

PAPER

Integrating Interactive and Mobile Learning Technologies in Pre-Service EFL Teacher Education

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ABSTRACT

A virtual educational environment has come into being in English as a Foreign Language (EFL) classrooms since the COVID-19 pandemic. The study introduces various online tools and activities designed to foster engagement and motivation among pre-service EFL teachers. The authors share hands-on experience from exploring interactive platforms and web resources, including *Online Test Pad*, *YouGlish*, *FluentU*, *Readers Theater*, *Voki*, *Kialo*, *Edpuzzle*, *Padlet*, and digital dictionaries; highlight their pros and cons; discuss the effectiveness of each tool for a particular teaching purpose; and introduce practice-based strategies for effective integration of online tools into pre-service EFL teacher instruction. The authors explore how online games combine practice with competition and interaction to increase engagement; discover the potential of pattern poems, readers theater, and discussion forums in constructing narratives using target vocabulary and grammar while also honing speaking and writing skills; and suggest tips on using animated platforms for personalizing writing prompts and providing feedback on written work. The analysis of survey results of pre-service teachers' feedback is presented to justify that incorporating interactive online activities can tap into intrinsic motivation and create a more enjoyable and effective learning experience.

KEYWORDS

English as a Foreign Language (EFL), pre-service teachers, interactive online tools, mobile learning technologies

1 INTRODUCTION

The global shift to online education during the COVID-19 pandemic transformed traditional teaching methodologies, particularly in the context of English as a Foreign Language (EFL) instruction. In higher education, this transition has significantly impacted the training of pre-service teachers, necessitating innovative approaches to maintain learner engagement and motivation in virtual environments. Research emphasizes that the integration of digital tools and platforms can enhance learning

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outcomes by fostering interactivity, collaboration, and personalized learning experiences [32], [37], [40]. For pre-service EFL teachers, mastering these tools is essential, not only for their development but also for preparing them to teach in increasingly technology-mediated classrooms.

Motivation and engagement are critical elements in language acquisition and teacher preparation. Deci and Ryan's [13] self-determination theory underscores the importance of intrinsic and extrinsic motivators in sustaining learner interest, particularly in challenging educational settings. Digital tools, such as gamified platforms and interactive multimedia resources, have been shown to boost intrinsic motivation by making learning more dynamic and rewarding [9]. Moreover, emotionally engaging activities, such as collaborative projects on platforms such as *Padlet*, help pre-service teachers connect theoretical knowledge with practical applications, fostering deeper engagement [20].

For university educators in Ukraine, the shift to virtual learning presented unique challenges and opportunities. On the one hand, limited access to resources and digital infrastructure due to the war posed obstacles to designing engaging digital classes. On the other hand, it underscored the potential of digital tools to bridge gaps in traditional teaching methods, foster creativity, and meet the demands of a new generation of learners, many of whom had to flee Ukraine and currently can study only in a fully online mode. Against this backdrop, the incorporation of interactive online tools in the training of pre-service EFL teachers has proven to be a critical factor in enhancing both engagement and motivation. However, Gong [21] suggests that the success of such tools depends on their ability to align with pedagogical goals while addressing learners' individual needs and preferences.

The aim of this study is to examine the use of interactive online tools to engage and motivate pre-service EFL teachers, drawing on the authors' experience as university instructors in Ukraine. The study explores a variety of tools, including *Online Test Pad*, *FluentU*, *Readers Theater*, *Voki*, and others, analyzing their strengths and limitations in improving language skills and pedagogical competencies. By linking theoretical insights with practical applications, the paper provides evidence-based strategies for integrating these tools into teacher education programs. The findings are further supported by feedback from pre-service teachers, illustrating how digital platforms can enhance intrinsic motivation and create a more enjoyable and effective learning experience.

2 THEORETICAL BACKGROUND

Fostering motivation and engagement among pre-service teachers is widely recognized as a cornerstone of effective teacher education. Prior studies underscore the role of intrinsic motivation in building enduring teaching competencies, self-efficacy, and professional commitment [6], [46]. According to Self-Determination Theory (SDT), satisfying the basic psychological needs of autonomy, competence, and relatedness is critical for intrinsic motivation. While SDT and gamification are frequently identified as critical components of learner engagement in mobile-assisted language learning, integrating these concepts with broader theoretical frameworks enhances the analytical depth. Koole's FRAME model [27], which conceptualizes mobile learning as the dynamic interaction of device usability, learner characteristics, and social aspects, offers a comprehensive lens through which to assess mobile learning experiences. Gamification elements—such as adaptive learning paths (autonomy), immediate feedback (competence), and collaborative features (relatedness)—support SDT

principles [43] while aligning with the learner and social aspects of the FRAME model. This intersection illustrates how well-designed mobile learning environments can support sustained motivation and personalization. Consequently, incorporating both SDT and the FRAME model leads to a more critical and theoretically grounded synthesis of mobile learning strategies, emphasizing how pedagogical design influences both motivation and learning outcomes [15].

Teaching environments that support these needs foster deeper engagement and better academic performance [29]. For example, autonomy-supportive teaching, where pre-service teachers are encouraged to make independent choices, correlates with higher engagement levels [37], [46]. The teaching styles of educators play a pivotal role in fostering motivation and engagement. Chan and others [11] claim that styles emphasizing clarity, autonomy support, and cooperative learning enhance intrinsic motivation and academic engagement among pre-service teachers. In recent years, digital and student-centered tools have gained attention for their potential to boost engagement in teacher preparation. Studies show that creative, technology-based learning activities contribute to improved academic achievement and satisfaction [7], while positive classroom experiences, often facilitated through such tools, are linked to stronger self-efficacy and professional identity [6]. The studies of Dmitrenko and others [16], [17], devoted to the problem of using information communicative technologies in the process of learning English for specific purposes (ESP) by pre-service teachers in Ukraine, confirm that the level of professional English communicative competency of pre-service teachers will increase if, in the process of ESP online learning (in conditions of wartime), virtual resources and digit tools are used in accordance with the developed educational technology. While these findings affirm the importance of well-designed digital environments, they also reveal a persistent gap: teacher education programs often lack systematic approaches to integrating these tools into subject-specific training in ways that support both motivation and methodological development.

