**Developing lexical competence in high school students through the use of vocabulary learning apps**

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A Master’s Thesis

Submitted to the Department of Germanic Philology and Foreign Language Teaching Methodology

Nizhyn Mykola Gogol State University

In Partial Fulfillment of the Requirements

For the Degree of Master of Secondary Education

December 2024

Supervised by associate professor Elena Taran

**Міністерство освіти і науки України**

**Ніжинський державний університет імені Миколи Гоголя**

**Факультет філології, історії та політико-юридичних наук**

**Кафедра германської філології та методики викладання іноземних мов**

ОПП «Середня освіта. Англійська мова та зарубіжна література**»**

014.02 Середня освіта (Мова та зарубіжна література (англійська))

 **КВАЛІФІКАЦІЙНА РОБОТА**

на здобуття освітнього ступеня магістр

**«Розвиток іншомовної лексичної компетентності старшокласників засобами онлайн додатків для навчання лексики»**

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Ніжин- 2024

# **Abstract**

This study examines the impact of vocabulary learning apps on the development of high school students' lexical competence in learning English. The study's relevance is due to the growing popularity of digital technologies in education, particularly mobile applications that integrate game elements, interactive exercises and personalised learning approaches.

The purpose of the study was to assess how the use of mobile applications affects the development of high school students' lexical competence and to determine their effectiveness in memorising, understanding, and actively using new vocabulary. The study was conducted at the Nizhyn Regional Pedagogical Lyceum, Ukraine, among 15 10th-grade students.

The research methodology was based on a mixed-methods approach that combined quantitative and qualitative analysis. The practical part consisted of three stages: a preliminary survey, work with online applications (Quizlet et al.) during English lessons, and a final test. For nine weeks, students completed tasks with adaptive and interactive components promoting active vocabulary learning.

Our results demonstrated the effectiveness of using mobile applications in English language teaching, especially in developing lexical competence. The study offers several recommendations for teachers, including strategies for selecting applications, adapting them to learning objectives, and integrating them into lessons. According to the results of our research, it is recommended to use mobile apps for English learning. This will increase the effectiveness of learning and create a positive atmosphere that promotes the active involvement of students in learning a foreign language.

**Анотація**

Це дослідження вивчає інтеграцію мобільних додатків у навчання англійської мови для покращення лексичної компетентності старшокласників. Актуальність дослідницької роботи полягає в тому, що застосування додатків для вивчення словникового запасу в сучасному навчальному процесі стає дедалі популярнішим, особливо у вивченні іноземних мов. Сучасні технології забезпечують нові можливості для розвитку лексичної компетентності учнів, оскільки вони дозволяють інтегрувати ігрові елементи, інтерактивні вправи та персоналізований підхід до навчання. Проблема розвитку лексичної компетентності активно досліджується психологами, педагогами та методистами, оскільки вона є ключовим аспектом формування іншомовної комунікативної компетентності.

Серед засобів, які використовуються для розвитку лексичної компетенції, на першому місці стоять сучасні цифрові засоби навчання, зокрема додатки для вивчення слів.

Ціллю дослідження є вивчення впливу додатків для засвоєння словникового запасу на процес розвитку лексичної компетенції учнів старшої школи. Дослідження має на меті визначити ефективність різних типів додатків у підтримці запам'ятовування та активного використання нової лексики.

Дослідження проводилося у Ніжинському обласному ліцеї, Україна, з учнями 10 класу, де навчалося 15 учнів. На першому етапі дослідження було проведено діагностику початкового рівня сформованості лексичної компетенції учнів, на основі якої була сформульована гіпотеза. Було виділено різні рівні сформованості лексичної компетенції: низький, середній та високий. Зазначені критерії були використані для перевірки ефективності застосування додатків у процесі розвитку лексичної компетенції.

Для дослідження був застосований змішаний метод (mixed method), що включав як кількісний, так і якісний аналіз. Практичний етап складався з трьох частин: на першому етапі було проведено попереднє опитування учнів. На другому етапі учні використовували мобільні додатки на уроках англійської мови. Після проведених уроків учні пройшли підсумкове тестування для оцінки змін у рівні лексичної компетенції.

# Результати дослідження підтвердили, що використання додатків для вивчення словникового запасу значно підвищує рівень розвитку лексичної компетенції учнів. Додатки сприяють більш глибокому засвоєнню лексики, підвищують мотивацію учнів та роблять навчальний процес більш інтерактивним і цікавим. Вони також допомагають у формуванні критичного мислення та культурної компетентності, оскільки дозволяють учням взаємодіяти з різними аспектами соціокультурної реальності. Отримані результати можуть бути використані для подальшого вивчення і методичних рекомендацій для інших досліджень.

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# **Introduction**

The current situation worldwide has accelerated the digitalisation process in all areas of activity, including education. Computers, e-learning, and mobile devices are an integral part of the learning process. The growing interest in information technology is obvious: it includes flexible personal devices that potentially support the learning process since they have no time and space limitations, and it also facilitates wide access to a variety of digital resources and offers new opportunities for the learning environment.

Today, vocabulary learning apps for learning foreign languages ​​are gaining popularity due to their convenience, accessibility and interactive capabilities. They have great potential to increase the efficiency of learning foreign languages, offering students unique opportunities for individualisation of learning. Applications allow users to study the language conveniently, which is highly important for high school students studying according to busy schedules. Moreover, such tools provide a variety of learning methods, including gamification, adaptive tasks and interactive exercises, which contribute to a deeper immersion in the language environment and maintain a high level of motivation.

Modern applications for learning vocabulary offer a wide range of activities, from contextual memorisation of words to their use in real situations, making the learning process effective and interesting. Applications can provide instant feedback, which allows students to quickly correct errors and consolidate the correct lexical units. Unlike traditional teaching methods, which can be routine and monotonous, the use of mobile technologies makes learning foreign languages ​​an exciting and interactive activity, which has a positive impact on the level of engagement and, consequently, on students' academic performance.

The active technology development of learning applications, caused by objective processes, has led to mobile learning acquiring complex and systemic features. This learning format has already become a powerful educational component. There are approximately 1.5 billion mobile phones and smartphones worldwide, three times more than computers. A mobile device is one of the most convenient and rational ways to obtain information from various fields, including education. It is also worth noting that knowledge of English or another foreign language has significant advantages. Based on the facts stated above, it becomes obvious that improving information technology methods in teaching a foreign language is necessary. Advanced technologies in pedagogy and methodology are acquiring a new form and becoming part of the educational process. With the development of new technologies, mobile devices are receiving new technical capabilities.

Online vocabulary application learning, the scientific understanding of which began in the early 2000s, currently significantly expands the possibilities of online learning, promotes an independent and active educational process, and turns educational institutions into 24-hour barrier-free learning centres. However, the further development of the discussion around the specified format actualised the complexities of its definition, the variability of the technological base, and the multi-vector nature of the functionality, which led to the emergence of many scientific approaches. Vocabulary learning apps are software designed for smartphones, tablets, and other devices that are optimal for language learning.

