exercises and other tasks, aesthetic illustrative elements, and automatic progress assessment. All these characteristics ensure the didactic value of the platform as a modern tool for the formation of German language knowledge, abilities, and skills, with a special focus on vocabulary and listening. However, according to the data obtained, the platform equally has certain limitations, which stem from the lack of educational materials for the C1–C2 levels and the unavailability of a German-Ukrainian dictionary as well as the inaccessibility of the resource in an offline format. The correlation between the identified benefits and drawbacks of the deutsch.info platform indicates the overall expediency of its introduction

as an important tool for independent study of German in language faculties and universities. Further research should involve an experimental verification of its effectiveness in the formation of various grammatical, lexical, phonetic, listening, etc., components of students' communicative competence in German as well as exploring its advantages and disadvantages by comparison with other similar web resources.

7   References

[1] Ministry of Education and Science of Ukraine, *Education State National Programme (Ukraine in the XXIst century)*, 1996. [Online]. Available: https://zakon.rada.gov.ua/laws/show/896-93-%D0%BF#Text

[2] Ministry of Education and Science of Ukraine, *National Education Development Doctrine of Ukraine*, 2002. [Online]. Available: https://zakon.rada.gov.ua/laws/show/347/2002#Text

[3] Ministry of Education and Science of Ukraine, *National Education Development Strategy of Ukraine*, 2013. [Online]. Available: https://zakon.rada.gov.ua/laws/show/344/2013#Text

[4] C. Dziuban, A. G. Picciano, C. R. Graham and P. D. Moskal, "*Conducting research in online and blended learning environments: New pedagogical frontiers*," New York: Routledge, 2016. https://doi.org/10.4324/9781315814605

[5] T. Erben, R. Ban and M. Castaneda, "*Teaching language learners through technology*," New York: Routledge, 2009. https://doi.org/10.4324/9780203894422

[6] A. Ahmad, G. Kumar, R. Ranjan and A. Philominraj, "On the role of social media in Spanish language learning in Indian context," *International Journal of Emerging Technologies in Learning*, vol. 17, no. 22, pp. 100–115, 2022. https://doi.org/10.3991/ijet.v17i22.31381

[7] E. M. Golonka, A. R. Bowles, V. M. Frank, D. L. Richardson and S. Freynik, "Technologies for foreign language learning: A review of technology types and their effectiveness," *Computer Assisted Language Learning*, vol. 27, pp. 70–105, 2014. https://doi.org/10.1080/09588221.2012.700315

[8] N. Malkawi, M. A. Rababah, I. Al Dalaeen, I. M. Ta'amneh, A. El Omari, A. A. Alkhaldi and K. Rabab'ah, "Impediments of using e-learning platforms for teaching English: A case study in Jordan," *International Journal of Emerging Technologies in Learning*, vol. 18, no. 5, pp. 95–113, 2023. https://doi.org/10.3991/ijet.v18i05.36727

[9] N. Li, "Seeking best practices and meeting the needs of the English language learners: Using second language theories and integrating technology in teaching," *Journal of International Education Research*, vol. 9, no. 3, pp. 217–222, 2013. https://doi.org/10.19030/jier.v9i3.7878

[10] S. Zeng, "*English learning in the digital age: Agency, technology and context*," Singapore, Springer, 2018. https://doi.org/10.1007/978-981-13-2499-4

[11] K. Ahmed and O. Nasser, "Incorporating iPad technology: Creating more effective language classrooms," *TESOL Journal*, vol. 6, no. 4, pp. 751–765, 2015. https://doi.org/10.1002/tesj.192

[12] T. Ahn and S. M. Lee, "User experience of a mobile speaking application with automatic speech recognition for EFL learning," *British Journal of Educational Technology*, vol. 47, no. 4, pp. 778–786, 2016. https://doi.org/10.1111/bjet.12354

[13] B. Chang and F. C. Lu, "Social media facilitated English prewriting activity design and evaluation," *Asia-Pacific Education Researcher*, vol. 27, no. 1, pp. 33–42, 2018. https://doi.org/10.1007/s40299-017-0363-0

[14] S. K. W. Chu, C. M. Capio, J. C. W. van Aalst and E. W. L. Cheng, "Evaluating the use of a social media tool for collaborative group writing of secondary school students in Hong Kong," *Computers and Education*, vol. 110, pp. 170–180, 2017. https://doi.org/10.1016/j.compedu.2017.03.006

[15] S. Curcic and R. S. Johnstone, "The effects of an intervention in writing with digital interactive books," *Computers in the Schools*, vol. 33, no. 2, pp. 71–88, 2016. https://doi.org/10.1080/07380569.2016.1181478

[16] L. Ducate and L. Lomicka, "Podcasting: An effective tool for honing language students' pronunciation?" *Language Learning & Technology*, vol. 13, pp. 66–86, 2009. https://doi.org/10125/44192

[17] S. Goertler, M. Bollen and J. Gaff, "Students' readiness for and attitudes toward hybrid foreign language instruction," *CALICO Journal*, vol. 29, no. 2, pp. 297–320, 2012. https://doi.org/10.11139/cj.29.2.297-320

[18] H. Hamzaoğlu and Z. Koçoğlu, "The application of podcasting as an instructional tool to improve Turkish EFL learners' speaking anxiety," *Educational Media International*, vol. 53, no. 4, pp. 313–326, 2016. https://doi.org/10.1080/09523987.2016.1254889