The interplay of intrinsic motivation, teaching styles, and active engagement strategies is essential for preparing pre-service EFL teachers to thrive in their future classrooms. Programs designed with these elements not only improve academic outcomes but also foster long-term professional commitment. Research highlights that integrating interactive digital tools aligns with these findings, offering promising pathways to enhance teacher preparation programs aimed at preparing teacher candidates to take on roles as facilitators and guides rather than direct instructors. Digital tools enable interactive, learner-centered environments that cater to diverse needs [5] and are especially effective in EFL settings, where language acquisition benefits from interactive and multimedia-rich resources [47]. However, the transformative potential of digital integration hinges not only on tool availability but on pedagogical alignment and training.

Khomyshak [26] highlights that tools such as blogs, multimedia resources, and e-platforms enable asynchronous and autonomous learning, which can enhance both methodological and communicative competencies. Blended learning and flipped classroom models have emerged as promising frameworks in this regard. For example, the use of *MyEnglishLab* and other platforms has been shown to foster interactive, project-based learning that benefits future foreign language teachers [42].

Nevertheless, studies continue to point to a disconnect: while many tools are available, educators often lack sufficient training in their pedagogical use. A study from Sweden revealed that teacher educators often struggle to harness technology for teaching, focusing more on technical aspects rather than pedagogical applications.

This gap underscores the need for professional development programs that emphasize the pedagogical potential of digital tools and their subject-specific applications [3]. Furthermore, research from Norway suggests that building a culture of collaboration and sharing among educators can enhance the effective use of digital tools, enabling teachers to refine their teaching practices and adopt new methodologies [34].

The selection of the digital platforms and resources that are the subject of this study is grounded on a critical evaluation of usability, accessibility, pedagogical relevance, and alignment with learning objectives—an area still underexplored in EFL teacher education literature.

Usability measures how efficiently users can interact with tools to achieve their learning objectives. Effective tools should feature intuitive interfaces, flexible navigation, and minimal cognitive load. For instance, tools such as *Padlet* and *Edpuzzle* emphasize user-friendly interfaces that enable students and teachers to focus on content rather than technical barriers [10]. Platforms such as *Online Test Pad* excel by offering adaptive test formats, streamlining assessments with minimal technological complexity [4]. Key usability criteria include simplicity, task efficiency, and error tolerance, ensuring tools facilitate learning rather than hinder it.

Accessibility ensures inclusivity by addressing diverse learner needs, including those with disabilities or limited technological resources. Pham and others [38] prove that *YouGlish* (pronunciation guide) and *FluentU* (contextualized video learning) make language accessible through features such as mobile compatibility and multimedia content that caters to different learning styles, while in Agustí and others [1], it is stated that *digital dictionaries* such as *Cambridge*, *Merriam-Webster*, etc. offer offline access, bridging the gap for learners in areas with limited internet connectivity. Accessible platforms feature multilingual support, screen-reader compatibility, and flexibility to adapt to varied technological contexts.

Interactive tools must address specific EFL skill development, from speaking to writing. For example, tools such as *Voki* and *YouGlish* enhance speaking skills by providing audio-visual aids and interactive pronunciation guides [23]; platforms such as *FluentU* use authentic multimedia content to build listening comprehension in real-world contexts [45]; *Kialo* encourages learners to construct arguments and analyze perspectives, honing critical thinking skills through structured online debates [10]. Evaluating relevance involves determining how well tools align with specific linguistic outcomes and teaching objectives. However, existing literature tends to focus on tool features rather than their integration into structured language teaching methodologies, which is an area addressed in this study.

Digital tools must integrate seamlessly into teaching methodologies, supporting both student-centered and teacher-led approaches. Raffone [39] believes that *Edpuzzle* enhances flipped learning by allowing teachers to embed quizzes in video lessons, promoting active engagement. According to Neumann and others [35], *Readers Theater* bridges traditional and digital pedagogy, enabling students to collaboratively create and perform scripts, thus reinforcing reading and speaking skills.

While digital tools offer numerous benefits, they must complement rather than replace traditional methods. Blended approaches that integrate *Padlet* (for collaborative brainstorming) with in-class discussions provide the best of both worlds. Platforms such as *Voki* and *Readers Theater* support active engagement without entirely shifting learning to virtual settings [38]. Striking this balance ensures that learners benefit from interactive tools without losing the personal touch of face-to-face interaction.

3 METHODOLOGY

The study employs a mixed-methods approach, combining qualitative and quantitative methods to provide a comprehensive analysis of interactive online tools' potential to engage and motivate pre-service EFL teachers.

First, the study integrates hands-on exploration of tools by the authors, who are university instructors in Ukraine. Through practical use of platforms such as *Online Test Pad*, *YouGlish*, *FluentU*, *Readers Theater*, *Voki*, *Kialo*, *Edpuzzle*, *Padlet*, and digital dictionaries, the authors gained direct insight into the functionality, benefits, and challenges associated with each tool. This experiential perspective informed the identification of key features and their relevance to specific teaching objectives, such as vocabulary acquisition, grammar practice, speaking and writing development, and improving critical thinking skills.

In parallel, a survey was conducted among pre-service EFL teachers to gather their feedback and experiences regarding the use of these tools in educational contexts. This twofold approach allowed for cross-validation of findings: the authors' observations were complemented by the participants' perspectives, ensuring a holistic understanding of how these tools influence motivation and engagement in virtual learning environments.

The study involved 50 pre-service EFL teachers from Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University and Kharkiv Humanitarian Pedagogical Academy, representing a diverse cohort of future educators preparing for teaching roles in secondary and tertiary education.

Participants were selected based on two key criteria:

1. Familiarity with online tools: All participants had prior experience using at least three online tools for educational purposes, ensuring they could provide informed feedback during the survey.
2. Teaching practice experience: Participants had completed or were actively engaged in teaching practicums, allowing them to evaluate the tools in light of real-world classroom application.

This purposeful sampling strategy ensured that the feedback gathered was both relevant and grounded in authentic teaching experiences.

Data collection was carried out using a structured survey designed to capture both quantitative and qualitative insights into the effectiveness of the selected tools. The survey comprised the following components:

- Likert-scale items: Participants rated various aspects of each tool, such as usability, engagement, and motivational potential, on a 5-point scale. It provided measurable data for comparative analysis.
- Open-ended questions: To elicit deeper insights, participants were asked to describe their experiences, including any challenges they faced and how they integrated the tools into their teaching practices.
- Tool-specific evaluations: Participants assessed the suitability of each tool for specific pedagogical purposes, such as improving speaking fluency, enhancing writing skills, or encouraging collaboration.

The survey focused on three core dimensions:

1. Perceived engagement: How well the tools captured students' attention and maintained their interest.

2. Usability: Ease of use for both teachers and students, including accessibility and user interface design.
3. Motivation: The extent to which the tools inspired learners to participate actively and achieve learning outcomes.