Analysis of the theory and practice of teaching a foreign language to high school students shows the contradictions between the requirements for mastering lexical competence and the proficiency in vocabulary necessary for successful intercultural communication. This is because modern educational materials do not always fully ensure the high quality of the formation of lexical skills, which requires constant improvement of teaching methods. This contradiction led to the formulation of the problem: the effectiveness of using applications for learning vocabulary contributes to the effective development of lexical competence in high school students.

Our research aims to develop and implement effective methods of developing lexical competence in high school students through the use of applications for learning vocabulary. We aim to determine how interactive technologies can improve learning new words, increase students' motivation, and assess such applications' impact on the general level of students' lexical competence.

*Research questions:*

1. How does the use of online applications for learning vocabulary affect the development of lexical competence of high school students?

2. Can using applications for learning vocabulary increase students' motivation to learn English?

This study *hypothesises* that vocabulary learning apps significantly enhance lexical competence in high school students by providing an immersive, interactive environment that encourages active engagement with new words and their meanings. The rationale for this research stems from the observed need for more engaging, effective, and learner-centred approaches to vocabulary gaining, which align with modern educational paradigms and address students' diverse needs and preferences in a globalised digital age.

The empirical research was carried out in Nizhyn Regional Pedagogical Lyceum, Ukraine, in 2024. The total sample size was 15 persons. The average age is 15 years. Traditional teaching methods have mostly focused on direct learning of vocabulary and grammar through memorisation of rules and drilling exercises. However, such methods did not always effectively engage all students and did not significantly improve their vocabulary skills. The use of applications for learning vocabulary has the potential to change the approach to developing lexical competence, particularly with the help of interactive and adaptive learning tools.

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# **Literature review**

At the moment, in the foreign pedagogical literature, there are several definitions of mobile learning based on the technological features of mobile devices and the didactic opportunities provided by these technologies. According to the MoLeNet project, learning is the use of convenient portable mobile devices and wireless, always-available technologies to support, optimise, and expand the learning and teaching processes (Beatty K, 2015).

According to the definition, mobile learning is an activity carried out regularly by means of compact, portable mobile devices and technologies that allow learners to become more productive by communicating, receiving or creating information (Ovsiana, 2016). In general, most researchers (Tarnopolskyi, 2018) have come to the conclusion that the uniqueness of mobile learning compared to traditional learning methods and modern methods, such as e-learning and blended learning, is that learners are not tied to a certain time and place, but have access to the educational material always, at any convenient time. In addition, mobile applications have a number of other advantages: intensification of independent activity, individualisation of learning, increased cognitive activity and motivation of learning (Klimova, Berger, 2020).

The methodology of teaching foreign languages ​​in secondary educational institutions was developed and researched by Nikolayeva S. Yu. (2002, 2014) in the textbook «Methodology of Teaching Foreign Languages ​​in Secondary Educational Institutions», which highlights the basics of the methodology of teaching foreign languages ​​used in secondary schools. The publication, under the leadership of Nikolayeva, covers a wide range of methodological approaches, including traditional and modern methods adapted to the realities of secondary education in Ukraine. The workbook's authors pay attention to both the theoretical aspects of learning and the practical implementation of modern methods in the educational process. These sources are basic for understanding the methodology of teaching foreign languages ​​in the school environment.

Many researchers have studied the use of mobile applications and modern technologies in education. Thus, O. Rogulska (2019), in the article The Feasibility of Using Mobile Applications in the Professional Training of Future Teachers of Foreign Languages examines the possibilities of using mobile applications for the development of professional skills of future teachers. The author notes that mobile applications contribute not only to learning new vocabulary but also to the formation of methodological competence in future teachers.

Ozerny (2018) emphasises the importance of combining different learning methods, including digital technologies, to achieve the best results. The use of various approaches, in particular mobile applications, allows the integration of innovative methods into the traditional learning process.

Ovsyana (2016) examines online resources and mobile applications that can be used for independent English language learning. The author provides practical advice on choosing effective tools for learning, which is important for improving lexical competence.

Petryk (2015) examines the role of media in foreign language learning. The author notes that the integration of media tools, such as video, audio and mobile applications, contributes to increasing students' interest in learning and the development of their vocabulary and communication skills. Using Internet resources allows you to solve the issue of individualisation. The purpose of individualisation is to benefit from strengths while minimising existing insufficient skills. Optimisation of training implies saving time and creating conditions close to the language environment, which is a favourable factor for achieving the learning goal. It is also worth noting the possibility of using an individual approach to build individual routes, particularly for students with health problems. Technical devices have both advantages in terms of constant application updates and expanded capabilities and disadvantages - limited operating time since, due to the short battery life, it is not always possible to complete the task in full. Internet connectivity can be problematic in rural areas. Another disadvantage of this format of training is that, despite the relative cheapness of mobile devices, in the conditions of digital inequality for some segments of the population, they still remain inaccessible.

Tarnopolskyi, Kozhushko, and Kabanova (2018) consider the use of gamification as a tool for motivating students to learn foreign languages. The authors claim that the use of game elements allows students to be actively involved in the learning process, which contributes to more effective assimilation of new vocabulary and an increase in the overall level of language competence.

Shvachych, Tolstoy, Petrechuk, Ivashchenko, Gulyaeva, and Sobolenko (2017) in the textbook highlight the current aspects of the use of ICT in education. The authors focus on the implementation of digital technologies in the educational process, which is key to the modernisation of education, and provide practical advice for the effective use of ICT. There is a growing interest in mobile learning as part of the integration of modern technologies in teaching.

Klimova and Berger (2020) explore interactive English language mobile applications in the context of a mobile technology conference in the article «Interactive English language mobile application». The authors emphasise the importance of involving students in learning through interactive tools, which significantly increases the level of learning the material and motivation.

Kyrylova, Blynova, and Pavlenko (2023) consider the prospects of using mobile applications in media education, emphasising the importance of digital literacy and media tools for language learning in modern conditions.

So, summarising the review of literary sources, we can conclude that modern methods of teaching foreign languages ​​largely depend on the implementation of information and communication technologies, in particular mobile applications and gamification.

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# **Methodology and Procedure**

Pedagogical research is a methodologically justified process that allows studying educational phenomena under controlled conditions. In the context of developing lexical competence among high school students, this study focuses on how vocabulary learning apps can influence students' lexical competence. It involves collecting data on various educational, organisational, and socio-pedagogical factors that may affect the outcomes of integrating vocabulary apps into the learning process. This research provides valuable insights into the effectiveness of the digital tools Quizlet, Liveworksheets, and Memrise in enhancing students' lexical competence.

The research takes place with high school students, specifically over 9 weeks and aims to assess how these apps impact students' vocabulary retention and usage. The process involves integrating online apps into the curriculum to test the effectiveness of the Quizlet, Liveworksheets and Memrise apps in enhancing lexical competence.

The following methods are applied to the pedagogical research:

a) observation;

b) testing;

c) questionnaire.

Here is an outline of each method:

*Observation* is a key research method in pedagogy. In this research, observation involves tracking students' engagement with the apps and noting any improvements in their lexical competence over time. Observation helps assess the dynamics of the learning process and any changes in student performance, both during and after the intervention (Sola, 2012).

