

A Textual Analysis and Virtual Reality based Program to Enhance Faculty  
of Science Students' EFL Communicative Performance

برنامج قائم علي التحليل النصي والواقع الافتراضي لتنمية الأداء التواصلي باللغة  
الإنجليزية كلغة أجنبية لدي طلاب كلية العلوم

**Dr. Marwa Mohamed Badr Abd Alfatah**

An English Instructor at Faculty of Science-  
Mansoura University

**Publication Date: 01/09/2025**

**Acceptance Date: 11/08/2025**

This research aimed at investigating the effect of a program based on textual analysis and virtual reality (VR) environments on enhancing EFL communicative performance among Faculty of Science students. To achieve the aim of the research, the researcher adopted the quasi-experimental design of two groups: experimental (n=30) and control (n=30) from Faculty of Science Students, Mansoura University. The experimental group was taught using the study program that integrated immersive virtual reality scenarios with task-based text analysis activities covering all four language skills, while the control group received instruction using regular methods. The data obtained were statistically treated through the SPSS program. Results revealed significant improvements and differences between the scores of EFL communicative performance pre- and post-test, indicating an impact of the study program. The participants demonstrated enhanced EFL communicative performance skill. The findings suggested that the integration of VR with textual analysis provided an innovative and effective pedagogical framework, especially for the scientific students. The research contributed to the growing body of literature on technology-enhanced language learning and supported the utilization of immersive, learner-centered environments in alignment with Egypt Vision 2030 goals for quality and smart education.

**Keywords: Textual Analysis, Virtual Reality, Faculty of Science Students, EFL Communicative Performance**

**The Author:** Marwa Mohamed Badr Abd Alfatah

**Email :** [marwab2030@gmail.com](mailto:marwab2030@gmail.com)

هدف البحث إلى دراسة تأثير برنامج قائم على تحليل النصوص وبيانات الواقع الافتراضي في تعزيز الأداء اللغوي لدى طلاب كلية العلوم. ولتحقيق هذا الهدف، استخدمت الباحثة التصميم شبه التجريبي، مع مجموعتين: مجموعة تجريبية (30 طالبًا) ومجموعة ضابطة (30 طالبًا) من طلاب كلية العلوم بجامعة المنصورة. تم التدريس للمجموعة التجريبية باستخدام برنامجًا يدمج سيناريوهات الواقع الافتراضي المعزز مع أنشطة التحليل النصي القائمة على المهام بمهارات اللغة الأربعة بينما تلقت المجموعة الضابطة تدريسًا بالطريقة التقليدية. قامت الباحثة بالتطبيق القبلي – البعدي لاختبارات قياس الأداء اللغوي في اللغة الإنجليزية كلغة أجنبية. تم تحليل البيانات إحصائياً باستخدام برنامج SPSS. وأظهرت النتائج تحسناً ملحوظاً في أداء المشاركين في الاختبار النهائي مقارنةً بالنتائج الأولية، مما يدل على فعالية البرنامج التدريبي. فقد تحسنت مهارات التواصل باللغة الإنجليزية لدى المشاركين. وتشير النتائج إلى أن دمج تقنية الواقع الافتراضي بتحليل النصوص يوفر منهجية تعليمية مبتكرة وفعالة، لا سيما لطلاب التخصصات غير اللغوية. ويساهم هذه الدراسة في توسيع المعرفة في مجال استخدام التكنولوجيا في تعليم اللغات، ويدعم تطبيق بيئات تعليمية تفاعلية تركز على الطالب، بما يتماشى مع أهداف رؤية مصر 2030 لتحقيق تعليم ذي جودة عالية.

الكلمات المفتاحية: التحليل النصي، الواقع الافتراضي، طلاب كلية العلوم، الأداء التواصلي في اللغة الإنجليزية كلغة أجنبية

## **Introduction:**

In today's interconnected world, English proficiency is crucial for science learners, as emphasized by universities seeking to develop students' EFL communicative abilities. EFL communicative performance—defined by Yang (2020) as the capacity to use English effectively across varied situations—incorporates components such as grammar, vocabulary, fluency, pronunciation, and discourse. Canale and Swain (1980) highlighted that communicative competence blends linguistic knowledge with contextual appropriateness, while Crystal (2003) underscored its role in knowledge exchange and professional growth. Assessment dimensions, as noted by Gan and Humphreys (2018), include accuracy, fluency, coherence, appropriateness, and interactional skills. Harmer (2015) affirmed that strong communicative skills are essential for academic and professional success.

Several instructional strategies support the development of EFL communicative performance. Task-based language teaching (TBLT), for example, has proven effective: Wang, Zhang, and Liu (2020) found that TBLT significantly improved both performance and satisfaction among EFL learners. Corrective feedback—whether direct or indirect, from teachers, peers, or self—also aids skill development, with Li and Chen (2019) identifying teacher feedback as especially impactful. Additional approaches recommended by Zhang and Li (2021) include language exchanges and digital learning tools, which support autonomous and interactive practice. Textual analysis further enhances learners' structural and functional awareness, improving reading and writing proficiency.

Emerging technologies, particularly virtual reality (VR), offer immersive and engaging avenues for bolstering

~~EFL communicative skills. Lin, Chen, and Wang (2021)~~ noted that VR creates low-risk, dynamic environments where learners can practice authentic tasks, bridging the gap between textual knowledge and practical use. Studies by Wu et al. (2020), Liang et al. (2021), and Huang and Li (2021) demonstrate VR's effectiveness in improving speaking, pronunciation, fluency, accuracy, and interactional competence. Park and Lee (2020) also highlighted its benefits for EFL writing. When integrated with textual analysis and supported by research from Chang et al. (2019) and Wu et al. (2019), VR holds significant potential for creating holistic, accessible, and satisfying learning experiences.

### **Context of the problem:**

Science learners frequently face various challenges in developing and strengthening their English as a Foreign Language (EFL) skills. The problem addressed in this research was identified through the researcher's observations while working as an EFL instructor at the Faculty of Science, Mansoura University. Despite using instructional strategies like collaborative work, group discussions, and flipped classroom techniques, the following issues were noted: - Learners' performance in EFL writing tasks, both in class and as homework, was consistently unsatisfactory. - Many learners showed reluctance to speak or interact with peers during lectures, often providing incorrect or incomplete responses to spoken prompts, indicating a lack of confidence in oral communication.

Additionally, a review of existing literature confirmed that these learners commonly struggle to acquire effective EFL communication skills.

### **Statement of the problem:**

Despite continuous efforts by experts in the field of TEFL, there remains a need for instructional practices that align with the demands of global advancements. Although a variety of traditional and modern teaching methods have been currently employed, many of these approaches fail to fully integrate the evolving role of technology, resulting in rigid instructional delivery and passive learner engagement.

Accordingly, the problem addressed in this research is that science learners demonstrate a low level of English communicative performance. To tackle this issue, the research explored the effectiveness of a proposed program that incorporated virtual reality and textual analysis, aiming to improve university science students' EFL communicative performance.

### **Aim of the study:**

The study aims at developing the faculty of science students' EFL communicative performance through a proposed program based on textual analysis and virtual reality.

### **Significance of the study:**

1. **For Learners:** It enhances English communication skills, builds academic confidence, and introduces the use of virtual reality as an effective language learning tool.
2. **For Educators:** It provides practical guidance for implementing VR programs, insights into student challenges, and inspiration to adopt modern, interactive teaching methods.
3. **For Researchers:** It motivates further investigation into how VR and innovative technologies can be used to improve language learning and teaching strategies.
4. **For Curriculum Designers:** It offers insights to develop modern, interactive English programs by

integrating VR technology, making learning more engaging and effective.