This study was conducted in accordance with ethical research standards. All ethical standards specified in the Declaration of Helsinki [48] were observed and followed during the study. Ethical approval was granted by the Research Ethics Committees of Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University and Kharkiv Humanitarian Pedagogical Academy. All participants provided informed consent before participation, with clear explanations of the study's purpose, voluntary participation, and data confidentiality measures. No personally identifiable information was collected, ensuring participant anonymity throughout the research process. Given the study's focus on pedagogical tool evaluation rather than sensitive personal data, it was deemed low risk and met institutional ethical research guidelines.

By combining quantitative ratings with qualitative feedback, the study sought to uncover not only the strengths of each tool but also the potential barriers to their effective implementation. This multi-faceted data collection strategy enabled the authors to present a nuanced analysis of how interactive online tools can be optimized for use in pre-service EFL teacher training.

3.1 Overview of interactive online tools

The tools explored in this study encompass a wide range of functions, each contributing uniquely to EFL teacher training, with a particular focus on mobile learning. Given the increasing reliance on mobile devices in education, the accessibility and cross-platform usability of these tools play a crucial role in ensuring seamless integration into diverse learning environments.

Online Test Pad (<https://onlinetestpad.com/>) provides educators with a platform to design interactive quizzes, tests, and exercises. Its web-based interface ensures accessibility across multiple devices, including smartphones and tablets, allowing students to engage with assessments anytime, anywhere. The tool's ability to automate grading enhances formative assessment practices, providing immediate feedback even for large student cohorts. However, the lack of a dedicated mobile app limits its potential for sending real-time push notifications or enabling offline access, which may reduce continuity in learning for students in areas with unstable connectivity.

Similarly, *YouGlish* (<https://youglish.com/>) is particularly valuable for mobile learning, as it uses authentic YouTube videos to demonstrate pronunciation and vocabulary in context and offers learners exposure to diverse accents and natural speech patterns, thus improving their listening and speaking skills. The platform's responsive design ensures compatibility across desktop and mobile browsers, making it an ideal tool for self-paced learning. That said, its mobile interface is slightly less intuitive than the desktop version. On smartphones, the search functionality and video playback can feel cramped, and the lack of offline functionality poses limitations for learners who wish to study in low-connectivity settings. Unlike the desktop version, which allows users to open transcripts and navigate through multiple examples simultaneously, the mobile experience is more linear, offering fewer multitasking options.

FluentU (<https://www.fluentu.com/>) leverages real-world video content, such as movie clips and interviews, to support vocabulary acquisition and listening comprehension. Its mobile app enhances accessibility by allowing learners to engage

with interactive subtitles, track progress, and reinforce learning through vocabulary review activities on the go. The offline mode further extends usability, ensuring continuous learning without internet dependency. The app also incorporates push notifications to remind users of daily practice, a feature that can significantly boost learner engagement through gentle prompting. Unlike its desktop version, the mobile app is optimized for quick microlearning sessions, making it more suitable for today's mobile-first learners who prefer short, focused interactions.

Meanwhile, *Readers Theater* (<https://www.readingrockets.org/>) fosters creativity and collaboration by encouraging role-playing and narrative construction. Through script performance, students develop fluency, pronunciation, and emotional expressiveness while practicing grammar and vocabulary in context. While traditionally implemented in face-to-face classrooms, mobile-friendly adaptations of the tool allow students to rehearse scripts asynchronously, record performances using their smartphones, and share them via cloud-based platforms. This flexibility enhances engagement and supports a blended learning approach. The use of mobile cameras and voice recorders offers a unique layer of interactivity not present in desktop applications, enabling students to self-monitor their expressive skills in authentic, multimodal formats.

Voki (<https://l-www.voki.com/>), a tool for creating animated avatars, supports personalized tasks such as delivering verbal feedback, writing prompts, and practicing pronunciation. This makes it particularly engaging for students who prefer visual and auditory stimuli. Its mobile compatibility ensures learners can craft and interact with avatars across devices, making language practice more engaging and accessible. The mobile version allows users to record audio directly via their phones, simplifying the creation process and encouraging spontaneous language use. However, the free version offers limited customization, which may impact long-term student interest.

On the other hand, *Kialo* (<https://www.kialo-edu.com/>) focuses on critical thinking and structured debates, helping students present, evaluate, and refine arguments systematically—a skill essential for developing higher-order thinking and academic discourse. Its mobile-responsive interface facilitates participation in discussions from any device, allowing learners to engage in debates asynchronously. Mobile use is particularly well-suited to the platform's notification system, which informs participants of new replies or votes, promoting sustained engagement over time. While both desktop and mobile versions are functionally comparable, the ability to contribute to discussions while commuting or during breaks enhances learner autonomy.

Edpuzzle (<https://edpuzzle.com/>) transforms video-based content into interactive lessons by embedding quizzes and comments. Its mobile app enhances accessibility, allowing students to watch videos, respond to embedded questions, and track their progress from smartphones or tablets. This feature supports flipped learning methodologies, making it easier for pre-service teachers to implement student-centered instruction. Push notifications remind users to complete assignments, while in-app interactivity, such as pausing videos to respond to embedded prompts, keeps learners actively engaged. While the desktop version offers a broader workspace for video editing, the mobile app provides greater immediacy for learners consuming content in smaller time chunks.

For collaborative tasks, tools like *Padlet* (<https://padlet.com/>) facilitate brainstorming, project management, and multimedia sharing in real time, fostering teamwork and creative expression. The mobile app ensures seamless usability, enabling students to contribute ideas and resources from anywhere. The app supports photo and

voice note uploads directly from the phone, making it more conducive to capturing spontaneous ideas or recording oral reflections. Compared to its desktop version, which is ideal for detailed layout design and large-scale collaboration boards, the mobile version is better suited for informal, quick contributions and idea sharing.

Finally, digital dictionaries such as *Merriam-Webster* (<https://www.merriam-webster.com/>), *Cambridge* (<https://dictionary.cambridge.org/>), *Longman Dictionary of Contemporary English* (<https://www.ldoceonline.com/>), and *Oxford Learner's Dictionaries* (<https://www.oxfordlearnersdictionaries.com/>) provide extensive lexical resources, including pronunciation guides, frequency analysis, and contextual examples, promoting independent learning and vocabulary development. Their mobile applications offer offline access, ensuring students can look up terms and enhance their vocabulary acquisition without internet dependency. Moreover, many of these apps offer personalized features such as word-of-the-day push notifications and spaced repetition vocabulary reviews—features unavailable or less prominent in desktop versions.

