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INTEGRATION OF ICT FOR TRAINING FUTURE TEACHERS; EXAMPLE OF THE COURSE ON PRACTICE OF ORAL AND WRITTEN SPEECH: ENGLISH

INTEGRACIÓN DE LAS TIC PARA LA FORMACIÓN DE FUTUROS DOCENTES; EJEMPLO DEL CURSO SOBRE PRÁCTICA DEL HABLA ORAL Y ESCRITA: INGLÉS

Kateryna Brovko[1*]
E-mail: k.brovko@kubg.edu.ua
ORCID: https://orcid.org/0000-0001-8572-9316
Olena Onats[2]
E-mail: olena.onats@mail.ru
ORCID: https://orcid.org/0000-0003-3323-1289
Dmytro Kostenko[3]
E-mail: kostenkodmytro5@gmail.com
ORCID: https://orcid.org/0000-0002-4030-2287
Liudmyla Kucheriava[3]
E-mail: lkucheriava@mail.ru
ORCID: https://orcid.org/0000-0002-2204-6128
Ivan Bakhov[4]
E-mail: i.bakhov59@gamil.com
ORCID: https://orcid.org/0000-0002-8379-199X
*Corresponding author
[1] Borys Grinchenko Kyiv University. Ukraine.
[2] National Academy of Pedagogical Sciences of Ukraine (NAPS). Ukraine.
[3] Taras Shevchenko National University of Kyiv (UNIV). Ukraine.
[4] Interregional Academy of Personnel Management. Ukraine.

ABSTRACT

The article covers the problem of ICT integration in the training of future teachers on the example of the course «Practice of oral and written speech English». The main focus is on the use of ICT as an effective tool for the development of foreign language speech competence. The theoretical and methodological basis of the research, which consists of a set of general scientific and special methods, is outlined. The criteria, indicators, and levels for developing future teachers` foreign language speech competence during the study of the course «Practice of oral and written speech: English» using ICT has been determined. Diagnosis allowed studying the level of development of future teachers` foreign language speech competence. A block diagram for using ICT in the development of future teachers` foreign language speech competence in the context of the outlined course has been developed. The results of the study are described.

Keywords:

Professional Training, Future Teachers, Information and Communication Technologies, English, Foreign Language Speech Competence.

RESUMEN

El artículo aborda el problema de la integración de las TIC en la formación de futuros profesores a partir del ejemplo del curso «Práctica del habla oral y escrita en inglés». La atención se centra en el uso de las TIC como herramienta eficaz para el desarrollo de la competencia oral en lenguas extranjeras. Se esboza la base teórica y metodológica de la investigación, que consiste en un conjunto de métodos científicos generales y especiales. Se han determinado los criterios, indicadores y niveles para el desarrollo de la competencia discursiva en lengua extranjera de los futuros profesores durante el estudio de la asignatura «Práctica del discurso oral y escrito: Inglés» utilizando las TIC. El diagnóstico permitió estudiar el nivel de desarrollo de la competencia lingüística de los futuros profesores. Se ha desarrollado un diagrama de bloques para el uso de las TIC en el desarrollo de la competencia lingüística de los futuros profesores en el contexto del curso descrito. Se describen los resultados del estudio.

Palabras clave:

Formación Profesional, Futuros Profesores, Tecnologías de la Información y la Comunicación, Inglés, Competencia oral en lengua extranjera.

INTRODUCTION

The challenges of modern society are caused by the spread of the COVID-19 pandemic in the context of the socio-economic situation in the world, the rapid development of multimedia tools and software, as well as the deployment of the Russian-Ukrainian war in Ukraine in 2022, in particular, actualizes the issue of integration ICT technologies into the professional training of future teachers, as one of the means in the conditions of distance learning. Intense ICT penetration into the education sphere has called out in the world the emergence of not only positive trends influencing us to expand horizons in terms of accessibility, but also the problem of increasing relevance lighting process in the foundations of higher education.

