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USING NEARPOD IN TEACHING ENGLISH TO WOULD-BE BACHELORS IN THE FIELD OF KNOWLEDGE 14 "ELECTRICAL ENGINEERING"

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The article explores innovative digital strategies aimed at enhancing English language acquisition among students pursuing bachelor's degrees in electrical engineering. The authors underscore the significance of English proficiency in engineering education, highlighting its critical role in accessing scientific literature, engaging in international collaboration, and participating in modernization efforts in engineering practices.

The article outlines the distinctive challenges faced by engineering students in mastering English, particularly those related to technical jargon, academic writing, and effective communication skills. Recognizing the traditional methods of language instruction as insufficient for addressing the specific needs of engineering learners, the authors advocate for the integration of Nearpod, a virtual learning environment designed to foster collaborative learning and knowledge sharing. This platform serves as a versatile tool that facilitates both language development and subject matter comprehension.

The authors argue that environments such as Nearpod not only promote language skills but also encourage students to apply their engineering knowledge in English, thereby bridging the gap between learning and practical application. The article details interactive activities within the Nearpod framework, including group projects, discussions, and quizzes, which are tailored to engage students in the engineering context while simultaneously improving their English proficiency.

A significant aspect of the article is the visualisation of examples supporting the effectiveness of Nearpod in language teaching. The authors report on a number of studies conducted among different populations of students that demonstrates marked improvements in both language skills and student engagement. The data highlights improvements in areas such as language acquisition and communication, bolstering the argument for the adoption of this innovative teaching venue.

Moreover, the article emphasizes the role of instructors in effectively implementing Nearpod. It discusses the necessity for educators to be well-versed in both content and language pedagogy to guide students through the learning process successfully. The authors provide practical

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recommendations for training teachers in using digital tools, fostering a supportive learning environment, and integrating language learning objectives with engineering curricula.

The article presents a compelling example of modernizing English language instruction through the integration of collaborative digital platforms. The findings underscore the importance of aligning language education with the specialized needs of engineering students, promoting not only proficiency in English but also enhancing their readiness for the global job market. By advocating for such progressive teaching methodologies, the article contributes significantly to the ongoing discourse surrounding vocational education, language learning, and engineering training in the context of globalisation and technological advancement.

This comprehensive examination of Nearpod not only serves as a valuable resource for educators in the field of English language teaching but also offers insights for curriculum developers, educational policymakers, and researchers interested in the intersection of language education and engineering disciplines.

***Keywords**: Nearpod, English language acquisition, electrical engineering, digital strategies, technical vocabulary, language proficiency, digital learning environment.*

ВИКОРИСТАННЯ NEARPOD ДЛЯ ВИКЛАДАННЯ АНГЛІЙСЬКОЇ МОВИ МАЙБУТНІМ БАКАЛАВРАМ У ГАЛУЗІ ЗНАНЬ 14 "ЕЛЕКТРИЧНА ІНЖЕНЕРІЯ"

І. С. Лазаренко, Т. М. Рибак, В. А. Коновалова

Стаття досліджує інноваційні цифрові стратегії, спрямовані на покращення засвоєння англійської мови серед студентів, які навчаються за спеціальністю «Електрична інженерія». Автори підкреслюють важливість володіння англійською мовою в інженерній освіті, зазначаючи її критичну роль у доступі до наукової літератури, участі в міжнародній співпраці та залученні до модернізаційних зусиль у інженерних практиках.

Стаття описує унікальні виклики, з якими стикаються студенти-інженери в опануванні англійської мови, зокрема ті, що стосуються технічного жаргону, академічного письма та ефективних умінь спілкування. Визнаючи, що традиційні методи навчання мови є недостатніми для задоволення специфічних потреб студентів-інженерів, автори виступають за інтеграцію Nearpod — віртуального навчального середовища, призначеного для сприяння спільному навчанні та обміну знаннями. Ця платформа є універсальним інструментом, який сприяє розвитку мовлення та розумінню навчального матеріалу.