Each tool presents unique strengths and limitations that influence its application in pre-service teacher training.

- *Online test pad* is user-friendly and effective for quick assessments but offers limited interactivity, making it less engaging for creative tasks.
- *YouGlish* provides authentic pronunciation examples and exposure to diverse speech patterns but relies heavily on Internet access and lacks scaffolding for beginners.
- *FluentU* is engaging and effective for vocabulary building and supports offline learning, though its subscription cost and occasional misalignment with curricular goals can be drawbacks.
- *Readers theater* promotes fluency and teamwork, yet it requires significant preparation time and may intimidate less confident learners. Furthermore, asynchronous mobile adaptations require additional technological resources for recording and sharing performances.
- *Voki* encourages personalization but has limited free features and may lose its novelty over time.
- *Kialo* supports critical thinking, though its mobile interface may feel complex for novice users.
- *Edpuzzle* is highly effective for video-based learning on mobile devices but requires considerable preparation to customize content.
- *Padlet* supports real-time collaboration, yet students may be easily distracted by other mobile applications.
- Digital dictionaries provide comprehensive resources for independent study with offline access but lack interactive features to enhance engagement.

By integrating these interactive and mobile-friendly tools, pre-service EFL teachers can experience a dynamic and flexible learning process. Ensuring accessibility, usability, and engagement through cross-platform compatibility strengthens their ability to incorporate technology-driven pedagogies into future teaching practices.

For example, *Edpuzzle* was effectively used by pre-service teachers to create interactive listening assignments based on a *TED Talk*. Embedded comprehension questions provided immediate feedback, helping students identify areas for improvement (see Figure 1).

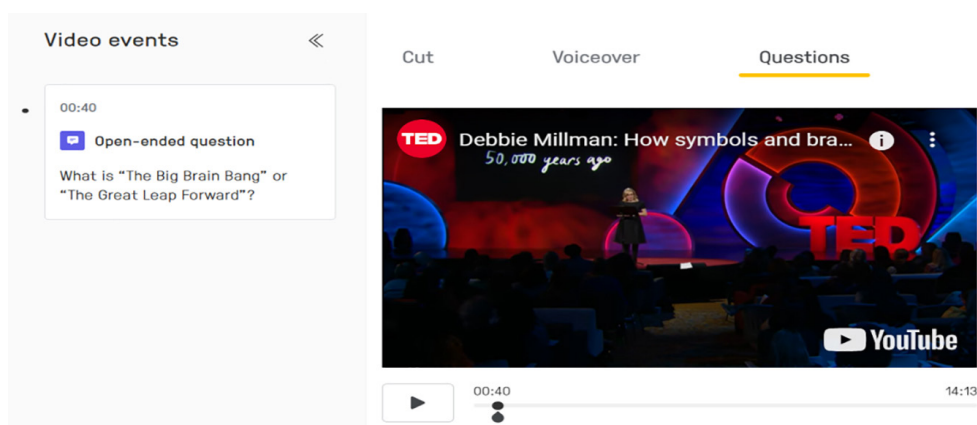


Fig. 1. An *Edpuzzle*-based listening comprehension activity on the topic “Modern Living” designed by a pre-service EFL teacher using a TED Talk titled “How Symbols and Brands Shape Our Humanity” by Debbie Millman

Source: Author’s instruction materials.

Similarly, *Readers Theater* was employed to construct narratives using target vocabulary and grammar, allowing learners to practice speaking fluency through collaborative script performances (see Figure 2).



Fig. 2. An excerpt from a *Readers Theater* script titled “Life is Not a Bed of Roses,” collaboratively created and performed by pre-service EFL teachers

Source: Author’s instruction materials.

The emotionally rich dialogue explores themes of resilience, uncertainty, and personal growth. Through role-play and expressive reading, students practiced prosody, emotional intonation, and collaborative meaning-making. The activity fostered speaking fluency and empathy.

The tools can be categorized into three main teaching purposes: 1) language skill development, 2) assessment and feedback, and 3) fostering creativity and collaboration.

For listening, tools such as *FluentU* and *Edpuzzle* are highly effective, offering authentic and interactive content. Speaking practice is supported by *YouGlish*, *Readers Theater*, and *Voki*, which provide opportunities for pronunciation practice and role-playing. Reading tasks can be enhanced with *Online Test Pad* and digital dictionaries, which help build comprehension and vocabulary. Writing skills are developed through tools such as *Padlet* and *Readers Theater*, which allow students to construct narratives and collaborate on written assignments. For example, one activity paired *YouGlish* with *Padlet* to enhance speaking skills. Students listened to variants of vowel sounds and summarized the results on *Padlet*, which improved teacher candidates’ methodological skills in teaching correct pronunciation patterns (see Figure 3).

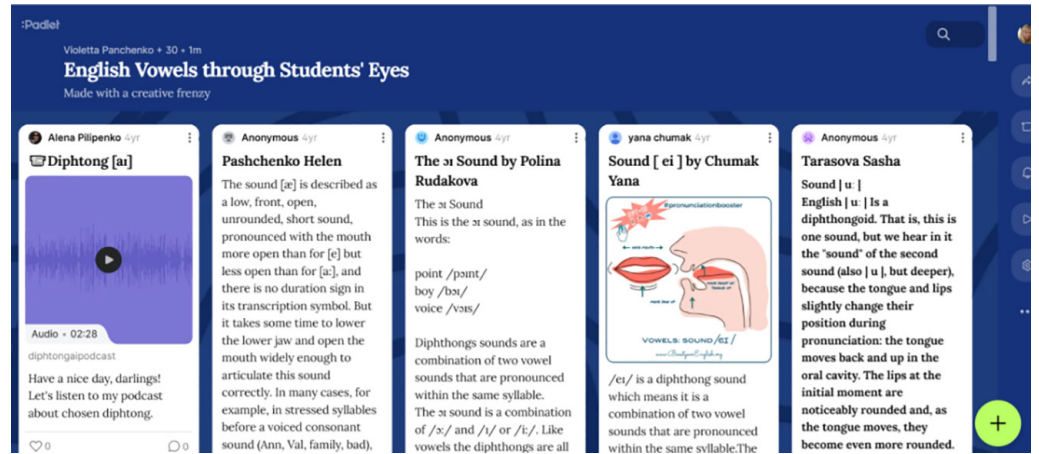


Fig. 3. Student-created Padlet wall titled “English Vowels through Students’ Eyes,” showcasing collaborative multimodal presentations on English diphthongs and monophthongs

Source: Author’s instruction materials.

