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Pedagogical Approaches and Effective Digital Tools to Develop Speaking Skills of ESP Learners

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Abstract: This article is more about integrating digitalization into English classes to enhance speaking skills of ESP learners, and this concern is discussed as an important pedagogical problem. This paper indicates more about the impact of digital tools to improve English language, specifically, speaking skills. In this work, challenges while ESP students are learning English to develop their communication skills for their own purposes, and proper ways and theoretical approaches to get engaged in learning faster and in productive ways are stated clearly.

Keywords: Digitalization, English classes, speaking skills, communication, Flipgrid, pedagogy, problems, challenges, digital tools, technology, professors, students, ESP (English for specific problems), Technology-Enhanced Speaking Development (TESD), virtual reality (VR), ADEPT (Assistive Design for English Phonetic Tools), Technology Acceptance Model (TAM), CALL (Computer-Assisted Language Learning), development, ELSA Speak, Google scholar, approaches, traditional, alternative, methods.

Introduction: In today's world, digital technologies are deeply penetrating all areas of education. This is especially true in the field of foreign language learning and teaching in ESP (English for specific purposes), where modern tools make the process more efficient, engaging, and accessible. The influence of digital technologies is particularly significant in the acquisition and development of students' language skills. Among these skills, speaking or oral communication is considered a crucial and somewhat complex aspect of foreign language learning.

As Bygate (2009) points out, among four main language

skills (reading, writing, speaking, and listening), speaking remains the most difficult to master in second language acquisition. Speaking is a "productive skill" a skill that produces language output, which makes it especially important to enhance it rapidly and effectively through digital technologies. This represents one of the key current challenges in pedagogy.

According to Shahini and Shahamirian (2017), the development of oral (speaking) skills in second language, learning through digital technologies is a widely discussed academic issue. Students who aim to learn a foreign language often seek methods and approaches to improve their speaking skills in interesting, fast, and effective ways (Liao, 2009). This pursuit encourages the advancement of technologies designed to enhance oral communication (Alrasheedi, 2020).

Acquiring speaking skills is recognized as a highly complex process. It requires deep knowledge, the development and refinement of cognitive frameworks, and the coordination of complex cognitive operations (Alimohamadi & Poordaryiaenejad, 2015; Umaira, 2020). Considering the importance of learning oral communication in a foreign language and the difficulties involved, analyzing and exploring the necessary and effective activities, methods, techniques, and resources has become one of the most pressing educational tasks today.

Since the early 2000s, researchers have been developing the concept of Technology-Enhanced Speaking Development (TESD) to improve speaking skills through technological tools (Shadiev & Yang, 2020). In earlier times, learners typically practiced oral language skills by interacting with teachers who were speakers (Pitura, 2022). However, traditional methods of the past lacked access to digital capabilities.

Modern digital technologies now enable students to learn foreign languages almost as if they were acquiring their native language. These technologies allow them to make effective use of educational materials, create and upload their own video content into digital systems, and engage in learning in a more interactive and motivating way. Students are thereby encouraged to complete assigned tasks more quickly, easily, and with greater interest—especially since today's youth are adept at using various gadgets and mobile applications. This approach significantly accelerates and enhances the development of oral proficiency in a foreign language (Blake, 2016; Payne, 2020).

Researchers investigating Technology-Enhanced Speaking Development (TESD) have not only conducted numerous observational and practice-based studies but have also carried out meta-analyses, reviews, and syntheses (Blake, 2016; Payne, 2020). However, only a limited portion of this body of research has placed the concept of improving oral communication skills through digital technologies as a distinct and systematically central focus. Therefore, a comprehensive analysis of TESD applications can help clearly determine the role of available technological tools in the development of speaking proficiency, ultimately assisting learners in selecting the most appropriate resources.

Research findings also indicate that different types of tasks exert varying effects on the enhancement of the second language speaking skills (Chau, 2021), which suggests that educators must make well-informed choices when selecting activities for TESD. Moreover, the outcomes of TESD-focused studies still remain underexplored in many respects. While certain scholars, such as Blake (2016) and others, have highlighted the overall positive impacts of TESD, some—such as Lim et al. (2022)—have expressed more critical perspectives.

A thorough analysis of the existing empirical studies on the digital enhancement of speaking skills is essential for addressing these conflicting viewpoints. Such an analysis would also help reinforce confidence in the use of TESD technologies among both academic and practical stakeholders. As previously emphasized, engaging in communication in a second language is a cognitively demanding activity. It involves both top-down processes those that rely on prior knowledge and existing language skills—and bottom-up processing, which requires understanding meaning through individual sounds and words (Corps & Rabagliati, 2020; Thio, 2005; Al-Mahrooqi & Tuzlukova, 2011). As a result, the design of speaking tasks must take this complexity into account. Well-planned and pedagogically structured exercises can provide students with meaningful input and output opportunities. By working with a variety of texts ranging from formal discourse to informal conversation learners can develop greater linguistic efficiency and expand their vocabulary for practical use.