Автори стверджують, що середовища на кшталт Nearpod не лише сприяють розвитку мовних навичок, а й заохочують студентів застосовувати свої інженерні знання англійською, тим самим усуваючи розрив між навчанням та практичним застосуванням. У статті описуються інтерактивні активності в межах платформи Nearpod, включаючи групові проекти, обговорення та вікторини, які адаптовані для залучення студентів до інженерного контексту, водночас покращуючи їхню англійську мову.

Важливим аспектом статті є візуалізація прикладів, що підтверджують ефективність Nearpod у навчанні мов. Автори наводять результати кількох досліджень серед різних груп студентів, які демонструють помітні покращення як у мовних навичках, так і в залученості студентів. Дані підкреслюють поліпшення в таких областях, як опанування мовою та комунікація, що підкріплює аргумент про доцільність впровадження цього інноваційного методу навчання.

Крім того, стаття підкреслює роль викладачів у ефективному впровадженні Nearpod. Вона обговорює необхідність для педагогів бути добре обізнаними як в предметі, так і у педагогіці мов, щоб успішно вести студентів через навчальний процес. Автори пропонують практичні рекомендації для підготовки викладачів до використання цифрових інструментів, сприяння підтримуючому навчальному середовищу та інтеграції цілей вивчення мови з навчальними планами з інженерії.

Стаття представляє переконливий приклад модернізації викладання англійської мови через інтеграцію цифрових платформ. Запропоновані результати підкреслюють важливість узгодження мовної освіти зі спеціалізованими потребами студентів-інженерів, сприяючи не лише володінню англійською, а й підвищуючи їхню готовність до глобального ринку праці. Виступаючи за такі прогресивні методи навчання, стаття робить значний внесок у

триваючу дискусію, що стосується професійної освіти, вивчення мов та інженерної підготовки в умовах глобалізації та технологічного прогресу.

Це всебічне дослідження Nearpod слугує не лише цінним ресурсом для педагогів у сфері викладання англійської мови, а й пропонує корисні ідеї для розробників навчальних планів, освітніх політиків і дослідників, які цікавляться перетином освіти мов і інженерних дисциплін.

Ключові слова: *Nearpod, засвоєння англійської мови, електрична інженерія, цифрові стратегії, технічний словниковий запас, мовна компетентність, цифрове навчальне середовище.*

Introduction of the issue. In the context of the digitalization of education and the rapid development of information and communication technologies (ICT), the implementation of virtual learning environments (VLE) in the professional training of specialists is becoming increasingly topical. This is particularly significant in the process of teaching English as a Foreign Language (EFL) students of vocational pre-higher education institutions, including would-be electricians. The **relevance** of this topic is determined by the necessity to develop professionally-oriented communicative competences in English, considering the specifics of professional activities and the characteristics of technical education.

Developing electrical engineering students' communicative competence in EFL plays a critical role in their participating in modernization efforts in engineering practices as it enables them to become acquainted with modern developments in the field and equipment specifications, enhances professional communication and continuing development.

At the same time, engineering students face specific challenges in mastering English, particularly those related to technical vocabulary, academic writing, and effective communication skills.

Using Nearpod in teaching would-be electricians has unique advantages because of the specific context and needs of engineering students:

1) These students often benefit from visual diagrams, simulations, or videos related to electrical concepts, which Nearpod can seamlessly incorporate to reinforce language skills alongside technical understanding.

2) Nearpod activities can integrate technical scenarios where students practice English in engineering contexts (e.g., describing circuit diagrams or explaining electrical principles), bridging language and discipline-specific communication skills.

3) Compared to students from other specialties, electrical engineering students can leverage Nearpod to connect technical content directly with language learning, making it more meaningful and reinforcing their disciplinary knowledge alongside their English skills.

To develop relevant skills and habits these students need to have access to specific training tools.