Pre-service teachers used various media formats, such as podcasts, mini-essays, and infographics, to explain pronunciation features in learner-friendly terms. This activity enhanced their phonetic awareness, digital literacy, and ability to communicate complex linguistic concepts in accessible ways, aligning with mobile-assisted language learning principles.

Tools such as *Online Test Pad* and *Edpuzzle* are particularly suited for assessment, providing real-time data on student progress. *Padlet* and *Kialo* can be combined for feedback by using *Padlet* as a space to share and discuss debate ideas collaboratively, while *Kialo* allows for structured argumentation and detailed teacher feedback on students’ reasoning, language use, and critical thinking.

During a teaching practicum, a teacher candidate used *Online Test Pad* to check students’ ability to use English articles appropriately (see Figure 4).

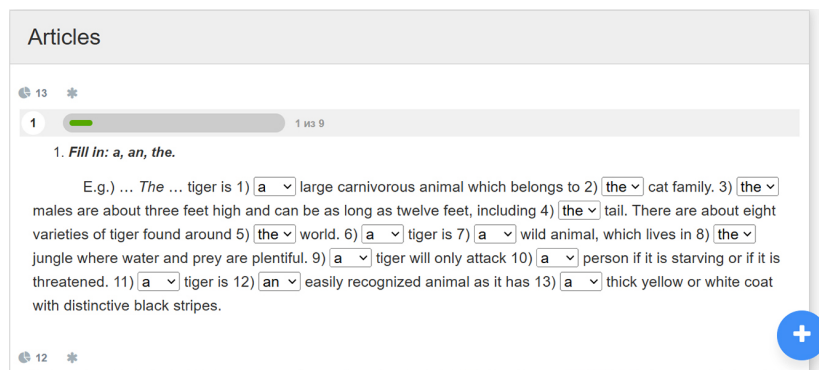


Fig. 4. Interactive grammar exercise on the use of English articles, created in *OnlineTestPad*

Source: Author’s instruction materials.

Teacher candidates completed a contextualized paragraph by selecting the correct articles from dropdown menus. The activity promoted grammatical accuracy and contextual reasoning, offering immediate feedback and reinforcing rules through meaningful content.

Tools such as *Voki* and *Readers Theater* encourage creativity through personalized tasks and visual aids. Collaborative tools such as *Kialo* and *Padlet* promote teamwork and critical thinking in group projects and debates.

For instance, students used *Kialo* to organize a structured debate on the advantages and disadvantages of online and face-to-face classroom modes. This activity developed both linguistic skills and analytical reasoning (see Figure 5).

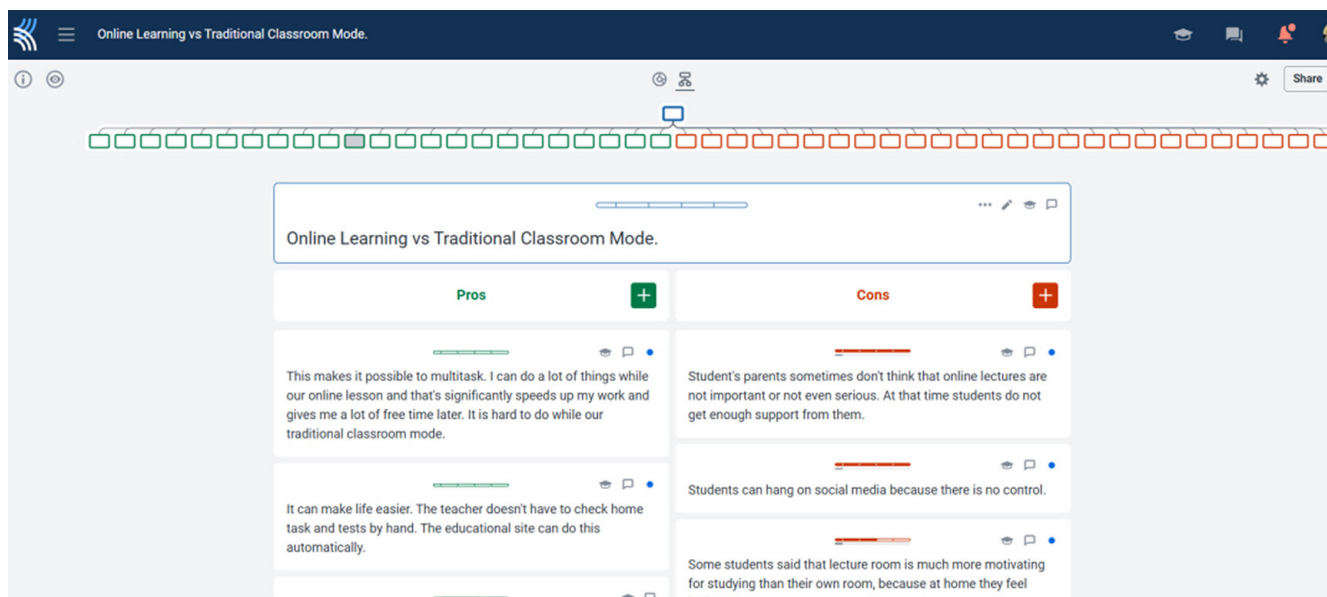


Fig. 5. *Kialo*-powered critical thinking activity on the topic “Online Learning vs Traditional Classroom Mode”

Source: Author’s instruction materials.

Pre-service teachers engaged in structured argumentation by contributing claims and counterclaims within a debate map. The platform’s branching logic allowed students to visually organize and evaluate diverse perspectives, promoting evidence-based reasoning and collaborative discussion in English.

The diverse range of tools analyzed in this study demonstrates their potential to enhance pre-service EFL teacher training by addressing specific pedagogical goals. When strategically integrated, these tools engage learners, foster creativity, and encourage collaboration, ultimately creating a dynamic and interactive learning experience. References such as Salaberry [44] on the use of technology in language learning and Dörnyei [18] on motivation in the classroom further underscore the transformative potential of digital tools in EFL education.

To clarify how each tool addresses specific educational needs, Table 1 summarizes the alignment between the digital tools studied, the language skills they target, their core pedagogical functions, and their mobile learning affordances.