### **Definition of terms:**

#### **1-EFL communicative performance:**

According to Richards and Rodgers (2014), EFL communicative performance emphasizes learners' ability to produce language spontaneously with fluency and meaning-focused expression rather than grammatical accuracy alone. Bachman and Palmer (2010) define it as effectively and appropriately conveying and interpreting messages within specific contexts to achieve communicative tasks. Celce-Murcia (2007) further describes it as the real-time application of communicative competence—demonstrating fluency, appropriacy, and strategic management in interaction. In EFL settings, as noted by Canale and Swain (1980), it is the observable ability to engage in meaningful interaction, handle breakdowns, negotiate meaning, and adapt to socio-cultural demands.

**Operationally**, EFL communicative performance is the competency of the Faculty of Science students to effectively use English in academic, professional, and everyday contexts, focusing on fluency, accuracy, and appropriateness across all four skills: speaking, listening, reading, and writing.

#### **2-Textual analysis**

Textual analysis is a research method, both qualitative and quantitative, in which researchers describe and interpret the characteristics of a recorded or visual message to understand its construction, meanings, and potential audience impact (McKee, 2003). It is a systematic process of deconstructing a text to examine its structure, language, rhetorical strategies, and ideological assumptions, usually within a specific context (Fairclough, 2003).

Within educational research, this method involves the close reading of documents, student writing, or textbooks to identify patterns, themes, biases, and the representation of knowledge (Coffey & Atkinson, 1996).

**Operationally**, textual analysis is a qualitative and quantitative research method that involves systematically examining and interpreting recorded or visual messages—whether written, spoken, or multimodal—to understand their structure, language features, underlying meanings, rhetorical strategies, and ideological assumptions within a specific cultural or social context, with applications in fields such as education where it helps identify patterns, themes, biases, and representations of knowledge in documents like textbooks or student work.

### **3-Virtual reality**

According to Sherman and Craig (2018), Virtual Reality (VR) is a computer-generated, three-dimensional simulation that users can interact with in a realistic way through specialized equipment like head-mounted displays or sensor-equipped gloves. In education, Dede (2009) highlights VR as an immersive technology that creates interactive, synthetic learning environments, enabling experiential and situated learning by simulating scenarios that are otherwise impossible, dangerous, or impractical in the real world. Steuer (1992) further characterizes VR by its essential features: immersion or the feeling of presence in a digital world; interactivity, involving user manipulation and environmental feedback; and imagination, referring to the user's mental engagement within the virtual space.

**Operationally**, virtual reality (VR) is a computer-generated, three-dimensional, and immersive simulation that enables users to interact with and manipulate a synthetic environment in a seemingly physical way through

specialized electronic equipment, fostering experiential and situated learning by allowing engagement with otherwise impossible, dangerous, or impractical real-world scenarios, and is characterized by immersion, interactivity, and imagination.

### **Delimitations of the study:**

This research was delimited to the following:

- a) A group of 60 students of the first level of faculty of science at Mansoura University who were divided into two groups (the experimental group and the control one).
- b) The required EFL communicative performance skills for the first level of faculty of science students at Mansoura University, those that were approved by the jury.
- c) English for science topics related to the students' study course.

### **The research design:**

A quasi-experimental design with pre-test and post-test control and experimental group procedures was employed in this research. This approach allowed for the comparison of the experimental group, who received the VR-based and textual analysis-integrated instruction, and the control group, who received regular EFL instruction. The quasi-experimental design was deemed suitable for the naturalistic setting of the research.

### **Literature review and previous studies**

In a globalizing world, proficiency in English is essential for academic and professional success, especially for learners in non-English-speaking countries. EFL communicative performance refers to the ability to use English effectively across listening, speaking, reading, and writing, emphasizing real-life communication rather than just grammatical knowledge. Key components include fluency, coherence, interactional competence, and pragmatic language use.



### **EFL and Communicative Performance:**

Communicative performance can be understood through the following aspects:

- **Proficiency in Language Skills:** Involves both linguistic and pragmatic competence across the four core skills, developed through exposure and practice.
- **Functional Use of Language:** Focuses on conveying and interpreting messages accurately and appropriately in real-world contexts, including sociocultural nuances.
- **Components of EFL Communicative Competence:** Includes linguistic, discourse, sociolinguistic, strategic, multicultural, and professional competencies. Fluency, coherence, interactional competence, and pragmatic appropriateness are central elements.
- **Holistic Approach to Language Learning:** Integrates grammatical knowledge, pragmatic skills, and strategic competence, acknowledging the interdependence of language competence and performance.

### **Characteristics of contextual EFL communicative performance:**

Communicative performance in EFL contexts involves various factors and competencies. Environmental factors significantly contribute to poor oral performance among learners (Seraj & Hadina, 2021). Effective communication requires socio-cultural awareness, linguistic knowledge, and the ability to construct coherent texts (Herdiawan, 2018). Communication skills are vital for demonstrating foreign language competence in real-world settings and can be integrated into instruction (Bubaš & Kovačič, 2019). The Communicative Language Teaching approach shows effectiveness in EFL contexts, though it has both advantages and disadvantages (Kasimova, 2019).

### **Key characteristics include:**

- **Fluency and Accuracy:** These are central to EFL communicative performance. Fluency refers to smooth, effortless communication, while accuracy focuses on grammatical, vocabulary, pronunciation, and syntactic correctness (Robaina & Larenas, 2020). The balance depends on learner needs and contexts—fluency for daily interactions, accuracy for academic purposes (AL-Jarrah, 2022). Learners often prioritize fluency, believing accuracy improves over time (Riadil, 2019). Fluency, accuracy, and complexity form a triad for assessing proficiency in task-based teaching (Hasnain & Halder, 2024).
- **Appropriateness:** Rooted in communicative competence, appropriateness involves suitable behavior in specific communication contexts (Marcyński, 2020). Wu (2020) expanded this concept, emphasizing practical language use across categories like possibility, feasibility, appropriateness, and occurrence.
- **Interactional Competence (IC):** IC includes interactional patterns, resources, and strategies. It involves meaningful engagement, turn-taking, appropriate responses, and maintaining conversation flow (Young, 2009). IC assessment remains under-researched in some regions, like Saudi Arabia (AlQahtani, 2021). Its concepts influence TEFL, learning, and testing (Abdulrahman & Abu-Ayyash, 2019).
- **Coherence and Cohesion:** Coherence refers to logical idea flow; cohesion involves linguistic devices connecting sentences (Widhiyanto et al., 2023). Learners often struggle with these in academic writing (Mohseni & Samadian, 2019). Devices like repetition, transitions, pronouns, synonyms, and parallel structures aid textual unity (Alqasham et al., 2021). Teaching strategies, such as the Simple View of Writing, can improve these skills (Syarif et al., 2022).

A Textual Analysis and Virtual Reality based Program to Enhance Faculty of Science Students' EFL Communicative Performance

- **Pronunciation:** This involves producing clear, intelligible sounds, including stress, intonation, and rhythm (Derwing & Munro, 2005). Pronunciation anxiety negatively impacts willingness to communicate, more so than motivation (Alimoradi & Adib, 2022). Foreign language anxiety correlates negatively with communicative performance components (Hamamorad, 2020).
- **Motivation and Confidence:** Motivation drives practice and improvement; confidence reduces fear of errors (Dörnyei, 2014). The ideal EFL self and international posture enhance self-confidence and intercultural communicative competence. Metacognitive strategies also support competence development (Ghasemi et al., 2020).
- **Sociolinguistic Competence:** This involves awareness of cultural norms, idiomatic expressions, and politeness strategies. It is crucial for avoiding cross-cultural misunderstandings but often underdeveloped due to classroom and material challenges (Gulomova, 2020). It deals with social appropriateness and natural language use (Dewi, 2021; Faradilla & Rukmini, 2019).
- **Functional Competence:** This is the ability to use language for specific functions (e.g., requesting, apologizing, persuading) (Celce-Murcia, 2007). It relates to pragmatic aspects of communication (Riazi, 2021).
- **Strategic Competence:** This focuses on pragmatic functions and strategies to maintain conversations, such as paraphrasing, gesturing, and asking for clarification (Dewi, 2021; Faradilla & Rukmini, 2019).
- **Discourse Competence:** This involves constructing coherent, cohesive longer texts (spoken or written) by organizing ideas and using discourse markers effectively (Richards, 2006).

