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Исследование влияния интерактивных игровых ресурсов на формирование научной терминосистемы и иноязычной компетенции

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Проблема и цель. *В статье исследуется проблема эффективной реализации образовательного потенциала интерактивных технологий в иноязычной коммуникации и научной деятельности обучающихся. Цель работы – выявить факторы, определяющие влияние интерактивных игровых сервисов на формирование основ научной терминосистемы и иноязычной компетенции.*

Методология. *Методология основывается на анализе и обобщении литературы по вопросам применения интерактивных ресурсов геймификации в обучении иностранному языку. В работе использованы основные положения системно-деятельностного подхода. Педагогический эксперимент проведён в двух направлениях: на примере оценки педагогами возможностей интерактивных ресурсов; для оценки сформированности иноязычной компетенции и навыков научной самостоятельной деятельности обучающихся.*

Результаты. *Представлен анализ терминов «игровая интерактивная технология» и «иноязычная компетентность». Выявлено, что формирование основ научной терминосистемы и иноязычной компетенции является важным этапом изучения иностранного языка. Доказано*

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влияние интерактивных сервисов на организацию иноязычной коммуникации и научной деятельности студентов. Обоснована необходимость применения игровых интерактивных ресурсов в обучении иностранному языку как основы профессиональной подготовки, соответствующей требованиям современного цифрового общества. Обработка результатов анкеты позволила доказать, что применение интерактивных игровых ресурсов вызывает у педагогов как повышенный интерес, так и практические трудности. По материалам эмпирического исследования обосновано предлагаются цифровые инструменты эффективной реализации образовательного потенциала интерактивных технологий при формировании иноязычной компетенции.

Заключение. Обобщаются факторы, определяющие влияние интерактивных технологий на формирование основ терминосистемы и иноязычной компетенции, за счет поддержки мотивации, вовлечения обучающихся в образовательный процесс, реализации научной самостоятельной деятельности в условиях цифровой образовательной среды.

Ключевые слова: цифровые технологии; интерактивные приложения; геймификация обучения; игровые ресурсы; активизация взаимодействия; цифровая образовательная среда; иноязычная компетентность.

СПИСОК ЛИТЕРАТУРЫ

1. Arif F. K. M., Zubir N. Z., Mohamad M., Yunus M. M. Benefits and challenges of using game-based formative assessment among undergraduate students // Humanities and Social Sciences Reviews. – 2019. – Vol. 7 (4). – P. 203–213. DOI: https://doi.org/10.18510/hssr.2019.7426

2. Chang Y.-H., Liu T.-Ch., Paas F. Cognitive resources allocation in computer-mediated dictionary assisted learning: From word meaning to inferential comprehension // Computers & Education. – 2018. – P. 113–129. DOI: https://doi.org/10.1016/j.compedu.2018.08.013

3. Chen J. C. The interplay of tasks, strategies and negotiations in Second Life // Computer Assisted Language Learning. – 2018. – Vol. 31 (8). – P. 960–986. DOI: https://doi.org/10.1080/09588221.2018.1466810

4. Chen J. C., Kent S. Task engagement, learner motivation and avatar identities of struggling English language learners in the 3D virtual world // System. – 2020. – Vol. 88. – P. 102168. DOI: https://doi.org/10.1016/j.system.2019.102168

5. De Corte E. Learning Design: Creating Powerful Learning Environments for Self-Regulation Skills // Educational Studies Moscow. – 2019. – № 4. – P. 30–46. DOI: https://doi.org/10.17323/1814-9545-2019-4-30-46

6. Devizkaya Z. B., Ryabchikova V. G., Rubleva O. S., Zlobina I. S. The use of national corpuses of languages when studying lexicology at the university (from work experience) // Perspectives of Science and Education. – 2019. – № 5. – P. 203–214. DOI: http://dx.doi.org/10.32744/pse.2019.5.15   URL: https://www.elibrary.ru/item.asp?id=41266917

7. Elfeky A. I. M., Elbyaly M. Y. H. Developing skills of fashion design by augmented reality technology in higher education // Interactive Learning Environments. – 2018. – P. 1–16. DOI: https://doi.org/10.1080/10494820.2018.1558259

8. Förster M., Weiser C., Maur A. How feedback provided by voluntary electronic quizzes affects learning outcomes of university students in large classes // Computers & Education. – 2018. – Vol. 121. – P. 100–114. DOI: http://doi.org/10.1016/j.compedu.2018.02.012

9. Gu X., Wang C., Lin. Examining Scientific Literacy through New Media // Eurasia Journal of Mathematics, Science and Technology Education. – 2019. – Vol. 15 (2). – Article No: em1785. DOI: https://doi.org/10.29333/ejmste/109948

10. Hamada M., Hassan M. An Interactive Learning Environment for Information and Communication Theory // Eurasia Journal of Mathematics, Science and Technology Education. – 2017. – Vol. 13 (1). – P. 35–59. DOI: https://doi.org/10.12973/eurasia.2017.00603a

11. Hamidi H., Jahanshaheefard M. Essential factors for the application of education information system using mobile learning: A case study of students of the university of technology // Telematics and Informatics. – 2019. – Vol. 38. – P. 207–224. DOI: https://doi.org/10.1016/j.tele.2018.10.002

12. Hao Y., Lee K. S. Teachers' concern about integrating Web 2.0 technologies and its relationship with teacher characteristics // Computers in Human Behavior. – 2015. – Vol. 48. – P. 1–8. DOI: https://doi.org/10.1016/j.chb.2015.01.028

13. Hilliard J., Kear K., Donelan H., Heaney C. Students' experiences of anxiety in an assessed, online, collaborative project // Computers & Education. – 2019. – Vol. 143. – Art. No. 103675. DOI: http://doi.org/10.1016/j.compedu.2019.103675

14. Iaremenko N. V. Enhancing English language learners' motivation through online games // Information Technologies and Learning Tools. – 2017. – Vol. 59 (3). – P. 126–133. DOI: https://doi.org/10.33407/itlt.v59i3.1606

15. Kalugina O. A., Tarasevich N. A. Smart technology integration into EFL teaching at the non-linguistic higher school // XLinguae. – 2018. – Vol. 11 (1XL). – P. 8–18. DOI: https://doi.org/10.18355/XL.2018.11.01XL.02

16. Park J., Liu D., Yi M. Y., Santhanam R. GAMESIT: A gamified system for information technology training // Computers & Education. – 2019. – Vol. 142. article no: 103643 DOI: https://doi.org/10.1016/j.compedu.2019.103643