Table 1. Targeted language skills, pedagogical functions, and mobile learning affordances of digital tools

| Tool | Targeted Language Skill(s) | Pedagogical Functions | Mobile Learning Affordances |
|-----------------|----------------------------|---|---|
| <i>Edpuzzle</i> | Listening, speaking | Interactive video, comprehension checks | Mobile app access, gamification, asynchronous use |
| <i>Voki</i> | Speaking, pronunciation | Voice recording, avatar-based feedback | Voice input via mobile, creative expression |
| <i>YouGlish</i> | Pronunciation, listening | Authentic language input, accent exposure | On-the-go pronunciation search, contextualization |

(Continued)

Table 1. Targeted language skills, pedagogical functions, and mobile learning affordances of digital tools
(Continued)

| Tool | Targeted Language Skill(s) | Pedagogical Functions | Mobile Learning Affordances |
|-----------------------------|---------------------------------|---|---|
| <i>Padlet</i> | Writing, reading, collaboration | Brainstorming, peer interaction | Intuitive interface, real-time mobile collaboration |
| <i>Kialo</i> | Critical thinking, writing | Structured debate, argumentation | Mobile-accessible debates, asynchronous feedback |
| <i>Digital dictionaries</i> | Vocabulary, pronunciation | Word meanings, audio support, etymology | Offline access, AI-based suggestions |
| <i>Readers Theatre</i> | Speaking, reading fluency | Role-play, narrative construction | Mobile script sharing, collaborative rehearsal |
| <i>FluentU</i> | Listening, vocabulary | Video-based learning with subtitles | Personalized learning paths, mobile video access |

The integration of interactive online tools into EFL teacher training requires deliberate, practice-oriented strategies to ensure that these platforms genuinely support both language skills and teaching competencies. To make implementation more effective, particularly in mobile-first learning environments, teacher educators should consider structured approaches that combine tool-specific activities with pedagogical reflection. Based on our experience and literature review, we suggest four key strategies to effectively incorporate the researched platforms into classroom use with specific examples of activities.

1. Using gamified activities: Gamification fosters engagement by blending educational goals with elements of competition, collaboration, and reward. In mobile-first contexts, tools such as *Online Test Pad* and *Edpuzzle* offer user-friendly interfaces that work well on smartphones and tablets. Instructors can design timed quizzes using *Online Test Pad*, where pre-service teachers compete in teams to answer grammar or vocabulary questions. For example, a team-based quiz on phrasal verbs could feature timed multiple-choice tasks, with correct answers earning points and leaderboard placement. Such activities can be shared easily via mobile links or QR codes, allowing students to participate on the go.

Similarly, *Edpuzzle* enables instructors to embed interactive elements into authentic videos. For instance, a short clip from a TED Talk on climate change can be used with embedded comprehension and vocabulary-check questions. Mobile notifications and real-time tracking features help keep students engaged and accountable.

To enhance intrinsic motivation, students should not only complete gamified tasks but also design their own using platforms such as *Online Test Pad*. By creating peer-to-peer quizzes, they simultaneously practice content mastery and instructional design. Instructors can guide reflection by encouraging discussions on adapting gamified activities for different proficiency levels or limited-resource classrooms.

2. Encouraging narrative construction: Narrative-based tasks offer meaningful contexts for practicing the target language while supporting creativity and personal expression. These activities are highly adaptable for mobile devices, where learners can post, record, and respond in real time or asynchronously. For instance, *Padlet* can be used for a pattern poem activity where students complete structured prompts like “I see...,” “I hear...,” “I feel...,” using topic-specific vocabulary

such as “Seasons” or “Travel.” This activity reinforces grammar (e.g., adjectives, sensory verbs) while promoting creative expression. Learners can contribute posts directly from mobile devices and comment on peers’ work with emojis, stickers, or text feedback—features that mirror social media interactions and increase appeal.

Readers Theater allows students to rehearse and perform short scripted dialogues, improving fluency, pronunciation, and confidence. For example, a modified version of *The Three Little Pigs* could be adapted to include target language structures. These performances can be recorded using mobile audio or video apps and submitted via platforms like Google Classroom or messaging apps.

Debates hosted on *Kialo* further develop argumentation and critical thinking. For example, students might debate the topic “Should schools prioritize online learning over traditional classrooms?” using evidence-based support. They contribute short responses that model academic discourse, using phrases such as “I strongly believe...,” “On the contrary...,” and “This demonstrates that....” The platform’s mobile version allows learners to participate easily and revisit arguments over time.

3. Designing personalized and creative writing tasks: Personalized tasks increase learner investment by connecting classroom content to students’ identities and experiences. These activities are particularly effective in mobile-first environments, where multimedia tools allow learners to blend voice, text, and visuals. With *Voki*, students can create avatars to deliver monologues, diary entries, or short speeches. For example, pre-service teachers might be tasked with narrating their most memorable holiday or a fictional event using assigned vocabulary. The final avatars can be shared via mobile links for peer feedback using structured rubrics or comment threads. To encourage collaboration, instructors can pair individual avatar projects with group storytelling activities. Students might begin by brainstorming on *Padlet*, organizing ideas through topic-based columns (e.g., “Setting,” “Characters,” “Problem,” “Resolution”), and then collaborate in pairs or small groups to write a short story incorporating their avatars’ voices. These activities help pre-service teachers develop both their language output and their digital pedagogical fluency—skills they can later transfer to their own classrooms.
4. Balancing Tools with Traditional Methods: While digital tools enhance learning, they should be used in harmony with traditional methods to ensure a comprehensive teaching approach. Pre-service teachers must be taught to think critically about when and why to use a particular tool. For vocabulary work, mobile-accessible dictionaries like *Oxford Learner’s Dictionaries* or *Cambridge Online Dictionary* are highly effective. However, educators should also demonstrate how to compare digital and paper-based dictionaries to assess word meaning, pronunciation, and usage. For example, students could be given the same word to look up in both formats and reflect on which one provided more useful context or was more efficient. In pronunciation practice, *YouGlish* offers authentic examples of word usage in different contexts. After listening to native speaker samples on their phones, students can practice these phrases in pairs during in-person sessions or record them on mobile apps for asynchronous peer feedback. To reinforce accuracy, instructors can incorporate phonetics drills or minimal pair exercises in class.

To foster reflective thinking, instructors might introduce a brief discussion or journal task after each digital activity: What worked well on mobile? What felt awkward or limited? Could the activity be adapted for learners with no smartphones or internet access?

