VOLUME (3) NUMBER (5) JUNE 2025

JOURNAL
Seminar
THE 1ST MULTIMEDIA SCIENTIFIC JOURNAL

The 6th Conference for Postgraduate Studies & Research Sector

Foreign Languages and Literature: Research Perspectives and Educational Trends

28-29 APRIL, 2025

ISSN 2974-3397 (Print)
ISSN 2974-3400 (Online)

https://smnar.journals.ekb.eg

Empowering Students to Become Life-Long Learners

10.21608/smnar.2025.430332

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ABSTRACT

This paper is a call for EFL teachers in general to help their students become life-long learners. It begins with the definition of life-long learning and how it differs from exam-oriented learning. Then, it is developed to include the requirements of life-long learning and its basics and/or foundations. Finally, it concludes with the methodologies that can be used to help students become life-long learners. It recommends that students in the 21st century become life-long learners.

Introduction

Definition of Life-long Learning

As the name suggests, lifelong learning refers to learning (not teaching) in the sense that it is student-related. That reveals, life-long is a compound noun. It refers to that continuous process of learning. So, life-long learning continues throughout our lives without the restrictions of time or place. It takes place from birth to death and at various places, whether inside or outside of the school. In contrast to exam-oriented teaching and assessment, lifelong learning is directed to preparing students of life. Morgan (2025) believes that lifelong learning is not just about acquiring specific skills; it's also about cultivating a mindset of intellectual curiosity. The most successful individuals are those who are naturally curious, eager to learn new things, and willing to challenge their own assumptions.t refers to the systems and practices that support ongoing education during adulthood and throughout one's career.

One interpretation views LLL as a personal, natural process of growth and learning that occurs as adults move through different life stages.

Another perspective focuses on access to educational opportunities driven by market demands and the concept of human capital, where learning and skills are treated as commodities. Notably, these varying definitions often overlook the role of technology in shaping how learning takes place.

Based on this, life-long learning requires that students have literacy, the ability to read and write. This does not mean the conventional meaning of the past; it means the ability to read and write both at the regular level and at the electronic or digital level as well. Here appears the importance of technological literacy that students should have in order to become life-long learners.

Additionally, students learn foreign languages, especially English. In order to be acquainted with the literature in any discipline, students should master the English language to read about others' culture and ways of life. Becoming lifelong learners requires that students know both English and some other foreign languages.

Consequently, life-long learning requires deep learning; students should become good comprehenders (listen that relies on learning for life. It requires that students read and comprehend effectively). In other words, students should become active learners, not only knowledge recipients but producers (well, speak and write). In other words , They should process and retain knowledge at the long memory not the short-term one. Finally, life-long learning requires continuous teaching and evaluation to go hand in hand, so assessment and/or evaluation should take place at the beginning, development, and termination stages. It also requires genuine (alternative and direct) evaluation, rather than conventional evaluation methods and/or techniques. The assessment and/or evaluation required should be performance-based (not knowledge-based).

EFL students should be committed to constantly improving their language proficiency for professional development. This emphasizes responsibility, self-motivation, and the importance of coping with current language varieties and evolving classroom demands. Teachers in general and EFL teachers in particular should provide a supportive and motivating learning environment to foster their students' lifelong English language learning attitudes. Students should be motivated to find and explore more continuing learning opportunities. Students should be helped to adopt the premise that language learning is a continuous and progressive process rather than a single or discrete learning objective.

Thwe and Kálmán (2024) provide various definitions of lifelong learning (LLL) from international organizations. The European Commission defines LLL as intentional learning throughout life to enhance knowledge, skills, and competencies in personal and professional contexts. UNESCO views LLL as all intentional learning from birth to death, covering both formal and informal settings.

According to the European Lifelong Learning Initiative LLL is an ongoing, empowering process that helps individuals acquire and apply knowledge and skills with confidence and joy across all areas of life. Overall, LLL is a flexible, diverse, and accessible lifelong pursuit of learning.

Nowadays, the term is closely related to what is called sustainability and mindfulness, and growth mindset. Sustainability can be seen as a vital and multifaceted 21st-century concept closely tied to active citizenship and societal engagement. Its main aim is to foster sustainable growth across ecological, social, and economic dimensions to create a just and peaceful world. Within lifelong learning holds great potential to contribute to long-term success by equipping individuals with the knowledge, skills, and values necessary to address sustainability challenges (Orlović Lovren & Popović, 2018).