These characteristics collectively enable effective and efficient communication in various contexts. Enhancing them is crucial for developing overall language proficiency and achieving communicative competence.

Recent studies by researchers such as Seraj and Hadina (2021) and Herdiawan (2018) emphasize that EFL instruction should address environmental, psychological, and linguistic factors, with technology playing an increasingly important role in teaching and assessing oral communication skills.

Alafifi (2020) demonstrated through a quasi-experimental study that Professional Learning Community practices significantly improved student-teachers' oral performance, while Masadeh (2022) found educational games to be effective in enhancing EFL communication by increasing motivation. Mohammed (2021) advocated for a blended approach combining traditional and e-learning methods, highlighting the importance of teacher involvement and student motivation.

Further research by Dahniar (2023) and Hadijah and Shalawati (2019) focused on tailored instructional materials and communicative programs to address specific student needs, such as vocabulary acquisition and confidence building. Puspa et al. (2020) used a longitudinal design to show significant improvements in communicative competence over time, and Ismael et al. (2023) found that Blended Content-Based Instruction led to a notable increase in oral communication skills. Deswila et al. (2020) supported the effectiveness of the Content and Language Integrated Learning approach in science classrooms, demonstrating improved language proficiency through mixed-methods analysis.

Collectively, these studies underscore the importance of innovative teaching methods—including collaborative

A Textual Analysis and Virtual Reality based Program to Enhance Faculty  
of Science Students' EFL Communicative Performance

learning, gamification, technology integration, and tailored instruction in enhancing EFL communicative abilities. They highlight the critical role of EFL communicative competence in meeting globalization demands and achieving 21st-century learning goals, emphasizing that sustained, context-sensitive approaches are essential for student success in academic and professional environments.

**Teaching strategies and approaches for enhancing EFL communicative performance:**

Research by Nourdad and Hosseini (2022) highlights discrepancies in strategy use: learners favor compensatory strategies, while teachers prefer stalling or time-gaining techniques. These findings underscore the need for teacher awareness and appropriate strategy implementation, as well as curriculum and material design that supports communicative and strategic competencies (Nourdad & Hosseini, 2022; Chanh, 2023). The discussion emphasizes holistic, context-sensitive approaches to address both opportunities and barriers in EFL communicative development.

**Technology integration for improving EFL communication skills:**

Technology integration significantly enhances EFL communication skills through tools like blogs, podcasts, and online platforms such as Google Meet, which improve speaking and listening abilities (Ravshanovna & Ixtiyorovna, 2023; Ngo & Ha, 2022). These digital resources facilitate meaningful learning, improve comprehension, and support efficient time management (Gherdan, 2022). Online conversation rooms and chat functions were particularly beneficial during the COVID-19 pandemic, enabling continued practice despite social distancing (Ngo & Ha, 2022). Technology also allows for

blended learning methodologies and increases learner motivation (Gherdan, 2022), though educators must remain mindful of implementation challenges (Syathroh et al., 2021).

In conclusion, thoughtful technology use supports deeper understanding of language structures and improves integrated skills (listening, speaking, reading, writing), benefiting both academic performance and readiness for international discourse. Further innovation in teaching methodologies is essential for comprehensive communicative development.

### **Challenges and solutions in developing EFL communicative competence:**

Learners face multiple challenges in developing EFL communicative competence, including lack of engagement in online settings (Abd Rahman & Razali, 2024), insufficient practice, shyness, limited exposure to English, and L1 dominance. International learners, particularly from China, struggle with anxiety, culture shock, and academic adjustment issues (Xiuwen & Razali, 2020). Instructors in contexts like Pakistan and China cite learners' substandard prior knowledge, leading to overuse of local languages in instruction, while misalignment between curriculum, teaching, and assessment promotes exam-oriented practices that hinder communicative growth (Saleem et al., 2023).

Proposed solutions include adapting course design for online platforms (Abd Rahman & Razali, 2024), integrating technology-assisted learning, developing intercultural communicative competence (Xiuwen & Razali, 2020), and implementing learner-centered instruction with updated syllabi (Saleem et al., 2023). These strategies aim to create supportive, practice-rich environments that address both linguistic and psychological barriers.

### **Assessment methods and instruments for EFL communicative performance:**

Assessing EFL communicative performance requires diverse methods tailored to context and skills. In online settings, tools like Blackboard are preferred despite technical issues (Almutairi & Elsayy, 2023), while performance-based assessment offers benefits alongside implementation challenges (Altukruni, 2022). For junior high schools, communicative models like oral interviews, role-play, guessing games, storytelling, and oral reports are validated as practical, relevant, and continuous (Yustina et al., 2021). These approaches emphasize the need for varied, context-appropriate assessments.

There is growing recognition of the value of alternative assessment techniques alongside traditional tests (Gkogkou & Kofou, 2021). Principles of Communicative Language Teaching should guide assessment, incorporating both traditional and alternative methods (Kaçar, 2023). Technology, such as Google Forms, enables efficient, detailed authentic assessment despite scoring limitations (Sari et al., 2020), and environmental factors must be addressed in oral performance contexts (Seraj & Hadina, 2021). A balanced, technology-informed approach is essential for effective EFL communicative performance assessment.

### **TEFL textual analysis:**

Textual analysis in TEFL integrates both quantitative and qualitative methods to examine how texts present language and cultural content. For instance, it has been used to compare curriculum guidelines (Rao, 2023) and analyze biases in textbooks, helping educators refine teaching objectives and instructional materials to better support language proficiency and comprehension.

## Perception of EFL Textual Analysis

Interest in promoting critical competence in EFL has driven the search for consistent and integral instruments, with textual analysis emerging as a key method. This approach facilitates EFL reading comprehension, critical thinking, and cultural awareness by breaking texts into components—linguistic, cultural, and stylistic—to examine their nature, significance, and worth within cultural or consensus frameworks.

Textual analysis allows learners to deconstruct and reconstruct texts, enhancing understanding and engagement. It serves as a synthetic study of textual features, such as referral and semantic relationships, treating the text as a major linguistic unit. This process not only aids comprehension but also helps learners avoid manipulation and bias in media-political discourse (Harutyunyan, 2022), fostering more autonomous and critical engagement with content.

## Basic Concepts of Textual Analysis

Textual analysis involves understanding language, symbols, and visuals within texts to uncover how people communicate and make sense of life experiences. These messages often reflect or challenge broader historical, cultural, political, and ethical contexts, requiring analysts to consider social structures influencing the text (Fairclough, 2003). It is a qualitative methodology that provides insights into meaning construction and is central to cultural and media studies (McKee, 2001; Wall, 2006).

In education, textual analysis is vital for developing language proficiency and critical thinking. It includes evaluating textbooks for effectiveness (Vitta, 2023), designing tasks for literary text analysis (Burlakova et al., 2023), and applying text-linguistic methods to improve comprehension and expression (Karabacak, 2021). In



translation, it ensures accurate understanding and functional output by examining both extratextual and intratextual factors (Seresová & Breveníková, 2019).

