The OSCAR PUBLISHING Services
American Journal of Philological Sciences

VOLUME Vol.05 Issue10 2025
PAGE NO. 192-200
DOI 10.37547/ajps/Volume05Issue10-51

Enhancing the Model for Developing Students' English Lexical Competence in a Digital Learning Environment through Linguodidactic Technologies

Madmusayev Jaxongir Muxtorali o'g'li
Namangan State Institute of Foreign Languages, Uzbekistan

Received: 26 August 2025; **Accepted:** 20 September 2025; **Published:** 31 October 2025

Abstract: This article explores the scientific and methodological foundations of a model aimed at developing students' English lexical competence in the context of a digital learning environment, based on linguodidactic technologies. The study focuses on optimizing the process of lexical competence formation through an improved version of the Presentation–Practice–Production (PPP) model adapted to digital learning conditions, integrating key linguodidactic principles such as systematization, contextualization, interactivity, and visualization. The research employed a mixed-method design combining both qualitative and quantitative approaches. During the experimental stage, 72 undergraduate students majoring in Primary Education participated in a three-phase model—presentation, practice, and production/use. The learning process was implemented using digital platforms such as Quizlet, Kahoot, Moodle, Google Classroom, Genially, and webquest.

Keywords: Digital learning environment, linguodidactic technologies, lexical competence, English language, PPP model (Presentation–Practice–Production), project-based learning, webquest, real-life tasks, adaptive learning.

Introduction: In the current era of globalization, one of the primary objectives of higher education is to prepare students to use foreign languages, particularly English, effectively in their professional activities. The rapid advancement of digital learning environments has created new methodological opportunities for teaching foreign languages, including English. In this context, developing students' lexical competence through the integration of modern digital technologies has become a highly relevant scientific and pedagogical issue.

The digital learning environment enhances students' opportunities for autonomous learning, interactive knowledge acquisition, and the practical application of language in communicative situations. Effective use of these opportunities supports systematic and meaningful vocabulary acquisition, thereby contributing to students' overall communicative competence.

Consequently, there is a growing need to design an improved model for developing English lexical competence that fully leverages the potential of the digital environment and integrates linguodidactic technologies. The proposed model is structured around three stages—Presentation, Practice, and Production/Use—and is enriched through the application of project-based learning (PBL), webquest activities, real-life tasks, role-play, and drill techniques. Such an integrative approach not only facilitates vocabulary acquisition but also enables students to apply lexical knowledge in authentic communicative contexts, aligning with contemporary educational standards and pedagogical trends.

Research Methods

The study adopted a mixed-method research design, integrating both qualitative and quantitative approaches to ensure comprehensive analysis. The main purpose of the research was to design, implement, and empirically validate a three-phase linguodidactic model (Presentation–Practice–Production/Use) for enhancing English lexical competence in digital learning settings.

The participants were 72 undergraduate students from

the Primary Education Department at Namangan State University (2nd and 3rd-year students). All participants had an intermediate level of English proficiency (B1–B2 according to CEFR). They were selected through a purposive sampling method to ensure homogeneity in language background and learning motivation.

Participants were divided into two groups:

- Experimental group (n = 36): received instruction based on the newly developed three-stage model in a digital learning environment.
- Control group (n = 36): continued with conventional, non-digital teaching methods.

The research procedure consisted of three main stages:

1. Diagnostic Stage (T_o)

At the initial stage, the baseline level of students' lexical competence was assessed through semantic, formal, and functional diagnostic tests, as well as surveys and semi-structured interviews. These tools helped determine participants' vocabulary range, lexical accuracy, and ability to use words contextually.

2. Experimental Stage (T_1–T_2)

During the intervention stage, the experimental group was taught using the Presentation–Practice–Production/Use model within a digital learning framework.

- Presentation phase: multimodal vocabulary presentations were developed using Quizlet, Genially, and Canva, integrating textual, visual, and audio elements to enhance lexical input and retention.
- Practice phase: interactive drill activities and formative assessments were conducted via Kahoot, Wordwall, and learningapps, reinforcing lexical recognition, collocation patterns, and contextual usage.
- Production/Use phase: students engaged in project-based learning (PBL), webquest assignments, real-life communicative tasks, and role-play scenarios, which allowed them to apply newly learned vocabulary in authentic, meaning-focused contexts.

