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Эффективные приложения для изучения иностранного языка

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Аннотация. В настоящее время стало широко применяться овладение учебными дисциплинами с помощью гаджетов. Подавляющее большинство студентов, изучающих иностранные языки, познакомились с портативной техникой еще в раннем детстве. Это означает, что частичный перенос современных аутентичных методик «с бумаги» на гаджет более чем оправдан. В дальнейшем этот процесс будет усиливаться. Многие исследователи доказали эффективность мобильных приложений. Цель статьи — рассмотреть популярные эффективные мобильные приложения для изучения английского языка; выявить показатели их эффективности, дидактические характеристики, возможности (в частности, возможность формирования учебной автономии); описать методы определения эффективности мобильных приложений как дополнительного средства, используемого для изучения иностранного языка, и выявить потребность в применении новых информационных технологий приложений. В рамках исследования мы традиционно обратились к английскому языку (рассматриваются иностранные источники); последние работы российских ученых по указанной теме представлены в списке литературы. Мы проводим нашу экспериментальную часть в рамках сравнительно сложной методики, которая предлагает написать тест и произвести проверку знаний студентов, их способности запоминать английские слова и работу оперативной памяти в двух предложенных различных ситуациях. Результаты показывают эффективное усвоение материала при использовании приложений. Приемы мнемотехники, режим повторения и ассоциаций — эффективные инструменты для изучения иностранного языка. Приложение, основанное на этой методологии, улучшит продуктивные навыки учащегося (беглая речь, письмо).

Ключевые слова: обучающие приложения; геймификация; мнемотехника; режим повторения; запоминание; оперативная память; аутентичные материалы; продуктивные аспекты

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Original article

Effective applications for learning a foreign language

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Abstract. Managing academic disciplines with the help of gadgets is quite natural nowadays. The overwhelming majority of the audience studying foreign languages got acquainted with portable technology in early childhood. This means that partial transfer of modern authentic techniques «from paper» to a gadget is more than justified. In the future this process will be strengthened. Many researchers have proved the effectiveness of mobile applications. The goal of the article is to consider popular effective mobile applications for learning English, to identify indicators of their effectiveness, their didactic characteristics, opportunities (in particular, the possibility of forming educational autonomy). We are to describe the ways of research in defining effectiveness of mobile applications as the additional means for learning a foreign language and determine the degree of need for the new IT applications. For our research we traditionally take the English language for the experience, the research is based on foreign sources; the latest studies of Russian researchers on this topic are presented in the list of references. We conduct our experiment as part of a comparative-complex methodology, which suggests writing a test and testing students' knowledge, their ability to

memorize English words and work with working memory in two suggested different situations. The results show a greater degree of assimilation when using the apps. Various types of mnemonics techniques, a repetition mode and associations are good tools for effective foreign language learning. An app based on this methodology will improve the student's productive skills — fluency and letter-writing.

Keywords: educational applications; gamification; mnemonics; repetition mode; memorizing; RAM; authentic materials; productive aspects

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1. Introduction

The role of modern mobile applications is hard to overestimate. At present, we can only expect an increase in interest in the topic and an intensification of usage. The issue will need further research primarily in the aspect of the application impact on a trainee.

It was only 5 years ago when Ramya Gangaiamaran and Madhumathi Pasupathi wrote «Review on Use of Mobile Apps for Language Learning», which inspired many to research the field. In the research they focused on apps classification for different types of learners and underlined better effectiveness of listening skills development using mobile applications [Gangaiamaran, 2017].

An important work which we have not mentioned in our previous review [Kurbakova, 2020] is «Playful learning: Tools, techniques, and tactics» by Nicola Whitton [Whitton, 2018]. The article examines the theoretical background to the field, providing the original definition of 'playful learning' naming it the 'magic circle' and presenting the idea of why play is important for learning throughout the life cycle. It highlights playful tools, tactics and techniques. The article also depicts EduScapes escape room design project and Playful Learning Conference, which renew traditional conference format with playful principles. It emerges the essential issues for the field: the shortage of researches trajectory and the language of a play.

There are plenty of publications devoted «Escape Rooms». Let us take a look at the latest one. «Escape Rooms as a Learning Strategy for Special Education Master's Degree Students» written by Ana Manzano. León José M. Rodríguez-Ferrer, José Manuel Aguilar-ParraJuan and Miguel Fernández Campoy in 2021 [León, 2021] says in detail in what way a master can be effectively prepared for his/her professional activity by solving challenges and troubleshooting within the educational activities. The authors see two essential categories: serious games and gamification and in the end advise using the full range of plays: digital game-based learning, non-

digital games, gamified learning systems, simulations and primarily escape rooms. Escape rooms as a learning strategy, causes facilitating of motivation and learning through challenges, reasoning and puzzling within time limit. The goal of the research was to determine the effects of an escape room on academic performance and school motivation, and the results show a considerable improvement in them. The authors came to the conclusion that these strategies being fun motivated students and contributed to their achievements at high school.