Thus, the implementation of professional training of future teachers on the basis of using ICT during practical classes in the discipline «Practice of oral and written speech: English» involves ensuring the availability of higher education for each student, individualization, optimization of the educational process, creation of favorable conditions for lifelong learning, formation of their information culture, as well as ensuring the quality of higher education by raising the cognitive interest and motivation of students to study a foreign language.

The theoretical basis of the study is the provisions and conclusions of the theories and concepts of Ukrainian and foreign scientists devoted to various aspects of the problem of ICT integration into future teachers` training during practical classes in a foreign language with the aim of developing their foreign language speech competence. In particular, raising such issues as, for example, using ICT in teaching foreign languages to students in the conditions of distance education (Petryk, 2019; Solomakha et al., 2020; Kushnir et al., 2020; Brovko et al., 2021; Kosharna et al., 2021; Zhenchenko et al., 2021; Brovko et al., 2022; Durdas et al., 2022; Kotenko et al., 2022). Studying the effectiveness of using ICT in foreign language classes (Ahmad et al., 2021; Badan et al., 2021; Erarslan, 2021; González-Vera, 2021; Kamal, 2021). Modern approaches to using ICT in English language teaching (Adeliani et al., 2021; Mei Ayu Utami et al., 2021). Attitude of student youth to the integration of ICT in foreign language learning (Bard, 2004; Khushboo et al., 2020).

The importance of the integration of ICT in the educational activities of higher education institutions is regulated by numerous modern regulatory documents adopted by the member states of the European Union, the Council of Europe and Ukraine over the past 8 years, in particular: «The Strategy Europe 2020» (The Strategy Europe 2020); global project of scientists «Intel Education Transformation Policy Development Tool» (Intel Education Transformation Policy Development Tool, 2014); The project «Concept of the development of education in Ukraine for the period 2015-2025» (Ministry of Education and Science of Ukraine, 2015). One of the main missions of the documents is the training of professionals who know how to use information and communication technologies to process information, who are able to think, solve tasks deftly and flexibly, and effectively manage their own life trajectories.

The relevance of the investigated problem is also confirmed by the holding of annual conferences, webinars, colloquiums, summits, workshops and coachings dedicated to ICT implementation in the professional training of future specialists in the world, in particular: a series of Digital Future webinars «Blended Learning» on the basis of Anhalt University of Applied Sciences (Germany) and DUDIZ (German-Ukrainian Center for Digital Innovation) (2023 р.); ICTERI - International Conference on ICT in Research, Education and Industrial Applications (2023 р.), World Summit on the Information Society (2023 р.); The international workshop «Computer Modeling and Intelligent Systems CMIS-2023»; International Conference on Information Sciences and Communication Technologies, ICISCT (2022 р.), etc.

The purpose of the study is to theoretically substantiate and experimentally test the effectiveness of using ICT in the training of future teachers on the material of course «Practice of oral and written speech: English».

MATERIALS AND METHODS

Since the field of our scientific discourse includes the integration of ICT in training future teachers on the example of the course «Practice of oral and written speech: English». Attention should be focused on the theoretical and methodological basis of the research. Thus, the following general scientific methods were used in solving the tasks. Among them were the analysis and synthesis method (with the aim of logical and consistent scientific substantiation of regular using ICT in foreign language teaching by future teachers in the context of studying the course), scientific abstraction, induction and deduction method (when summarizing Ukrainian and foreign experience of integrating ICT into the foreign language learning process of future teachers in the context of studying the outlined course); method of mathematical and statistical processing of research results for analysing received data, establishment of quantitative and qualitative indicators of research results, computer processing, experimental data, etc.

The use of a set of methods provided an opportunity to obtain objective information about the state of development of future teachers` foreign language speech competence in the context of studying the course «Practice of oral and written communication: English» using ICT. System-structural and system-functional analysis (future teachers` speech competence in the context of studying a course using ICT); abstract-logical method (for theoretical generalization of research results and formulation of conclusions). The results of the study are presented using tables and graphs.

To establish the validity of the results of the study, we used the method of statistical evaluation of hypotheses, Pearson's criterion χ 2, which allows us to compare two empirical distributions and decide whether the difference between them is random or not. Such distributions in our study are the distributions of the control and experimental groups according to the levels of speech competence.