Throughout this phase, linguodidactic principles—systematic organization, contextual learning, interactivity, and visualization—were embedded to promote both linguistic accuracy and communicative fluency.

3. Evaluation and Control Stage (T_3)

At the final stage, post-intervention data were collected to measure the developmental dynamics of students' lexical competence. Post-tests were administered to both groups, and statistical analyses were conducted to compare their performance. Quantitative results were complemented by qualitative reflections obtained through follow-up interviews, allowing for a comprehensive assessment of the model's pedagogical effectiveness.

Results and Discussion

In contemporary linguodidactics, the three-stage Presentation–Practice–Production/Use (PPP/U) model is widely recognized as an effective framework for organizing the process of teaching foreign languages, particularly for developing lexical competence. This model synthesizes the core methodological and pedagogical principles of language instruction and enables learners to acquire lexical items in a gradual and systematic manner.

Table 1

Linguodidactic Characteristics of the Three-Stage Model (Presentation–Practice–Production/Use) for Developing Lexical Competence

Stage	Goals and Objectives	Linguodidactic Features	Modes of Implementation in the Digital Learning Environment
Presentation	To introduce new lexical items and ensure initial comprehension	– Present new vocabulary clearly and contextually; – Enrich lexical perception through visual and auditory input.	– Multimodal presentations; – Use of video/audio materials; – Interactive digital flashcards.
Practice	To reinforce and deepen the understanding of newly introduced lexical units	– Develop automatization of lexical use; – Prepare learners for active communication.	– Electronic drill exercises; – Online quizzes and tests; – Interactive tasks on platforms such as *Quizlet* and *Kahoot*.
Production/Use	To ensure independent and	– Employ vocabulary in	– Project-based learning;

Stage	Goals and Objectives	Linguodidactic Features	Modes of Implementation in the Digital Learning Environment
	communicative application of lexical items in real-life contexts	authentic and simulated communication settings; – Foster fluency and spontaneous speech.	– Role-plays and simulations; – Real-life communicative tasks and interactive activities.

The Presentation stage involves the initial exposure of learners to new lexical material. Its linguodidactic essence lies in providing clear, comprehensible, and multimodally enriched input that facilitates accurate perception and semantic retention. In the digital environment, this stage benefits from multimodal resources (e.g., visuals, animations, and audio elements), which enhance learners' comprehension and engagement during vocabulary introduction.

The Practice stage focuses on consolidating the newly introduced lexical units. It provides opportunities for students to actively manipulate and internalize vocabulary through structured and interactive activities. Linguodidactically, this stage transitions learners from passive recognition to active use. In digital contexts, interactive exercises (drills, electronic quizzes, gamified tests) foster retention through engagement and repetition, ensuring long-term lexical mastery.

The Production/Use stage emphasizes the learners' ability to apply acquired vocabulary in communicative contexts. Pedagogically, it ensures that students use vocabulary items autonomously and appropriately in both real and simulated communicative situations, which consolidates active lexical competence. Within the digital learning environment, this stage is implemented through project-based tasks, role-plays, webquests, and real-life simulations, enabling learners to transform vocabulary knowledge into practical communicative performance.

Overall, the proposed three-stage (PPP/U) model provides a scientifically grounded and systematic framework for developing English lexical competence. Implementing this model in a digital learning environment promotes deeper lexical acquisition, enhances learner engagement, and significantly contributes to the overall quality of language education.

The integration of this model into digital pedagogy also demonstrates unique pedagogical and technological characteristics. It not only improves learning efficiency but also expands learners' opportunities for independent, conscious, and adaptive lexical development.

Table 2

Pedagogical and Technological Characteristics of Implementing the Lexical Competence Development Model in a Digital Learning Environment

Type of Characteristics	Content and Significance	Means and Methods of Implementation
Pedagogical Characteristics	Ensuring individualization and learner-centered approaches in the educational process	– Individualized assignments; – Differentiated exercises.
	Enhancing interactivity and communicativeness	– Communicative and collaborative tasks; – Interactive exercises.
	Stimulating reflective and autonomous learning activities	– Electronic reflective journals; – Self-assessment tools and digital portfolios.
Technological Characteristics	Deep cognitive processing through multimodal resources	– Use of audio-video materials, animations, and infographics.
	Systematic learning management through digital platform integration	– Use of LMS such as *Moodle*, *Google Classroom*, *Edmodo*; – Online assignments and assessments.
	Adaptive instruction enabling personalized learning	– Adaptive exercises based on learner

Type of Characteristics	Content and Significance	Means and Methods of Implementation
	trajectories	performance; – Personalized learning pathways.
	Real-time monitoring and assessment opportunities	– Electronic evaluation and tracking systems; – Online testing and instant feedback tools.