The article of 2021 «Philosophy for the Playful University — Towards a Theoretical Foundation for Playful Higher Education» by Rikke Toft Nørgård gives clear understanding of the academic education stage at the current moment. The author shows the grounds of readiness for playful universities and higher education «intentionally and substantially» [Nørgård, 2021] and pay thorough attention to three types of play frames: playful curiosity, creativity, and communality.

Concerning the latest research in foreign language playful applications, it is foremost «Motivation, Pleasure and a Playful Methodology in Language Learning» by Fabio Caon [Caon, 2020]. The article reveals the elements of the didactic necessity for long-lasting learning with motivation and passion. The author underlines that great motivation moves a student to the goal as a motor and gives the «recipes» to make it trouble-free working.

Next one is «Using Technology for Foreign Language Learning: The Teacher's Role» by Tünde Nagy, who mentions that technology eased the work of language teachers, but they should be modern to create interactive lessons. Besides, they are to use technology to foster language learning positively. Nowadays, this character of learning is in line with trainees' style of life, needs and wants. The author also mentions that this technology develops creative thinking and problem-solving abilities: «Web 2.0 technologies (e.g. software programs for creating quizzes and polls, language learning websites, chat programs, wikis, etc.) offer a variety of valuable re-

sources both for activities in the classroom and for practice at home» [Nagy, 2021, p. 24].

The research of Caroline Cruaud «Learner Autonomy and Playful Learning: Students' Experience of a Gamified Application for French as a Foreign Language» [Cruaud, 2020] puts at the forefront learner autonomy, she emphasizes the importance of taking charge of one's learning. Caroline underlines that gamification enhances learner autonomy in FLL classes, but the issue has not been fully investigated by now. However, it was obvious that the students took control over learning and created their own learning paths. The author comes to the conclusion that a French-as-a-foreign-language course is effective in the form of a game for Norwegian upper-secondary school students. It is essential to realize from the research conclusion that any language is appropriate for successful learning in the form of a game.

Our study investigates the extent of various mobile application effectiveness and the reasons it depends on. We take the latest foreign developments in the field to watch how they work in educational environment. The latest studies of Russian researchers on this topic are presented in the list of references.

2. Methodology and Methods

We have conducted this study in the framework of a comparatively complex method. It consisted of a few didactic tasks: testing of students' knowledge, memorizing English words and the RAM work in two different situations. For the experiment, technical vocabulary was taken, and these initial data did not change to the very end. The audience was diverse: engineering students, managers-students, advertising students (humanities) of different levels. There were two offered situations of memorization of the words: memorization from a sheet, memorization using an application. Based on a comparison of the results, conclusions were drawn on how effective/ineffective it is to use currently popular electronic applications for learning English. The methodological basis of this study was research in the field of linguodidactics: all the studies, which describes experiments with supplementary gadgets to strengthen learning motivation and investigate the possibilities of using mobile applications as a learning tool. We also relied on educational psychology research about the prevailing and successful ways of memorizing words, in particular. Most authors of the above reviews in their study concluded that language learning applications were primarily focused on learning vocabulary. We support this point and intend to take two mobile applications for conducting

a methodological experiment based on teaching English for the students of the Moscow Polytechnic University, who are mostly not humanities. The second application was to measure the level of language productive skills (in our case, formulating definitions of the words without any supporting materials and tools) before using the main application for memorizing lexical material and after the experiment.

3. Results

For our research we decided to have experiments in the groups of different levels and specializations in total number of 110 students. We took into proper consideration that our experiments are provided in the framework of traditional academic environment, i.e., in a big state technical university. In this case, it is methodologically correct to choose or create individual tasks to intensify or improve knowledge of technical vocabulary and general language. The level of gamification for the main stage may be average as maximum, not higher. Otherwise, a student has a great temptation to be easily distracted from his original goal. We selected ED Words for making up such a vocabulary, and it was the essential stage of the research that was finished with the test. We took this application due to mnemonics techniques used in it, particularly interval repetitions. Furthermore, we also used eTABU to measure students' productive skills rise before and after the main stage. The game between two groups was the basis at eTABU stage.

4.1. ED Words research routine & results

At this stage, we followed the next procedure: at the beginning of the lesson the students were given the list of 15 technical terms — 5 nouns, 5 verbs and 5 adjectives. The majority of the words covered some special technical sphere. The basic lexical material was taken from Technical English Level 2 by David Bonami. Everybody was handed out a word list on the paper. The students were given the words with the Russian translation and transcription. There were only 15 minutes to learn the words. The students were not allowed to use the words during the lesson, but at the end they were given a vocabulary test with these words. The time limit was 10 minutes and the students were to translate the words from Russian into English and vice versa.