17. Perig A. V. Didactic student-friendly approaches to more effective teaching of the fundamentals of scientific research in a digital era of scientometrics // Eurasia Journal of Mathematics, Science and Technology Education. – 2018. – Vol. 14 (12). – Article No: em1632. DOI: https://doi.org/10.29333/ejmste/97188

18. Plakhova E. A., Kharapudko E. N., Nurmieva R. R. Game techniques as a method of the educational process intensification in teaching a foreign language // Humanities and Social Sciences Reviews. – 2019. – Vol. 7 (6). – P. 38–44. DOI: https://doi.org/10.18510/hssr.2019.769

19. Putistina O. V. Interaction in the Concept of Autonomous Language Learning // Journal of Siberian Federal University. Humanities & Social Sciences. – 2015. – Vol. 8 (9). – P. 1919–1925. DOI: https://doi.org/10.17516/1997-1370-2015-8-9-1919-1925   URL: https://www.elibrary.ru/item.asp?id=24228193

20. Robert I. V., Mukhametzyanov I. S., Arinushkina A. A., Kastornova V. A., Martirosyan L. P. Forecast of the development of education informatization // Espacios. – 2017. – Vol. 38 (40). URL: https://www.elibrary.ru/item.asp?Id=35505498

21. Ryabkova V. V. Mobile devices and apps for developing language skills (on the example of the English language). *Perspectives of Science and Education*, 2019, no. 2, pp. 320–326. DOI: https://doi.org/10.32744/pse.2019.2.24 URL: https://www.elibrary.ru/item.asp?id=38169083

22. Xie K., Tosto Di G., Chen S.-B., Vongkulluksn V. W. A systematic review of design and technology components of educational digital resources // Computers and Education. – 2018. – Vol. 127. – P. 90–106. DOI: https://doi.org/10.1016/j.compedu.2018.08.011

23. Данилина Е. К. Контроль сформированности иноязычных письменно-речевых умений при помощи мобильных приложений: теоретико-методическая модель // Научный диалог. –

2018. – No. 3. – P. 253–266. DOI: https://doi.org/10.24224/2227-1295-2018-3-253-266 URL: https://elibrary.ru/item.asp?id=32717170

24. Волобуева Ю. В. Использование сетевого сервера learningapps.org в организации самостоятельной работы обучающихся неязыковых специальностей по английскому языку // Вестник Сургутского государственного педагогического университета. – 2017. – № 5 (50). – С. 39–47. URL: https://elibrary.ru/item.asp?id=36709331

25. Жигадло В. Э., Одинокая М. А. Использование технологии учебных подкастов при обучении языку хинди в техническом вузе как средства повышения качества дополнительного гуманитарного образования // Язык и культура. – 2017. – № 38. – С. 207–226. DOI: https://doi.org/10.17223/19996195/38/14 URL: https://elibrary.ru/item.asp?id=30058826

26. Карманова Е. В., Старков А. Н., Викулина В. В. Возможности применения технологии геймификации при реализации электронного обучения в вузе // Перспективы науки и образования. – 2019. – № 4. – С. 462–472. DOI: https://doi.org/10.32744/pse.2019.4.35 URL: https://www.elibrary.ru/item.asp?id=39544382

27. Назаренко А. Л. Дидактический потенциал телетандемного метода изучения иностранных языков для развития иноязычной и межкультурной компетенций обучающихся // Язык и культура. – 2018. – № 43. – С. 185–198. DOI: https://doi.org/10.17223/19996195/43/12 URL: https://elibrary.ru/item.asp?id=36774775

28. Подъянова Т. О., Конева Е. В. Коммуникативная компетенция учащихся в ценностно-профессиональном контексте // Язык и культура. – 2017. – № 40. – С. 254–262. DOI: https://doi.org/10.17223/19996195/40/18 URL: https://www.elibrary.ru/item.asp?id=32664656

29. Радулович Б., Стоянович М. Эффективность преподавания физики через призму субъективной оценки умственных усилий учащихся (пер. с англ.) // Вопросы образования. – 2019. – № 3. – С. 152–175. DOI: https://doi.org/10.17323/1814-9545-2019-3-152-175 URL: https://elibrary.ru/item.asp?id=39555189

30. Рубцова О. В. Цифровые технологии как новое средство опосредования (Часть первая) // Культурно-историческая психология. – 2019. – Т. 14, № 3. – С. 117–124. DOI: https://doi.org/10.17759/chp.2019150312 URL: https://www.elibrary.ru/item.asp?id=41135721

31. Смирнова Н. В., Баграмова Н. В. Исследование сформированности умений иноязычной письменной речи как социальной практики у студентов неязыкового вуза на начальной ступени образования // Вестник Новосибирского государственного педагогического университета. – 2018. – № 6. – С. 201–215. DOI: http://dx.doi.org/10.15293/2226-3365.1806.13 URL: https://www.elibrary.ru/item.asp?id=36655301

32. Соболева Е. В., Караваев Н. Л., Перевозчикова М. С. Совершенствование содержания подготовки учителей к разработке и применению компьютерных игр в обучении // Вестник Новосибирского государственного педагогического университета. – 2017. – № 6. – С. 54–70. DOI: http://dx.doi.org/10.15293/2226-3365.1706.04 URL: https://www.elibrary.ru/item.asp?id=30794028

33. Чистобаева Л. В. Использование мобильных мультимедийных устройств для аудиторного обучения иностранному языку в вузе // Вестник Майкопского государственного технологического университета. – 2015. – № 4. – С. 95–98. URL: https://elibrary.ru/item.asp?id=25500673

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The impact of interactive game resources on enhancing students' terminological competence and foreign language proficiency

Abstract

   Introduction. The article focuses on the effective use of educational interactive technologies in foreign language communication and research activities of students. The purpose of this study is to

identify factors which determine the impact of interactive gaming services on formation of students' terminological competence and foreign language proficiency.

Materials and Methods. The research methodology involves reviewing literature on the use of interactive game resources in foreign language teaching, as well as analysis and synthesis of the obtained data. The methodological approach taken in this study is the system-activity approach. The educational experiment involved evaluating the possibilities of interactive resources conducted by teachers and assessment of students' foreign language proficiency and research skills.

Results. The authors analyze and clarify the concepts of 'interactive game technology' and 'foreign language proficiency'. They argue that development of terminological competence is one of the key stages in formation of foreign language proficiency. The study has revealed the influence of interactive services on organizational aspects of students' communication in a foreign language as well as their research activities. The authors justify the necessity of using interactive game resources in teaching a foreign language as the basis of professional training which meets the requirements of modern digital society. The findings of the survey suggest that teachers are increasingly interested in employing interactive game resources for educational purposes. On the other hand, they report practical difficulties in using them. The empirical study enabled to identify digital tools and interactive technologies which contribute to enhancing foreign language proficiency.