Current state of the issue. Nearpod's potential has been studied by a number of scientists in different educational contexts. E. Sukhma, S. Ramadhan and I. Ikhlasani investigated into the possibility of using it in a primary education classroom. The authors found it challenging to integrate the VLE into traditional instruction caused by teachers' 'hesitancy towards embracing diverse learning methods' [10]. L. Dunbar dedicated her research to using Nearpod in teaching music to secondary school learners. The VLE proved its effectiveness in bringing 'content and assessment into the music classroom' [6]. B.T. Davey, Sh. Bowers and Sh. Spears suggest using Nearpod in STEM education. The authors report that positive changes in student science literacy are more significant if the delivery is via Nearpod as compared to the traditional face-to-face instruction [5].

In their turn, M.A.A. Musa and J.A.Al Momani studying the application of Nearpod in the higher education institution setting indicated that students' attitude towards using it as a medium of blended learning was highly

positive provided there was sufficient teacher support [8]. M. Hakami had the same results in studying students' attitude towards using Nearpod in distance learning. At the same time, the key success factor in that research was teaching by video-conference learning system [7].

In A.F.Th. Alazemi's investigation Nearpod is suggested as a platform for performing formative assessment in teaching EFL students reading comprehension. The experimental group revealed significantly higher results as compared to the control one working by the traditional methodology [2]. M. Civelek and Ç. Karatepe find Nearpod useful as a medium of self-paced learning of EFL pragmatics. Students significantly improved their results in oral discourse, and namely, in their requesting behaviour. They 'stopped modality generalization and started using a variety of modal verbs according to the context of situation after the treatment' [4]. In the research by M.S. Abdellatif, M.A. Alshehri, H.A. Alshehri, W.E. Hafez, M.G. Gafar and A. Lamouchi [1] Nearpod platform was used as a medium of teaching EFL listening comprehension. The experimental group who took AI-based exams by applying Nearpod showed higher results at post-tests as compared to the control group who were engaged in traditional learning. The official Nearpod blog [9] suggests using Nearpod in teaching EFL in **4 ways** (see Fig. 1):

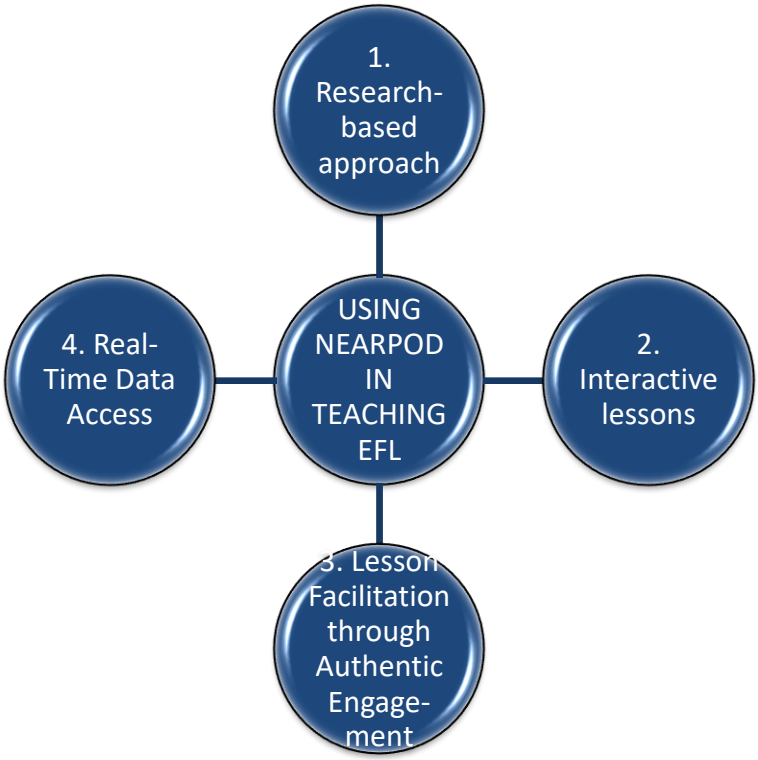


Fig. 1. Ways of using Nearpod in teaching English as a foreign language

a) using a **research-based approach** to English language learning. Teaching English should "amplify rather than simplify" concepts to ensure academic rigor. Nearpod supports this with interactive, standards-aligned lessons for English language learners (ELLs) across subjects. Its digital activities and assessments cater to students' needs. Nearpod is considered essential for effective scaffolding and immediate feedback to support language development;