From a pedagogical perspective, the three-stage model implemented in the digital environment embodies several key features:

- Individualization of learning: Digital technologies enable the design of assignments and tasks tailored to each learner's proficiency level, cognitive style, and learning needs. This personalized approach enhances the effectiveness and reliability of lexical acquisition.
- Increased interactivity and engagement: Through communicative online activities and collaborative digital tools, learners experience a dynamic and motivating learning process that fosters both cognitive and affective involvement.
- Reflection and autonomy: The integration of electronic reflection logs and self-assessment systems encourages learners to monitor their own progress and engage in metacognitive regulation of learning.
- Adaptive learning and feedback: The use of digital analytics and real-time evaluation tools supports continuous improvement and ensures learner-centered educational outcomes.

In sum, the digital adaptation of the PPP/U model for lexical competence development represents an innovative linguodidactic solution that merges pedagogical precision with technological advancement, fostering sustainable and contextually relevant foreign language learning outcomes.

Pedagogical and Technological Perspectives of the Three-Stage Model in the Digital Learning Environment

Enhancing Interactivity and Communicativeness

Interactive tasks and communicative exercises organized through electronic learning platforms ensure the active participation of students, encouraging them to use lexical items in authentic communicative situations. This approach stimulates learners' engagement, reinforces vocabulary through real usage, and contributes to the development of communicative competence.

Fostering Reflective and Independent Learning

The digital learning environment offers extensive opportunities for learners to engage in self-directed and reflective learning activities. Through digital control tools and feedback systems, students continuously monitor their own progress and conduct reflective analysis of their lexical development. This reflective practice enhances their deep understanding of vocabulary items, contributing to more conscious and autonomous lexical acquisition.

Technological Foundations of Implementing the Three-Stage Model

From a technological standpoint, the implementation of the three-stage model in the digital learning environment relies on several core capabilities and innovations:

Use of Multimodal Tools

Presenting lexical units through audio, video, graphic, and animated materials allows learners to perceive language input in a multidimensional and cognitively enriched manner. Multimodality deepens comprehension, supports multiple learning styles, and enhances both semantic retention and motivation.