Mindfulness emphasizes recognizing the personal identities, needs, and emotions of learners. It supports not only academic and social goals but also emotional well-being. For lifelong learning, mindfulness helps older learners stay engaged, aid learning at all levels by fostering internal awareness and focus, which can positively influence brain function (Hyland, 2012).

Morgan (2025) highlights the significant role that mindset plays in learning, referring to the beliefs individuals hold about their own abilities. Based on Carol Dweck's framework, he distinguishes between two types of mindsets: fixed and growth. Individuals with a fixed mindset believe that their abilities are static and cannot change, which leads them to avoid challenges, shy away from risks, and give up easily when faced with difficulties. In contrast, those with a growth mindset believe that abilities can be developed through effort and learning. They view challenges as opportunities for personal growth, are more willing to take risks, and see failure as a valuable part of the learning process.According to Seifeddin (2021) life-long learning requires that teachers prepare EFL students to learn–how-to learn and learn how to work (job or career skills). They should train students on how to communicate and how to be. EFL students should be autonomous, self-directed learners and risk –takers who solve problems and rely on research- and / or challenge–based learning.

Basics and/or Foundations of Life-long Learning

Lifelong learning is built on several essential foundations that empower individuals to grow continuously throughout their lives. These include learning how to learn, which fosters independence and adaptability; learning how to communicate effectively; and learning how to collaborate with others in diverse settings. Additionally, it involves learning how to create, encouraging innovation and problem-solving skills, as well as developing critical thinking abilities to analyze and evaluate information. Finally, learning how to work equips individuals with the skills and mindset needed to thrive in professional environments. Together, these elements form a comprehensive framework for lifelong personal and professional development.These basics have some common features. They begin with the word “learn”, meaning that they are student-centered, and they also focus on how reflecting the fact that what matters is the delivery or the methods that make life- long learning applicable and effective.

The following section deals with each one and/or each foundation in some detail.

(1) Learn how to learn

To be lifelong learners, students should be encouraged to learn how to learn skills. This can take place through risk-taking, not risk-avoidance, as the latter cannot make students active or initiative-driven. They can conduct research projects using various inquiry models and challenge-based learning.

(2) Learn how to communicate

Learning how to communicate is a vital 21st-century skill that students must master. Effective communication goes beyond one-way, verbal, or informal expression; it includes both verbal and nonverbal, formal and informal, and oral and written forms. Students should be guided to become clear and confident communicators by minimizing communication barriers and reducing anxiety. This can be achieved through diverse approaches such as workshops, flipped learning, CALL, MALL, digital simulations, and AI-powered tools like conversational chatbots.

(3) Learn how to collaborate

Collaboration is considered one of the 21st century's skills students should be trained in. They should collaborate and work in groups rather than in an individual manner. Collaborative work not only enhances achievement and academic skills, but it also develops students' individual social as well as emotional skills. Students can practice collaborative teaching and learning, collaborative research work, collaborative online learning (COL), collaborative platforms, and/or collaborative strategies, etc.

(4) Learn how to create

Creativity is again one of the 21st-century skills. Students must be trained in how to create and think outside the box. They should be aware of the features that make them creative, including originality, flexibility, elaboration, etc. Students should think creatively. Creative thinking skills enable students to cope with the world of change. Students should practice creative skills in language teaching, the imaginative approach to language, creative thinking models, etc.

(5) Learn how to be critical thinkers

It is also the process of analyzing and appraising knowledge, data, challenges, and concerns. Critical thinking is a mental exercise that involves cognitive skill for problem-solving. Students should be able to apply some mental processes, including classification, judgment, selection, and attention. They should also use higher-order thinking skills (HOTS). Students should evaluate what they are learning in class in a critical way. Students can write research papers, make critical reviews for some topics, and write argumentative essays to use critical thinking models.

(6) Learn how to work

Learning how to work is an important skill students should help learn to become prepared for the future. Education should be connected to the labor market and its needs. Job- or career-related skills are vital skills for college students. Each job/career has its own job descriptions. Students should be competent in their specialties as well as functional writing. They should be persistent, punctual, and self-regulated.

Appropriate Methodologies

To support students in becoming life-long learners, a variety of methodologies can be applied. These include challenge-based learning, collaborative online learning, and the use of English bots and chatbots. Other effective approaches involve microlearning, communicative workshops, and imaginative strategies for language teaching. Additionally, service learning, the development of critical and creative thinking skills, and AI-powered learning tools such as generative AI chatbots and smart learning hubs play a key role. English language competitions and the Green ELT Approach further enrich the learning experience and foster sustainable, continuous growth. Some of these methodologies will be dealt with in this section.