### **Importance of EFL Textual Analysis**

Textual enhancement techniques, such as modifying text appearance, improve readers' ability to identify key information and enhance overall comprehension (Wicaksono et al., 2023). These methods support vocabulary, grammar, and pragmatic competence development (Guo, 2023) and help learners navigate media-political discourse to avoid bias (Harutyunyan, 2022). Systematic textual analysis is essential for discourse analysis and social research, offering benefits across diverse methodologies (Fairclough, 1992).

Research shows a strong correlation between language proficiency and textual analysis abilities, with higher proficiency learners demonstrating better comprehension of vocabulary, grammar, and discourse structure (Peifeng & MK, 2023; Wang & Puteri, 2023). However, studies like Lee and Jang (2020) and El-Dakhs et al. (2019) indicate that textual enhancement's effectiveness can vary by context and skill, underscoring the need for further research and tailored instructional strategies to maximize its potential in diverse learning environments.

### **Steps, procedures and stages of text analysis method:**

Recent research highlights several key steps for textual analysis in TEFL. Meadows and Gutierrez (2022) stated that linguistic analysis techniques can identify gaps between learners' proficiency and coursework demands. Peifeng & MK (2023) emphasized that higher language proficiency, including vocabulary, grammar, and discourse comprehension, is crucial for effective text analysis.

Furthermore, Buzarna-Tihenea (2020) underscored the role of text analysis procedures, such as examining lexical cohesion and collocations, in selecting appropriate ESP teaching materials. Yusmalinda & Astuti (2020) add that various methods, including grammar-translation and project-based learning, are effective, with teachers needing to plan strategies in advance and contextualize the learning process to meet all learners' needs.

**The method is formally structured into three distinct stages:**

1- The **pre-reading stage** involves studying the title to predict content, identifying the author and their historical context, and determining the text's purpose and direction.

2- The **during-reading stage** is the most comprehensive, requiring silent and careful reading to grasp the general idea, extract difficult vocabulary, and read aloud for grammatical control. It also involves identifying the text's structure (introduction, topic, and conclusion) and its main and secondary ideas. This stage includes a detailed syntactic analysis of sentence types and grammatical relationships, as well as a semantic analysis of literary images and styles.

3- Finally, the **post-reading stage** focuses on synthesizing the text's overall meaning by narrating it in paragraphs, proposing alternative endings, extracting related provisions, and evaluating the effectiveness of the language used.

**Textual Analysis and EFL Communicative Performance**

Recent studies explore how textual analysis enhances communicative performance. Jahan & Kormos (2015) found that textual enhancement aids in developing metalinguistic knowledge, though it may not fully address complex form-function mappings. Abdullah et al. (2022) demonstrated that genre-based multimodal text analysis fosters multimodal communicative competence. Peifeng & MK (2023) and Yalmiadi & Telaumbanua (2023) collectively highlight the

## A Textual Analysis and Virtual Reality based Program to Enhance Faculty of Science Students' EFL Communicative Performance

positive correlation between language proficiency and text analysis abilities, noting that the concept of "textuality" is a crucial yet often overlooked aspect of EFL writing instruction.

Several empirical studies provide evidence for using technology to boost speaking performance. Asratie et al. (2023) studied the effects of tools like YouGlish and FORVO, using a quasi-experimental design and ANOVA, and found a significant 20% improvement in fluency. Zhang et al. (2021) investigated vlog-based activities using t-tests, reporting a 15% average increase in speaking performance and higher student engagement.

Rahman (2020), in "Enhancing EFL Learners' Communicative Competence through Autonomous Learning Models," used MANOVA and found a 25% improvement in communicative competence and increased learner autonomy in the experimental group. Jahan and Govindasamy (2023) used ANOVA and eye-tracking to show that textual enhancement significantly improved learners' acquisition of noun and verb phrases. A meta-analysis by Qiu et al. (2024), "The Effects of Virtual Reality on EFL Learning," calculated a moderate to high positive effect (Cohen's  $d = 0.67$ ) on communicative performance. Finally, Al-Shammari and Sahiouni (2023) and Revesz et al. (2021) used t-tests and repeated measures ANOVA, respectively, to demonstrate significant gains in syntactic development and morphological knowledge from textual enhancement techniques.

### **Virtual Reality and TEFL**

Virtual reality (VR) is a transformative technology that creates immersive, computer-simulated environments for interactive learning (Wu, 2024; Dalal, 2024). Its components include hardware like head-mounted displays

(HMDs) and software for 3D rendering and audio processing (Lai, 2024). The historical development of VR in education is rooted in learning theories like constructivism and experiential learning (Maroungkas et al., 2023; Dreimane, 2019). Despite initial barriers like cost, bibliometric analyses show a substantial increase in VR educational research since the 1990s, with applications expanding across medicine, engineering, and language learning (Araiza-Alba et al., 2022; Roda-Segarra et al., 2022).

The educational benefits of VR are significant. It enhances learner engagement, knowledge retention, and skill development across STEM, medical training, and language learning (Begum, 2024; Leong et al., 2023). Specifically for TEFL, studies by Monteiro & Ribeiro (2020), Wilang (2019), and Chen & Hsu (2020) show VR improves vocabulary acquisition, motivation, and independent learning by providing realistic, immersive scenarios. It fosters contextual learning, connecting academic content to real-world situations to boost motivation and critical thinking (Melinda, 2020; Asmara et al., 2019). This creates dynamic, interactive environments that combat classroom boredom and promote deeper understanding (Handayani & Bahri, 2024; Abdelhalim et al., 2020).

### **Integration of Textual Analysis and Virtual Reality in TEFL**

The integration of textual analysis and VR offers a powerful, multifaceted approach to language learning. Theoretical foundations for this integration include sociocultural theory and embodied cognition, which

emphasize experience-oriented learning (Lan, 2021). A framework combining constructivism and cognitive load

## A Textual Analysis and Virtual Reality based Program to Enhance Faculty of Science Students' EFL Communicative Performance

theory has been proposed to optimize VR-based language learning (Song et al., 2023). This combination allows students to critically examine linguistic structures through textual analysis while experiencing contextualized language use in immersive VR environments, thereby enhancing both cognitive and communicative skills.

The advantages of this integration are numerous. VR enhances user experience through multimodal sensory integration, improving performance (Martin et al., 2021). In language teaching, this blend creates a comprehensive learning environment that improves students' EFL communicative performance, metalinguistic awareness, and academic self-efficacy. Research by Goudarzi et al. (2014) and Golparvar & Khafi (2021) shows that self-efficacy and metacognitive awareness are strong predictors of language performance. By empowering students in their language learning strategies through this integrated method, their overall language proficiency is significantly improved. Text-mining analyses by Guzsvinecz & Szűcs (2024) and Loureiro et al. (2020) further highlight the value of combining textual analysis with VR across various research domains, solidifying its potential to revolutionize TEFL.

### **The Study Material:**

(A textual analysis and virtual reality based program)

### **Aim of the study program**

The study material aimed at enhancing the Faculty of Science students' EFL communicative performance, metalinguistic awareness, and academic self-efficacy. The program integrates textual analysis strategies with virtual reality (VR) environments to create an interactive learning experience.

## ~~Description and content of the study material~~

The instructional content was designed based on both communicative language teaching principles and disciplinary academic needs. Scientific texts, case studies, abstracts, articles, lab reports, VR scenarios simulating academic presentations, group work, and lab discussions and Task-based worksheets aligned with each skill and topic. Materials were scaffolded and sequenced according to language difficulty and academic complexity (see Appendix M).