Conclusions. In conclusion, the authors summarize the factors determining the influence of interactive technologies on the formation of students' terminological competence and foreign language proficiency through encouraging involvement in learning and research activities within the framework of digital educational environment.

Keywords

Digital technologies; Interactive applications; Gamification of education; Activation of interaction; Digital educational environment; Foreign language proficiency.

Introduction

Providing the educational process with modern interactive tools and methods, supporting the use of new digital services in various types of students' cognitive activity is an important direction in the modernization of science and education [20]. The implementation of the project "Digital School" involves using innovative pedagogical technologies to personalize cognition and education, enhance interaction, provide feedback on the quality of obtained knowledge, etc. Changes should involve all levels of the educational system: from preschool education to professional training courses. The use of innovative technologies and digital tools is of particular importance for higher educational institutions, because the content of courses is getting more complicated [6]; there are additional opportunities for the formation of innovative

thinking skills [2]; demanded professional competencies are developed [29]. These provisions are proved by E. A. Plakhova, E. N. Kharapudko, R. R. Nurmieva [18]; by K. Xie, D. Tosto, G. S. Chen, W. V. Vongkulluksn [22] in the framework of the analytical review of various software tools; by M. Förster, C. Weiser, A. Maur [8] on examples of the specific use of electronic technologies which provide constant feedback in a digital educational environment; by Yu. V. Volobueva when describing the features of the organization of students' independent research work in studying a foreign language [24]. According to T. O. Podyanova and E. V. Koneva [28], multilingualism and intercultural communication should be considered as necessary qualities of the future specialist, providing his competitiveness in the labor market.

The level of scientific and technical achievements of recent years allows teachers of foreign languages to use not only social networks, video resources, interactive features of Web 2.0 services, http://learningapps.org, but also mobile technologies [21]. Moreover, it is suggested to develop own mobile applications [33], implement quests and games. E. V. Karmanova, A. N. Starkov, V. V. Vikulina investigate the didactic potential of gamification in terms of increasing the effectiveness of learning and cognition using the example of electronic technology [26]. E. V. Soboleva, N. L. Karavaev, M. S. Perevozchikova describe the possibilities of digital resources of gamification and formulate ideas of a methodological approach for their application in any discipline [32]. The inclusion of gaming elements in cognitive activity can be an effective solution to the problem of the educational process - to reduce the level of students' cognitive activity, "learning" skills, independent work [14].

E. A. Plakhova, E. N. Kharapudko, R. R. Nurmieva [18], starting from the position that the realities of the modern world stimulate interest in learning a foreign language, justify the search for ways and means of intensifying the educational process. The important results of the study are the following points:

– the purpose of teaching foreign languages at the present stage is not a language system, but speaking as a means of intercultural communication [31];

– innovative pedagogical technologies allow to creatively apply language material, change classes of studying a foreign language while speaking, discussing, doing research [27].

M. Y. H. Elbyaly proves that the learning space, based on these principles, allows students to maximize their creativity, express themselves individually or in a group, apply their knowledge,

benefits and publicly demonstrate the obtained result [7].

When learning a foreign language, digital technology should complement and expand the range of educational and cognitive influences, enrich communicative practice, contribute to the mastery of a thinking culture, writing and speaking skills [17]. However, in fact it turns out that interest in learning is increasing most often due to the attractiveness of digital tools and gaming technologies. The professional activity of many modern teachers is determined by mastering digital technologies, developing the content of resources, difficulties in choosing and evaluating applications, determining their optimal number for achieving didactic goals [23]. Moreover, digital technologies develop very quickly and the teacher needs a lot of time to understand how to use a new tool and adapt it for teaching vocabulary, grammar and phonetics [11].

However, it is not always worth following innovations only because of their ability to increase the emotional background and external brightness [4]. It is necessary to keep a balance between the quality of training and the attractiveness of tools, pedagogical skills and applied technologies. Therefore, there are digital services that allow to teach a foreign language in an interactive gaming form in accordance with the standards and requirements of society, and that help resolve the problems described above.

Thus, there is an objective problem of realizing the potential of digital interactive technologies while studying a foreign language. Identification of new possibilities of interactive gaming resources for the formation of foreign language competence has determined the purpose of the study.

Materials and Methods

M. Hamada, M. Hassan clarify the concepts of "interactive application" and "interactivity"

[10]. When studying the phenomenon of "gamification of learning", we used the conclusions of F. K. M. Arif, N. Z. Zubir, M. Mohamad, and M. M. Yunus [1] on the possibilities and problems of using gaming elements in teaching English with the help of the Kahoot! digital service; O. A. Kalugina, N. A. Tarasevich [15] on the development of gaming technologies.

The features of the inclusion of digital technologies in teaching foreign languages are based on the results of E. A. Plakhova, E. N. Kharapudko, R. R. Nurmieva [18] who underline the need to find ways and means of intensifying the educational process; O. Putistina [19] on the inclusion of interactive resources in students' communicative activities and high-level cognitive processes; P. V. Sysoyev, M. N. Evstigneev, I. A. Evstigneeva [1] on the integration of Web 2.0 social services in the process of teaching a foreign language.

Our research is based on the system-activity approach, which is also the theoretical base of the current Federal state educational standards for various levels of education and the conceptual basis for the Basic competency model developed as part of the program "Digital Economy in the Russian Federation". The system-activity approach in education underlines the need to take into account the structure of activity and explains the process of active assimilation of knowledge by the student and the formation of his activity through motivated and purposeful solution of educational problems [17]. The research points out the following stages of the students' activities while studying a foreign language:

– a motivation stage, which was implemented using new possibilities of gaming interactive resources (for example, the task of establishing correspondences);

– an indicative stage, its initial step can be carried out in the course of work with a virtual set of cards, which have a question on the one hand and an answer on the other; the final step is when the user needs to fill in the blanks (both terms and definitions may be missing);

– formation and development of skills (implemented using the new possibilities of interactive resources - online game simulators, crosswords, quests);

– a stage of control and correction, which monitors the formation of foreign language competence, reflection of educational activities in vocabulary and grammar, analysis of the effectiveness of the tools, and if necessary the education process can be corrected at certain stages (quiz, online testing, statistical processing of experimental results).