Micro Learning

Microlearning, introduced in 2005, is a learner-centered approach that delivers short, focused instructional content designed to enhance attention, retention, and flexibility. It emphasizes social-cognitive engagement by providing essential knowledge in small, digestible units, fostering active learning through interaction and contextual language use. The approach integrates behaviorist principles like reinforcement and feedback to boost motivation and retention, while also using multimedia tools such as videos, animations, and infographics to create engaging digital experiences. Defined by concise content, adaptability, and goal-oriented structure, microlearning is designed to be easily integrated with traditional teaching methods, making it an effective and versatile tool for continuous language development.

AI Applications

Artificial Intelligence (AI) is broadly understood as the ability of machines to imitate human thinking and behavior, aiming to replicate the human mind through computer systems and tools. Scholars describe it as the "new electricity" due to its transformative potential, particularly in driving economic growth and technological advancement. Massive investments—like China's $40 billion in 2017—highlight AI's expected contribution to GDP growth worldwide. Beyond economics, AI's influence is expanding across all sectors, including education, where its integration could reshape classroom practices, school management, and the development of 21st-century skills. As AI technologies increasingly captivate younger generations, schools must adapt or risk becoming outdated. This growing relevance prompts critical questions about how stakeholders across various fields—law, business, education, and engineering—perceive AI's role in shaping the future of education, which is the central focus of the study.

Importance of Artificial Intelligence in English Education

Artificial Intelligence (AI) is revolutionizing English learning and teaching by enabling personalized, interactive, and engaging experiences. Traditional multimedia-assisted classrooms often lack real-time teacher-student interaction, leading to passive learning and low student motivation (Jianlin, 2017). AI addresses these gaps by utilizing big data to track learner behavior, assess progress, and provide tailored feedback, empowering teachers to adapt strategies accordingly (Shouren, 2016).

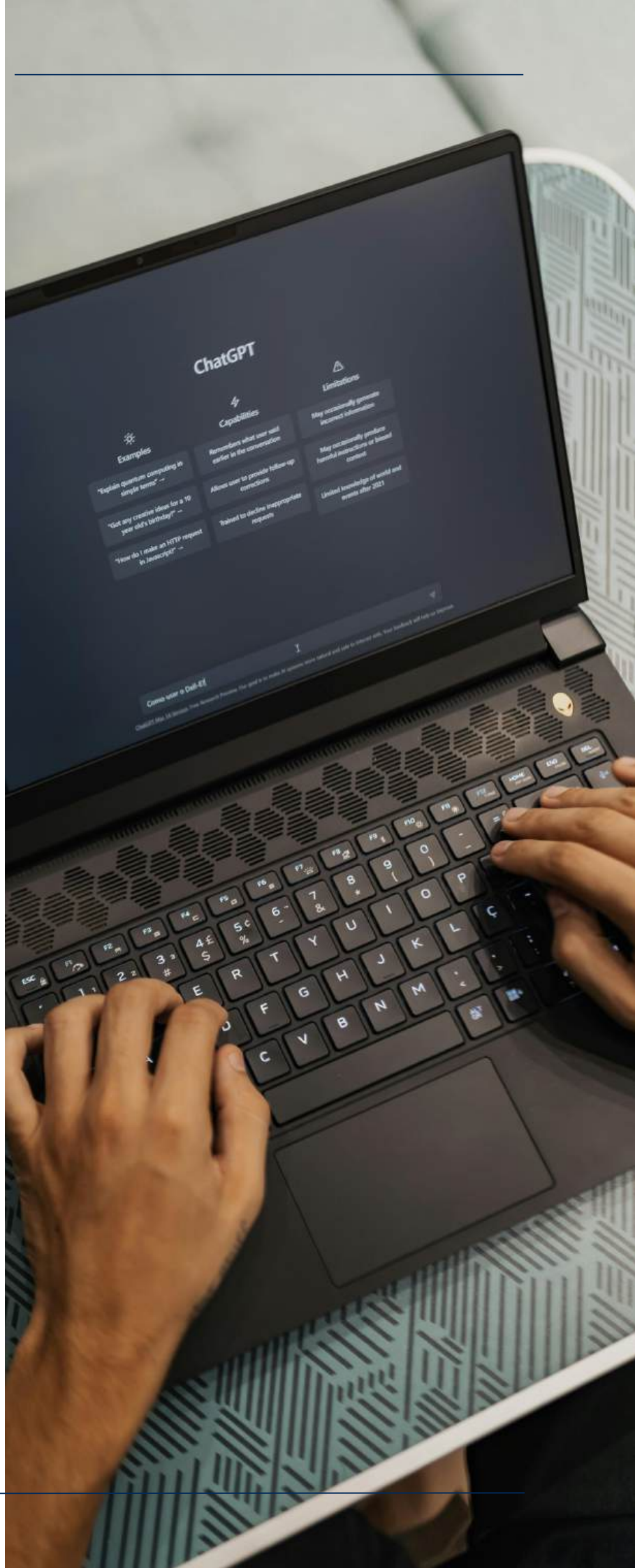
AI enhances language acquisition by integrating learning into everyday life and supporting innovations in English teaching. In listening education, AI can match materials from corpora based on student profiles (e.g., age, English level, major), increasing engagement and reducing anxiety associated with traditional listening classes (Xiaobing, 2013). This personalization allows students to select content based on interests or career goals and connect learning to real-life contexts. In writing instruction, AI systems assist with composition by offering ideas, vocabulary suggestions, and automatic feedback. Tools like correction networks help students recognize and correct errors, thereby strengthening their writing ability and motivation (Jia, 2019). These platforms support continuous learning through self-assessment and allow teachers to adjust their teaching using formative assessment reports (Xiaoqiong, 2015).