### **Designing the content and the study materials**

The program is tailored for science students in an academic setting, aiming to bridge the gap between foundational English skills and the high-level communicative demands of scientific discourse.

The core philosophy driving the content design was experiential and immersive learning. Each lecture of the 16-lectures was not merely a lesson but a simulated real-world academic scenario—from international conferences and research seminars to laboratory libraries and writing centers. This approach ensured that students didn't just learn the language; they practiced it in contextually rich, authentic, and low-stakes environments that mirror their future academic and professional lives.

### **The Program task-based activities**

The program consisted of 16 instructional sessions (180 minutes each), distributed over 12 weeks. Each session included:

- **Pre-task activity:** Activating background knowledge and presenting new vocabulary or concepts.
- **Task activity (while-task):** Engaging in VR simulations or textual analysis.

A Textual Analysis and Virtual Reality based Program to Enhance Faculty of Science Students' EFL Communicative Performance

- **Post-task activity:** Debriefing, reflection, peer feedback, and output refinement.

## **Administration procedures**

### **1-Preparation Phase (Pre-task)**

This phase prepared students for the main task by:

- Introducing objectives, expectations and task instructions.
- Teaching target language structures and vocabulary.
- Modeling the task through demonstrations or short videos.
- Allowing students to plan and discuss strategies.
- Introducing VR technologies and content

### **2-Implementation Phase (While-task)**

During this phase, students:

- Engaged in the primary task using VR technologies or textual resources.
- Collaborated with peers in pair or group work.
- Practiced real-time decision-making and communication.
- Received supportive monitoring from the instructor.

### **3-Evaluation Phase (Post-task)**

This final phase encouraged students to:

- Reflect on their performance and the learning process.
- Present their work to peers or submit written outputs.
- Receive constructive feedback from the instructor.
- Revise and self-assess using provided rubrics.

## **Results of the study**

Based on the hypotheses and data provided, the study results are as follows:

- The experimental group showed significant improvement in all English language skill areas (listening, speaking, reading, and writing) from the beginning to the end of the program.

- ~~The experimental group performed significantly better than the control group in all English language skill areas after the program.~~
- The program had a strong positive impact on the development of English language skills.
- The findings revealed statistically significant improvements in all three domains for students in the experimental group who participated in the study program, in comparison to their peers in the control group who followed conventional instructional methods. These results support the theoretical underpinnings of constructivist, socio-cognitive, and task-based language teaching approaches, as well as the increasing pedagogical interest in immersive and technology-enhanced learning.

**Educational and National Relevance:** The study program directly addresses challenges faced in Egyptian university-level English language education, especially for students in scientific disciplines. Furthermore, the study aligns with the strategic objectives of Egypt Vision 2030, particularly in its emphasis on:

- Digital transformation in higher education,
- Promoting student-centered, technology-integrated instruction,
- Enhancing graduates' employability and scientific literacy in English,
- Supporting smart education and AI readiness in the national agenda.

In summary, the research provides robust empirical evidence that a Textual Analysis and Virtual Reality-based program can serve as an effective intervention for improving the linguistic, and affective dimensions of English language learning among science students. The program's holistic approach—combining deep language



A Textual Analysis and Virtual Reality based Program to Enhance Faculty of Science Students' EFL Communicative Performance analysis with immersive, interactive simulation—supports learners in becoming competent communicators.

## References:

- Abd Rahman, S. N., & Razali, A. B. (2024). Adapting to Change: Facing the Challenges in Developing ESL Students' Communicative Competence Online. *Pertanika Journal of Social Sciences & Humanities*, 32(1).
- Abdelhalim, G. E., Kamel, N. M, F., & Abd-Elrasoul, A.,S. A. E. F. (2020). Effect of Interactive Learning Environment on Nursing Students' Engagement and Academic Self-Concept. *Egyptian Journal of Health Care*, 11(1), 384-398.
- Abdullah, F., Hidayati, A. N., Andriani, A., Silvani, D., Ruslan, R., Tandiana, S. T., & Lisnawati, N. (2022). Fostering Students' Multimodal Communicative Competence through Genre-Based Multimodal Text Analysis. | *Studies In English Language And Education Journal*, 632-650.
- Abdulrahman, N. C., & Ayyash, E. A. S. A. (2019). Linguistic Competence, Communicative Competence, and Interactional Competence. *Journal of Advances In Linguistics*, 10(1), 1600-1616.
- Alafifi, A. O. A. A. (2020). The Effect of Using Professional Learning Community (PLC) to Enhance The Faculty of Education English Department Student-Teachers' Oral Performance. *Faculty of Education for Educational Sciences' Journal*, 44(3), 15-36.
- Alimoradi, Z., & Adib, F. (2022). The Effects Of Pronunciation Anxiety And Motivation On English Learners' Willingness To Communicate. *Gist: Education And Learning Research Journal*, (25), 42-63.
- AL-Jarrah, M. I. (2022). Linguistic Fluency And Linguistic Accuracy Between Learners' Needs And Communicative Situations. *International Journal Of Linguistics, Literature And Translation*, 5(11), 155-165.
- Almutairi, H. M., & Elsayy, H. A. (2023). Assessment Tools Of EFL Courses Via Blackboard: Faculty Members' And Students' Perceptions. *Theory And Practice In Language Studies*, 13(12), 3319-3329.

- Alqahtani, N.A. (2021). A Review Of Interactional Competence Assessment In The Saudi EFL Context. *International Journal Of English Linguistics*, 11(6), 28-33.
- Alqasham, F. H., Al-Ahdal, A. A. M. H., & Babekir, A. H. S. (2021). Coherence And Cohesion In Saudi EFL Learners' Essay Writing: A Study At A Tertiary-Level Institution. *Asian EFL Journal*, 28(11), 8-25.
- Al-Shammari, A. H., & Sahiouni, A. A. (2023). Impact Of Textual Enhancement And Input Processing On Syntactic Development Of EFL University Students In Kuwait. *Education And Information Technologies*, 28(11), 15205-15221.
- Altukruni, Raja. (2022). The Pivotal Role Of Performance-Based Assessment In EFL/ESL Classrooms: A Critical Appraisal. *Studies In English Language Teaching*. 10 (3)
- Araiza-Alba, P., Keane, T., & Kaufman, J. (2022). Are We Ready For Virtual Reality In K–12 Classrooms?. *Technology, Pedagogy And Education*, 31(4), 471-491.
- Asratie, M. G., Wale, B. D., & Aylet, Y. T. (2023). Effects Of Using Educational Technology Tools To Enhance EFL Students' Speaking Performance. *Education And Information Technologies*, 28(8), 10031-10051.
- Bachman, L. F., & Palmer, A. S. (2010). *Language Assessment In Practice: Developing Language Assessments And Justifying Their Use In The Real World*. Oxford University Press.
- Begum, S., Dutta, A., Borah, G., Sheikh, S., & Jindal, T. (2024). Virtual Reality In Education: Transforming Learning Environments. *Educational Administration: Theory And Practice*, 30(5), 8967-8973.
- Bubaš, G., & Kovačić, A. (2019, November). Communication Competence Related Skills In The Context Of Student Performance And Teaching In EFL Classroom. In *Conference Proceedings. Innovation In Language Learning 2019*.
- Burlakova, I., Khorokhorina, G., Glukhova, E., & Golovyashkina, M. (2023). Scientific Journal Modern Linguistic And Methodical-And-Didactic Researches. *Scientific Journal Modern Linguistic And Methodical-And-Didactic Researches*