*Testing* determines the effectiveness of the vocabulary learning apps by measuring students' vocabulary knowledge, abilities, and skills before and after intervention. Standardised tests are administered to diagnose students' proficiency and track their progress over time. The results of these tests offer quantitative data that helps assess the impact of digital tools on students' lexical competence.

The research was carried out in 3 stages:

1. *Preparatory stage*. At the preparatory stage, students' lexical competence level was checked using a test (Appendix A). This stage aimed to determine the initial level of students' lexical competence and their strengths and weaknesses in vocabulary.
2. *Intervention stage.* The objective of this stage of working with online tools in the classroom was – familiarisation and direct use of online tools in practice. Using many digital resources requires registration on the platform for the teacher and the students. Therefore, before starting to work with online tools such as Quizlet, Memrise and Liveworksheets, students were sent instructions by e-mail on how to register on the platforms and use them (see Appendix B).

One of the apps is Quizlet, an interactive platform designed to enhance vocabulary acquisition through digital flashcards and gamified learning activities. The application allows teachers to create sets of terms and definitions, which students can access via various modes, including matching games, multiple-choice quizzes, and live competitive sessions. The application’s user-friendly interface makes it accessible to students with different levels of digital literacy. Moreover, instant feedback is provided by Quizlet, enabling students to track their progress, take tests both during the lesson and at home, and correct mistakes in real time. The learning process was improved by promoting active recall and self-assessment, which are critical for mastering lexical competence.

Memrise combines adaptive learning algorithms with gamification to create an engaging and efficient platform for vocabulary development. The application sets spaced repetition to optimise the retention of new words and phrases. Students are ensured not only to memorise but also to internalise vocabulary in meaningful contexts through interactive activities such as typing exercises, pronunciation practice, and mnemonic-based prompts in Memrise. A unique aspect of Memrise is its focus on real-world language usage. By offering personalised learning paths and tracking progress, Memrise caters to individual needs, ensuring sustained motivation and engagement throughout the language acquisition process.

Live Worksheets is an online platform that transforms traditional paper worksheets into interactive exercises that improve vocabulary through active participation. Teachers can create custom tasks such as fill-in-the-blank exercises, multiple-choice questions, and matching activities or use pre-designed worksheets in the app's rich library. The exercises presented on this platform are automatically graded for students' and teachers' comfort so they can receive immediate feedback and identify improvement areas. One of the standout features of Liveworksheets is the ability to integrate multimedia elements such as audio and images, supporting different learning styles and making vocabulary tasks more dynamic. The platform's accessibility to a wide range of devices ensures accessibility for classroom and homework practice, encouraging students to improve their vocabulary knowledge at their own pace.

The students were also instructed outside of class time, so before the English lesson, they used online tools. The students were already registered on the platforms and had the necessary knowledge of how to use them. Preparation for the lesson also began in advance – before the lesson, we created a module on the Quizlet website on the topic «Sport». It was assumed that the lesson using this online tool would facilitate the students' vocabulary memorisation, add variety to the lesson system, and help 10th-grade students master the lexical competence on «Sport».

At the intervention stage, the students were trained according to the plan for developing lexical competence. This plan was developed using vocabulary learning applications, which allowed for the improvement of students' competence. They could actively work with Quizlet, Liveworksheets, and Memrise and practice them during a defined period.

1. *Generalising stage*. At this stage, a psychodiagnostic study of students was again conducted with the help of a test (Appendix C). The purpose of this stage was to assess the changes in students' lexical competence after completing the teacher’s plan, to determine the effectiveness of using applications for learning vocabulary, and to draw conclusions about achieving the research goals.

*A pre-test* for determining the level of foreign language lexical competence of high school students aims to assess knowledge of English vocabulary (Appendix A). It consists of 25 questions that assess different aspects of lexical competence. The test takes 40 minutes.

The first area of the test sought to determine whether students could identify and use more complex vocabulary in various contexts and had successfully extended their vocabulary beyond simple terms. In some test questions, students had to match words with definitions, use vocabulary in context, and choose synonyms for unfamiliar terms. This task is crucial because it assesses students' ability to remember and employ new words. It evaluates the students' capacity for appropriate vocabulary use in context. Since students must show that they can recognise and use words effectively, this is a crucial part of lexical competence. There were gap-fill tasks on the test where students had to select the best word to finish sentences given the context. Students were prompted to consider meaning, connotation, and syntactical appropriateness when using words in these tasks.

The comprehension and application of collocations and phrasal verbs constituted the next component of lexical competence assessed in the test. Students had to recognise and apply common collocations and phrasal verbs to complete the test's tasks. These tasks were meant to test students' ability to recognise and interpret correct word pairings. To pass the test, pupils had to match phrasal verbs to their definitions or choose the correct word combinations to create phrases. This test section was designed to demonstrate how well students could incorporate increasingly complex vocabulary into their writing and make it seem more authentic and natural.

The third aspect covered in the test was word formation, which evaluates the student's ability to create different forms of words from a single root word. This aspect is important because it demonstrates students' understanding of morphological processes and their ability to expand their vocabulary by forming derivatives such as nouns, adjectives, verbs, and adverbs. The test included tasks where students had to form new words by adding prefixes or suffixes to given roots. For example, students were asked to make the word "creation" from the verb "create" or the adjective "creative." The testing of students' word production abilities, which are critical for acquiring a flexible and diverse vocabulary, became possible with this exercise.

The test's last aspect of assessing lexical competence aimed to assess the ability to identify and employ synonyms and antonyms. For students to accurately and precisely express themselves, they must be able to recognise words that have opposite or similar meanings. Multiple-choice questions on the test required students to select the appropriate synonym or antonym for a given word. In order to show that they understood the subtle differences in meaning, students were also asked to use these synonyms and antonyms in sentences. This section of the test was designed to assess students' ability to use synonyms and antonyms correctly to express various levels of meaning in their writing and speech and their ability to recognise them.

*Table 1:Structure of the test*

|  |  |  |
| --- | --- | --- |
| Part 1  | Using vocabulary in context (10 questions) | The students choose the correct word or phrase that best completes the sentence. |
| Part 2  | Collocations and phrasal verbs (10 questions).  | The task is to choose the correct collocational or phrasal verb to complete the sentence. |
| Part 3 | Word formation (5 questions). | Students form the correct form of the word from the given root. |
| Part 4 | Synonyms and Antonyms (5 questions).  | The task is to choose the word that most accurately conveys the meaning of the selected word in the sentence. |

Therefore, the test covers various aspects of students’ lexical competence, allowing them to determine their strengths and weaknesses in using English vocabulary.

 The following criteria were applied for assessment:

1. High level (20-25 correct answers).

The student demonstrates solid vocabulary knowledge, including complex collocations and phrasal verbs. High level of competence in word formation and understanding of synonyms/antonyms.

1. Average Level (10-19 correct answers).

The student has a solid grasp of vocabulary but may struggle with more complex aspects, such as collocations and advanced phrasal verbs.

1. Low Level(0-9 correct answers).

The student needs to gain more vocabulary knowledge, which creates difficulties in mastering the main lexical aspects of the English language.