According to the algorithm of application of the criterion χ 2, the zero and alternative hypotheses were formulated: $H0$ - states the existence of a sufficient level of future foreign language teachers` speech competence using ICT. $H1$ - claims the lack of a sufficient level of development of future foreign language teachers` speech competence using ICT. Therefore, at the level of significance α = 0,05 and three degrees of freedom, the critical value is 7.82.

RESULTS AND DISCUSSION

The experimental work included the assessment levels of development future teachers` foreign language speech competence and the experimental verification of the effectiveness of using ICT in the context of the course «Practice of oral and written speech: English». The comparative analysis of the levels of development future teachers` foreign language speech competence is presented in the graph (Figura 1).

Thus, the motivational criterion increased by 12.2% (CG – 7.6%); emotional and expressive - 12.0% (CG - 7.8%); cognitive - 12.3% (CG - 6.8%); practical-activity - 7.8% (CG - 7.9%). The general level of development future teachers` foreign language speech competence at the beginning and after the experiment is presented in the graph of EG at a high level increased by 11.1% (6.0% CG); on average, 7.5% in the experimental group and by 3.9% in the control group of respondents; at a low level decreased by 18.1% in the experimental group and by 10.5% in the control group (Figure 1).

Fig. 1. The level of development future teachers` foreign language speech competence after the formative stage of the experiment.
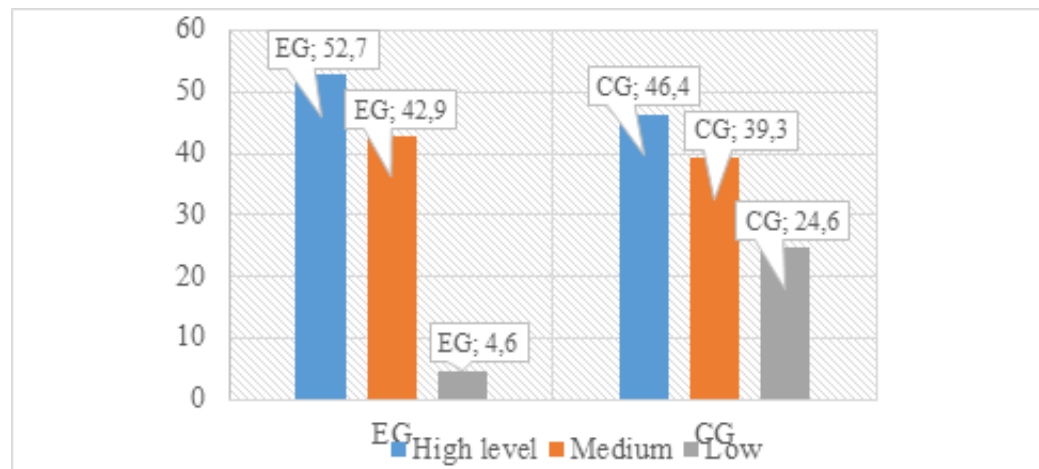
Source: Preparation of authors

The experimental study showed the positive dynamics of changes that took place in the experimental group during the formative stage of the experiment due to the use of ICT during practical classes in the course «Practice of oral and written speech: English».

Focusing on the use of ICT as a means of teaching a foreign language during practical classes in the course «Practice of oral and written speech: English», it should be emphasized that in this way future teachers improve their skills and develop the skills of written and spoken speech, listening, and creative thinking, the ability to work in a team on a project

in a foreign language, jointly create educational content, plan events, etc. (Adeliani et al., 2021).

The content of the educational ICT environment, consisting of foreign language media texts of various types and genres (video and audio content, images, Gif-animations, etc.), information stored in databases, and electronic educational resources, contributes to the formation of all types of speech activity.

In addition, ICT provides a variety of demonstration opportunities: images, music, lectures, video experiments, and reports, which are supported by a large selection of applications. All of the above stated possibilities encourage students to learn a foreign language and diversify the learning process, add brightness and life to it, and make it more energetic, relevant and modern.