The pedagogical experiment evaluated the effectiveness of using resources to develop the ability and willingness to carry out oral and written communication in the socio-academic fields. The experiment was carried out in two directions:

I. To assess the new possibilities of gaming interactive resources while teaching a foreign language.

In the framework of the first direction we conducted a survey of 28 teachers of Kirov universities. The author's profile was divided into three groups of questions. Each group corresponded to the previously formulated new features of interactive gaming services. It was proposed to rate each item on the scale: 1 = absolutely disagree, 2 = disagree, 3 = agree, 4 = absolutely agree.

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[1] Sysoyev P. V., Evstigneev M. N., Evstigneeva I. A. Teaching Writing Skills to Students via Blogs. In: Anikina Z. (eds) *Going Global through Social Sciences and Humanities: A Systems and ICT Perspective. GGSSH* *2019. Advances in Intelligent Systems and Computing*, vol. 907. Springer, Cham, 2019, pp. 210–218. DOI: https://doi.org/10.1007/978-3-030-11473-2_23, URL: https://www.elibrary.ru/item.asp?Id=36858600

Survey

1. Resource cost and versatility

1. The service development required minor labor and time costs.

2. The potential of the service exceeds the costs.

3. Application of the service in the lesson does not require a significant change in the structure of learning.

4. Work with the service complements communication practice, intercultural communication.

5. I know how to apply new features of gaming interactive services in professional activities.

6. I recommend the service to other teachers.

2. Emotional appeal

1. The use of the service enhances the benefits of working with information and communication technology.

2. Application of the service improves interaction and cooperation.

3. The use of the service contributes to the development of the ability to learn.

4. Working with service tools increases motivation in the learning process.

5. Types of tasks correspond to the thinking patterns of modern young people – citizens of the digital society.

6. Students tell about services to other students.

3. Innovative Learning with Enhanced Knowledge

1. You can learn a lot of factual material through game-based learning.

2. The use of the service activates students' work.

3. The approach to learning based on gaming interactive services contributes to the implementation of innovations in the educational process.

4. New possibilities support the development of independent research skills.

5. The services are multifunctional.

6. Due to new possibilities, the quality of the main learning outcomes is improved, their content is enriched.

To assess the formation of students' qualities and skills, which form the basis of foreign language competence, the skills of independent scientific creative activity. At this level, we implemented new possibilities of interactive gaming resources in teaching a foreign language to students of the direction "Tourism". 48 first-year students (19 years old) took part in the experiment, the experimental (25 people) and control (23 people) groups were formed. To process the results of the pedagogical experiment, we used an analysis of arbitrary contingency tables using the Mann-Whitney criterion.

Results

An analysis of works on the research problem made it possible to formulate an author's approach to the essence of the necessary concepts.

Due to the active introduction of digital technologies in education, the intensity and orientation of the interaction of the participants in the didactic process is changing. N. V. Smirnova, N. V. Bagramova states that it is necessary to change the content and nature of the teacher's professional activity according to the specifics of the subject [31]. Moreover, the new state standards of university education, the development of innovations determine such a priority of education as the productive use of digital resources. According to Y. Hao, K. S. Lee [12], a special socio-cultural environment is formed, which takes into account the individual characteristics of the participants of the didactic process.

In our research a "digital educational space" is: a space of any open sources; a space where

everything is different; a space of questions, search and research; of initiative and responsibility; a space where a mentor/tutor looks for like-minded people.

Digital transformation changes educational technology. Depending on the nature of the integration of digital technologies in the educational process, we distinguish four levels: replacement of traditional pedagogical tools, their improvement, change in the nature of pedagogical activity, transformation of pedagogical activity.

The present study considers digital technologies to be a new phenomenon combining instrument and iconic components. Using only traditional pedagogical technologies, it is impossible to meet the requirements of the Federal State Educational Standard. The creation of new approaches to the organization of education, which are based on digital technologies (multimedia, interactive, cloud, etc.) is inevitable.

Interactive means is a combination of hardware (computer and its devices, interactive equipment) and software that allow to have an interactive dialogue between the user and the information system in real time. Interactive tasks are tasks that are based on the interaction of students with an object. They create conditions for the development of independence, support of interest in the subject, enrichment of social experience, organization of the communication process in the classroom, development of intellectual abilities.

Another key theoretical position, which supports the previously formulated ideas by O. V. Rubtsova [30], is that interactive gaming technologies is a new tool which opens up wide opportunities for the development of higher mental functions and processes (attention, memory, will, thinking) in a digital environment.

Interactive and multimedia technologies make the process of teaching a foreign language

more diverse and accessible, as a student gets information through various channels.

The analysis of the literature made it possible to determine that among the demanded competences formed when studying a foreign language, researchers include knowledge of the linguistic means that are characteristics of everyday and general speech and writing, knowledge of fundamentals of the grammar system of a foreign language [30]; the ability to use foreign languages to the extent necessary when interacting in interpersonal and intercultural communicative situations [14]; speaking and writing skills for the realization of a certain communicative intention [6]. Also, foreign language competence involves the use of modern means of communication for searching, presenting information in communicative practice [15].

Using digital technologies, we form key competencies, in particular, the ability to carry out business communication in oral and written forms in Russian and foreign languages. The use of digital technologies in the educational space for the formation of foreign language competence allows to provide the following didactic opportunities: individualize the educational process, adapt it to the personal characteristics and students' needs; take into account the specifics of the subject; compactly present a large amount of educational information, clearly structured and consistently organized; strengthen visual perception and facilitate the assimilation of educational material; intensify students' cognitive activity.

"Gamification of the educational process" is a set of tools to increase students' interest, consisting of gaming elements and techniques without changing the educational process. Interactive resources (for example, test knowledge control tools built into media courses) when teaching a foreign language create the

effective feedback so that students can be sure of their progress. Moreover, gaming components in communicative situations activate students' cognitive activity in studying lexical units of social and academic subjects, while forming the foundations of the term system, grammar system, and rules of speech etiquette [24]. Game forms of organization of classes help more accessible and more interesting to study the basic regional geographic information, get the practice of having a dialogue/polylogue, monologue. In a virtual gaming situation, it's easier to evaluate, act and reason a decision, create texts of different genres. Quizzes and quests in an interactive game format support the study of grammar, vocabulary and phonetics.

Thus, possibilities of gaming interactive services contribute to the effective assimilation of material.