The second lesson started from sending the link with the ED Words set created by teachers. The sets also contain 15 terms of a certain technical sphere — 5 nouns, 5 adjectives and 5 technical verbs.

The students study the list within 15 minutes, their meaning, pronunciation and image. After this activity, the students did not work with this lexical material. At the end of the second lesson the students had one more test which was similar with the first one. It is extremely essential not to use the material during the lesson, as only this term reconstructs the situation when students have to learn these technical terms outside the university. The experiment lasted withing a month with similar repetitions.

The students of A2-B1 level memorized the material by 85-100 % and this fact met our expectations. But it was curious when less prepared students who never learned this lexical material got approximately the same result of 80 % of memorizing out of 76 % of «low level» students. They had really never come across that technical terminology in English before. Besides those words were really of high complex level from orthoepy, lexical and spelling points.

Using the application, even rather poor students of technical specializations and A1 level showed up to 47 % of assimilation of technical terminology in 22 % of cases and the rest 78 % assimilated it by 36 %.

Inspiring results of tech learners enhanced the idea to have such an experiment with non-technical specialization students. We formed 2 groups — management and PR-students — 20 people in each. All the students had language basis close to A2. They passed the same 2-stage testing: paper and the application mode. The results were the following: the managers showed 72 % of technical terms assimilation and PR-students memorized about 70 % of provided material.

4.2. eTABU research routine & results

We used this application with high level of gamification to start our experiment on monitoring the level of productive skills. The students were divided into two groups to have a real competition and fun. The task was to formulate definitions for a list of technical words. The initial testing showed not very high results, with B1 students engineers and A2 PR-students at the top of the rating.

After having the full cycle of memorizing technical terms with ED Words, we were eager to measure the level of using them in spontaneous professional speech. The second test-game between two groups showed more scores and higher level of knowledge acquired, which can be used to define words. Comparing scores of pre- and after- ED Words stage, we calculated the following improvement of English speech: B1-A2 tech students by

19 % maximum, A1 tech students by 11 %, PR-students by 14 %, managers by 9 %.

We have a great intention to continue this experiment with two applications next semesters. It is essential to fix and appreciate the results of such type e-learning within longer period of time.

5. Discussion

For the start, we should determine what pragmatic results the average person expects from learning a foreign language. There are few answer options. We will take a brief look at the major ones — to understand and reproduce the speech of the target language at the level of colloquial one as minimum, to master aspects of the language for professional activity at a high level; to pass international exams in the studied language for work, including abroad or in multinational companies. In this regard, it is not surprising that the very first mobile applications for learning a foreign language overwhelmingly focused on memorizing vocabulary. This didactic option, of course, is continuing to be extremely relevant at the current moment. However, at this stage, those applications that take into consideration all the above-mentioned expectations of clients are most beneficial. Next, we will take a look how the creators of this content reach maximum coverage and meet all requirements of the customers.

The authors of a successful application cannot help considering the methodological issues of this particular educational content. To be more specific, we will try recalling some primary points. How to master vocabulary efficiently, especially higher than intermediate level? In practice, this task is not as easy as the previous levels of English might suggest. But its solution is very essential, since the acquired knowledge shows the way not only to fluency and understanding of the studied language, but also, how it has been mentioned above, to pass international exams with and obtain a certificate quoted all over the world and necessary for employment in a prestigious job.

Therefore, it makes sense to use all effective techniques for memorizing words, especially mnemonics. It is convenient when the student chooses the format that suits him. For doing this, one should use all the proposed forms one after another, it is possible by the method of continuous sampling, until the desired result is achieved. It is better to take into consideration the criteria for grouping vocabulary, not forgetting, however, that chaotic order sometimes contributes to better assimilation of the material, at least for a group of students of a certain psychophysical type. In any case, creating applications

we should remember typical difficulties of memorizing vocabulary, providing an interesting form of practicing the most difficult cases for assimilation and the degree of necessity for the practical use of this vocabulary in professional activity and everyday life.

Foreign words are memorized most easily on associations. Any associations are suitable which relevant topically and cause successful associations for memorization; and most didactically important, they are often used in modern communication, in other words, with a high frequency of use.

It is recommended to accompany the groups of studied words with comments in the form of words, expressions, sentences offering associations for memorization in the native language. The student can write down his associations, which he considers best, take the necessary notes. A variety of formats for the arrangement of the material on the page is encouraged: in the form of lists, chains, groups of words — in one of the forms suitable specifically for a particular student.

It is didactically reasonable when the application is also equipped with the following auxiliary material: the way to learn how to translate one-root words, to determine the part of speech, without looking up every time in the dictionary. The basic material on word formation must be given: the meanings of suffixes and prefixes in English, as well as the main ways of word formation of nouns, adjectives, and adverbs.