b) providing **interactive lessons with clear learning goals.** Nearpod interactive lessons place ELLs at the center of teaching, starting with clearly defined learning goals and utilizing progressions and success criteria to measure comprehension. The lessons leverage interactive technologies and customizable content, enabling teachers to adapt

instruction to meet individual needs and foster an enriched learning experience;

c) facilitating **learning through authentic engagement.** Best practices for instructing ELLs emphasize authentic engagement through interactive content and meaningful collaboration. Nearpod lessons blend direct instruction with experiential learning, utilizing scaffolding strategies and the On the Fly feature to foster independence and allow for diverse expression, empowering students to assess their understanding and readiness within a supportive learning environment;

d) **accessing real-time data** to help guide instruction. Effective instruction for ELLs requires constant assessment of student progress to inform teaching. Nearpod offers real-time feedback and reporting, enabling teachers to evaluate student learning and adjust instruction accordingly. The curriculum minimizes irrelevant language, allowing for targeted assessments and support, while formative assessments enhance both academic content learning and language development.

Outline of unresolved issues brought up in the article. Despite a significant number of studies in the field of virtual learning environments (VLE), the issue of integrating Nearpod into teaching English as a foreign language in vocational pre-higher education institutions remains insufficiently explored. There has been inadequate attention paid to the creation of adapted comprehensive courses, the consideration of professional vocabulary, as well as the communicative activities necessary for professional training.

Aim of the research is to investigate the potential of using Nearpod in the process of teaching EFL to future electricians, to identify its advantages and ways to optimize the educational process within the framework of a digital educational space.

Results and discussion. Using Nearpod in teaching EFL to would-be electrical engineers is important for a number of reasons (see Fig. 2):

Fig. 2. Benefits of using Nearpod in teaching would-be electrical engineers English as a foreign language

1. It provides students with **access to resources**, including:

a) *technical vocabulary* (dictionaries, glossaries, and specific terminology related to electrical engineering);

b) *multimedia content* (videos, simulations, and tutorials that illustrate complex engineering concepts in a language context);

c) *case studies* (real-world applications of engineering principles presented in English, helping students understand how to communicate about their field).

2. Nearpod allows for a **flexible learning environment** where students can:

a) *learn at their own pace* (they can access materials and learn according to their individual schedules, accommodating diverse learning speeds);

b) *review and revisit content* (recorded videos and resources can be revisited, helping reinforce language acquisition and technical understanding.

3. It facilitates a more **interactive learning experience** through:

a) *collaborative projects* (group assignments can foster teamwork and communication skills, essential for future engineering work);

b) *discussion forums* (these promote engagement and allow students to practice English while discussing technical topics with peers and instructors);

c) *quizzes and gamified learning* (using quizzes and gaming elements can boost motivation and retention of both language and technical content).

4. Using Nearpod supports the **development of communication skills** critical for engineering students:

a) *listening* (audio materials such as videos or podcasts that focus on electrical engineering topics);

b) *speaking* (virtual discussion forums and live chat options encourage students to practice spoken English in a professional context);

c) *reading and writing* (online assessments, project reports, or discussion posts help improve technical writing skills necessary for engineering documentation).

5. Nearpod offers various **tools for assessment and feedback**:

a) instant feedback (automated quizzes provide immediate feedback, helping students identify areas needing improvement quickly);

b) tracking progress (instructors can monitor student engagement and performance, allowing for timely interventions and support).