*The questionnaire* (Appendix D) was conducted after the post-testing. This method aims to claim statistics of students’ opinions on using online apps for developing lexical competence. This method was conducted anonymously to make students feel free to express their opinions and suggestions. It includes ten questions and lasts 10 minutes. Eight questions out of 10 were designed in multiple-choice format, and the other two were designed as open questions.

At the end of the research, as a form of reflection, the students are asked to do a questionnaire, noting the advantages and disadvantages of the digital resource. In the first section of the questionnaire, we aimed to concentrate on students’ overall impressions of using Quizlet, Liveworksheets and Memrise. Students were asked to rate their experience using online apps during the learning process. Questions in this section included statements such as, *“How would you describe your experience with mobile apps in terms of ease of use and engagement?”* for which we designed responses ranging from *very positive* to *very negative*. We designed this section to capture subjective impressions of the applications’ general user experience.

The second section focused on understanding how the use of mobile apps influenced students’ motivation during the learning process. Questions included Likert-scale items such as, *“To what extent did using Quizlet and Memrise make the lessons more engaging?”* and *“How motivating were gamified elements like points, levels, and achievements?”* Some questions about the role of real-time feedback in this part, such as boosting confidence while practising vocabulary, were also included. The structure aimed to explore how features like gamification and self-paced learning affected student engagement.

The third section addressed the effectiveness of mobile apps in helping students memorise and use new vocabulary. Questions in this part included both closed-ended items (e.g., *“Did the repetition features help you learn words more effectively?”*) and Likert-scale statements (e.g., *“How useful were the contextual examples provided in the app?”*). While designing this section, we focused on identifying specific features that supported vocabulary acquisition, such as Quizlet’s "Learn" and "Match" modes or Memrise’s individualised tasks. Students were also encouraged to comment on how the adaptive features of the apps aligned with their individual learning needs.

In the final section of the questionnaire, we decided to explore students’ intentions to continue using mobile applications to learn English. There were such open-ended questions as, “In what ways do you think these apps could support your learning beyond the classroom?”. It's a great opportunity for students to express their thoughts about these tools in their own words. This part was designed to gather students' ideas and perspectives on the future use of mobile apps in the learning process from their point of view and get their feedback so people can use it in further investigations.

*Post-testing* (Appendix C), conducted after using Quizlet, Liveworksheets, and Memrise, aims to determine the level of foreign language lexical competence of students in high school. This post-test includes 25 questions and lasts 40 minutes. It makes it possible to analyse the effectiveness of learning and students' progress in learning and using new words after using Quizlet, Liveworksheets and Memrise.

*Assessing criteria*

1. Advanced level (20-25 correct answers)

 The student demonstrated excellent knowledge and skills in acquiring and using vocabulary, particularly new words and word formation. They have a high level of lexical competence after using the application.

1. Competent level (15-19 correct answers)

The student has learned vocabulary well but may struggle with more complex aspects such as word formation and phrasal verbs. In general, he has good knowledge but needs more practice.

1. Level Needs Improvement (0-14 correct answers)

 The student has gaps in vocabulary knowledge and needs more frequent use of the application to improve vocabulary competence.

Quizlet, Memrise, and Liveworksheets were widely used during the intervention stage to develop lexical competence. Here, you can see the description of using these apps in English lessons.

The students downloaded the Quizlet application to their smartphones in advance and registered there. The Quizlet application contains cards with words that students studied at home. The teacher opens the Quizlet website on the computer and starts the Quizlet Live game. The image from the computer is projected onto a projector so that all students can access the game code. The students open the Quizlet app on their smartphones and enter the game code, and the app assigns them to groups. The students form groups and take their seats.

The game's rules are explained, and each group must work together to achieve the best result. The student’s task is to answer the quiz questions faster and more correctly than the other teams; if they make one mistake, the entire team’s process is reset, and the team must start the game again. There is a small competition between the groups. The group that answers all the quiz questions faster and more correctly wins.

### For example, the exercise we conducted was focused on contextual word integration with Quizlet. This exercise was aimed to help students develop their ability to use sports-related vocabulary in context by engaging in tasks that require them to understand and apply new words in real-life situations.

Procedure: Before the lesson, the teacher creates a Quizlet set with 20 target sports-related words and phrases. Each word is paired with a definition and an example sentence demonstrating its contextual use. For instance:

* Word: *tournament*
* Definition: A series of contests or matches to determine a winner.
* Sentence: *The basketball team is preparing for a regional tournament this weekend.*

Students work individually or in pairs to complete Quizlet's "Match" activity. While doing this task, they quickly pair vocabulary words with their corresponding definitions or example sentences. The activity is timed to create a sense of urgency and competitiveness. For instance, they might match "referee" to "a person who enforces the rules in a sports game." The teacher monitors their progress, which provokes students to discuss challenging words with their pairs during this pair work.

After completing the "Match" activity, students move on to the "Test" mode. This phase presents them with a combination of question types, including multiple-choice, true/false, and fill-in-the-blank. Example question:

* Sentence: *The \_\_\_ ensured fair play during the soccer match.*
* Options: referee, captain, coach, spectator.
* Once the digital tasks are complete, students are instructed to write five original sentences using five different words from the set. These sentences must be based on personal experiences or imagined sports scenarios, such as describing a school tournament or narrating a memorable game. For example*, the referee made a fair decision during the championship that helped our team win.*

Another example of an activity used by students during our research is using Memrise to practice vocabulary in context. Memrise offers a variety of activities where students fill in the blanks within sentences using the appropriate vocabulary. The Learn mode presents the words in contextualised sentences, helping students understand how vocabulary is used in real-world contexts. Students are also exposed to authentic video clips featuring native speakers, where they can see how the vocabulary fits into natural language use. Additionally, the app tracks their progress and prompts them to review words they have struggled with through spaced repetition.

This app was chosen to concentrate the learning process on context-rich vocabulary exercises, which are essential for helping students understand the meaning of words and their application in different situations. The interactive fill-in-the-gap tasks and video clips expose students to words in real-life contexts, allowing them to see how vocabulary functions in everyday communication. Students improved their ability to use words accurately in their speech and writing, reinforcing their overall lexical competence by practising new vocabulary in context.

Live worksheets are used to create interactive exercises where students match collocations and phrasal verbs to their correct definitions or example sentences. In these exercises, students are given a list of common collocations and phrasal verbs and must drag and drop the correct term in a sentence or match it with its definition. After completing the activity, students receive immediate feedback so they can immediately identify and correct errors. Tasks may include exercises with common phrasal verbs, such as "give up" or "take over," and collocations, such as "make an effort" or "take responsibility."

Live worksheets provide an interactive platform to help students practice and internalise common collocations and phrasal verbs. Instant feedback ensures that students identify and correct errors, reinforcing correct usage. This exercise develops students' ability to correctly use vocabulary and phrasal verbs, essential for fluency in spoken and written English.

Memrise offers exercises focusing on word formation, where students are given a root word and tasked with creating its different forms. For example, from the root word "create," students might form "creation," "creative," or "creativity." The repetition feature ensures that students repeat word-building patterns, helping them to retain and use new words effectively.

This exercise helps students develop their ability to form new words from a given root. By practising various word forms, students expand their vocabulary and improve their understanding of grammatical structures. Students can interact with word formation in an enjoyable and inspiring way with Memrise's interactive approach, which strengthens their proficiency with various word forms. These abilities become simpler in everyday language use when word formation patterns are repeated in spaced repetition.