In applications with repetition mode, there is a certain repetition cycle (a significant argument in favor of choosing this application!), based on the main properties of memory: in the first days, vocabulary is better memorized within 10-30 minutes every day, perhaps, several times a day, but not less than with an hour break. Then we should increase the intervals between repetitions. First, we take a break for a day, repetition takes 20 minutes, then 3 days and repetition lasts 15 minutes, then 5 days and 10 minutes, after 2 weeks — 5 minutes, after a month — 5 minutes. The best applications in this segment Rememba and ED Words. ED Words contains 350 lexical sets with the opportunity to form individual sets according to a student's goal, follow and watch the progress. This application uses 4 types of exercises to memorize new words and the interval repetition mode. A student can learn vocabulary in games having competition with friends, getting scores and bonuses. Rememba allows enlarging the vocabulary using cards for memorizing. The added cards with words are frequently shown for a student,

but afterwards they appear in fading mode, rarer and rarer. All necessary words can be included in cards manually.

Now we name the applications with mnemonic techniques. They include good and proven Rosetta Stone (the application was created back in 1992), but has been still at the top due to associations is approximately 35 % more effective than other known methods for memorizing second language lexical material as it was proved long ago. Besides, the application contains the program for pronunciation assessment, which is important for feeling confident in using a foreign language as well.

eTABU and Free Rice show new words with synonyms or in paradigmatic chains that is relevant for «storing» words in order even in RAM. This method is the best for the particular group of students as well as other ones. The more techniques are included in the application, the better chance for a learner to find the own one.

In Free Rice, we are given 4 synonyms for a word to choose the best one for a context. This is a game that becomes more complex step by step. If we fail the step the application will give a chance to pass it again in some time, as we see, the repetition mode is also used.

eTABU is even better as productive aspects of learning a language are activated. Productive aspects, speaking and writing, give a rise to developing spontaneous speech, oral and written ones. This is one more prime methodological point to reach a goal of a student, which we have mentioned above. That is why creative tasks for a student, for example, like in eTABU — to describe a word not using its synonyms which are given in the list nearby or to describe a word when the word list is limited — is the best way to perfect the basic knowledge of the language.

And finally, VOXY is the most flexible application from the view point of a learner's needs and wants. We can set the mode according to our aims: to get ready for TOEFL, learn everyday language for travelling, an interview format etc. All the learners are supported by the native teachers in any aspect of their preparation, and this application is being frequently updated to be currently at the very edge.

The best of native and original English applications that deepen a student into a natural English-speaking environment is FluentU. This application is ideal for visuals and learners with good hearing perception. A student chooses the most appropriate non-adapted video for his goal and level and after watching it with interactive subtitles which reflect mean-

ings and pronunciation gets down to the individual tasks. The app creates a base for mastering more complex, advanced authentic resources — apps like BBC Learning English (if we speak about learning English), which offers a variety of exercises in addition to audio and video content, including grammar and vocabulary.

6. Conclusions

Studying English technical vocabulary with application *ED Words* did not cause any significant difficulties for the trainees in the procedure of probation. Moreover, the experiment unexpectedly revealed excellent results and effectiveness in the tech groups of students and especially among humanitarians of all levels. All our groups not depending on their level were roughly close to each other. It means that mastering complex technical terminology is successful at any terms while using mobile educational applications. This result drew our attention due to complexity of the idea to master upper-intermediate vocabulary. Using traditional methods, we have faced that it often becomes a true obstacle. Playful educational applications work as troubleshooting tools in the aspect. So, we should surely include such activities in educational process due to perfect didactic characteristics.

How to choose them right and most effectively?

A great plenty of books have been written that provide all useful techniques of words learning, including mnemonics. If these techniques are used in applications — they are good working tools.

Different types of words organizing are welcome — word lists, paradigmatic chains, topic vocabularies — depending on the psychophysical type of a particular learner.

Interactive prompts and comments are of good use and associations given in words, expressions, sentences even prevail. Associations are the best approach for memorizing words of a foreign language. However, all these methods did not give such high results without mobile applications.

eTABU application of such a methodology shows no stagnation in learning, but the increase in knowledge volume among different students: all the goals set by us were achieved as a result. A high result was also ensured by the fact that the presentation of the material was realized in all possible forms: pronunciation, writing, graphic representation, its translation. Such a high percentage of mastering the material, perhaps, is explained by the fact of gamification, gadgets are mostly associated with entertainment, they work at maximum efficiency, since there are no restrictions and prohibitions. Be-

sides, the application gradually improves speaking skills of a learner as well.

As it was numerously mentioned in the given examples, all applications researched can form an absolutely unique educational autonomy for each particular student or for a group.

The issue deserves further research.

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