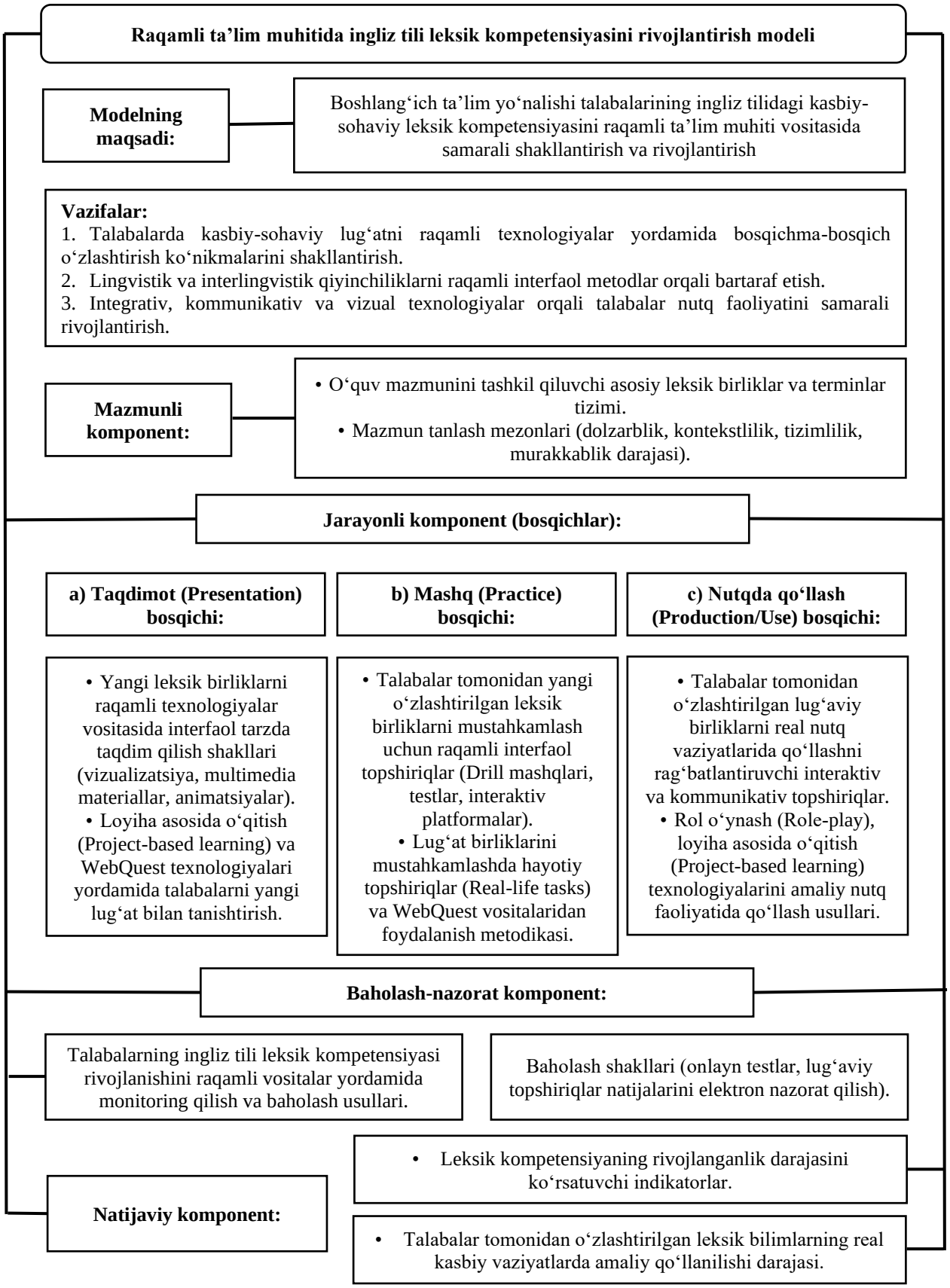
Integration of Digital Learning Platforms

Learning Management Systems (LMS) such as Moodle, Google Classroom, and Edmodo enable a systematic organization and management of the learning process. These platforms support the use of interactive tests, vocabulary tasks, and automated assessment tools, which help reinforce lexical knowledge efficiently and consistently.

Adaptive Learning Opportunities

Digital technologies allow for adaptive modification of learning content based on individual learners' performance. Consequently, each student receives exercises and assignments corresponding to their learning pace and proficiency level, ensuring a progressive development of lexical competence. This adaptivity personalizes the learning trajectory and maximizes pedagogical impact.

Figure 1. Structural Model for Developing English Lexical Competence in a Digital Learning Environment



Real-Time Monitoring and Assessment

Digital learning platforms also provide opportunities for continuous monitoring, analysis, and evaluation of students' lexical progress in real time. These tools enable instructors to effectively track performance dynamics and make timely pedagogical adjustments to enhance the learning process. As a result, both

teaching efficiency and learner autonomy are significantly improved.

Interpretation and Pedagogical Implications

Thus, the three-stage model for developing lexical competence in a digital learning environment ensures an optimal integration of pedagogical and technological opportunities. This integration enables students to acquire professional and domain-specific English vocabulary in an effective, systematic, and practice-oriented manner.

The goal-oriented component of the model is aimed at systematically forming and developing professional lexical competence in English among students majoring in Primary Education through the use of digital learning tools. Within this component, specific pedagogical objectives are defined, including:

- Developing a deep understanding of English lexical units,
- Enabling their efficient application in communicative and professional contexts,
- And enhancing the precision and fluency of professional speech.

The expected learning outcomes of this component include:

- Students' ability to actively use professional English vocabulary in oral and written communication;
- Expansion of their lexical repertoire;
- And improved mastery of terminology in practical and professional contexts.

The Content Component

The content component encompasses the core lexical system that ensures effective acquisition of professional and field-specific English vocabulary. This system is designed based on the principles of pedagogical relevance, contextualization, systematic progression, and gradual increase in lexical complexity.