It should be noted that among the positive aspects of using ICT in teaching foreign language to future teachers, the following can be highlighted:

1. convenience of communication means, organization, and content presentation forms, which are understandable and familiar to students.

2. The presence of various forms of interaction and communication, provides a wide range of opportunities for inclusion in the educational process.

3. Demonstration capabilities that enable sharing any educational content with students.

4. Allows students to participate in discussions of urgent issues and perform tasks from any place, ensuring thorough assimilation of knowledge.

5. Enables joint work on creating educational content with its further discussion.

6. Provides opportunities to conduct surveys, discussions, focus groups, conferences, round tables, educational debates, conferences, webinars, workshops, and other online events in a more familiar and interesting format for students, involving experts, consultants, philologists, linguists, translators and other specialists in the field of teaching foreign languages.

7. Open access to the virtual library of audio and video materials that can be used in the structure of the course (Intel Education Transformation Policy Development Tool, 2014).

The level of development future teachers` foreign language speech competence using ICT

The study aimed at determining the level of development future teachers` foreign language speech competence was conducted during 2021-2023 on the basis of Borys Grinchenko Kyiv University among students of specialty 013 «Primary education», specialization (foreign language teacher in general secondary education institutions). In the process of forming the sample, we conducted a randomization procedure, which ensured the representativeness of the experimental sample of the general population of students in the 1st and 2nd years. Thus, 112 students participated in the study (54 EG, 58 CG). The control group included students whose methodical work was carried out in accordance with the study plan, according to which the integration of ICT within the scope of practical lessons from the course «Practice of oral and written communication: English» was not foreseen. The experiment was conducted in three stages.

The declarative stage of the experiment was aimed at determining the entry level of future teachers` foreign language speech competence. Accordingly, at this stage, the criteria, indicators, and levels of development for future teachers` foreign language speech competence was determined, in particular:

1. Motivational criterion (indicators): presence of positive motives for learning and deepening knowledge of a foreign language; ability to set goals with faith in achievement their);

2. Emotional and expressive criterion (indicators): the desire to master as deeply as possible possible foreign language speech competence);

3. Cognitive criterion (indicators): presence of deep, strong, generalized, systematic knowledge; flexibility and critical thinking);

4. Practical-activity criterion (indicators): performance of a foreign language speech competence due to the presence of grammatical and lexical skills; the ability to build grammatically and lexically correct sentences, understandable to the interlocutor; communicative topics covering various aspects of human life).

Based on the results of the study, the levels of development of future teachers` foreign language speech competence were determined: *high, medium,* and *low.*

High level indicates the presence of positive motives for mastering and deepening knowledge of a foreign language); awareness of the value and significance of mastering a foreign language speech competence for future

professional activity; availability of deep, stronger, generalized, systematic knowledge; mastering the skills of flexible and critical thinking; ability to build grammatically and lexically correct sentences understandable to the interlocutor; ability and willingness to support communicative topics that cover different aspects of human life based on an innovative approach).

The intermediate level indicates situational interest and partial presence of positive motives for mastering and deepening knowledge of a foreign language; lack of clear idea and desire to master foreign language speech communicative competence; unstable and incomplete knowledge; weak skills and abilities of flexible and critical thinking, the ability to build grammatically and lexically correct sentences understandable to the interlocutor; fragmentary readiness to support communicative topics that cover various aspects of human life.

Low level indicates a low rate of positive motives for mastering foreign language speech competence; non-systemic knowledge; lack of skills of flexible and critical thinking and the ability to build grammatically and lexically correct sentences understandable to the interlocutor; lack of ability to construct grammatically and lexically correct sentences understandable to the interlocutor.

So, in order to determine the entry level of the development of future teachers` foreign language speech competence, at the ascertaining stage of the experiment, within the limits of the end of the first module, a cross-section of the educational achievements of EG and CG students was made. The defined section was based on the results of the modular control work conducted among students in the form of testing, which included exercises aimed at determining mastery of grammatical and lexical material, and practicing pronunciation and fluency.