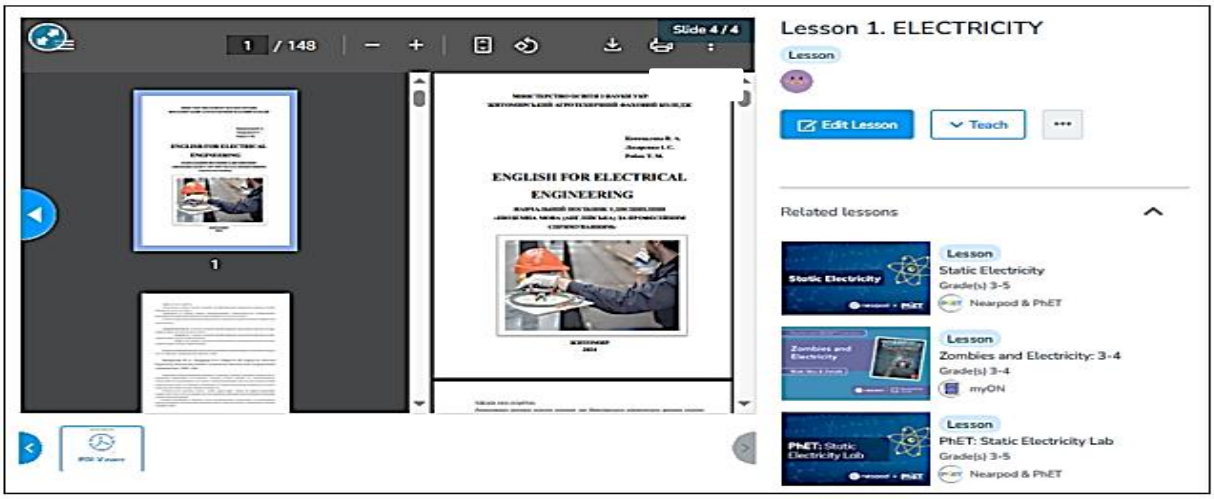
6. With the integration of technology in education, it plays a role in **bridging digital divides** by:

a) encouraging digital literacy (students become proficient in using digital tools, which are increasingly vital in both academic and professional settings);