Despite the obvious potential of gaming forms of learning and cognition based on digital technologies, there are some fundamental theoretical and applied practical difficulties. Theoretical problems are: the need to scientifically justify the use of digital resources in cognitive activity and in the professional training of students; the need to improve methods, organizational forms of education according to the challenges of the future; the need to change educators' preparation to form appropriate technical competencies. We underline separately difficulties of assessing the quality of digital services. Practical problems include issues of technical, methodological support; time-consuming work of mentors and an increase in the time to prepare for classes; negative attitude to replacing traditional work with texts, dictionaries with virtual communication. The didactic

problem of mastering digital technology for a teacher of humanities is complicated by the fact that the priorities of the educational system relative to the applied software are constantly changing: at first electronic educational resources, then automated testing, online courses, distance learning. Now many teachers use Web 2.0 services: Google Docs, Youtube, mindmeister.com, http://learningapps.org. However, advanced educators already start using mobile technologies (Kahoot!, Quizizz, Plickers, ZipGrade, etc.). And in the future it is possible to use neurotechnologies to improve the quality of training.

In our opinion, a teacher of humanities should use universal and multifunctional services which allow using digital services and at the same time minimize the difficulties. Let us explore the new possibilities of gaming interactive tools on the example of the resources StudyStack and Formative.

According to many teachers, when studying new words and terms in a foreign language, it is useful to study these concepts through various games. The problem is that services for creating educational games often offer to create each game separately. It takes a lot of time. The interactive gaming resource StudyStack allows to enter a set of words or terms once and train it in thirteen ways available on the site.

To create a game, a teacher needs to fill out only one table "Term-definition" and give a name to this set. Game templates are universal and suitable for teachers of any subject. Fig. 1 presents sets of terms and definitions that can be used in teaching grammar (degree of comparison) and vocabulary (transport).

Term	Definition
petrol station	a place where you can get petrol, often with a shop or cafe
rush hour	the time of day when there is a lot of traffic
car crash	when two or more cars hit each other
parking fine	money you have to pay for parking illegally
traffic jam	when there is so much traffic that cars can't move
pedestrian area	a place where you can't drive
cycle lane	a narrow part of the road for bicycles only
taxi rank	where taxis park when they are waiting for customers
car park	a place where you can leave your car
public transport	buses, trams, trains, etc.

Term	Definition
friendlier	comparative
more unfriendly	comparative
the happiest	superlative
the furthest	superlative
the best	superlative
as good as	comparative constraction
worst	superlative
latter	comparative
as imposrtant as	comparative constraction
dirtier	comparative

Fig. 1. Sets of terms and definitions

The service creates the following games:

1. Flashcards (a virtual set of cards that have a question on the one hand and an answer on the other. If you want to hear the pronunciation of words, select the button "Speak" in the upper right). Fig. 2 presents an example how to study the degrees of comparison.
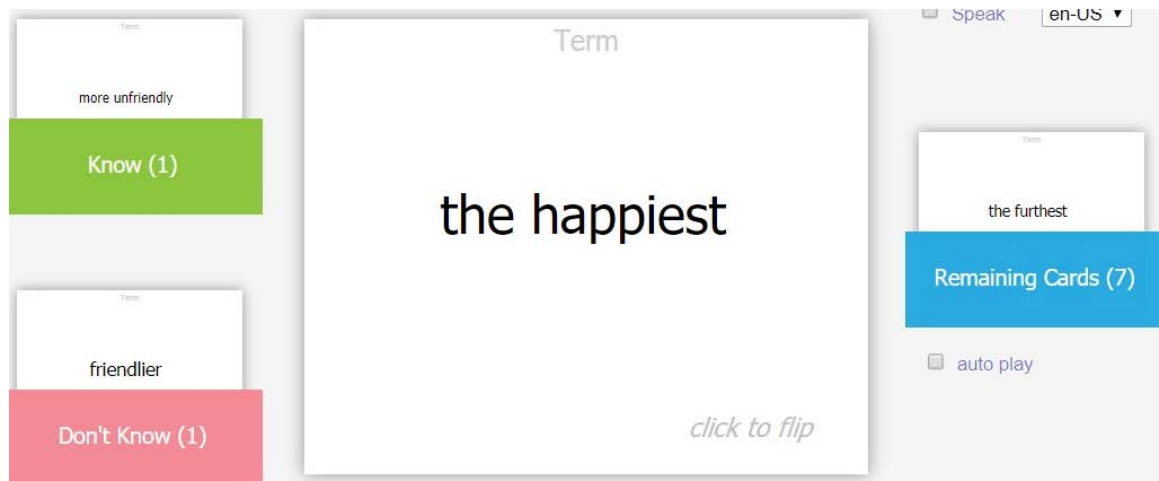

Fig. 2. Flashcards

2. Matching (the whole set of terms is displayed on the screen. The player needs to click the term and its definition). Fig. 3 illustrates the use of the tool to study the topic "Transport"

car crash	car park	rush hour	traffic jam	petrol station
cycle lane	pedestrian area	parking fine	taxi rank	
where taxis park when they are waiting for customers	a place where you can leave your car	a place where you can't drive	a narrow part of the road for bicycles only	a place where you can get petrol, often with a shop or cafe
when two or more cars hit each other	money you have to pay for parking illegally	when there is so much traffic that cars can't move	the time of day when there is a lot of traffic	

Fig. 3. Matching

2. Matching (the whole set of terms is displayed on the screen. The player needs to click the term and its definition).

3. Hangman (development of writing skills. The answer must be entered one letter at a time as in "Field of Miracles." If you enter an incorrect letter, the character of the game is in danger).

4. Crossword (a traditional crossword, answers are entered from the keyboard).

5. TypeIn (it is necessary to fill in the blanks; moreover, both terms and definitions may be omitted).

6. Quiz (a test where you need to find a description for a term and a term for a description).

7. Test (it consists of several types of tasks, such as matching and filling in gaps).

8. Study Stack (it allows to check if you remember the word. In the game, you can go through the entire list several times, throwing out the learned (Siscard) or leaving the necessary to study (Keep)).

9. Study Table (it resembles a table "Word-term", where you can close one of the columns, checking yourself).

10. Bug match (you need to answer the test question, and then catch and eat the answer that is hidden under the bug).

11. Hungry Bug (a test where there are no options a, b, c, but there is different food instead of them. The snake needs to feed food, which has the correct answer).

12. Word Scramble (you need to rearrange the letters to get the correct answer).

13. Chopped (you need to select pieces from which you can make a word).

Created games can be put on the site. The service generates an embed code. Another

didactic advantage is that students do not need to register on the site to complete the game.

All these new features become available after filling in one table.

Using the interactive gaming resource Formative, the teacher creates educational material that can contain: content (picture, text, whiteboard, video, and embedded code); task (quiz, adding a short answer, adding a complete answer, demonstrating your work, a question with choosing several correct answers, true/false).

The teacher provides ready-made educational material to students through a special link or code. There is an additional feature of the service: when students begin to complete assignments, the teacher sees the progress of each student on the screen and can provide feedback at any time. You can trace the trajectory for each student and the whole group. It allows to think future tasks and control actions.