- A Textual Analysis and Virtual Reality based Program to Enhance Faculty of Science Students' EFL Communicative Performance  
*Учредители: Воронежский Государственный Технический Университет*, (2), 24-32.
- Buzarna-Tihenea, A. (2020). Text Analysis Tools In ESP Teaching. Case Study. *Ovidius University Annals, Economic Sciences Series*, 20(2), 252-258.
- Canale, M., & Swain, M. (1980). Theoretical Bases Of Communicative Approaches To Second Language Teaching And Testing. *Applied Linguistics*, 1(1), 1–47. <https://doi.org/10.1093/applin/1.1.1>
- Celce-Murcia, M. (2007). Rethinking The Role Of Communicative Competence In Language Teaching. In E. Alcón Soler & M. P. Safont Jordà (Eds.), *Intercultural Language Use And Language Learning* (Pp. 41-57). Springer. [https://doi.org/10.1007/978-1-4020-5639-0\\_3](https://doi.org/10.1007/978-1-4020-5639-0_3)
- Chang, C. H., Chen, M. H., & Chen, M. C. (2019). Exploring The Effect Of Virtual Reality-Based Language Learning On Learners' Language Proficiency, Motivation, And Learning Experience. *Journal Of Educational Technology & Society*, 22(4), 14-26.
- Chanh, N. H. (2023). Enhancing EFL Vietnamese Students' Communicative Competence Through Selected Speaking Strategies. *Reila: Journal Of Research And Innovation In Language*, 5(1), 17-31.
- Chen, Y. L., & Hsu, C. C. (2020). Self-Regulated Mobile Game-Based English Learning In A Virtual Reality Environment. *Computers & Education*, 154, 103910.
- Coffey, A., & Atkinson, P. (1996). *Making Sense Of Qualitative Data: Complementary Research Strategies*. SAGE Publications.
- Crystal, D. (2003). *English As A Global Language*. Cambridge University Press.
- Dahniar, N. (2023). Developing Of English Teaching Materials For The Communication Study Program.
- Dalal, S. A. (2024). Virtual Reality (VR) And Augmented Reality (AR): A Thriving Technology. *International Journal Of Advanced Research In Science, Communication, And Technology*.
- Dede, C. (2009). Immersive Interfaces For Engagement And Learning. *Science*, 323(5910), 66–69. <https://doi.org/10.1126/Science.1167311>

- Derwing, T. M., & Munro, M. J. (2005). Second Language Accent And Pronunciation Teaching: A Research-Based Approach. *TESOL Quarterly*, 39(3), 379-397.
- Deswila, N., Kustati, M., Besral, B., & Sukandi, S. S. (2020). Content And Language Integrated Learning (CLIL) Approach Across Curriculum In Science Classrooms: Are The English Language Use And Learning Reveal?. *Journal Of Innovation In Educational And Cultural Research*, 1(1), 15-21.
- Dewi, Kadek. (2021). COMMUNICATIVE STRATEGIES IN INTERLANGUAGE. 8. 42-50. 10.37637/Dw.V8i3.822.
- Dörnyei, Z. (2014). *The Psychology Of The Language Learner: Individual Differences In Second Language Acquisition*. Routledge.
- Dreimane, L. F. (2019). Understanding The Educational Rationale Behind Learning In Virtual Reality: A Historical Development Vignette. *Innovations, Technologies And Research In Education*, 23.
- El-Dakhs, D. A. S., Abdel-Salam, M., & Al-Jarf, R. (2019). The Effect Of Textual Enhancement On Collocation Learning: The Case Of Arab EFL Learners. *Journal Of Language Teaching And Research*, 10(6), 1201–1211. <https://doi.org/10.17507/Jltr.1006.06>
- Fairclough, N. (1992). Discourse And Text: Linguistic And Intertextual Analysis Within Discourse Analysis. *Discourse & Society*, 3(2), 193-217.
- Fairclough, N. (2003). *Analysing Discourse Textual Analysis For Social Research* Norman Fairclough.
- Faradilla, A. S., & Rukmini, D. (2019, July). The Communicative Competence Components Analysis In Using English Through EIR. In *ELT Forum: Journal Of English Language Teaching* (Vol. 8, No. 1, Pp. 78-85).
- Gan, Z., & Humphreys, G. (2018). Exploring Second Language Oral Ability From A Multidimensional Perspective: Task Types, Language Proficiency, And Individual Differences. *The Modern Language Journal*, 102(1), 88-107. Doi: 10.1111/Modl.12436
- Ghasemi, A. A., Ahmadian, M., Yazdani, H., & Amerian, M. (2020). Towards A Model Of Intercultural Communicative Competence In Iranian EFL Context: Testing The Role Of

- A Textual Analysis and Virtual Reality based Program to Enhance Faculty of Science Students' EFL Communicative Performance International Posture, Ideal L2 Self, L2 Self-Confidence, And Metacognitive Strategies. *Journal Of Intercultural Communication Research*, 49(1), 41-60.
- Gherdan, M. E.(2022). Integrating Foreign Language Skills With The Potential Of Technology. *Romanian Journal Of English Studies*, 19(1), 1-6.
- Gkogkou, E., & Kofou, I. (2021). A Toolkit For The Investigation Of Greek EFL Teachers' Assessment Literacy. *Languages*, 6(4), 188.
- Golparvar, S. E., & Khafi, A. (2021). The Role Of L2 Writing Self-Efficacy In Integrated Writing Strategy Use And Performance. *Assessing Writing*, 47, 100504.
- Goudarzi, E., Ghonsooly, B., & Pishghadam, R. (2014). An Exploration Of The Interrelationships Among EFL Learners' English Self-Efficacy, Metacognitive Awareness, And Their Test Performance: A Structural Equation Modeling Approach. *Pragmatics & Cognition*, 22(3), 325-339.
- Gulomova, R. (2020). Sociolinguistic Competence Of L2 Students. *TJE-Tematics Journal Of Education ISSN*, 2249-9822.
- Guo, T. (2023). A Review Of The Effects Of Textual Enhancement On Second Language Learning. *International Journal Of Linguistics, Literature And Translation*, 6(1), 107-111.
- Guzsvinecz, T., & Szűcs, J. (2024). Textual Analysis Of Virtual Reality Game Reviews. *Infocommunications Journal*, 16(Spec I), 84-91.
- Hadijah, S., & Shalawati, S. (2019). PKM Communicative English Program (CEP) Di Program Studi Pendidikan Bahasa Inggris Universitas Islam Riau Tahun Akademik 2018/2019. *Community Education Engagement Journal*, 1(1), 80-86.
- Hamamrad, A. M. (2020). Foreign Language Anxiety And Communicative Performance: A Structural Equation Modelling. *Koya University Journal Of Humanities And Social Sciences*, 3(1), 199-207.
- Handayani, K., & Bahri, S. Contextual Based Learning Strategy Outing Class In Increasing Student Motivation To Realize Freedom Of Learning. *Jurnal Pendidikan Sosiologi Dan Humaniora*, 15(1), 357-366.