The app presents students with words with similar or opposite meanings, and students must match each word with its corresponding synonym or antonym. After completing the matching tasks, students are quizzed on these words in a Test mode, where they must choose the correct synonym or antonym in multiple-choice questions. The students also review the vocabulary in context by using example sentences provided by the app.

Quizlet’s matching games and review modes encourage students to recognise and recall synonyms and antonyms quickly. Students were taught to understand the slight differences in meaning between similar words and how to use them appropriately in various contexts using Quizlet. The active engagement and instant feedback reinforce correct word usage, aiding retention and proper application in communication.

According to the steps of our investigation, the pre-and post-tests were conducted in the classroom to check the effectiveness of using described online apps during the learning process. After analysing methodological literature, a system of criteria for defining the level of lexical competence was developed, and three levels of formation: «low», «average», and «high» were described (Table 2).

*Table 2:Levels of formation of lexical competence in high school students*

|  |  |
| --- | --- |
| Criteria  | Levels of formation of lexical competence |
|  Low  | Average | High |
| Using vocabulary in context | Students often use new words incorrectly. Students have difficulties understanding when and how to use certain vocabulary items. | Students usually use new words but may occasionally make mistakes or inconsistencies. They require additional practice to improve accuracy. | Students use new words without mistakes. They easily adapt vocabulary to different situations and topics, demonstrating a deep understanding of the meaning of words. |
| Understanding and using collocations and phrasal verbs | Students have a limited understanding of collocations and phrasal verbs. They may not use them in speech or incorrectly, affecting statements' intelligibility and accuracy. | Students understand basic collocations and phrasal verbs and use them in speech but may make mistakes in usage or have difficulties with less familiar vocabulary. | Students understand and use collocations and phrasal verbs well, including rare or complex phrases. They know how to integrate them into their statements naturally and correctly. |
| Word formation | Students have limited word formation skills. They may have difficulty forming new words or using them incorrectly. | Students can form new words using basic word formation techniques but may make mistakes or not use all opportunities to enrich vocabulary. | Students form new words using different word formation methods (suffixes, prefixes, combinations). Can use new words in context, showing creativity and accuracy. |
| Recognition and use of synonyms and antonyms | Students have a limited understanding of synonyms and antonyms and often use words with incorrect shades of meaning. They have difficulties choosing the right words to substitute or contrast. | Learners recognise and use basic synonyms and antonyms in most cases but may make mistakes or have difficulty with rare or difficult options. | Students easily recognise synonyms and antonyms and use them to express meanings accurately.  |

During this research, many activities were used in the classroom. Some of them are presented here as an example.

Activity 1. Exercise on using vocabulary in context

Topic: Sports.

Objective: To teach students how to use new vocabulary correctly in the context of sports situations.

Instructions: Students use a set of Quizlet flashcards to reinforce the words and then complete the activity in pairs.

Procedure: The teacher displays Quizlet cards with new words such as *coach, spectator, and penalty,* explains the rules for using the cards. Students individually complete the "Learn" or "Match" mode on Quizlet, associating the words with their definitions and examples.

Activity 2. Exercise on the use of collocations and phrasal verbs

Topic: Sports.

Objective: To teach learners to recognise and use collocations and phrasal verbs in a sports context.

Instructions: Learners complete interactive activities in the Liveworksheets app that focus on using sports collocations and phrasal verbs.

Procedure: The teacher explains the meaning of phrasal verbs (*give up, take part in, cheer on*) and collocations (*make an effort, score a goal*). Students complete activities on the Liveworksheets platform, such as filling in the blanks or dragging and dropping the correct phrase to the definition. Students create 3 sentences using the new collocations or phrasal verbs and discuss them in pairs.

Activity 3. Word formation exercise

Topic: Sports.

Aims: To improve skills in forming new words using prefixes and suffixes.

Instructions: Students work with activities in Memrise designed to form words from roots.

Procedure: The teacher explains the structure of the word using examples, such as *compete → competitor → competition*. Students complete tasks in Memrise, such as forming words by adding prefixes (*un- in unbeatable*) or suffixes (*-er in player*). Students create their own examples of how to use the newly formed words in context.

Activity 4. Exercise on synonyms and antonyms

Topic: Sports

Aims: To develop students' ability to find synonyms and antonyms for sports vocabulary and to use them in context.

Instructions: Students work with Quizlet cards to complete synonym and antonym-matching activities.

Procedure: The teacher shows cards with word pairs, such as victory - defeat teamwork - rivalry, and explains their meaning. Students complete the “Match” activity on Quizlet, where they match words to each other. Students write 5 sentences using both synonyms and antonyms and share them as a group.

Ethical issues were an important aspect of this study, as it concerned minor students and involved using digital technologies in the educational process.

The main ethical issues that were taken into account during the study:

* students were informed about the research before the start of the study. They have explained the purpose, methods and conditions of the study, including the use of vocabulary learning apps and how their data would be processed and stored;
* the personal data of the study participants was protected, and any information that could identify the students was anonymised. The results of the study were presented in a generalised form, without mentioning the names or personal data of the participants;
* students participated in the study voluntarily. They were allowed to withdraw at any stage without any consequences for their learning process or grades;
* individual needs of students were considered, particularly those who experienced learning difficulties or had no experience with vocabulary learning apps.

The methodology and procedure in this research were designed to identify the impact of mobile applications on high school students' development of lexical competence during the learning process by combining a mixed-method approach that included pre-and post-testing, the use of vocabulary learning applications, the administration of a structured questionnaire. Each stage of our research procedure, from the literature review to the final calculation and analysis of students' experience, was carefully tailored to align with the research objectives. Through the questionnaire, We were provided valuable insights into student attitudes, motivation, and engagement, shedding light on the pedagogical advantages of mobile learning tools. This thorough and systematic approach not only facilitated a detailed analysis of the data but also ensured the reliability and validity of the findings, laying a solid foundation for understanding the role of technology in enhancing language learning outcomes.

# **Findings**

Moving to a more innovative approach, we integrated Quizlet, Liveworksheets and Memrise to develop high school students' lexical competence in a foreign language. These apps are designed to provide an engaging and interactive learning environment, encouraging students to actively participate and expand their vocabulary through technology-enhanced platforms.

The study analysed the impact of these apps on improving students' lexical competence. While conducting the research, mobile apps were actively used to learn and practice vocabulary in English lessons. They significantly increased students’ participation and interest.

The integration of vocabulary learning applications into the educational process demonstrated a significant improvement in students' quality of vocabulary usage. During the study, learners expanded their active and passive vocabulary and used it more accurately and contextually appropriate in both written and spoken tasks. This indicates a deeper understanding of word meanings, nuances, and collocations.

The comparison of the data from pre-and post-testing according to our criteria gave the following results: the number of students who demonstrated a low level of lexical competence decreased from 5 to 3, which indicates sufficient development of basic lexical skills. The analysis of all types of tested aspects of lexical skills demonstrated positive results of teaching through the mobile apps Quizlet, Liveworksheets, and Memrise(Figure 1. The results of pre-and post-testing).