At the same time, several challenges remain in relation to L2 speaking skills. Individual identity factors such as learners' age, native language, and motivation can significantly influence pronunciation in oral language production during the process of second language acquisition (Derwing & Munro, 2005). While attention to pronunciation is undoubtedly an essential component of speaking skills, it is equally important to consider other key characteristics of speech production, such as fluency (Derwing & Munro, 2005).

Moreover, the assessment of speaking skills continues to be a pressing issue. Although alternative assessment approaches such as group discussions are increasingly viewed as effective and preferable, research in this area is still insufficient. Traditional assessment systems often suffer from inconsistencies among evaluators, undermining reliability (Thio, 2005; Al-Mahrooqi & Tuzlukova, 2011). In this context, technology offers innovative and effective opportunities for second language learning. Computer-assisted assessments of speaking skills can serve as valuable tools for placement and diagnostic evaluation (Thio, 2005).

Future research in L2 speaking should focus on the effectiveness of technology-based activities, the impact of task design on fluency development, and the role of oral language tasks in vocabulary expansion. As studies in this area continue to deepen, L2 speaking exercises are becoming more engaging, efficient, and beneficial for learners, contributing significantly to the development of spontaneous speech and conversational abilities.

Numerous scholars have conducted pedagogical research in this domain. For instance, Lys (2013) demonstrated in one of her studies the effectiveness of conversation-based lessons conducted using iPads in improving L2 oral communication skills. The activities involving iPads aligned with a learner-centered pedagogical model, as opposed to a teacher-centered one, incorporating acquisition strategies and cognitive schemas. Additionally, iPads enabled students to record and analyze conversations, providing access to modern and user-friendly learning strategies. This study illustrates how technology can create a supportive learning environment that encourages learners to actively apply their acquired knowledge, thereby promoting deeper and more autonomous engagement in the language learning process.

Chen (2022) highlights that virtual reality (VR) technologies have the potential to reduce public speaking anxiety (PSA) during English conversations. In fact, VR may be even more effective in alleviating speaking-related anxiety compared to mobile-based learning environments. Moreover, because technology-based activities are perceived as engaging and enjoyable by students, they can help mitigate individual differences in anxiety levels, offering support to learners who may experience various psychological barriers. This aligns with the broader pedagogical idea of integrating prior knowledge (cognitive schemas) and guided methodologies into a technology-enhanced instructional model.

González and Hardison (2022), in their study, demonstrated the effectiveness of improving oral speech using a multimodal pronunciation tool called ADEPT (Assistive Design for English Phonetic Tools). This model is based on a synthesis of learning strategies and cognitive schemas, presenting learners with various forms of the International Phonetic Alphabet (IPA)—including visual, auditory, and tactile modes. This multimodal delivery activates learners' existing phonetic knowledge. The tool's web-based platform provides annotated feedback and written explanations that guide learners in creating personalized action plans to address weaknesses in their speech production.

Similarly, Jaramillo Cherrez and Nadolny (2023) showcased the effectiveness of asynchronous video conversations in supporting English speaking skills through technology. Their mixed-method study identified a strong relationship between the use of video-based speaking tasks, improved speech performance, and increased preparedness for communication. This research also supports the paradigm of aligning instructional processes with cognitive schema theory. During practice, learners often revisit prior topic-related knowledge and simultaneously develop interactive speaking strategies such as question formation and conversational turn-taking.

Furthermore, Zou (2023) employed the Technology Acceptance Model (TAM) to assess learners' readiness to engage with technology-based English-speaking tools. The findings indicate that students who perceived AI-based speaking assessment systems as useful and enjoyable were more likely to adopt and engage with them. When learners consider a technology both beneficial and interesting, they are more likely to activate their linguistic knowledge and skills, and to design personalized learning plans aimed at improving weaker areas identified through technological feedback.

Metruk (2024) focuses on the potential of mobile-assisted language learning in developing second language pronunciation. According to a review of existing studies, mobile applications have had a positive effect on learners' attitudes and pronunciation skills. This aligns with models that integrate cognitive foundations and instructional methodologies. Mobile apps provide students with quick access to pronunciation resources such as images and audio files which assist in the recall of previously learned phonetic elements. These apps often include interactive exercises and feedback systems, which encourage students to develop targeted learning strategies, such as recording their own speech and comparing it with native pronunciation to enhance phonetic accuracy. The study reveals that mobile technologies foster improved

pronunciation through active interaction with sounds and accessible learning tools.

