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Methodology for Developing Lexical Competence of Non-Philological University Students in the Context of Digital Technologies

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Abstract: The integration of digital technologies into higher education has created innovative pathways for enhancing linguistic abilities. This article explores methodological approaches to developing lexical competence among non-philological university students, emphasizing the role of digital tools in promoting vocabulary acquisition, contextual usage, and autonomous learning. The study evaluates educational platforms, gamified apps, and mobile-assisted language learning environments. Findings demonstrate that technology-enhanced lexical instruction significantly improves retention, motivation, and overall language proficiency.

Keywords: lexical competence, non-philological students, digital technologies, vocabulary development, language learning, educational methodology, gamification, mobile-assisted language learning

Introduction: In the era of digital transformation, traditional language education paradigms are evolving. Lexical competence—the ability to understand and use words accurately and appropriately—is fundamental to language proficiency. For non-philological university students, whose primary focus lies outside linguistics, developing lexical competence presents unique challenges. These students often view language learning as secondary, resulting in limited vocabulary acquisition and restricted functional language use in academic or professional contexts.

Digital tools and online platforms offer dynamic, engaging, learner-centered environments that surpass traditional rote memorization methods. By incorporating gamification, mobile applications, collaborative platforms, and multimedia resources, educators can tailor vocabulary instruction to diverse learning styles and needs of non-language majors.

This study investigates how digital technologies can be systematically employed to enhance lexical competence in non-philological students. It addresses key questions: Which digital tools are most effective for vocabulary acquisition? How does engagement with these tools impact learning outcomes? What methodological framework optimizes technology integration in language instruction for non-specialists?

By examining practical applications and empirical results, this article contributes to technology-enhanced language education, offering educators a comprehensive methodology for fostering lexical competence in digital contexts.

Lexical competence is increasingly vital in today's globalized, digitized world, not only for philological students but also for those in fields like engineering, economics, IT, and medicine. These disciplines demand international collaboration, digital documentation, and English-language research, making vocabulary skills essential for academic and professional success.

The shift toward blended and online learning, accelerated by the global pandemic, underscores the need to modernize language instruction. While much research focuses on language majors, non-philological students require targeted, engaging methods to develop vocabulary effectively.

This study responds to these demands, proposing innovative methodologies that blend traditional linguistic instruction with modern technological resources. It aligns with educational trends emphasizing learner autonomy, digital integration, and practical language use, offering timely solutions for enhancing lexical competence.

Relevance of Work: This research is relevant amid the growing integration of digital technologies in education and the need to update traditional language instruction methods. Non-philological students, often underserved in vocabulary development, require practical, engaging approaches tailored to their academic and professional needs. This study fills a gap in addressing these needs, offering evidence-based strategies for enhancing lexical competence.

The work aligns with global educational shifts toward blended and online learning, leveraging mobile tools and gamified platforms. It supports national education reforms aimed at improving English instruction in non-language faculties, providing practical implications for curriculum design, teacher training, and

classroom implementation. The findings are valuable for educators, curriculum developers, and policymakers seeking to improve language proficiency outcomes.

Purpose: The primary purpose of this study is to develop and validate an effective methodology for enhancing lexical competence in non-philological university students through digital technologies. Specific objectives include:

- Identifying and evaluating digital tools and applications for vocabulary acquisition;
- Designing a technology-integrated instructional model tailored to non-language students;
- Assessing the effectiveness of digital resources in improving vocabulary retention, contextual usage, and learner motivation;
- Comparing outcomes of traditional and technology-supported methods in lexical competence development.

Through these objectives, the study offers research-based recommendations for educators and curriculum developers to improve vocabulary instruction in digitally enriched academic environments.

Materials and Methods of Research: This study employed a mixed-methods design to evaluate the effectiveness of digital technologies in developing lexical competence among non-philological university students over one academic semester.

Participants:

The study involved 120 undergraduate students from engineering, economics, and computer science faculties, divided into:

- Experimental group (60 students): Received instruction with digital technologies.
- Control group (60 students): Followed traditional methods (textbooks, lectures).

Research Instruments:

- **Pre- and Post-Tests:** Standardized vocabulary assessments to measure progress.
- **Digital Tools:** Quizlet, Memrise, Wordwall, Kahoot!, mobile dictionaries, Google Classroom.

- **Surveys and Questionnaires:** To collect student feedback and self-reflections.
- **Instructor Observation Sheets:** To track engagement and participation.

Procedure:

1. Administered pre-tests to assess initial vocabulary knowledge in both groups.
2. Introduced the experimental group to interactive digital platforms, with weekly tasks.
3. Provided the control group with traditional instruction (reading texts, print exercises).
4. Conducted post-tests to evaluate progress.
5. Analyzed data using paired sample t-tests for quantitative results and thematic analysis for qualitative feedback.

Results and Discussion:

Quantitative Findings: Post-test scores showed significant improvement in the experimental group:

- Experimental group: 27% average increase in vocabulary test scores.
- Control group: 13% average increase.

T-test results ($p < 0.01$) confirmed the efficacy of digital tools in enhancing lexical competence.

Qualitative Findings: Student surveys highlighted:

- **Increased Motivation and Engagement:** 85% of experimental group students found digital tools enjoyable and interactive.
- **Improved Retention:** Spaced repetition and visual elements (e.g., Quizlet) enhanced memory.
- **Contextual Usage:** Tools like YouGlish and Reverso clarified real-life word applications.
- **Autonomous Learning:** Many students used mobile apps independently outside class.

Discussion: The results demonstrate that digital technologies significantly enhance lexical acquisition and engagement for non-philological students. These tools support multimodal learning, accommodate diverse styles, and provide

immediate feedback, surpassing traditional methods. Their interactive nature fosters intrinsic motivation, crucial for sustained language development.

The findings advocate updating university curricula to include technology-enhanced instruction, particularly for non-language majors, to align with modern educational demands.

Conclusion: This study confirms that integrating digital technologies into vocabulary instruction markedly improves lexical competence among non-philological university students. Interactive tools like Quizlet, Memrise, and Kahoot! outperform traditional methods, enhancing engagement, retention, and independent learning.

The experimental group's significant post-test improvements highlight the efficacy of technology-supported instruction in developing both passive and active vocabulary, critical for academic and professional contexts. Students' high motivation and satisfaction underscore the value of learner-centered, gamified approaches.

These findings call for a reevaluation of traditional vocabulary teaching models, urging educators and curriculum designers to embrace digital innovations. The research contributes to the evidence supporting digital transformation in higher education, particularly for non-philological language learners. Future studies could explore long-term impacts or the role of personalized AI-based learning environments in lexical development.

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