For speaking skills, AI tools create immersive practice environments. AI-powered robots can simulate conversations, reduce learner anxiety, and promote fluency through interactive dialogue and group learning activities, even remotely (Kaiquan, 2017). These innovations make oral practice more accessible and effective. Overall, AI plays a crucial role in modernizing English teaching by supplementing traditional methods, enhancing learner autonomy, and supporting both students and educators in achieving better outcomes across listening, speaking, writing, and translation.

Artificial Intelligence in Education

Roll and Wylie (2016) suggest that education systems risk becoming merely faster, more efficient versions of traditional models, rather than adapting to the needs of the 21st and 22nd centuries. The future of education may require entirely new approaches, especially with the rise of artificial intelligence (AI), prompting questions about whether AI could or should replace teachers (Felix, 2020). Some researchers argue that AI will enhance rather than replace human teachers. Manyika et al. (2017) believe AI will amplify uniquely human traits like creativity and empathy. Haseski (2019) notes that AI can improve learning experiences and reduce teacher workload, while Sekeroglu et al. (2019) and Pedro et al. (2019) emphasize its role in personalized learning and supporting marginalized learners.

However, others caution against relying too heavily on AI, warning of reduced human interaction (Humble & Mozelius, 2019). As such, future teachers must be equipped to work alongside AI (Wogu et al., 2018). Historically, AI concepts date back centuries, gaining momentum with Turing's work in 1937 (Humble & Mozelius, 2019).Canbek (2020) and Mohammed & Watson (2019) discuss AI's transformative potential in education systems and individualized learning environments. Grosz & Stone (2018) highlight AI's ability to enhance education quality through personalization, and Pedro et al. (2019) propose a dual-teacher model where AI handles routine tasks, freeing human teachers to focus on deeper engagement.