[19] Y. Hsieh and S. Huang, "Using an E-book in the secondary English classroom: Effects on EFL reading and listening," *Education and Information Technologies*, vol. 25, no. 2, pp. 1285–1301, 2020. https://doi.org/10.1007/s10639-019-10036-y

[20] T. Kochem, J. Beck and E. Goodale, "The use of ASR-equipped software in the teaching of suprasegmental features of pronunciation: A critical review," *CALICO Journal*, vol. 39, no. 3, pp. 306–325, 2022. https://doi.org/10.1558/cj.19033

[21] M. L. Love, T. G. Spies and J. J. Morgan, "Using Ebooks to acquire foundational academic vocabulary," *Intervention in School and Clinic*, vol. 53, no. 2, pp. 88–93, 2017. https://doi.org/10.1177/1053451217693368

[22] M. Pikhart and O. Botezat, "The impact of the use of social media on second language acquisition," *Procedia Computer Science*, vol. 192, pp. 1621–1628, 2021. https://doi.org/10.1016/j.procs.2021.08.166

[23] J. Reinhardt, "Social media in second and foreign language teaching and learning: Blogs, wikis, and social networking," *Language Teaching*, vol. 52, no. 1, pp. 1–39, 2019. https://doi.org/10.1017/S0261444818000356

[24] S. Alam and M. Usama, "Does E-feedback impact minimizing ESL writing errors? An experimental study," *International Journal of Emerging Technologies in Learning*, vol. 18, no. 4, pp. 156–169, 2023. https://doi.org/10.3991/ijet.v18i04.36349

[25] Y. T. Sung, K. E. Chang and T. C. Liu, "The effects of integrating mobile devices with teaching and learning on students' learning performance: A metaanalysis and research synthesis," *Computers and Education*, vol. 94, pp. 252–275, 2016. https://doi.org/10.1016/j.compedu.2015.11.008

[26] M. Woodrich and Y. Fan, "Google docs as a tool for collaborative writing in the middle school classroom," *Journal of Information Technology Education Research*, vol. 16, pp. 391–410, 2017. https://doi.org/10.28945/3870

[27] O. Yurieva, T. Musiichuk and D. Baisan, "Informal English learning with online digital tools: Non-linguists students," *Advanced Education*, vol. 8, no. 17, pp. 90–102, 2021. https://doi.org/10.20535/2410-8286.223896

[28] O. Zabolotna, L. Zagoruiko, I. Panchenko and Y. Plotnikov, "Teaching English vocabulary online: Is the screen a barrier?" *Advanced Education*, vol. 8, no. 17, pp. 57–64, 2021. https://doi.org/10.20535/2410-8286.228670

[29] J. A. Mompean and J. Fouz-González, "Twitter-based EFL pronunciation instruction," *Language Learning and Technology*, vol. 20, no. 1, pp. 166–190, 2016. https://www.lltjournal.org/item/10125-44451

[30] K. Polok and J. Harężak, "Facebook as a beneficial tool while used in learning second language environment," *Open Access Library Journal*, vol. 5, pp. 1–13, 2018. https://doi.org/10.4236/oalib.1104732

[31] E. Zarzycka-Piskorz, "Kahoot it or not? Can games be motivating in learning grammar?" *Englisch Teaching with Technology*, vol. 16, no. 3, pp. 17–36, 2016. https://files.eric.ed.gov/fulltext/EJ1135685.pdf

[32] N. Gunduz and D. Ozcan, "Implementation of the moodle system into EFL classes," *Profile: Issues in Teachers' Professional Development*, vol. 19, pp. 51–64, 2017. https://doi.org/10.15446/profile.v19n_sup1.68571

[33] I. Humeniuk, O. Kuntso, N. Popel and Y. Voloshchuk, "Mastering listening comprehension at ESP classes using TED talks," *Advanced Education*, vol. 8, no. 17, pp. 27–34, 2021. https://doi.org/10.20535/2410-8286.226733

8 Authors

Oksana Storonska, Ph.D, Assistant Professor, Department of German and French Language and their Teaching Methods, Drohobych Ivan Franko State Pedagogical University, Drohobych 82100, Ukraine (o.storonska@dspu.edu.ua)

Halyna Palytsya, Ph.D, Assistant Professor, Department of Applied Linguistics, Lviv Polytechnic National University, Lviv 79016, Ukraine (halyna.s.palytsia@lpnu.ua)

Mariia Vorobel, Ph.D, Assistant Professor, Department of Ukrainian and Foreign Languages, Ivan Boberskyi Lviv State University of Physical Culture, Lviv 79007, Ukraine (marya.vorobel@gmail.com)

Natalia Horodetska, Ph.D, Assistant Professor, Department of Foreign Languages, Lviv National Environmental University, Dublyany 80381, Ukraine (19hnh74@gmail.com)

Natalia Havryshkiv, Ph.D, Assistant Professor, Department of Foreign Languages, Lviv National Environmental University, Dublyany 80381, Ukraine (hnat1976@gmail.com)

Mariana Havran, Ph.D, Assistant Professor, Department of Foreign Languages, Lviv Polytechnic National University, Lviv 79000, Ukraine (Mariana.i.havran@lpnu.ua)