In many institutions where English is taught as a foreign language, students continue to face challenges in developing spontaneous and confident speaking abilities. These challenges often stem from limited opportunities for real communication, insufficient practical exercises, and fear of making mistakes. Digital technologies have emerged as viable solutions, offering learners interactive, learner-centered environments where they can practice communication in a low-pressure, engaging context. Applications equipped with real-time speech recognition, AI-driven pronunciation feedback, and virtual conversational agents (chatbots) offer immediate responses, multiple pathways for autonomous learning, and simulate real-life speaking situations. This level of integration enhances learners' motivation and builds their confidence to speak fluently in a foreign language.

As Godwin-Jones (2018) emphasizes, "Digital tools create a safe space for learners to test their oral language, express their ideas, and gradually develop communicative competence without the fear of being evaluated." Thus, the use of digital speaking tools in foreign language education is no longer optional—it has become a pedagogical necessity in the age of global communication and hybrid learning.

Research findings underscore those speaking skills, being a central component of communication, are highly influenced by the digital transformation in education. Foreign languages are not merely systems of grammatical structures, but rather tools of interaction and cultural exchange, playing a vital role in interpersonal communication, reflecting customs, traditions, and cultural heritage. In the era of globalization and technological advancement, English in particular has become the dominant language in international communication, science, business, entrepreneurship, and information technology.

Speaking skills remain a fundamental mode of communication for English language learners, yet effectively developing this skill continues to present many challenges. Therefore, the integration of digital technologies into education to enhance oral proficiency is a highly relevant and urgent issue. As Murodova (2021) notes, "When digital technologies are integrated into the language learning process, students demonstrate significant improvements across all aspects of speech activity listening, comprehension, pronunciation, and spontaneous speaking."

Today, the goal of language education extends beyond the mere transmission of knowledge. It involves fostering active participation, independent thinking, and communicative competence among learners. Speaking skills are at the core of these objectives. Speaking represents the most dynamic and essential mode of language use in foreign language acquisition and is closely tied to other linguistic components such as pronunciation, grammatical accuracy, vocabulary, and communicative etiquette. According to Goh (2007), "Speaking is a highly complex process that involves negotiation of meaning and interaction, requiring both fluency and accuracy under time pressure." Knowledge acquired through reading and listening must ultimately be expressed through oral language to be fully internalized and practiced.

However, traditional teaching methods have historically neglected speaking practice, leading to slower development of oral proficiency. As Xodjayev (2019) states, "When speaking skills are acquired, learners can express their thoughts fluently and independently." In this context, modern technologies including interactive platforms, multimedia-based materials, AI tools, virtual environments, and mobile applications enable learners to practice speaking in authentic communicative settings, record and analyze their spoken outputs, and engage more deeply with the learning content.

Digital technologies make language acquisition more engaging, interactive, and effective, particularly in the context of speaking. They allow learners to independently complete audio-based conversation tasks, receive instant AI-generated feedback, and analyze their performance in real time. This process leads to the automatic improvement of spoken language proficiency. As noted by Kumar and Singh (2020) in The Journal of Education and Technology, "Mobile applications such as Duolingo or Google Speech-to-Text support real-time development of speaking ability by analyzing the user's pronunciation."

Despite the increasing opportunities for using digital technologies in foreign language education, several pedagogical challenges persist. These issues include:

1. Lack of digital literacy and critical use of technology:

The ability to use digital tools effectively does not simply refer to using technology for access, but rather, to using it purposefully, pedagogically, and critically to achieve meaningful learning outcomes. The absence of this competence stems from several key issues:

- **Low technological proficiency**: While many teachers and students are capable of performing basic technical operations (e.g., turning on a computer or using a projector), they often lack the ability to integrate these tools into the teaching process in interactive, communicative, and reflective ways.

- **Misalignment with pedagogical goals**: Teachers and learners frequently select digital platforms and applications based on superficial features like visual appeal or ease of use, rather than on their alignment with educational goals. However, the ideal tools should activate learners, promote analysis, and provide constructive feedback.
- **Passive usage habits**: Digital devices are often used for browsing information or watching videos, rather than for interactive functions such as expressing ideas, communicating with others, recording one's own voice, or self-assessment.
- **Lack of methodological guidance**: Due to the incomplete implementation of digital education, there is a lack of structured guidelines on how to use these tools effectively in class. Teachers and students often don't know which tools to use for specific language skills or how to apply them for meaningful feedback.
- **Absence of instructional strategies**: Each digital tool requires tailored pedagogical strategies, such as gamification, blended learning, chat-based speaking, or audio-analysis.