Therefore, at the beginning of the experiment, the level of development the motivational criterion at a high level among the future teachers of the experimental group was 41.2% (38.7% CG); emotional and expressive - 24.5% EG (22.5% CG); cognitive - 52.6% EG (47.6% CG); practical activity – 48.3% EG (46.6% CG).

General level of development future teachers` foreign language speech competence of the experimental group at a high level is 41.6% (40.4% CG); at an average level of 35.4% among respondents of the experimental and control groups; at a low level, 22.7% in EG, 24.6% CG (Fig. 2).

Fig. 2 The level of development future teachers` foreign language speech competence at the ascertainment stage of the experiment.
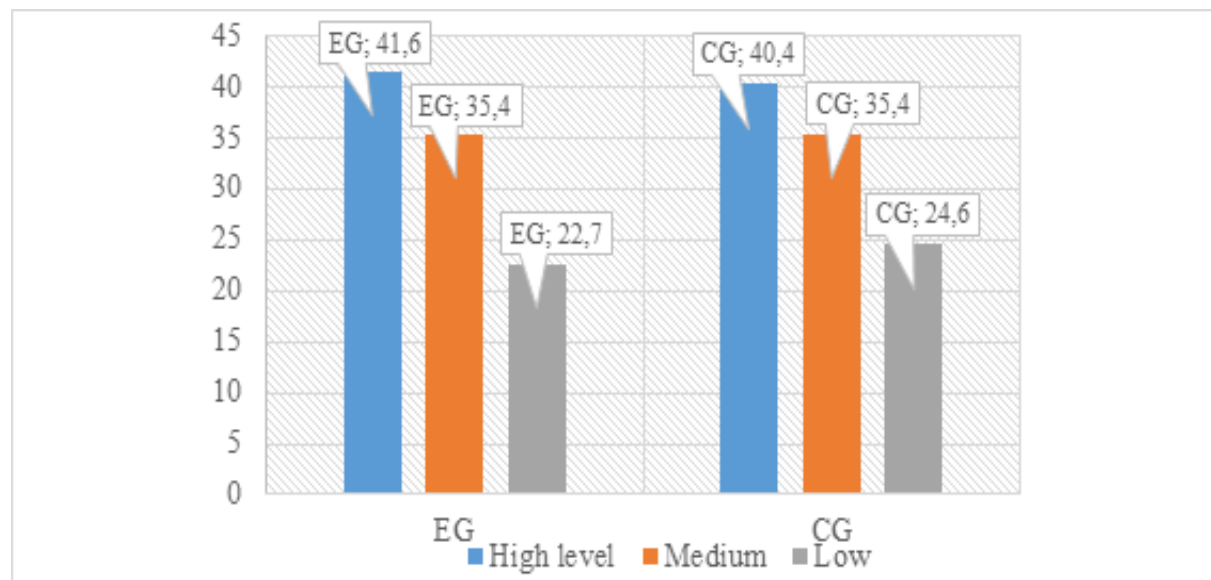
Source: Preparation of authors

As a result of the analysis of the levels of development of foreign language speech competence of future teachers, the need for the development of foreign language speech competence of future teachers was determined by implementing ICT in the practical classes of the course «Practice of Oral and Written Speech: English.»

The formative stage of the experiment involved the implementation of ICT in practical classes of the course «Practice of oral and written speech: English» and checking their effectiveness in the context of the problem of the study.

During the formative stage of the experiment, a control and experimental group of students was created. The control group included students whose methodological work was carried out according to the training plan, according to which the integration of ICT within the framework of practical classes on the course «Practice of oral and written speech: English» was not provided.