Another new possibility of interactive gaming services is that it allows to quickly monitor the work of every student, not only within the framework of a quiz organized in the group. Formative allows students to work independently on assignments, both in the classroom and at home.

Thus, the interactive gaming resources have the following new possibilities:

– versatility and multifunctionality;
– intensification of learning through the use of digital tools and feedback: the ability to "read" the trajectory of the cognitive activity of each student (progress, successes and mistakes) and, if necessary, take immediate measures;
– the optimal combination of resource costs and planned results;
– a combination of teamwork, work in pairs and individual performance;
– taking into account the peculiarities of thinking and interests of a modern digital society (clip thinking, fragmented nature of acquired knowledge, superficiality of information perception, instability of attention processes, "intellectual surfing" instead of systemic intellectual work, delegation of solving personal problems to various "intelligent devices" (devices, gadgets and etc.).

The results of the questionnaire on the section "*Resource Costs and Versatility*" showed that most teachers gave a positive assessment regarding the development of new possibilities of gaming interactive services for teachers of the humanities. More than 90 % of respondents marked the advantages for studying grammar and vocabulary. As for application the new possibilities of gaming interactive services in professional activities, more than 80 % of respondents are already developing digital resources.

In the second section "*Emotional Attractiveness*," 100 % of teachers note that the selected interactive gaming services contribute to enhancing the benefits of working with information and communication technologies. In the course of work, students interact with each other, in the team and the digital resource. Cards for memorizing, establishing correspondences, "hungry caterpillar" involve the implementation of high-level mental operations, which contributes to the development of learning skills. More than 97 % of students also emphasize the potential of such training for the formation of teamwork skills, preparation for future research activities. And finally, more than 94 % note an increase in communicativeness, interactivity and motivation.

According to the third section "*Innovative Learning with Enhanced Knowledge*", 100 % of teachers expressed a positive attitude towards the introduction of such interactive services in the gamification of the educational process, as new tools made it possible to study new terms and grammar rules more interesting. More than 96 %

of teachers expressed confidence that the new features of gaming services allowed to take an active part in learning. And over 80 % think technology is innovative.

Thus, the values shown in the sections are absolutely positive, close to 90 % in most points. Also, an analysis of the results of the questionnaire has shown that about 80 % of teachers anticipate how to organize research activities in the future using the new possibilities of gaming interactive services.

The second direction of the experiment was implemented in the framework of the discipline "Foreign language", the direction "Tourism". The main objective of the experiment was to verify the effectiveness of learning using interactive gaming resources when teaching a foreign language to build the ability and willingness of students to communicate in the socio-academic sphere, to obtain the scientific foundations of the terminology.

48 students took part in the experiment. The experimental group was 25 students and the control group was 23 people. All students were first-year students of 19 years old. The experiment consisted in conducting laboratory exercises in a foreign language using various approaches to organizing the educational space: the control group studied the material using text files, links to Internet sources, presentations, Web 2.0 services (Google Docs, Youtube, mindmeister. com, http://learningapps.org), and classes in the experimental group took into account the new possibilities of interactive gaming resources (StudyStack, Formative).

At the preparatory stage of the experiment, we carried out a general assessment of the existing level of knowledge regarding the necessary linguistic means characteristic of oral and written speech of everyday and general cultural significance. We carried such out assessment twice: at the beginning of the course and after it.

We selected a test as an assessment tool containing a reproductive task, a task requiring the transfer of knowledge and a research task. Samples of task formulations:

1. Reproductive Assignment

Grammar: open the brackets, using the adjective in the comparative degree; open the brackets, using the adjective in superlative degree; open the brackets using the adjective in the comparative construction as ... as.

Vocabulary (assignment of a reproductive nature): match words with images.

2. Task to Transfer Meaning

Grammar: open the brackets using the adjective in the comparative or superlative degree; guess the noun and give it a definition (other students should guess it).

Vocabulary: read the dialogue, make a dialogue with a partner by analogy.

3. Research task

Grammar: find errors on the use of degrees of comparison of adjectives and comparative constructions in sentences; fill in the blanks with only one word.

Vocabulary: choose any city, describe how you can get to it from Kirov, prove the best way to travel.

The work was "excellent" if the student did all the tasks without mistakes. The mark "good" was given if the student correctly and fully did only two parts of the test, or if he completed all the tasks, but made some non-critical mistakes. If a student completed only one task out of three, or made a significant number of non-critical mistakes in each task, his work was "satisfactory". Finally, students who made a large number of critical mistakes, or failed to complete any of the proposed tasks, got "unsatisfactory".

Table 1 presents the results of the test before and after the experiment.

Table 1

Test results before the experiment

Groups	Mark				
	5	**4**	**3**	**2**	
Experimental group	0	3	14	8	25
Control group	1	2	13	7	23
	1	5	27	15	

Table 2

Test results after the experiment

Groups	Mark				
	5	4	3	2	
Experimental group	8	10	5	2	25
Control group	3	4	11	5	23
	11	14	16	7	

A quantitative analysis of the results showed that after the experiment 72 % of the students of the experimental group had a high level of knowledge of a foreign language (grades 4 and 5), while initially this percentage was 12 %. It means a qualitative improvement in the learning outcomes of students of the experimental group. At the same time, the level of knowledge in the control group also increased, but not so significantly: after the experiment, only 30.4 % of the students in the control group showed good results (compared to 13 % before the experiment), the remaining 70 % remained on average and low level.

A statistical analysis of the reliability of the results of a pedagogical experiment was evaluated based on the processing of the obtained data according to the Wilcoxon-Mann-Whitney criterion. According to this criterion, first you need to determine the degree of difference in the initial indicators (before the experiment) of the level of students' knowledge of the control and experimental groups. For this we found the empirical value of the Mann-Whitney criterion (number U) by summing the values of some members of the control group who received marks strictly greater than some students of the experimental group. For the described experiment U = 340. Using this value, we can calculate the numerical empirical value of the Wilcoxon criterion according to the formula (1):

$$W_{\text{ЭМП}} = \frac{\left| \frac{N*M}{2} - U \right|}{\sqrt{\frac{N*M*(N+M+1)}{12}}} \qquad (1)$$

Here N is the sample size of the experimental group (in our case, N = 25), M is the sample size of the control group (in our case, M = 23). Substituting all the values in the formula (1), we obtain $W_{EMP} = 1,08$.