2. Outdated methodological approaches: Many educational institutions still rely on traditional teaching methods, where the teacher remains the central figure and students are passive recipients of information. This approach limits students' active participation, critical thinking, and creativity. As Soliyev (2019) notes, such teacher-centered instruction suppresses student engagement. Instead, modern teaching requires interactive methods, digital integration, and a focus on independent thought.

As Karimova (2021) argues, digital tools can transform learners from passive recipients into active creators of knowledge. While traditional methods have historical value, they often fall short of meeting the needs of 21st-century education. Thus, it is essential for educators to update their pedagogical outlook, embrace innovation, and adopt digitally informed didactic strategies (Abdullaeva, 2022).

3. Low digital competency among educators: The increasing use of digital tools in education imposes new responsibilities on teachers. Yet, many still lack the necessary digital competence to use modern technologies effectively. As Tursunov (2021) highlights, this negatively impacts classroom productivity. Digital competence encompasses the ability to integrate ICT tools into education, use technology meaningfully, and guide learners in developing digital literacy.

Surveys in Uzbekistan indicate that most teachers possess only basic ICT knowledge and struggle with apps, platforms, virtual classrooms, and multimedia systems. Over 60% of educators cannot independently operate essential online teaching tools (Yuldasheva, 2022). As Omonova (2021) points out, ICT is not optional—it is integral to modern education, and teachers lacking these skills face difficulties engaging with digital-native learners.

4. Inability to align digital tools with language pedagogy: The effective use of mobile apps and educational technology is not only a technical matter but also a pedagogical and linguistic one. Teachers must be able to match digital resources with instructional goals, present content clearly, and ensure contextual appropriateness. As Sodiqova (2021) stresses, it is not enough to use technology—it must be used with pedagogical purpose and linguistic clarity. Educators who possess this synthesis of digital skill and pedagogical language become digital mentors, not just instructors.

As Hockly and Dudeney (2014) emphasize:

"Technology is not a miracle solution its effectiveness depends on how it is integrated into pedagogy with clear communicative goals."

Hence, improving speaking skills through digital technologies is not only a technological challenge, but a critical pedagogical concern that requires systematic academic inquiry. Research in this area not only enhances language acquisition but also prepares digitally competent learners for a future shaped by technology.

Furthermore, today's students' members of the digital generation expect learning to be interactive, visual, and responsive. Developing speaking skills via digital platforms increases learner motivation and aligns with pedagogical trends. As Richards and Rodgers (2001) and Warschauer (2004) suggest, digitizing communicative language teaching creates new opportunities for teacher development and professional growth.

However, in many developing countries, limited access to quality digital devices, stable internet, and licensed platforms remains a major obstacle to implementing digital language learning on a wide scale (Kukulska-Hulme, 2020).

To address these issues, educators are increasingly using AI-powered platforms (e.g., Duolingo, ELSA Speak, Mondly), virtual classrooms (e.g., Zoom, Google Meet), and intelligent feedback systems to support speaking skills. As Godwin-Jones (2018) notes:

"Digital tools provide instant feedback, foster autonomous learning, and simulate real-life communication key factors in developing L2 speaking skills."

Examples of Effective Tools:

- **ELSA Speak**: Analyzes learners' pronunciation using phonetic models and provides real-time corrections (Akhmad & Munawir, 2022).
- **Liulishuo and Mondly**: AI-based platforms that directly assess learners' spoken output and adapt content accordingly.
- **Flipgrid**: Enables oral discussions and reflections through video responses.
- Google Speech-to-Text: Offers real-time transcriptions and highlights pronunciation errors.
- **VR & AR Technologies**: Allow learners to interact in near-authentic environments. A 2023 Cambridge University study reported a 31% reduction in speaking errors after VR-based training.
- **AI Transcription & Feedback**: Tools like Google Speech-to-Text and Duolingo AI convert speech into text, detect errors in grammar, vocabulary, and pronunciation, and provide instant corrective feedback.

Theoretical Foundations:

- **Sociocultural Theory (Vygotsky, 1978) and Communicative Approach (Canale & Swain, 1980)** form the core of digital language teaching frameworks.
- **CALL** (Computer-Assisted Language Learning) and ICALL (Intelligent CALL) systems, driven by AI, have shown significant benefits in oral proficiency development (Woo & Choi, 2021).

These insights suggest that integrating digital technologies into L2 speaking instruction is both effective and necessary. Learners not only show greater engagement and improved outcomes but also develop autonomy and confidence in oral communication. Digitally enhanced speaking instruction fosters educational equity, interactive learning environments, and positive learner experiences, making it a transformative force in modern language pedagogy.

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