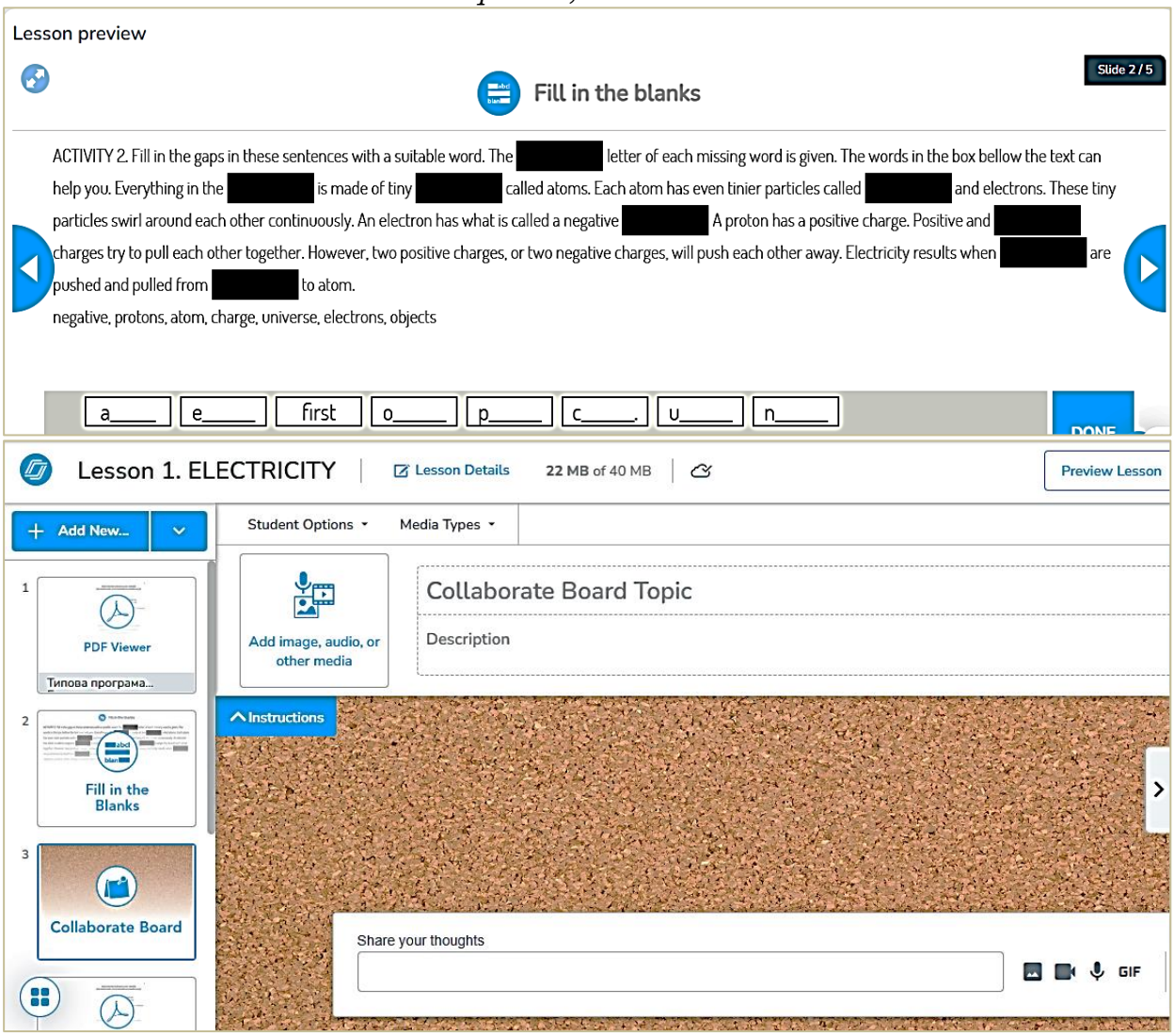
b) providing equal opportunities (VLEs can help level the playing field for students from diverse backgrounds, ensuring they have access to the same quality of education).

Nearpod allows downloading and using various materials and interactive activities subdivided by lessons. E.g.:

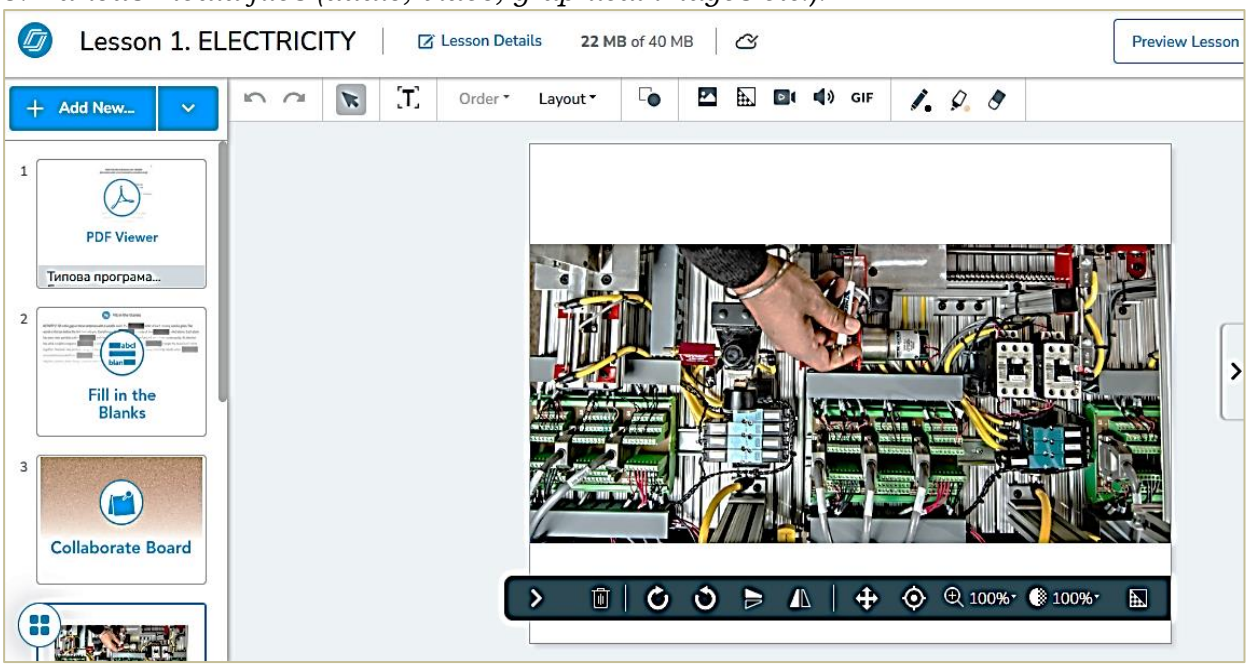
1. Documents and textbooks in PDF format:



2. Various interactive activities like quizzes, collaborate boards etc.:



3. Various media files (audio, video, graphical images etc.):



Using Nearpod can significantly increase engagement and motivation of engineering students that will lead to marked improvements both in language habits and communication skills. That is why teaching EFL teachers to use it is crucial. It enhances student engagement through interactive and multimedia-rich lessons, catering to diverse learning styles. Additionally, Nearpod allows educators to assess student understanding in real-time, enabling them to adjust their teaching strategies effectively. Finally, incorporating Nearpod into their teaching arsenal equips EFL teachers with modern technological skills, which are essential in today's digital learning environment.

To enable EFL teachers to utilize Nearpod in their classrooms the following **practical recommendations** can be suggested:

1. *Use Nearpod's built-in tools* like polls, quizzes, and open-ended questions to create interactive lessons. This engagement helps assess students' understanding and keeps their interest throughout the lesson.

2. *Enhance lesson presentations* by incorporating videos, images, and 3D models available on Nearpod. This multimedia approach can help illustrate complex concepts and cater to various learning styles.

3. *Share your Nearpod lessons and resources* with colleagues. Collaborating can lead to the exchange of innovative ideas and best practices, improving the overall teaching and learning experience.

4. *Explore the library of pre-made lessons available on Nearpod*. This can save time and provide inspiration, as many lessons are aligned with educational standards and can be adapted to fit specific curriculum needs.

5. *Use Nearpod's feedback features* to provide students with immediate responses on their performance during quizzes or activities. This allows teachers to identify areas where students may be struggling and adjust instruction accordingly.

6. *Take advantage of Nearpod's virtual reality* (VR) and interactive simulations to provide immersive learning experiences. This can help students practice language skills in context and make lessons more engaging and memorable.

These recommendations can help EFL teachers create a dynamic and interactive classroom experience using Nearpod.

Conclusions and research perspectives.

In conclusion, the use of Nearpod is crucial for teaching English to would-be bachelor's in electrical engineering. They enhance access to resources, improve language skills, foster interactive learning, and prepare students for a global workforce. By integrating English language learning with technical education, the VLE

contributes to developing well-rounded professionals ready to tackle the challenges of modern engineering fields.

Incorporating Nearpod into an English language curriculum for future electrical engineers offers exciting opportunities for interactive and engaging learning. However, educators should be aware of the potential challenges and seek to implement strategies to mitigate them.

Balancing the use of Nearpod with effective teaching practices has a certain potential for further research. It can also focus on creating ready-made training modules, developing methodological recommendations for instructors, and studying the effectiveness of the VLE usage in the long term.

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