The experimental group included students who mastered the course «Practice of oral and written speech: English» based on the use of ICT during practical training.
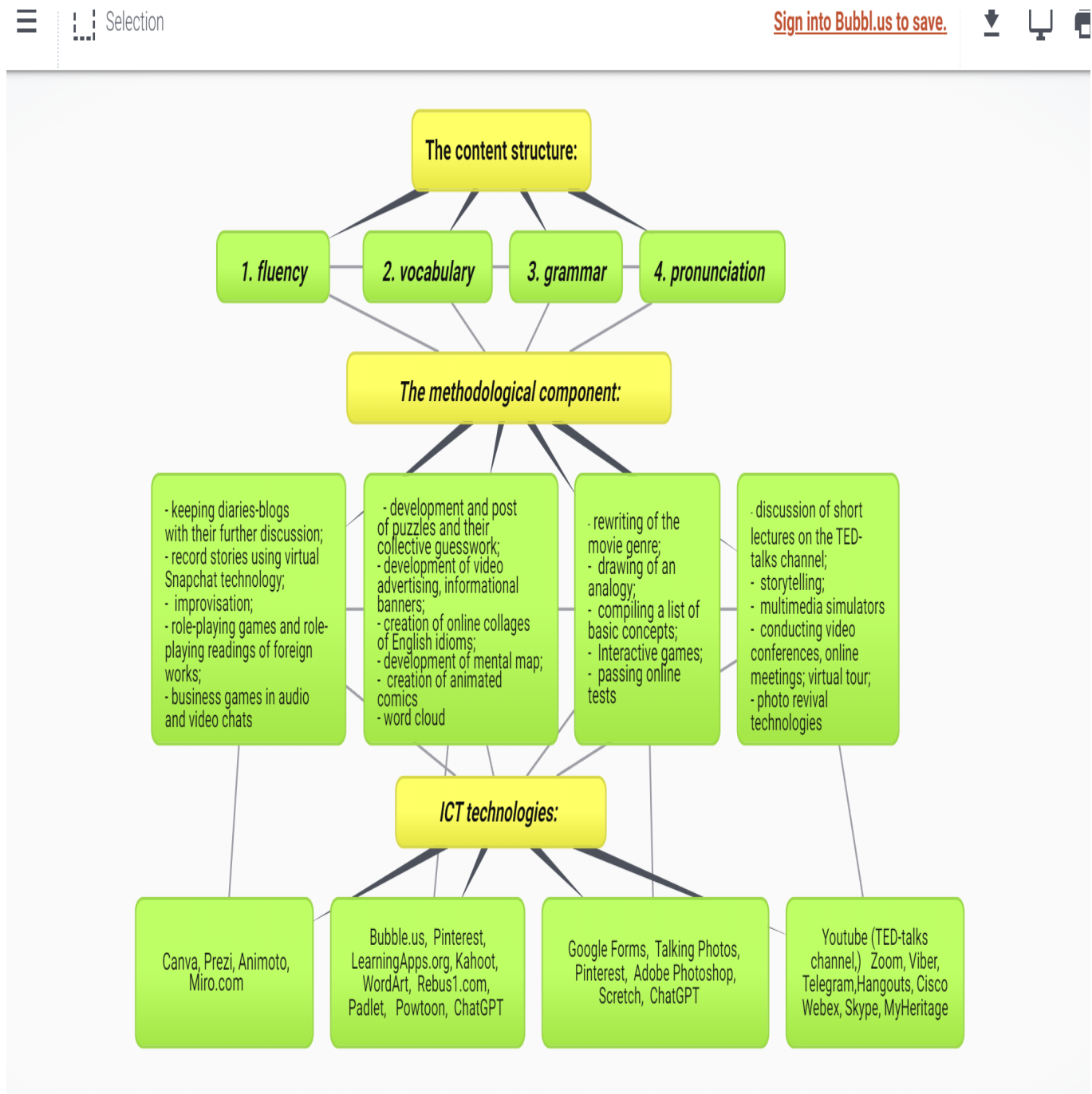
Using ICT in the format of the discipline Practice of Oral and Written Speech: English

In order to determine the levels of development future teachers` foreign language speech competence in the context of studying the course «Practice of oral and written speech: English», a complex of pedagogical diagnostic methods was used, such as: dialogues, polylogues, discussions, educational debates, online seminars, workshops, webinars, tenders; online voting, surveys, quests, flash mobs, colloquiums, focus groups, challenges, online battles; diagnostic creative and interactive tasks, etc.