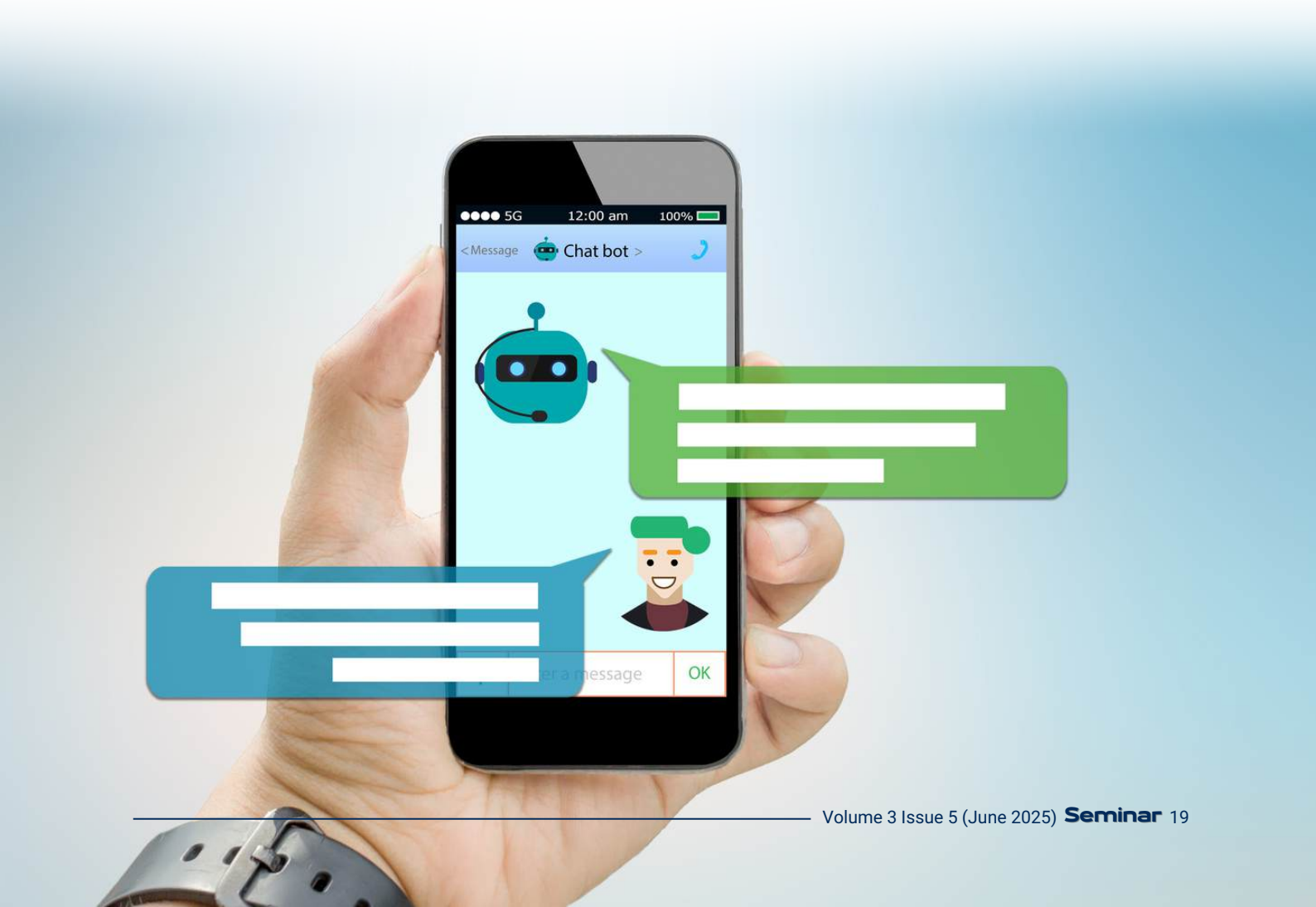
Chatbots in the EFL Context

The release of ChatGPT by OpenAI on November 30, 2022, marked a significant breakthrough in AI and education. Garnering over one million users in five days and 123 million monthly active users in under three months (Cheng et al., 2023; Rudolph et al., 2023), it quickly became the fastest-growing app in history and a transformative tool in academic and language learning contexts.

ChatGPT, using natural language processing (NLP), simulates realistic human conversation and can perform creative tasks such as writing poems or stories (OpenAI, 2023; Tlili et al., 2023). Its rapid integration into education is evident: between late 2022 and early 2023, over 81 research papers related to ChatGPT were published in Scopus (Doskaliuk & Zimba, 2023), covering fields such as education and academic writing. Previous studies (Godwin-Jones, 2021; Dong et al., 2022; Thenmozhi et al., 2023) support the effectiveness of AI tools like chatbots in teaching and learning. A notable study by Berrezsueta-Guzman and Dolón-Poza (2025) on preschool English learners showed that children using robotic assistants learned 23% more vocabulary than those taught with traditional methods. Teachers and parents also reported higher engagement and smoother integration of the robots in the classroom.

Definition of Chatbots

In the context of English as a Foreign Language (EFL), chatbots are AI-powered conversational tools designed to simulate human-like interactions and provide learners with real-time, interactive language practice. They use natural language processing (NLP) to engage users in meaningful dialogue, offering instant feedback, personalized learning paths, and adaptive support based on individual learners' strengths and weaknesses. Chatbots serve as virtual language partners, enhancing vocabulary acquisition, grammar understanding, and communication skills in a supportive, self-directed, and engaging environment, making them valuable tools for both learners and educators in the EFL classroom.