*Figure 1:The results of pre-and post-testing*



The students became more confident using new words, particularly during communicative practice. They demonstrated a deeper understanding of the context of using lexical items, choosing synonyms and antonyms, and applying word formation rules. However, the lexical competence in collocations and phrasal verbs remained at the same level.

*Figure 2:Aspects of lexical competence after pre- and post-testing*

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The quantitative and qualitative analysis of the information from the questionnaire revealed positive results.

*Figure 3: Questionnaire results*



Answering the questions about the general experience of working with and using apps during lessons, most students gave positive answers, and only 3 noted that their opinion was more negative or neutral.

Responding to the questions about comfort use and accessibility to the apps during the English learning process, the answers students expressed different opinions, though mainly they were positive. Most students noted that they liked it and thought it was comfortable.

In answer to the questions about the effectiveness of using apps in the learning process, 10th-grade students chose the option “effective” or “very effective” In particular, the students chose “positive” and “very positive” answers describing options about remembering new words and the functionality of the apps. It illustrates their positive attitude to it.

The final part of the questionnaire included open-ended questions, where students were to give personal feedback and express ideas about the advantages of using mobile apps for learning vocabulary. Most students noted the advantages of using mobile apps for learning vocabulary, such as getting their results immediately instead of waiting for days, controlling their progress and anxiety level, and possibly doing the same exercises both during the lesson and as homework.

During the intervention stage, the teacher's observation presented valuable insights into the students' engagement and participation in vocabulary learning activities. It was noted that students exhibited increased interest and enthusiasm during lessons involving mobile applications, particularly Quizlet, Memrise, and Liveworksheets. According to students' behaviour and active using new vocabulary, these tools' interactive and gamified nature appeared to capture students' attention, encouraging active participation. Students were observed to be more focused and motivated to complete vocabulary exercises, often voluntarily engaging with the apps outside of class time.

Thus, our observation and analysis of the tests prove that the students’ participation in English lessons increased significantly. It correlates with students’ questionnaire answers, which were mainly positive or very positive. Significant progress in understanding and using new words and phrases confirms the successful learning of the material, thanks to interactive applications. After training, students showed improvement not only in quantitative indicators but also in the quality of vocabulary use. The study's results showed that the use of mobile applications for learning vocabulary can significantly improve the lexical competence of students, especially those who experience difficulties in the traditional approach to learning. The applications not only contributed to better assimilation of the material but also increased interest in learning and created comfortable conditions for developing language skills.

**Discussion**

This study reveals the positive effect of using apps for learning English, such as Quizlet, Liveworksheets, and Memrise, on students' lexical competence. After using Quizlet, Memrise, and Liveworksheets, students noted the positive effect on their lexical competence. Also, during the practice stage, students demonstrated a better ability to remember and use new words during English lessons. It correlates with Lasyk's (2016) ideas about the adaptability of *Learning Apps* in language learning contexts, especially for fostering vocabulary acquisition. Similarly, the works of Feng and Youqun (2018) and Kukulska-Hulme and Viberg (2018) substantiate that mobile-assisted learning environments significantly improve student outcomes by enabling autonomous learning.

An important aspect was the growth of students' motivation for learning. Using applications contributed to creating an interactive and engaging environment where students could independently study the material. It coincides with Tarnopolskyi’s study, where he investigated the motivational aspects of using online apps in English learning. This helped reduce the fear of making mistakes and increased the desire to experiment with new lexical items. Students also more actively used applications outside the educational institution, contributing to integrating new vocabulary into everyday communication (Ovsiana, 2016).

The number of students with an average level of lexical competence decreased from 7 to 6 after using the applications. Such dynamics indicate that some students who previously demonstrated an average level of knowledge improved their language skills and moved to a higher level of vocabulary. Those with a low level of competence achieved an average level. This indicates the effectiveness of the implemented methodology, which enabled students to overcome difficulties in learning new words and more confidently use them in practice.

The decrease in the proportion of students with an average level also emphasises the importance of interactive technologies in education. Pupils previously at the average level showed limited vocabulary knowledge and could only sometimes apply it in more complex speech situations. However, using applications for learning vocabulary allowed them various opportunities to repeat and consolidate the learned material and improve their understanding of the contexts of using new words. This made it possible to form a deeper awareness of the language material, reduce the number of errors during tasks and improve the overall level of language competence (Potapenko, Tezikova, 2017).

The students generally showed a high interest in new learning methods through applications. They noted that interactive exercises helped them to better remember new vocabulary. They especially liked the gamification of the process, which included earning points, opening new levels and rewards for achievements. Thanks to this, most students became interested in working independently with vocabulary outside school lessons, positively affecting the overall result.

Despite all the positive aspects of our research, we faced some issues during the practising stage, especially considering the infrastructure damages caused by the war in Ukraine, particularly blackouts and poor internet connection. Fortunately, all these issues didn’t cause serious problems to our research process, and it was accomplished. However, after completing the questionnaire, some students mentioned that these technical issues were sometimes very irritating and made it impossible to concentrate on the learning process.

Another issue was that several students strongly associated vocabulary learning apps with computer games and other entertaining elements. This correlates with the investigation of Beatty (2015), who notes the need for educators to carefully use mobile applications.

It is necessary to emphasise the efficiency of using online tools for studying vocabulary in English lessons: they bring novelty to the usual lesson system, facilitate the study of vocabulary, can act as a means of independent preparation, can facilitate the completion of homework; motivate students to study the language, optimise time in the lesson. There are many online tools, and each teacher can choose those that correspond to the learner's needs and the goals and objectives he wants to achieve in the lesson. Online tools can be used at different stages of the formation of lexical skills, which was proved in the course of research work.

Taking into account all the findings, we set some recommendations for using materials from our investigation for further work for both students and teachers:

* Strategic App Selection,choosing applications which offer different learning activities.
* Mixed Learning Integration**,** combining apps with traditional classroom methods.
* Technical Support**,** minimising technical issues.
* Motivation Strategiesemploy gamified progress-tracking activities within apps to increase engagement and foster a supportive learning environment.
* Further Research on Long-term Impact**,** exploring the effects of mobile apps on language acquisition.

**Conclusion**

The results of this study clearly show that using online tools for learning vocabulary in English lessons is effective. Students learned the material well and became more engaged during the lessons. The vocabulary they studied and practised was actively used in their speaking, which shows real improvement in their language skills.

Mobile applications like Quizlet, Liveworksheets and Memrise proved to be excellent tools for learning vocabulary. They offer a different and better experience than traditional materials such as textbooks. These apps create a well-organized learning process where students can easily learn and review words in a logical order. This helps them remember the material better and use it more confidently.

The students noticed many benefits when we used these tools in English lessons. Students enjoyed the new way of learning and said it was exciting to try something different. They also discovered useful apps and websites that they felt could help them in the future in learning English and their careers.

The study also showed that mobile apps can make learning flexible for everyone. These tools allow teachers to focus on each student’s needs, keeping them motivated and helping them stay focused without feeling tired or bored.

The findings of this research let us conclude the following:

* Students achieved better results in their lexical competence.
* Lessons had a positive atmosphere, which made learning more enjoyable.
* Students showed more motivation in studying the subject because the tools were interactive and fun.