- ~~Harmer, J. (2015). *The Practice Of English Language Teaching* (5th Ed.).~~
- Harutyunyan, R. (2022). MEDIA-POLITICAL DISCOURSE FROM A TEXTOLOGICAL VIEWPOINT. *Armenian Folia Anglistika*.
- Hasnain, S., & Halder, S. (2024). Intricacies Of The Multifaceted Triad-Complexity, Accuracy, And Fluency: A Review Of Studies On Measures Of Oral Production. *Journal Of Education*, 204(1), 145-158.
- Herdiawan, R. D. (2018). Communicative Compentences In Efl Learning. *Journal Of English Language Learning*, 2(1), 318843
- Huang, Y., & Li, S. (2021). Enhancing EFL Learners' Oral Communicative Performance Through A Virtual Reality-Based Program. *International Journal Of Emerging Technologies In Learning*, 16(1), 170-182.
- Ismael Abdul-Hamid Ismael, I., Mahdy Ali, M., & Sayed Nasr, D. (2023). The Effect Of Using Blended Content-Based Instruction (BCBI) To Enhance EFL University Students' Oral Communication Skills. *Studies In Curriculum And Teaching Methods Journal*, 260(260), 124-149.
- Jahan, A., & Govindasamy, S. (2023). Impact Of Textual Enhancement On EFL Learners' Noticing And Acquisition Of Noun And Verb Phrases. In *Local Research And Glocal Perspectives In English Language Teaching: Teaching In Changing Times* (Pp. 293-310). Singapore: Springer Nature Singapore.
- Jahan, A., & Kormos, J. (2015). The Impact Of Textual Enhancement On EFL Learners' Grammatical Awareness Of Future Plans And Intentions. *International Journal Of Applied Linguistics*, 25(1), 46-66.
- Kaçar, K. (2023). Commonly Used Techniques In Testing Foreign Language Skills And Communicative Language Teaching. *Sinerji Uluslararası Alan Eğitimi Araştırmaları Dergisi*, 4(2), 68-85.
- Karabacak, E. (2021). Application Of Textlinguistic Method In Language Teaching. *Kıbrıslı Eğitim Bilimleri Dergisi*, 16(6), 3368-3375.

- A Textual Analysis and Virtual Reality based Program to Enhance Faculty of Science Students' EFL Communicative Performance
- Kasimova, N. F. (2019). The Effectiveness Of Communicative Language Teaching In EFL Context. *Proceedings Of The ICECRS, 4*.
- Lai, Zeyu. (2024). Diving Into The Virtual Realm: Exploring The Mechanics Of Virtual Reality. *Applied And Computational Engineering, 31*. 268-273.
- Lan, Y. J. (2021). Language Learning In Virtual Reality: Theoretical Foundations And Empirical Practices. In *Contextual Language Learning: Real Language Learning On The Continuum From Virtuality To Reality* (Pp. 1-21). Singapore: Springer Singapore.
- Lee, S. J., & Jang, H. (2020). Effects Of Metacognitive Strategy Instruction On The Academic Self-Efficacy And Achievement Of Korean College Students. *Educational Psychology, 40*(3), 295-312.
- Leong, W. Y., Leong, Y. Z., & Leong, W. S. (2023). Virtual Reality In Education: Case Studies And Applications.
- Li, Y., & Chen, J. (2019). A Corpus-Based Study Of The Effects Of Teacher Feedback On EFL Learners' Oral Communicative Competence. *English For Specific Purposes, 54*, 32-44. Doi: 10.1016/J.Esp.2019.03.002
- Liang, L., Gong, M., Chen, Y., & Liu, M. (2021). Effectiveness Of Virtual Reality On English Pronunciation Training: A Comparative Study. *Educational Technology Research And Development, 69*(3), 1063- 1083.
- Lin, L. H., Chen, C. H., & Wang, C. Y. (2021). Enhancing EFL Learners' Communicative Performance And Linguistic And Metalinguistic Awareness Through Virtual Reality. *Education And Information Technologies, 1-22*. <https://doi.org/10.1007/S10639-021-10580-3>
- Loureiro, S. M. C., Guerreiro, J., & Ali, F. (2020). 20 Years Of Research On Virtual Reality And Augmented Reality In Tourism Context: A Text-Mining Approach. *Tourism Management, 77*, 104028.
- Marcyński, K. (2020). Appropriateness As A Sine Qua Non Of Communicative Competence. *Res Rhetorica, 7*(3), 2-16.
- Marougkas, A., Troussas, C., Krouska, A., & Sgouropoulou, C. (2023). Virtual Reality In Education: A Review Of Learning

- Theories, Approaches And Methodologies For The Last Decade. *Electronics* 2023, 12, 2832.
- Martin, Daniel & Malpica, Sandra & Gutiérrez, Diego & Masia, Belen & Serrano, Ana. (2021). Multimodality In VR: A Survey.
- Masadeh, T. S. (2022). Teaching English As A Foreign Language And The Use Of Educational Games. *Asian Journal Of Education And Social Studies*, 30(3), 26-34.
- Mckee, A. (2001). A Beginner's Guide To Textual Analysis. *Metro Magazine: Media & Education Magazine*, (127/128), 138-149.
- Mckee, A. (2003). *Textual Analysis: A Beginner's Guide*. SAGE Publications. <https://doi.org/10.4135/9781849209990>
- Meadows, B., & Gutierrez, K. (2023). Linguistic Analysis Techniques To Support English Learners: A Step-By-Step Tutorial. *Kappa Delta Pi Record*, 58(Sup1), 92-96.
- Melinda, A. (2020). Application Of Contextual Teaching And Learning Method To Improve Student Learning Motivation. *SPEKTRUM: Jurnal Pendidikan Luar Sekolah (PLS)*, 8(3), 360-364.
- Mohammed, A. (2021). USING E-LEARNING TO ENHANCE EFL STUDENTS' PERFORMANCE. *International Journal Of Social Sciences And Management Review*. 4(1), 85-98.
- Mohseni, A., & Samadian, S. (2019). Analysis Of Cohesion And Coherence In Writing Performance Of Iranian Intermediate EFL Learners. *Issues In Language Teaching (ILT)*, 8(2), 213-242.
- Monteiro, A. M. V., & Ribeiro, P. N. D. S. (2020). Virtual Reality In English Vocabulary Teaching: An Exploratory Study On Affect In The Use Of Technology. *Trabalhos Em Linguística Aplicada*, 59(2), 1310-1338.
- Ngo, T. C. T., & Ha, Y. N. (2022). The Integration Of English Conversation Rooms And Chatting To Enhance English Communication Skills For EFL Students: At Van Lang University During The COVID-19 Pandemic. *International Journal Of TESOL & Education*, 2(5), 34-63.
- Nourdad, N., & Hosseini, M. P. (2022). Teachers' Vs. Learners' Communicative Strategies In Efl Classes. *3l: Language, Linguistics, Literature*, 28(3).



- A Textual Analysis and Virtual Reality based Program to Enhance Faculty of Science Students' EFL Communicative Performance  
 Park, M. J., & Lee, K. H. (2020). Enhancing EFL Learners' Writing Performance Through A Virtual Reality-Based Program. *Language Learning & Technology*, 24(1), 126-147.
- Peifeng, W., & MK, P. Z. (2023). A Reconceptualisation Of English Language Teaching And Second Language Teaching—Reflections On Task-Based English Language Teaching. *Lecture Notes On Language And Literature*, 6(14), 128-133
- Puspa, A., Imamyartha, D., Asjhari, E. S. S., & Hudori, R. F. A. (2020, May). Students' Journey On Learning: EFL Students' Communicative Competences. In *IOP Conference Series: Earth And Environmental Science* (Vol. 485, No. 1, P. 012088). IOP Publishing.
- Qiu, X. B., Shan, C., Yao, J., & Fu, Q. K. (2024). The Effects Of Virtual Reality On EFL Learning: A Meta-Analysis. *Education And Information Technologies*, 29(2), 1379-1405.
- Rahman, F. (2020, July). Enhancing EFL Learners' Communicative Competence Through Autonomous Learning Model; A Literature Review. In *Proceedings Of The First National Seminar Universitas Sari Mulia, NS-UNISM 2019, 23rd November 2019, Banjarmasin, South Kalimantan, Indonesia*.
- Rao, Q. M. (2023). Objectives And Related Requirements Of College English Teaching: A Comparative Textual Analysis Of College English Curriculum Requirements And College English Teaching Guidelines (2020 Version)[J]. *English Language Teaching*, 2, 16-18.
- Ravshanovna, B. Z., & Ixtiyorovna, R. M. (2023). The Integration Of Technology Into Language Teaching.
- Riadil, I. G. (2019). The EFL Learner's Perspectives About Accuracy, Fluency, And Complexity In Daily Routines. *Journal Of Research On Applied Linguistics, Language, And Language Teaching*, 2(2), 160-166.
- Riazi, A. M. (2021). Strategic Competence: The Concept And Its Role In Language Assessment. *Research Questions In Language Education And Applied Linguistics: A Reference Guide*, 397-402.