Importance of Using Chatbots in the EFL Context

According to AbuSahyon, Alzyoud, Alshorman, and Al-Absi (2023), chatbots and AI technologies significantly enhance English language learning by creating interactive, personalized, and supportive environments. Chatbots simulate real-life conversations and give instant feedback, while AI adapts lessons to learners' specific needs. These tools provide grammar support, vocabulary practice, and interactive lessons that encourage self-directed learning. Additionally, features like speech recognition and natural language processing allow real-time speaking and writing practice. AI also monitors learners' progress, pinpoints weaknesses, and recommends personalized exercises, making EFL learning more efficient, engaging, and goal-oriented.

a. Enhancing oracy skills:

Oracy skills involve the effective use of spoken language, including clear articulation, active listening, and meaningful conversation. These skills are crucial for communication, academic achievement, social interaction, and professional success. Speech recognition tools like Speechling and Google's Cloud Speech-to-Text enhance pronunciation and fluency, while 3D AI Holograms introduce immersive learning experiences, making language practice more engaging. For example, AI technology enables the creation of interactive 3D holograms, providing immersive learning experiences.

b. Enhancing Literacy Skills

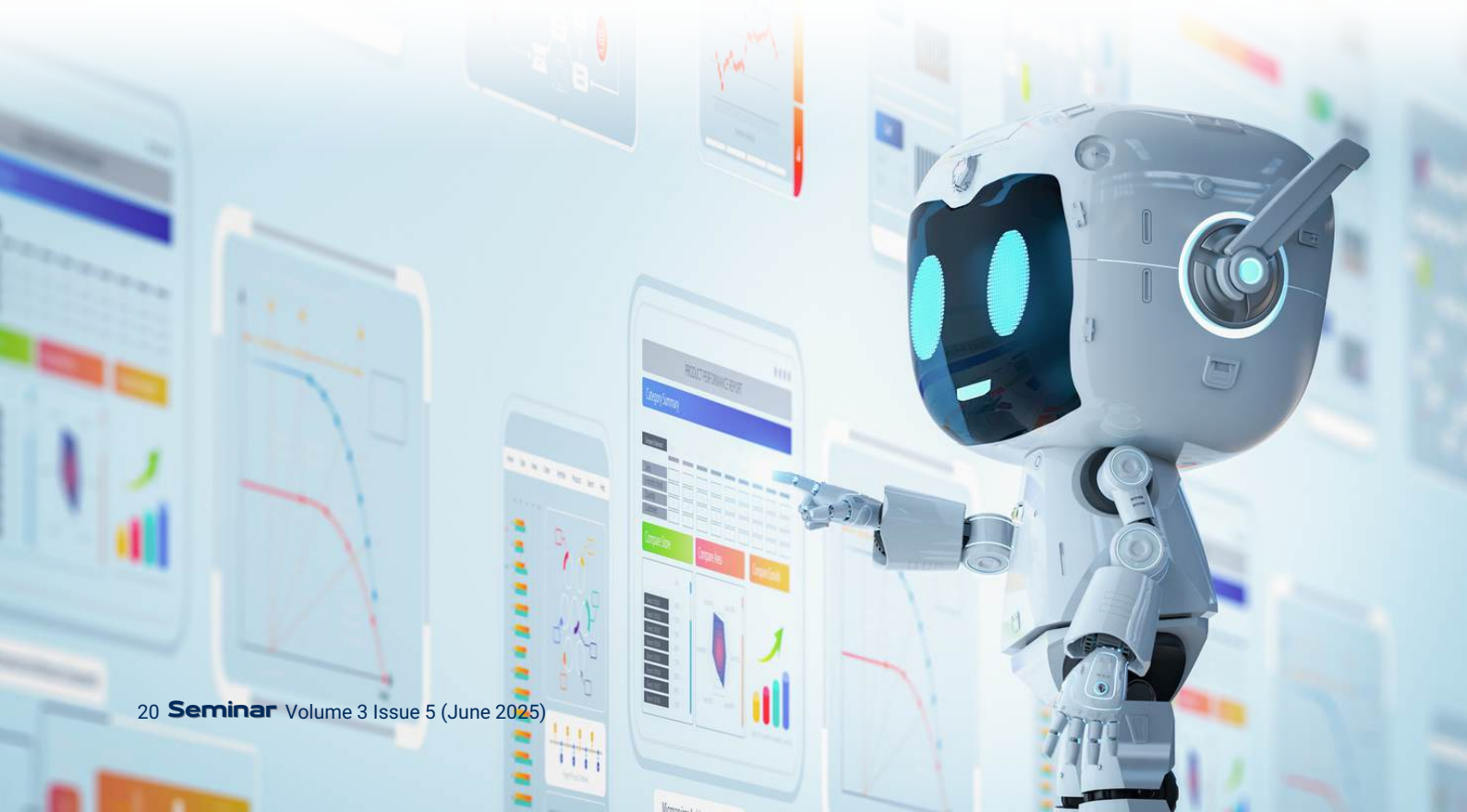
AI significantly improves reading and writing skills through personalized learning, smart tutoring systems, and Natural Language Processing (NLP). Tools like text-to-speech enhance comprehension, and adaptive platforms support vocabulary and reading tasks. Writing tools such as **Grammarly**, **QuillBot**, and **ProWritingAid** enhance grammar, coherence, and fluency using advanced algorithms. Though they streamline writing tasks and improve quality, they may lack creativity and struggle with complex content.