This study successfully achieved its goal of proving that mobile applications are an effective way to improve students’ lexical competence. These tools help students learn and motivate them to continue learning independently. Mobile apps should play an important role in modern English lessons, and further research on this topic would help improve their use for educational purposes.

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**Appendix A**

**Pre-test**

**Topic:** Travel

**Instructions:** Complete the test by answering all questions. Each block focuses on a specific aspect of lexical competence.

#### **Part 1: Vocabulary in Context**

1. The referee \_\_\_ the whistle to start the match.
a) blew
b) played
c) threw
2. The team trained hard to win the regional \_\_\_.
a) competition
b) exercise
c) goal
3. During the game, the \_\_\_ supported their favorite team by chanting songs.
a) spectators
b) opponents
c) referees
4. She was awarded a gold \_\_\_ for her outstanding performance in the race.
a) medal
b) trophy
c) ribbon
5. The basketball team practiced every day to improve their \_\_\_.
a) endurance
b) location
c) penalty
6. A \_\_\_ is responsible for leading and motivating a sports team.
a) coach
b) player
c) judge
7. After a foul, the player received a \_\_\_.
a) penalty
b) bonus
c) ticket
8. The \_\_\_ announced the names of the players in the final lineup.
a) commentator
b) captain
c) audience
9. The match ended in a \_\_\_, with neither team scoring.
a) draw
b) victory
c) defeat
10. The tournament's \_\_\_ included teams from five different countries.
a) participants
b) visitors
c) referees

#### **Part 2: Collocations and Phrasal Verbs**

1. The coach advised the players to \_\_\_ up before the match.
a) warm
b) light
c) cheer
2. Our team will \_\_\_ against the national champions tomorrow.
a) go
b) compete
c) practice
3. The footballer had to \_\_\_ out of the game due to an injury.
a) give
b) pull
c) put
4. It's essential to \_\_\_ a goal if you want to win the match.
a) score
b) break
c) hit
5. They \_\_\_ an effort to train every morning before school.
a) made
b) did
c) put
6. The fans were \_\_\_ on their team throughout the match.
a) cheering
b) throwing
c) turning
7. The team \_\_\_ to the finals after a series of tough matches.
a) advanced
b) got
c) passed
8. We decided to \_\_\_ part in the school’s basketball tournament.
a) take
b) play
c) do
9. After a long season, the team finally \_\_\_ up their practice sessions.
a) gave
b) wrapped
c) opened
10. He \_\_\_ off the match with an incredible goal.
a) kicked
b) started
c) jumped

#### **Part 3: Word Formation**

1. The \_\_\_ of the match was delayed due to heavy rain. (begin)
2. The referee’s \_\_\_ was questioned after several controversial calls. (decide)
3. Their \_\_\_ performance in the finals earned them a standing ovation. (excel)
4. The players needed a lot of \_\_\_ to complete the marathon. (endure)
5. The \_\_\_ team celebrated their victory late into the night. (win)
6. The \_\_\_ helped the athletes stay motivated during the training sessions. (coach)
7. This equipment is essential for any professional \_\_\_. (train)
8. The fans expressed their \_\_\_ about the referee's decision. (annoy)
9. She achieved her dream of becoming a professional \_\_\_. (compete)
10. The team's \_\_\_ was obvious as they worked seamlessly together. (cooperate)

#### **Part 4: Synonyms and Antonyms**

1. Select the synonym for "victory":
a) success
b) failure
c) mistake
2. Choose the antonym of "strength":
a) endurance
b) weakness
c) energy
3. What is a synonym for "opponent"?
a) rival
b) teammate
c) referee
4. Pick the antonym for "defeat":
a) competition
b) victory
c) practice
5. Find the synonym for "champion":
a) winner
b) loser
c) spectator

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# **Appendix B**

Instructions for working with online tools Quizlet, Memrise and Liveworksheets.com

*1. Quizlet*

Реєстрація

1. Перейдіть на сайт [Quizlet.com](https://quizlet.com).
2. Натисніть на кнопку «Sign Up» (Зареєструватися) у верхньому правому куті.
3. Виберіть спосіб реєстрації: через електронну пошту, Google-акаунт або Facebook.
4. Заповніть необхідні поля, якщо реєструєтеся через електронну пошту.
5. Підтвердіть свою електронну адресу, перейшовши за посиланням у листі, що надійде на вашу пошту.

Використання

1. Увійдіть у свій акаунт на Quizlet.
2. Для створення нового набору карток натисніть «Create» (Створити).
3. Введіть назву набору та додайте опис, якщо бажаєте.
4. Додайте терміни та визначення, натискаючи «Add Card» (Додати картку).
5. Коли ваш набір завершено, натисніть «Done» (Готово).
6. Для повторення матеріалу використовуйте різні ігри та тести, доступні у вашому наборі.

*2. Liveworksheets.com*

Реєстрація

1. Перейдіть на сайт [Liveworksheets.com](https://liveworksheets.com).
2. Натисніть на кнопку «Sign Up» (Зареєструватися) у верхньому правому куті.
3. Введіть свою електронну адресу та пароль або зареєструйтеся через Google-акаунт.
4. Підтвердіть свою електронну адресу, перейшовши за посиланням у листі, що надійде на вашу пошту.

Використання

1. Увійдіть у свій акаунт на Liveworksheets.
2. Для створення нового інтерактивного листа натисніть на кнопку «Create» (Створити).
3. Виберіть тип завдання (вибір відповіді, заповнення пропусків тощо) та налаштуйте його.
4. Додайте текст, зображення та елементи для взаємодії, натискаючи відповідні кнопки.
5. Коли ваше завдання завершено, збережіть його та поділіться посиланням з учнями.

**Appendix C**

**Post-test**

**Topic:** Sports

**Instructions:** Complete the test by answering all questions. Each block focuses on a specific aspect of lexical competence.

#### **Part 1: Vocabulary in Context**

1. The player celebrated after scoring a \_\_\_ in the final minute of the game.
a) goal
b) penalty
c) foul
2. The \_\_\_ ensured that all players followed the rules during the match.
a) referee
b) captain
c) coach
3. The \_\_\_ cheered loudly when their team won the championship.
a) spectators
b) players
c) commentators
4. The \_\_\_ of the tournament was delayed due to technical issues.
a) opening
b) penalty
c) strategy
5. Each athlete received a \_\_\_ for participating in the event.
a) medal
b) card
c) victory
6. The \_\_\_ made an excellent save during the penalty shootout.
a) goalkeeper
b) referee
c) captain
7. The team demonstrated great \_\_\_ by working together to overcome challenges.
a) teamwork
b) rivalry
c) endurance
8. A \_\_\_ is responsible for training athletes and helping them improve their skills.
a) coach
b) captain
c) commentator
9. The \_\_\_ was so intense that both teams played cautiously.
a) competition
b) audience
c) announcement
10. The spectators admired the \_\_\_ play of both teams during the match.
a) fair
b) heavy
c) competitive