By implementing these strategies—gamified engagement, narrative construction, personalized writing, and a balanced methodology—educators can create robust, adaptable frameworks for integrating digital tools in EFL teacher education. These practices not only boost essential language and teaching competencies but also prepare pre-service teachers to design inclusive, engaging, and mobile-friendly learning environments for their future students.

4 FINDINGS AND RESULTS

The study findings demonstrate the effectiveness of interactive online tools in fostering engagement and motivation among pre-service EFL teachers, as well as their potential for practical application in diverse teaching contexts. By integrating the authors' hands-on exploration with participant feedback, the study provides a comprehensive analysis of each tool's advantages, limitations, and pedagogical applications. To validate the survey instrument, a pilot test was conducted with a subset of the participants to evaluate clarity and relevance. Based on the pilot feedback, minor revisions were made to improve item precision. Reliability was measured using Cronbach's alpha, with values ranging from 0.78 to 0.91 across the key scales, indicating satisfactory to excellent internal consistency.

Quantitative findings: The Likert-scale survey responses revealed notable trends in the tools' performance across three dimensions: engagement, usability, and motivation.

- **Perceived Engagement:** Tools like *Edpuzzle* (4.8/5), *YouGlish* (4.7/5), and *Padlet* (4.6/5) ranked highest for their ability to capture students' attention and sustain their interest. *Readers Theater* (4.5/5) and *Kialo* (4.4/5) were also highly rated for promoting creativity and critical thinking, particularly in collaborative activities.
- **Usability:** *Padlet* (4.9/5) emerged as the most user-friendly platform, offering an intuitive interface for collaborative tasks. Digital dictionaries (4.7/5) were also praised for their accessibility and ease of integration into independent and classroom-based vocabulary learning.
- **Motivation:** Tools such as *Voki* (4.7/5) and *Edpuzzle* (4.6/5) were highlighted for their ability to personalize learning, which significantly increased students' enthusiasm and active participation.

Qualitative insights: Open-ended survey responses provided nuanced insights into the participants' experiences and highlighted several recurring themes:

1. **Tool-specific advantages.**
 - *Edpuzzle:* Widely praised for its interactive video-based features, *Edpuzzle* enabled teachers to create engaging lessons by embedding quizzes and annotations directly into videos. Participants reported that this kept learners actively involved and allowed for immediate comprehension checks.
 - *Padlet:* A versatile tool for collaborative brainstorming and sharing ideas, *Padlet* was frequently used for peer feedback and group projects, fostering an inclusive and interactive learning environment.
 - *YouGlish:* Valued for its ability to expose learners to authentic pronunciation in various accents and contexts, *YouGlish* was particularly effective in improving speaking fluency and pronunciation accuracy.
 - **Digital dictionaries:** Platforms such as *Merriam-Webster*, *Cambridge Dictionary*, and *WordReference* were highlighted for their role in fostering independent

vocabulary learning. Many participants noted that features such as example sentences, phonetic transcriptions, and pronunciation guides helped students better understand word usage in context.

2. Challenges and limitations.

- *FluentU* was recognized for its engaging, video-based vocabulary practice but was criticized for its subscription cost, which limited accessibility for some users.
- *Kialo* faced mixed reviews due to its steep learning curve for beginners, though its effectiveness in fostering structured debates and critical thinking was widely acknowledged.
- Some participants cited technical challenges, such as limited internet connectivity, which hindered the consistent use of tools such as *Edpuzzle* and *YouGlish* in rural or resource-constrained settings.

3. Integration into teaching practice. Participants emphasized the importance of aligning tools with specific instructional goals. For example, *Readers Theater* was successfully integrated into grammar and vocabulary lessons by using scripts to reinforce target language structures. Digital dictionaries were particularly effective in autonomous learning tasks, enabling students to research vocabulary independently and apply it in writing or speaking assignments.

Cross-validation of findings: The authors' hands-on exploration of tools corroborated the survey findings, ensuring the validity of the results. For instance, the high engagement and usability ratings of *Padlet* and *Edpuzzle* align with the authors' observations of their intuitive interfaces and engaging features. Similarly, the motivational potential of *Voki* and the practicality of digital dictionaries in vocabulary learning were consistent across both qualitative and experiential data.

The findings highlight the unique strengths of each tool and their alignment with specific teaching objectives:

- Language skills development: Digital dictionaries and *YouGlish* supported vocabulary building, listening, and speaking fluency. *Readers Theater* enhanced pronunciation and fluency through role-playing activities, while *Edpuzzle* and *FluentU* provided engaging listening comprehension exercises.
- Assessment and feedback: *Edpuzzle* and *Online Test Pad* streamlined formative assessment, while *Voki* allowed teachers to give creative, personalized feedback on students' assignments.
- Critical thinking and collaboration: *Kialo* promoted structured debates and analytical discussions, fostering higher-order thinking skills. *Padlet* supported group projects and peer feedback, creating a dynamic environment for collaboration.

For instance, one participant used *Edpuzzle* to embed comprehension questions into a video on cultural topics, allowing students to practice listening while reflecting on cross-cultural issues. Another participant relied on digital dictionaries during writing activities, encouraging students to explore word meanings and synonyms, which enriched their written output. Similarly, *Kialo* was effectively employed in a debate on ethical dilemmas in technology, with students using the platform to build and critique arguments collaboratively.

The findings confirm the transformative potential of interactive online tools in pre-service EFL teacher training. Platforms such as *Edpuzzle*, *YouGlish*, and digital dictionaries stood out for their usability and impact on language skills, while tools like *Voki* and *Readers Theater* enhanced creativity and engagement. Despite some

challenges, such as technical limitations and cost barriers, the study underscores the importance of selecting tools that align with specific pedagogical goals to maximize their effectiveness.

5 DISCUSSION

The findings of this study align with and expand upon existing research that highlights the impact of interactive online tools in fostering engagement and motivation among language learners. While previous studies have emphasized the importance of technology in enhancing student-centered learning, autonomy, and collaboration in EFL classrooms (e.g., [45], [25]), this study contributes by examining the pedagogical effectiveness of specific tools, such as *Edpuzzle*, *YouGlish*, and digital dictionaries, within the context of pre-service EFL teacher training. This targeted focus helps to bridge the gap between general claims about technology and its nuanced application in teacher education.

The high engagement and motivational scores observed for *Edpuzzle* and *Voki* resonate with findings by Hafner [22], who demonstrated that video-based platforms improve learner involvement by providing multimodal input. *Edpuzzle*'s integration of interactive quizzes within video content aligns with Alwehaibi [2] findings, which show that interactive videos enhance comprehension and sustain attention. Similarly, *Voki*'s creative personalization capabilities, shown to enhance task enjoyment and intrinsic motivation, further validate Liu and others' [30] claims about the motivational benefits of avatar-based learning environments. These findings collectively highlight the importance of integrating emotionally resonant and cognitively engaging tools into teacher preparation.