The selection and sequencing of lexical material follow linguodidactic criteria such as:

- Communicative value and frequency of use,
- Contextual appropriateness,
- Functional-semantic grouping,
- And progressive difficulty aligned with learners' developmental stages.

This ensures that the lexical competence formed through the digital learning model is sustainable, applicable, and professionally relevant.

Summary of Key Insights

The digital implementation of the Presentation–Practice–Production/Use (PPP/U) model provides a scientifically grounded and pedagogically adaptive framework for developing students' lexical competence. Through multimodality, interactivity, adaptivity, and reflective assessment, it bridges linguistic knowledge and communicative practice — thereby promoting deep, autonomous, and contextually functional language learning.

Model Components

Based on this component, the essential terminology and lexical units necessary for the field of primary education are identified and systematically mastered by students within the digital environment.

1. Procedural Component (Stages)

A) Presentation Stage.

At this stage, new lexical items are introduced through digital technologies using multimodal means such as visual materials, multimedia presentations, and animations. Simultaneously, Project-Based Learning (PBL) and webquest technologies are employed to facilitate interactive exposure to new vocabulary. This approach enhances visual perception, contextual understanding, and learner engagement.

B) Practice Stage.

This phase focuses on deepening and consolidating students' understanding of newly introduced lexical units. Interactive and digital exercises (drill practices, online tests, and platform-based activities) are used. Moreover, real-life tasks and webquest projects enable students to apply vocabulary in authentic communicative situations, thereby reinforcing practical language competence.

C) Production/Use Stage.

In this final stage, learners actively use the acquired lexical items in real or simulated communicative contexts. The focus is on task-based application through role-play activities and project-based learning. These techniques foster communicative fluency, contextual adaptability, and integration of professional vocabulary into spontaneous speech.

2. Assessment and Evaluation Component

This component ensures continuous monitoring and assessment of students' lexical competence through digital tools. Online platforms such as Moodle and Google Forms are employed for administering online tests, collecting lexical task results, and providing instant feedback. Reflective self-assessment tools help students evaluate their learning progress, promoting metacognitive awareness and autonomous learning.

3. Outcome Component

The result-oriented component defines key indicators for evaluating the level of English lexical competence

formation. These include:

- Active and effective use of lexical units in professional contexts;
- Expansion of students' lexical repertoire;
- Increased precision and efficiency in professional communication.

The integration of these components ensures the full implementation of the digital model for developing English lexical competence, thereby enhancing students' ability to master and apply professional vocabulary effectively.

Significance of Project-Based Learning (PBL)

Among contemporary linguodidactic technologies, Project-Based Learning (PBL) holds particular importance. This approach not only deepens students' linguistic knowledge but also strengthens their communicative and practical skills. Within the framework of lexical competence development, PBL serves as both a pedagogical and methodological instrument of high efficiency.

PBL allows students to apply English lexical units in authentic contexts — real-life and professional situations. During project tasks, learners acquire and utilize terminological vocabulary, which contributes to contextual understanding and the practical application of language. Consequently, students develop broader lexical repertoires, contextual awareness, and the ability to employ professional terminology effectively.

Table 3. Methodological Potential of Linguodidactic Technologies in Developing English Lexical Competence

№	Linguodidactic Technology	Methodological Potential and Effectiveness	Application in the Digital Learning Environment
1	Project-Based Learning (PBL)	– Enhances independent research and practical skills; – Facilitates contextual and applied vocabulary acquisition; – Fosters communicative skills through integrative and cooperative activities.	– Organizing projects on digital platforms; – Using multimedia presentations and interactive assignments; – Electronic reflective reports.
2	Webquest Technology	– Develops independent information search skills; – Stimulates creative and critical thinking; – Encourages conscious and deep vocabulary learning.	– Creating webquest tasks on digital platforms; – Conducting research using online resources; – Maintaining electronic reflective journals.
3	Real-Life Tasks	– Promotes vocabulary use in authentic, practical contexts; – Increases motivation and pragmatic relevance of learning; – Expands active vocabulary in speech.	– Designing virtual simulations and interactive situational tasks; – Organizing multimedia-based real-life exercises; – Completing video/audio-based assignments.
4	Role-Play	– Enables fluent and confident use of vocabulary; – Enhances speech fluency and communicative confidence; – Eliminates psychological barriers in communication.	– Conducting role-plays through online platforms; – Using videoconferencing tools for virtual role-plays; – Evaluating outcomes through electronic reflective reports.
5	Drill Technologies	– Reinforces vocabulary retention through repetition; – Ensures error-free use of lexical units; – Provides immediate feedback and monitoring.	– Utilizing flashcards (Quizlet, Anki); – Implementing interactive tests (Kahoot, Socrative); – Applying audiovisual and multimodal exercises.