#### **Part 2: Collocations and Phrasal Verbs**

1. The team decided to \_\_\_ a strategy before the final match.
a) come up with
b) give up
c) make out
2. After months of training, the team finally \_\_\_ first place.
a) achieved
b) let
c) held
3. The coach reminded the players to \_\_\_ up properly to avoid injuries.
a) warm
b) start
c) rise
4. The runner \_\_\_ out of energy during the last lap of the race.
a) ran
b) got
c) made
5. The team managed to \_\_\_ the lead despite the pressure.
a) hold
b) leave
c) lose
6. Fans \_\_\_ on their team as they competed in the finals.
a) cheered
b) brought
c) threw
7. The athlete \_\_\_ out of the competition due to an injury.
a) dropped
b) broke
c) pulled
8. The players \_\_\_ an effort to win the championship.
a) made
b) gave
c) took
9. The coach encouraged the team to \_\_\_ their heads high after the loss.
a) hold
b) throw
c) lift
10. They \_\_\_ part in a charity football match to support local communities.
a) took
b) put
c) played

#### **Part 3: Word Formation**

1. The referee’s \_\_\_ decision caused a lot of debate. (judge)
2. The players celebrated their \_\_\_ after winning the match. (achieve)
3. His \_\_\_ as a captain inspired the entire team. (lead)
4. The \_\_\_ of the game depends on teamwork and strategy. (success)
5. The team received a standing ovation for their \_\_\_ performance. (impress)
6. The \_\_\_ of the athlete was tested during the marathon. (strong)
7. She hopes to build a career as a professional \_\_\_. (train)
8. The team's \_\_\_ was evident in how well they coordinated their movements. (unite)
9. His \_\_\_ in the sport has grown after years of hard work. (involve)
10. The fans waited eagerly for the team's \_\_\_ onto the field. (appear)

#### **Part 4: Synonyms and Antonyms**

1. Select the synonym for "achievement":
a) success
b) failure
c) challenge
2. Choose the antonym of "victory":
a) defeat
b) success
c) triumph
3. What is a synonym for "opponent"?
a) rival
b) partner
c) referee
4. Pick the antonym for "strength":
a) endurance
b) weakness
c) ability
5. Find the synonym for "championship":
a) tournament
b) coach
c) strategy

**Appendix D**

**Опитувальник**

**Мета:** Оцінити ставлення студентів до використання таких онлайн додатків фтв Quizlet, Memrise i Liveworksheets для розвитку лексичної компетенції.

**Інструкція:** Відповідайте на запитання, вибираючи один із запропонованих варіантів або даючи розгорнуту відповідь.

1. Загальні враження

1. Як би ви оцінили ваш загальний досвід роботи з додатками?
	* Дуже позитивний
	* Позитивний
	* Нейтральний
	* Негативний
	* Дуже негативний
2. Чи було вам цікаво використовувати додатки під час уроків?
	* Так
	* Трішки
	* Іноді
	* Частково
	* Ні

2. Зручність і доступність

1. Наскільки зручним для вас був інтерфейс?
	* Дуже зручний
	* Зручний
	* Середній
	* Незручний
	* Дуже незручний
2. Чи мали ви доступ до всіх додатків на всіх необхідних пристроях (смартфон, планшет, комп’ютер)?
	* Так
	* Трішки
	* Іноді
	* Частково
	* Ні

3. Ефективність

1. Як часто вони допомагали вам запам’ятовувати нові слова?
	* Завжди
	* Часто
	* Інколи
	* Рідко
	* Ніколи
2. Які функції виявилися для вас найкориснішими? (можна обрати декілька)
	* Флеш-картки
	* Тести
	* Ігри (Match, Gravity)
	* Адаптивне навчання (Learn)

4. Мотивація та залученість

1. Чи підвищили вони вашу мотивацію до вивчення нових слів?
	* Так
	* Трішки
	* Не впевнений
	* Частково
	* Ні
2. Як би ви порівняли навчання з додатками із повсякденним навчанням?
	* Набагато краще
	* Трохи краще
	* Не впевнений
	* На тому ж рівні
	* Гірше

5. Рекомендації та побажання

1. Що б ви хотіли покращити у використанні додатків для навчання?
*(відкрите питання)*
2. Чи рекомендували б ви використання в інших класах? Чому?
*(відкрите питання)*

**Appendix E**

**List of activities**

### **Activity 5. Synonym Matching Game**

**Topic:** Sport

**Objective**: Help students expand their vocabulary by matching synonyms related to sports.

**Instructions**: Use Quizlet’s "Match" game to pair synonyms in the sports context.

**Procedure**: The teacher creates a Quizlet set with sports-related words and their synonyms (e.g., victory – triumph, competition – tournament, teamwork – collaboration). Students use the "Match" feature in Quizlet to pair words with their synonyms under a time limit. Students write 3 sentences using pairs of synonyms correctly.

**Activity 6. Gap-Fill Sentences**

**Topic**: sport

**Objective**: Teach students to use sports-related vocabulary correctly in sentences.

**Instructions**: Complete sentences by dragging the correct word into the blanks.

**Procedure**: The teacher explains words such as tournament, endurance, rivalry, referee, and score. Students complete a Liveworksheets exercise with gap-fill sentences: “The \_\_\_\_\_ ensures fair play in the game.” (referee). “Good \_\_\_\_\_ is essential to win team sports.” (teamwork). The worksheet is graded automatically, and students receive immediate feedback.

**Activity 7. Sentence Completion and Speaking**

**Topic**: sport

**Objective**: Encourage students to practice forming and using new words related to sports in spoken scenarios.

**Instructions**: Use Memrise for word-building practice and role-play sports scenarios.

**Procedure**: Students complete Memrise activities where they create new words from roots (e.g., compete → competition, achieve → achievement). In pairs, students role-play a sports interview using the words from Memrise. Example: One student is a coach, and the other is a journalist. Selected pairs present their interviews with feedback on vocabulary usage.

**Activity 8. Vocabulary Race**

**Topic**: sport

**Objective**: Develop quick recall of sports-related terms.

**Instructions**: Use Quizlet’s "Live" feature to create a competitive team activity.

**Procedure**: The teacher prepares a Quizlet set with definitions and terms (e.g., penalty, spectator, endurance). Students are divided into teams and compete in Quizlet Live to match terms with definitions quickly. The teacher reviews challenging terms and uses them in sample sentences.

**Activity 9. Collocations in Action**

**Topic**: sport

**Objective**: Teach students common sports collocations and how to use them.

**Instructions**: Match collocations and complete sentences using Liveworksheets.

**Procedure**: The teacher introduces collocations, such as making an effort, scoring a goal, break a record. Students drag and drop collocations into blanks or match them with definitions on Liveworksheets. (Example: “The player \_\_\_\_\_ a goal in the last minute.” (scored)). Students write their sentences using two collocations from the activity.

**Activity 10. Vocabulary Storytelling**

**Topic**: sport

**Objective**: Use learned vocabulary to create and tell a story about a sports event.

**Instructions**: Use Memrise to review vocabulary, then create a short narrative.

**Procedure**: Students complete a Memrise course focused on sports vocabulary (e.g., teamwork, rival, champion, penalty). Students write a 100-word story about a fictional sports event, using at least 8 words from Memrise. Students read their stories aloud, and peers guess the sport or situation described.