Beyond individual tools, the increasing role of mobile and gamified learning in teacher training emerges as a key theme. Many interactive tools studied, including *Padlet* and *Edpuzzle*, align with gamification strategies, a key trend in mobile education that enhances engagement through point systems, leaderboards, and rewards. Gamification elements, such as interactive quizzes in *Edpuzzle* or the competitive nature of *Kialo* debates, contribute to intrinsic motivation, as highlighted in research on game-based learning [19]. These features make digital learning more interactive and increase sustained participation, particularly in mobile-accessible environments.

The usability of *Padlet* and digital dictionaries in this study mirrors previous research highlighting their effectiveness in collaborative and independent learning contexts. Rashid and others [41] found that collaborative platforms such as *Padlet* simplify brainstorming and idea sharing, a benefit echoed in participants' feedback on *Padlet*'s intuitive interface. Additionally, the high usability ratings for digital dictionaries align with Liu and others [31] study, which demonstrated how features like pronunciation guides, word etymologies, and contextual usage examples in online dictionaries enhance learner autonomy and vocabulary acquisition. AI-powered mobile tutoring systems, such as speech recognition software integrated into digital dictionaries, further expand self-paced learning opportunities. Research by Chen [12] emphasizes how AI-driven feedback in mobile applications can personalize learning, providing immediate pronunciation correction and adaptive vocabulary recommendations. Yet, many existing studies focus on learner outcomes rather than on how teacher trainees interact with these tools in pedagogically meaningful ways—a nuance explored in this study.

This study also extends findings from Hindeme and Iwikotan [24] and Zhong [49] by demonstrating how debate platforms such as *Kialo* and collaborative tools like *Padlet* cultivate critical thinking and peer feedback in virtual learning environments. The scalability of interactive online tools for global teacher training programs also presents a significant implication. Platforms such as *Padlet* and *Kialo*, when integrated into mobile-first learning environments, allow pre-service teachers worldwide to engage in cross-cultural discussions and collaborative learning experiences. Large-scale online teacher training initiatives, such as those developed by UNESCO and Coursera, demonstrate how mobile-friendly platforms facilitate continuous professional development beyond traditional classrooms.

The findings also support earlier research into the specific applications of these tools. For example, the use of *Readers Theater* to improve fluency and narrative construction aligns with Cao and Huang [8], who found that role-playing activities improve speaking skills by encouraging authentic language use in contextualized scenarios. Furthermore, the use of *YouGlish* for pronunciation practice echoes Mahmood's [33] findings that exposure to authentic pronunciation in varied accents helps learners internalize correct speech patterns and intonation.

While this study confirms the advantages of these tools, it also highlights challenges such as accessibility and cost, which align with findings by Deng and El Hag [14] on digital inequality in education. The mixed reviews for tools like *FluentU* reflect Kukulska-Hulme's [28] observations that subscription-based platforms can be a barrier for students and teachers in resource-constrained settings, despite their pedagogical benefits. These challenges are particularly relevant in mobile learning environments, where device compatibility and internet connectivity can impact students' ability to fully engage with digital tools.

This study contributes to the growing body of literature on the integration of technology in pre-service EFL teacher training. While prior research has largely focused on learner outcomes, this study provides a unique perspective by combining hands-on exploration with teacher feedback, offering insights into the practicalities of using these tools in real-world classroom settings. By emphasizing the alignment of tools with specific teaching objectives, this study underscores the importance of pedagogical intentionality in tool selection, a point echoed by Nurhidayat and others [36]. Furthermore, integrating mobile learning perspectives highlights the evolving role of technology-enhanced teacher training, where digital tools offer scalable, gamified, and AI-powered solutions to prepare educators for 21st-century classrooms.

6 CONCLUSION

The findings suggest that interactive online tools, when chosen strategically, can address critical gaps in traditional teacher training programs, such as limited opportunities for authentic language use and collaborative learning. The study highlights the potential of tools such as *Edpuzzle*, *Voki*, *Padlet*, etc. to enhance pre-service EFL teacher engagement and motivation, reinforcing their relevance in digital learning environments.

However, several limitations should be acknowledged. First, the study's sample size (50 pre-service teachers) and its focus on two Ukrainian higher education institutions may limit the generalizability of the findings. While the participants provided valuable insights into the effectiveness of interactive tools, a broader, more diverse sample across different cultural and institutional contexts would offer a more comprehensive understanding of their impact. Still, the study offers meaningful

contributions by capturing how digital tools function in real-life teacher training settings during a period of heightened digital transition and regional educational disruption. Given the pressing need for resilient, technology-supported instruction in post-crisis environments, these findings can inform similarly situated educational contexts where resources are constrained, but innovation is urgently needed. In this way, the research serves as a case study of adaptive pedagogy, offering practical guidance for institutions seeking to implement mobile and online tools under comparable conditions.

Additionally, the reliance on self-reported survey data, rather than direct classroom observations or performance-based assessments, presents a potential limitation, as participants' perceptions may not always align with actual learning outcomes. Furthermore, the study does not track the long-term effects of digital tool usage on pre-service teachers' teaching efficacy, leaving open questions about the sustainability of engagement and motivation over time.

Future research should address these limitations by exploring comparative studies of interactive digital tools across different educational settings, such as primary, secondary, and tertiary institutions. Investigating the scalability of these tools in diverse teaching environments would provide valuable insights into their broader applicability. Additionally, the integration of AI-driven adaptive learning environments in EFL teacher training represents a promising direction for further study. AI-powered platforms have the potential to personalize learning experiences, offering tailored feedback and adaptive pathways based on individual learner needs.

Moreover, longitudinal research is needed to assess the sustained impact of digital tools on pre-service teachers' professional development. Tracking their integration of technology into real classroom practice over extended periods would provide critical evidence of how these tools shape instructional strategies and student outcomes in the long run. Finally, addressing the barriers identified in this study, such as cost and accessibility, is crucial for ensuring equitable opportunities for technology-enhanced EFL instruction, particularly in resource-constrained settings.

By situating this study within the broader discourse on technology in language education, the findings reaffirm the potential of interactive online tools to transform EFL teacher training, preparing future educators to thrive in dynamic, tech-integrated classrooms.

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