Pedagogical and Methodological Impact of PBL on Lexical Development

The impact of project-based learning on English lexical competence can be summarized through the following

aspects:

1. Development of Independent Learning Skills.

Through project completion, students independently explore and apply professional vocabulary, fostering autonomy and reflective learning habits.

2. Integration and Cooperative Learning.

PBL promotes teamwork, where learners engage collaboratively in communicative situations using domain-specific vocabulary, enhancing contextual and interactive learning efficiency.

3. Contextual and Practical Acquisition.

Vocabulary learning is linked to real-life and professional contexts, transforming passive learning into active linguistic application through task performance.

4. Enhanced Motivation and Engagement.

Meaningful and interest-driven project tasks motivate students to engage deeply with language learning, fostering a supportive psychological and pedagogical environment for effective acquisition.

Conclusion

The conducted research demonstrates that the development of English lexical competence within a digital educational environment is significantly enhanced through linguodidactic technologies. The proposed three-stage model — Presentation, Practice, and Production/Use — effectively facilitates vocabulary acquisition, practical application, and independent communicative performance.

Implementation of the linguodidactic process via digital platforms (Moodle, Google Classroom, Quizlet, Kahoot, webquest, etc.) Yielded the following results:

- Students acquired professional English vocabulary consciously and contextually;
- Digital tools fostered autonomy, reflection, and self-assessment;
- Interactive activities (role-play, real-life tasks, project-based learning) improved contextual vocabulary application;
- Technological advances such as multimodality, personalization, and adaptive learning significantly enhanced instructional quality.

Thus, the developed linguodidactic model and its technological foundation serve as an effective conceptual framework for modernizing English language teaching methodology in the digital era — promoting autonomous learning, professional readiness, and communicative competence.

References

1. Вятютнев, М. Н. Коммуникативная направленность обучения русскому языку в зарубежных школах // Русский язык за рубежом. – 1997. – № 6. – С. 38–45.
2. Ганиева, Р. Р. Роль лексики для овладения иностранным языком // Молодой ученый. – 2016. – № 10-2. – С. 8–10.
3. Демченкова С. А. Основные подходы к трактовке понятий «компетенция» и «компетентность» за рубежом и их содержательное наполнение //Вестник Томского государственного педагогического университета. – 2011. – №. 13. – С. 243-246.
4. Евдокимова Н. В. Проблемы многоязычия в преподавании иностранных языков //Преподаватель высшей школы в XXI веке: материалы международной научно-практической интернет-конференции. Ростов-н/Д.: Рост. Гос. Ун-т путей сообщения. – 2010. – С. 72-79.
5. Зайцева, С. Е. Методика обучения лексике // Известия Южного федерального университета. – 2011. – № 3. – С. 86–90. (Национальный исследовательский технологический университет «мисис»).
6. Зернецкая А. А. Структура понятия «коммуникативная компетенция» //Русский язык за рубежом. – 2005. – Т. 1. – №. 2. – С. 48-51.
7. Иванова О. В., Ахметшина Ю. И. Использование интерактивных средств обучения в процессе развития языковой компетенции на уроке английского языка в школе //Филологические науки. Вопросы теории и практики. – 2017. – №. 8-1 (74). – С. 178-181.
8. Исаева, Т. Е. Использование информационно-коммуникационных технологий в процессе обучения иностранным языкам в вузе: методологический аспект // Общество: социология, психология, педагогика. – 2020. – № 3. – С. 111–117.
9. Каплун Р. Н., Прокофьева О. Н. Формирование лексической компетенции курсантов на занятиях по иностранному языку в военном вузе //Современные проблемы науки и образования. – 2019. – №. 4. – С. 72-72.
10. Касаткина Н. Н., Личак Н. А. Использование ИКТ в преподавании иностранного языка в

вузе в рамках компетентностного подхода //Ярославский педагогический вестник. – 2018. – №. 2. – С. 100-107.