c. Mastering Vocabulary and Pronunciation

AI enhances vocabulary and pronunciation via **personalized exercises**, **speech recognition**, and **real-time feedback**. Platforms like **Babbel**, **Quizlet**, **Lingvist**, and **Rosetta Stone** use AI to tailor lessons and adapt difficulty levels. Studies (e.g., Nasim et al., 2022) show that students using digital tools outperform those using traditional methods in pronunciation learning.

d. Translation

Natural Language Processing (NLP) has evolved over decades, enabling **AI-powered translation tools** like **DeepL**, **Microsoft Translator**, **ChatGPT**, and **Claude AI** to provide accurate, context-aware multilingual communication. This progression—from early machine learning to today's deep learning—has made translation tools more effective and user-friendly in the EFL context.



Smart Learning Hubs in EFL Education

Smart Learning Hubs are technology-enhanced platforms designed to support English language learning through interactive tools, personalized exercises, and authentic materials. They include apps like Duolingo and Babbel, websites like Quizlet and Edmodo, and advanced technologies such as virtual reality (VR) and interactive whiteboards. These hubs improve vocabulary, grammar, cultural awareness, and real-world language use through news articles, videos, podcasts, and songs.

Virtual Reality in Language Learning

Platforms like AltspaceVR offer immersive, avatar-based environments where learners can practice English through authentic communication. Used by students in the Netherlands and Cyprus, AltspaceVR promotes digital literacy, intercultural communication, vocabulary growth, and motivation. While high-immersion VR (HIVR) enhances learning, some students find the experience overwhelming. Integrating HIVR with Collaborative Online International Learning (COIL) has shown positive outcomes.

Smart Brainstorming Tools

Innovative tools like TheBrain, IdeaBoardz, and Freeplane support idea generation and organization.

- ***TheBrain*** mimics human thought networks for dynamic idea linking.
- ***IdeaBoardz*** uses virtual sticky notes and voting for collaboration.
- ***Freeplane*** allows advanced mind mapping, task management, and presentations with strong community support.

Horn explores the metaverse as an emerging frontier in virtual learning, catalyzed by the pandemic's shift toward online education. While its definition continues to evolve, the metaverse is broadly viewed as an immersive, interoperable digital environment. Educators are increasingly experimenting with its use in K–12 settings through virtual reality schools, teacher hubs, and virtual field trips. Horn argues that early implementations will likely be proprietary but could enhance engagement and accessibility, acting as a sustaining innovation for virtual schools.

Li and Yu (2023) classify the metaverse into four types: augmented reality, which overlays digital content onto the physical world to help language learners; lifelogging, which tracks and analyzes learning experiences via social media; mirror worlds, which simulate real environments for remote learning; and virtual reality, which creates fully immersive educational spaces through avatars and 3D interactions. Together, these technologies open new possibilities for experiential learning, such as virtual science labs, cross-cultural exchanges, and immersive field trips.

Çelik and Baturay (2024) explored the effects of Metaverse-Based Language Teaching (MBLT) on high school English learners in Türkiye, using a quasi-experimental design with 86 students. Grounded in social constructivist theory, the study showed that MBLT significantly enhanced vocabulary acquisition and retention, student engagement, sense of presence (social, cognitive, teaching), and community feeling. It demonstrated how the immersive and interactive nature of the metaverse can overcome limitations of traditional language teaching by increasing exposure to the target language and offering richer opportunities for practice. MBLT is positioned as a dynamic techno-pedagogical approach supported by Interactionist Second Language Acquisition, Social Constructivism, and Sociocultural Theory.