Thus, for the purpose of clarity, a block diagram of the use of ICT in the development of foreign language speaking competence of future teachers in the context of the outlined course has been developed. Four components are defined in the structure of the block diagram, such as: *fluency* (the ability to communicate in English comfortably and confidently); vocabulary (have a wide vocabulary and constantly enrich it); *grammar* (proficiently master grammar material and English tenses in particular); *pronunciation* (the ability to use additional pronunciation skills to emphasize and make the communicative effect of one's speech more influential (stressing words and sentences, intonation, rhythm and the use of individual speech sounds)). In accordance with each component, the methodological basis of their implementation with the use of ICT is defined.

So, for the purpose of development *fluency* promotes online blogging, recording stories, using the method of improvisations, role-playing and business games in audio and video chats (technologies: Canva, Prezi, Miro.com). The development of *vocabulary* is facilitated by the involvement of students in the development of online posts and puzzles, video advertisements, informational banners, online collages of English idioms, as well as work with word clouds and the development of animated comics (technologies: Buble.us, Pinterest, LearningApps.org, Kahoot, WordArt, Rebus1.com, Padlet, Powtoon, ChatGPT). In practicing *grammar*, the implementation of methods of rewriting the film genre, the method of analogies, interactive games, making online tests, creating lists of basic concepts (technologies: Google Forms, Talkng Photos, Pinterest, Adobe Photoshop, Scratch, ChatGPT). In the development of *pronunciation* skills using the storytelling method, virtual tours, animating photos, collective discussions, multimedia simulations (technologies: Youtube (TED-talks channel,) Zoom, Viber, Telegram, Hangouts, Cisco Webex, Skype, MyHeritage) (Fig. 3)

Fig. 3. Block diagram using ICT in the development of future teachers` foreign language speech competence.

Source: Preparation of authors

Having considered the block diagram of the components of development of future teachers` foreign language speech competence in the context of studying the course «Practice of oral and written speech: English» using ICT, it is necessary to cite several examples of conducting practical classes.

Using TikTok, students discussed short videos and stories guided by the teacher's leading questions to students, such as: Can you characterize her/his behavior? What do you think about her/his methods? Can you describe her/his

emotions and feelings? Can you describe her/his outward?, etc.). Following the discussion students were also asked to take quizzes in Kahoot.

In Zoom, group training in mini chats is possible. Thus, students were asked to rewrite the film in a different genre, with help of Adobe Photoshop by using different parts of the language, followed by a collective discussion and post them in Padlet or Pinterest (Fig. 4).

Fig. 4. An example of rewriting a film in a different genre created by students in Adobe Photoshop

Source: Preparation of authors

In order to expand active vocabulary, consolidate English tokens in the dictionary, as well as activate passive vocabulary and practice writing English words, students were asked to create rebuses of English words, phrases and idioms online using the Rebus1.com program (Fig. 5).

Fig. 5. An example of English idioms rebuses created by students in the Rebus1.com program

Idiom: When pigs fly [the meaning: something will (most likely) never happen]

Idiom: Hot potato [the meaning: controversial question]

Source: Preparation of authors

CONCLUSIONS

An experimental study proved that the study of any topic from the elementary discipline «Practice of oral and written speech: English» involves the use of ICT, taking into account digitization, gamification and gadgetization of the educational process in a higher education institution. The above contributes to the activation of their educational and cognitive activities through the activation of various channels of information perception; achievement of a specifically defined goal of the educational process, in particular educational, developmental and educational; motivation to study, taking into account one's educational needs; creation of a modern educational environment and online learning space; organization of innovative educational process; integration, differentiation, individualization, training, etc.

The obtained data proved that the percentage of respondents with a high and medium level of development of foreign language speaking competence increased, and the percentage of respondents with a low level - decreased. Thus, the use of various information and communication technologies significantly increases the interest of students in the academic discipline; motivates self-improvement and self-development; modernizes the content of educational disciplines with innovative forms of interaction and methods and techniques; forms appropriate professional competence in future teachers.

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