We choose the significance level α = 0,05, then the critical value of the Wilcoxon test is 1,96 ($W_{CRIT} = 1,96.$). Since $W_{EMP} < 1,96$, we can conclude that at the significance level 0.05, there is a coincidence of the compared indicators. That

is, with a confidence of 95 %, we can conclude that the level of ability and willingness of students to communicate in the socio-academic sphere, knowledge of the terminology of the course in the control and experimental groups was the same before the experiment.

The same calculations need to be done with the data obtained after applying the methodology described above using the interactive applications (these data are presented in Table 2). In this case, the empirical value of the Mann-Whitney test is 105 (U = 105). Substituting it into formula (1), we obtain the empirical value of the Wilcoxon criterion: $W_{EMP} = 3,77$. Comparing this value with a critical value 1.96, we get $W_{EMP} > W_{CRIT}$. Therefore, with a probability of 95 %, it can be argued that the differences in the levels of formation of the foreign language communicative competence and the scientific foundations of the term system of the course between students in the control and experimental groups after the experiment are caused not by random factors, but they are of a natural nature. The reason is the use of the proposed interactive gaming resources in the experimental group.

Thus, the results of the experiment confirmed the quality of education: students of the experimental group significantly improved their knowledge of the lexical units of social and academic topics, the grammar system, the structure of the main genres of written and oral texts, the rules of speech etiquette, and information about the countries of the language.

Conclusions

The carried out theoretical analysis revealed the following facts:

1) interactive technologies make the process of teaching a foreign language more diverse and accessible, because information is perceived through various channels;

2) the formation of the foundations of the scientific terminological system and foreign language competence is an important stage when studying a foreign language;

3) interactive gaming technologies as a new tool open up wide opportunities for development of such mental functions and processes as attention, memory, will, thinking in the digital environment. As a result, additional opportunities are created for enhancing cognition, increasing interest, supporting communicative interaction and professional training.

The revealed facts were also confirmed when processing the materials obtained during the specially organized survey of teachers. The survey results proved that the majority of the respondents positively assess the impact of interactive services on organization of foreign language communication and scientific activities of students. Thus, the necessity of using interactive gaming resources in teaching a foreign language as the basis of professional training that meets the requirements of the modern digital society is substantiated.

Moreover, processing the results of the servey made it possible to prove that most educators give a positive assessment regarding development of new features of gaming interactive services for teachers of the humanities. However, problems of a practical character are also noted (resource consumption, technical difficulties, etc.).

During the pedagogical experiment, the interactive gaming services StudyStack and Formative were used. The factors determining the influence of interactive technologies on the formation of the foundations of the scientific terminological system and foreign language competence include the following:

– gaming components included in communicative situations activate cognitive activity;

– interactive forms help more accessiblly, interestingly study the basic regional geographic information, get the practice of conducting dialogue/polylogue, building monological statements;

– resources support learning path management by tracking progress, success, and mistakes;

– universality of services minimizes labor, time costs while improving the quality of educational results;

– functionality of services supports various forms of the independent scientific activity;

– using interactivity allows to take into account specifics of thinking and interests of students.

In general, the pedagogical experiment confirmed the effectiveness of interactive gaming resources to increase the level of ability and willingness of students to carry out foreign-language communication in the socio-academic sphere; to form personality qualities and skills that form the basis of foreign language competence.

Thus, the use of interactive gaming services is indeed an option to solve the problem of effective realization of the potential of digital technologies in foreign language communication and scientific activities of students.

REFERENCES

1. Arif F. K. M., Zubir N. Z., Mohamad M., Yunus M. M. Benefits and challenges of using game-based formative assessment among undergraduate students. *Humanities and Social Sciences Reviews*, 2019, vol. 7 (4), pp. 203–213. DOI: https://doi.org/10.18510/hssr.2019.7426

2. Chang Y.-H., Liu T.-Ch., Paas F. Cognitive resources allocation in computer-mediated dictionary assisted learning: From word meaning to inferential comprehension. *Computers & Education*, 2018, p. 113-129. DOI: https://doi.org/10.1016/j.compedu.2018.08.013

3. Chen J. C. The interplay of tasks, strategies and negotiations in second life. *Computer Assisted Language Learning*, 2018, vol. 31 (8), pp. 960–986. DOI: https://doi.org/10.1080/09588221.2018.1466810

4. Chen J. C., Kent S. Task engagement, learner motivation and avatar identities of struggling English language learners in the 3D virtual world. *System*, 2020, vol. 88. 102168 DOI: https://doi.org/10.1016/j.system.2019.102168

5. De Corte E. Learning design: Creating powerful learning environments for self-regulation skills. *Educational Studies Moscow*, 2019, no. 4, pp. 30–46. DOI: https://doi.org/10.17323/1814-9545-2019-4-30-46

6. Devizkaya Z. B., Ryabchikova V. G., Rubleva O. S., Zlobina I. S. The use of national corpuses of languages when studying lexicology at the university (from work experience). *Perspectives of Science and Education*, 2019, no. 5, pp. 203–214. DOI: http://dx.doi.org/10.32744/pse.2019.5.15 URL: https://www.elibrary.ru/item.asp?id=41266917

7. Elfeky A. I. M., Elbyaly M. Y. H. Developing skills of fashion design by augmented reality technology in higher education. *Interactive Learning Environments*, 2018, pp. 1–16. DOI: https://doi.org/10.1080/10494820.2018.1558259

8. Förster M., Weiser C., Maur A. How feedback provided by voluntary electronic quizzes affects learning outcomes of university students in large classes. *Computers & Education*, 2018, vol. 121, pp. 100–114. DOI: http://dx.doi.org/10.1016/j.compedu.2018.02.012

9. Gu X., Wang C., Lin. Examining scientific literacy through new media. *Eurasia Journal of Mathematics, Science and Technology Education*, 2019, vol. 15 (2), pp. em1785. DOI: https://doi.org/10.29333/ejmste/109948

10. Hamada M., Hassan M. An interactive learning environment for information and communication theory. *Eurasia Journal of Mathematics, Science and Technology Education*, 2017, vol. 13 (1), pp. 35–59. DOI: https://doi.org/10.12973/eurasia.2017.00603a

11. Hamidi H., Jahanshaheefard M. Essential factors for the application of education information system using mobile learning: A case study of students of the university of technology. *Telematics and Informatics*, 2019, vol. 38, pp. 207–224. DOI: https://doi.org/10.1016/j.tele.2018.10.002

12. Hao Y., Lee K. S. Teachers' concern about integrating Web 2.0 technologies and its relationship with teacher characteristics. *Computers in Human Behavior,* 2015, vol. 48, pp. 1–8. DOI: https://doi.org/10.1016/j.chb.2015.01.028