Complementary tools like **Classcraft** gamify learning using AI, while platforms such as **Duolingo** and **YouTube** aid translation and comprehension. **LMS platforms** (e.g., Blackboard, Canvas) streamline classroom management, and pronunciation tools like **How to Pronounce** and **YouGlish** provide authentic examples of language use. **YouGlish**, in particular, supports self-directed learning by helping students analyze native pronunciation, intonation, and context. Similarly, **ELSA Speak**, an AI-driven app, gives real-time feedback on pronunciation and intonation, further enhancing learners' speaking skills. Together, these tools highlight the growing role of digital technologies in fostering autonomous, interactive, and effective language learning.

Green ELT Approach

The **Green Education Approach in English Language Teaching (ELT)** integrates environmental sustainability into language instruction, aiming to enhance students' linguistic abilities while fostering ecological awareness, critical thinking, and social responsibility. Rooted in eco-pedagogy and environmental literacy, this approach utilizes multimodal strategies such as Content and Language Integrated Learning (CLIL), project-based learning, and digital tools like QR codes and eco-conscious social media. Through real-world tasks—such as writing about environmental issues or participating in sustainability discussions—students improve their language skills while engaging with global ecological concerns. The approach also promotes sustainable classroom practices like reduced paper use and digital integration.

Historically, **Joseph (2025)** highlights Rachel Carson's Silent Spring as a foundation of ecofeminism and environmental activism. In Egypt, **Abdel Latif (2024)** found that Green ELT (GELT) programs significantly improved both writing skills and environmental awareness in first-year English majors. **Preston (2011)** discussed challenges in teaching critical thinking on environmental issues, stressing the need for deeper engagement. **Olsson (2013)** introduced the Green Teaching Certificate Program, recognizing university professors for eco-friendly teaching practices and promoting digital tools to reduce environmental impact.

Nur, Anas, and Pilu (2022) advocate incorporating environmental themes through CLIL and teacher training, while **Seraj (2024)** expands on digital frameworks such as Green Social Media in Language Teaching (GSMLT), Context-Aware Ubiquitous Language Learning (CAULL), Green Pedagogy (GP), and Project-Based Language Learning with Technology (PBLLT). These methods encourage practical, tech-driven engagement with environmental topics, positioning Green ELT as a transformative force in sustainable and meaningful language education.

English Language Competitions

English Language Competitions in EFL (English as a Foreign Language) are structured contests designed to enhance students' language proficiency, motivation, and engagement through interactive and goal-oriented activities. These competitions can be local or international and are often integrated into educational curricula to provide students with real-world opportunities to practice and showcase their language skills. When carefully planned, they support teamwork, learner autonomy, and tailored language development (Ismoyiljonovna, 2024).

Two notable international competitions include:

- **HIPPO English Without Borders**, launched in 2012, aims to promote English proficiency, cultural exchange, and global unity. Open to non-native speakers and aligned with the CEFR, HIPPO includes over 88,000 participants from 65+ countries (2024 edition) and features activities such as workshops and summer programs.
- **International Linguist Kangaroo (ILK)**, represented in Egypt by EduMeter, targets students from grades 1 to 12 across countries where English is a second language. Its test levels align with CEFRL and assess listening, speaking, reading, and writing skills.

Research by Ruixue and Policarpio (2024) showed that integrating such competitions into the curriculum significantly improves students' oral English, particularly in idiomatic expressions and communication, provided they are implemented alongside other effective teaching strategies.

The Common European Framework of Reference for Languages (CEFR), developed by the Council of Europe in 2001, serves as a standard framework for assessing and describing language proficiency. It organizes skills into three main levels (A, B, C), each with two sub-levels, and emphasizes four language modes: Reception, Production, Interaction, and Mediation.

Overall, English language competitions aligned with CEFR principles promote not only language proficiency but also intercultural competence, critical thinking, and student-centered learning in EFL contexts.The Common European Framework of Reference for Languages (CEFR), as explained by the Council of Europe (2020), categorizes language proficiency into three main levels—Basic User (A1, A2), Independent User (B1, B2), and Proficient User (C1, C2). Each level reflects increasing linguistic ability, from understanding basic phrases (A1) to mastering complex texts and implicit meanings (C2).

Several international English competitions are aligned with CEFR to motivate and assess young learners:

- **KGL Contest:** An international contest for students up to age 17, offered at levels Pre-A1 to B2. It rewards top students and schools with titles like Platinum, Gold, or Silver, and provides certificates, prizes, and opportunities for global competition.
- **TeenEagle:** A global English competition for ages 8–18, featuring online and final rounds. Participants can prepare through Zoom clubs and boot camps. TeenEagle promotes diversity, innovation, and international connections while encouraging integration and shared identity.

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