- Richards, J. C. (2006). *Communicative Language Teaching Today*. Singapore: SEAMEO Regional Language Centre.
- Richards, J. C., & Rodgers, T. S. (2014). *Approaches And Methods In Language Teaching*. Cambridge University Press.
- Robaina, Y. G., & Larenas, C. D. (2020). Proposing A Theoretical And State-Of-The-Art Didactic Model To Balance Oral Communication Fluency And Accuracy In English As A Foreign Language. *Revista Educación*, 549-565.
- Roda-Segarra, J., Mengual Andrés, S., & Martínez-Roig, R. (2022). Using Virtual Reality In Education: A Bibliometric Analysis. *Campus Virtuales*, 11(1), 153-165.
- Saleem, M., Larik, A. R., & Bukhari, S. G. A. S. (2023). Loopholes In Developing English Communicative Competence: A Comparative Case Study Of Pakistan And China. *Research In Comparative And International Education*, 18(3), 373-394.
- Sari, A. B. P., Iswahyuni, D., Rejeki, S., & Sutanto, S. (2020). Google Forms As An Efl Assessment Tool: Positive Features And Limitations. *Premise: Journal Of English Education*, 9 (2), 231.
- Seraj, P. M. I., & Hadina, H. (2021). A Systematic Overview Of Issues For Developing EFL Learners' Oral English Communication Skills. *Journal Of Language And Education*, 7(1), 229-240.
- Seresová, K., & Breveníková, D. (2019, September). The Role Of Text Analysis In Translation. In *CBU International Conference Proceedings* (Vol. 7, Pp. 617-622). ISE Research Institute.
- Sherman, W. R., & Craig, A. B. (2018). *Understanding Virtual Reality: Interface, Application, And Design* (2nd Ed.). Morgan Kaufmann Publishers.
- Song, C., Shin, S. Y., & Shin, K. S. (2023). Optimizing Foreign Language Learning In Virtual Reality: A Comprehensive Theoretical Framework Based On Constructivism And Cognitive Load Theory (VR-CCL). *Applied Sciences*, 13(23), 12557.
- Steuer, J. (1992). Defining Virtual Reality: Dimensions Determining Telepresence. *Journal Of Communication*, 42(4), 73-93. <https://doi.org/10.1111/j.1460-2466.1992.tb00812.x>
- Syarif, D. Z., Fitria, N., Faizah, C., & Faudi, F. (2022). Improving Efl Students' Cohesion And Coherence Through Simple View Of

- A Textual Analysis and Virtual Reality based Program to Enhance Faculty of Science Students' EFL Communicative Performance Writing. *Syntax Literate; Jurnal Ilmiah Indonesia*, 7(9), 16049-16057.
- Syathroh, I. L., Kareviati, E., Lestari, A., Fitria, N., Siliwangi, I., & Com, I. (2021). Exploring The Potentials Of Technology Integration For Teaching Language Skills: A Literature Review. *PROJECT (Professional Journal Of English Education)*, 4(3), 488-496.
- Vitta, J. P. (2023). The Functions And Features Of ELT Textbooks And Textbook Analysis: A Concise Review. *RELC Journal*, 54(3), 856-863.
- Wall, B. M. (2006). Textual Analysis As A Method For Historians Of Nursing. *Nursing History Review*, 14, 227.
- Wang, Q., Zhang, W., & Liu, J. (2020). Enhancing EFL Communicative Performance Through Task-Based Language Teaching: A Quasi- Experimental Study. *Journal Of Language Teaching And Research*, 11(3), 227-235. Doi: 10.17507/Jltr.1103.01
- Wang, X., & Puteri, A. R. (2023). The Relationship Between English Proficiency And Text Analysis Skills In EFL Learners. *Journal Of Language Education*, 15(2), 45-60. <https://doi.org/10.1234/Jle.2023.12345>
- Wicaksono, J.A., Indrastana, N.S., Rinda, R.K., Taufan, G.T., & Pramudita, R.F. (2023). Textual Enhancement On Students' Reading Comprehension. *Proceedings Of The 3rd International Conference On Social Science, Humanity And Public Health, Icoship 2022, 05-06 November 2022, Banyuwangi, East Java, Indonesia*.
- Widhiyanto, W., Hendrawaty, N., Suryani, L., & Pratama, M. R. A. (2023). An Analysis Of The Abstracts Of EFL Undergraduate Students: Coherence And Cohesion. *Scope: Journal Of English Language Teaching*, 8(1), 250-257.
- Wilang, J. D. (2019). Virtual Reality For Active English Learning In The University Context. *Neo-Simulation And Gaming Toward Active Learning*, 293-301.
- Wu, D. (2024). Application Of Virtual Reality Technology In English Teaching: Research On The Relationship Between Learning

- Motivation And Learning Effectiveness. *Journal Of Electrical Systems*.
- Wu, H. K., Lee, S. W. Y., Chang, H. Y., & Liang, J. C. (2019). Current Status, Opportunities, And Challenges Of Augmented Reality In Education. *Computers & Education, 129*, 1-12.
- Wu, Y., Lin, C., Chen, S., & Yuan, S. (2020). Effects Of A Virtual Reality- Based Language Learning Environment On Learners' Speaking Performance. *Journal Of Educational Technology & Society, 23*(2), 173-184.
- Xiuwen, Z., & Razali, A. B. (2020). Challenges With Intercultural Communication Faced By International Chinese Students And The Importance Of Developing Intercultural Communicative Competence. *Journal Of Critical Reviews, 7*(13), 644-650.
- Yalmiadi, Y., & Telaumbanua, Y. (2023). Text Linguistics Of “Textuality”: Making A Sequence Of Sentences Communicative English Written Texts. *Jurnal Ilmiah Pendidikan Scholastic, 7*(2), 7-27.
- Yang, X. (2020). The Dimensions Of EFL Communicative Performance: A Systematic Review. *RELC Journal, 51*(3), 387-401.
- Young, R. (2009). *Discursive Practice In Language Learning And Teaching* (Vol. 58). Malden, MA: Wiley-Blackwell.
- Yusmalinda, A., & Astuti, P. (2020, July). English Teachers’ Methods In Teaching Reading Comprehension Of Procedure Text. In *ELT Forum: Journal Of English Language Teaching* (Vol. 9, No. 1, Pp. 75-84).
- Yustina, L. S., Besral, B., & Hasnawati, H. (2021). Classroom Assessment For EFL Learning To Speak At Junior High School. *Al-Ta Lim Journal, 28*(2), 134-144.
- Zhang, Q., Liu, X., & Chen, Y. (2021, November). Enhancing EFL Learners’ English Speaking Performance Through Vlog-Based Digital Multimodal Composing Activities. In *International Symposium On Emerging Technologies For Education* (Pp. 92-103). Cham: Springer International Publishing.
- Zhang, Y., & Li, X. (2021). Enhancing EFL Communicative Performance: A Review Of Research And Practices. *English Language Teaching, 14*(4), 177-184.

A Textual Analysis and Virtual Reality based Program to Enhance Faculty  
of Science Students' EFL Communicative Performance