13. Hilliard J., Kear K., Donelan H., Heaney C. Students' experiences of anxiety in an assessed, online, collaborative project. *Computers and Education*, 2020, vol. 143. art. no. 103675. DOI: http://dx.doi.org/10.1016/j.compedu.2019.103675

14. Iaremenko N. V. Enhancing English language learners' motivation through online games. *Information Technologies and Learning Tools*, 2017, vol. 59 (3). pp. 126–133. DOI: https://doi.org/10.33407/itlt.v59i3.1606

15. Kalugina O. A., Tarasevich N. A. Smart technology integration into EFL teaching at the non-linguistic higher school. *XLinguae*, 2018, vol. 11 (1XL), pp. 8–18. DOI: https://doi.org/10.18355/XL.2018.11.01XL.02

16. Park J., Liu D., Yi M. Y., Santhanam R. GAMESIT: A gamified system for information technology training. *Computers & Education*, 2019, vol. 142. article no: 103643 DOI: https://doi.org/10.1016/j.compedu.2019.103643

17. Perig A. V. Didactic student-friendly approaches to more effective teaching of the fundamentals of scientific research in a digital era of scientometrics. *Eurasia Journal of Mathematics, Science and Technology Education*, 2018, vol. 14 (12), article no: em1632. DOI: https://doi.org/10.29333/ejmste/97188

18. Plakhova E. A., Kharapudko E. N., Nurmieva R. R. Game techniques as a method of the educational process intensification in teaching a foreign language. *Humanities and Social Sciences Reviews*, 2019, vol. 7 (6), pp. 38–44. DOI: https://doi.org/10.18510/hssr.2019.769

19. Putistina O. V. Interaction in the concept of autonomous language learning. *Journal of Siberian Federal University. Humanities & Social Sciences*, 2015, vol. 8 (9), pp. 1919–1925. DOI: https://doi.org/10.17516/1997-1370-2015-8-9-1919-1925
URL: https://www.elibrary.ru/item.asp?id=24228193

20. Robert I. V., Mukhametzyanov I. S., Arinushkina A. A., Kastornova V. A., Martirosyan L. P. Forecast of the development of education informatization. *Espacios*, 2017, vol. 38 (40). URL: https://www.elibrary.ru/item.asp?Id=35505498

21. Ryabkova V. V. Mobile devices and apps for developing language skills (on the example of the English language). *Perspectives of Science and Education*, 2019, no. 2, pp. 320–326. DOI: https://doi.org/10.32744/pse.2019.2.24 URL: https://www.elibrary.ru/item.asp?id=38169083

22. Xie K., Tosto Di G., Chen S.-B., Vongkulluksn V. W. A systematic review of design and technology components of educational digital resources. *Computers and Education*, 2018, vol. 127, pp. 90–106. DOI: https://doi.org/10.1016/j.compedu.2018.08.011

23. Danilina E. K. Control of formation of foreign language written and speech skills with the help of mobile applications: Theoretical and methodological model. *Scientific Dialogue,* 2018, no. 3, pp. 253–266. (In Russian) DOI: https://doi.org/10.24224/2227-1295-2018-3-253-266 URL: https://elibrary.ru/item.asp?id=32717170

24. Volobueva Yu. V. Use of web-service LEARNINGAPPS.ORG in organizing of non-lingvistic students' self-study in the process of learning the English language. *Bulletin of the Surgut State Pedagogical University*, 2017, no. 5, pp. 39–47. (In Russian) URL: https://elibrary.ru/item.asp?id=36709331

25. Zhigadlo V. E., Odinokaya M. A. Usage of training podcasts technology in the interactive learning process of Hindi language in technical university as the basis of upbringing process in supplementary humanitarian education. *Language and Culture*, 2017, no. 38, pp. 207–226. (In Russian)   DOI: https://doi.org/10.17223/19996195/38/14   URL: https://elibrary.ru/item.asp?id=30058826

26. Karmanova E. V., Starkov A. N., Vikulina V. V. The possibilities of applying gamification technology in the implementation of e-learning at the university. *Perspectives of Science and Education*, 2019, no. 4, pp. 462–472. (In Russian) DOI: https://doi.org/10.32744/pse.2019.4.35 URL: https://www.elibrary.ru/item.asp?id=39544382

27. Nazarenko A. L. The didactic potential of the Teletandem method of learning foreign languages for the development of communicative and cross-cultural competences. *Language and Culture*, 2018, no. 43, pp. 185–198. (In Russian) DOI: https://doi.org/10.17223/19996195/43/12 URL: https://elibrary.ru/item.asp?id=36774775

28. Podyanova T. O., Koneva E. V. Communicative competence of students in valuable and professional context. *Language and Culture,* 2017, no. 40, pp. 254–262. (In Russian) DOI: https://doi.org/10.17223/19996195/40/18 URL: https://www.elibrary.ru/item.asp?id=32664656

29. Radulovic B., Stojanovic M. Comparison of teaching instruction efficiency in physics through the invested self-perceived mental effort. *Educational Studies Moscow*, 2019, no. 3, pp. 152–175. DOI: https://doi.org/10.17323/1814-9545-2019-3-152-175   URL: https://elibrary.ru/item.asp?id=39555189

30. Rubtsova O. V. Digital media as a new means of mediation (part one). *Cultural and Historical Psychology*,   2019,   vol.   14   (3),   pp. 117–124.   (In   Russian)   DOI: https://doi.org/10.17759/chp.2019150312, URL: https://www.elibrary.ru/item.asp?id=41135721

31. Smirnova N. V., Bagramova N. V. An empirical investigation on undergraduate students' writing skills in a foreign language as a social practice within a non-linguistic university. *Novosibirsk State Pedagogical University Bulletin*, 2018, vol. 8 (6), pp. 201–215. (In Russian) DOI: http://dx.doi.org/10.15293/2226-3365.1806.13   URL: https://www.elibrary.ru/item.asp?id=36655301

32. Soboleva E. V., Karavaev N. L., Perevozchikova M. S. Improving the content of teacher training for the development and application of computer games in learning process. *Novosibirsk State Pedagogical University Bulletin*, 2017, vol. 7 (6), pp. 54–70. (In Russian). DOI: http://dx.doi.org/10.15293/2226-3365.1706.04   URL: https://www.elibrary.ru/item.asp?id=30794028

33. Chistobaeva L. V. Use of mobile multimedia devices in a foreign language classroom in a university. *Bulletin of the Maykop State Technological University*, 2015, no. 4, pp. 95–98. (In Russian) URL: https://www.elibrary.ru/item.asp?id=25500673