

THE EFFICACY OF AI-DRIVEN TEXT GENERATORS IN ENHANCING ESP COMMUNICATIVE COMPETENCE FOR PHYSICAL EDUCATION AND SPORT STUDENTS

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Abstract. This study evaluates the pedagogical impact of integrating Artificial Intelligence (AI) text generators and conversational agents within the English for Specific Purposes (ESP) curriculum for higher education students specialized in physical culture and sports. While traditional language instruction often struggles to adapt to the highly kinetic and practical orientation of sports students, AI tools offer customized, real-time linguistic scaffolding. A mixed-methods empirical study was conducted over a 14-week semester involving second-year undergraduate students ($N=64$). The experimental group ($n=32$) utilized AI text generators to simulate international sports press conferences, generate personalized sports-specific glossaries, and receive instant feedback on contextual writing tasks. The control group ($n=32$) followed a conventional instructor-led ESP curriculum. Post-intervention assessments revealed that the experimental group demonstrated statistically significant advancements in professional lexicon retention and oral production metrics ($p < 0.05$). The study concludes that AI acts as an effective personalized tutor, shifting the paradigm from passive translation to active, technology-mediated professional communication.

Keywords: Artificial Intelligence (AI), ESP, Higher Education, Sports Terminology, Text Generators, Communicative Competence, Digital Pedagogy.

Introduction. The globalization of the sports industry requires modern sports professionals—athletes, coaches, sports managers, and physical educators—to possess robust international communication skills. In this landscape, English for Specific Purposes (ESP) serves as a critical bridge. However, teaching ESP in physical culture universities presents unique pedagogical challenges. Sport students are typically kinesthetic, experiential learners who require immediate contextual relevance and interactive environments to achieve language acquisition. Traditional, static textbooks often fail to mirror the dynamic, fast-paced communication found in international sports arenas, press rooms, and sports medicine clinics. Recently, the emergence of Generative Artificial Intelligence (AI) and large language models (LLMs) has initiated a paradigm shift in foreign language education. AI text generators allow for unprecedented personalization, enabling the instantaneous creation of highly specific learning materials tailored to unique sporting disciplines (e.g., karate, winter sports, football tactics). Despite the growing popularity of AI in general education, empirical research focusing on its application within specialized physical education and sports higher education remains scarce. This study addresses this gap by investigating how structured interactions with AI text generators influence the acquisition of sports terminology and the development of professional communicative competence among ESP students.

Methodology. 2.1 Participants and Experimental Framework

The empirical study was conducted at the University of Physical Education and Sport during the Spring semester. The sample consisted of 64 second-year undergraduate students who were divided into two structurally identical groups based on a preliminary CEFR-aligned placement test (averaging at the A2/B1 borderline):

Experimental Group (EG, \$n=32\$): AI-augmented ESP learning framework.
Control Group (CG, \$n=32\$): Traditional instructor-led, textbook-focused framework.

2.2 Pedagogical Intervention and AI Integration

Both groups shared the same thematic syllabus (e.g., Sports Injuries, Training Methodology, Anti-Doping Regulations, Post-Match Interviews). The differentiation lay strictly in the technological execution within the Experimental Group, where students interacted with AI text generators under a structured three-tier model:

AI-Generated Specialized Glossaries: Instead of static dictionaries, students prompted AI tools to generate bilingual contextual sentences containing specific sports terms (e.g., “Provide 5 examples of the word 'hamstring tear' used in a sports medicine context with Uzbek translations”).

Simulated Sports Press Conferences: Students utilized AI as a conversational partner. They programmed the AI to act as an aggressive international sports journalist, while the student responded as a coach or athlete, practicing real-time tactical vocabulary, idioms, and strategic communication. **Automated Feedback Loops:** For written assignments (e.g., drafting a tournament invitation or a sports resume), students submitted their texts to AI for instant grammatical refinement and professional tone adjustment, analyzing the differences between their draft and the AI's optimized output. The Control Group covered the exact same content using standard printed resources, peer-to-peer role-plays, and manual instructor corrections.

Results. Data collected from the post-intervention examinations were subjected to comparative quantitative analysis. The primary evaluation focused on professional vocabulary mastery and speaking fluidity under pressure.

Performance Indicator	Control Group Mean Score (Max: 100)	Experimental Group Mean Score (Max: 100)	Statistical Significance (p-value)
Sports Vocabulary Mastery	67.8	86.4	\$p < 0.01\$
Oral Communicative Fluency	61.2	81.9	\$p < 0.01\$
Professional Writing Syntax	70.5	79.3	\$p < 0.05\$
Listening Comprehension	65.3	74.1	\$p > 0.05\$

The empirical data illustrates that the most substantial divergence occurred in **Vocabulary Mastery** and **Oral Fluency**. The \$p < 0.01\$ value confirms that the interactive, repetitive, and tailored nature of AI prompting significantly boosts active lexicon retention compared to traditional rote memorization.

Discussion. The results substantiate that AI text generators mitigate the traditional constraints of the ESP classroom. Sports students require a high degree of specialization; a football coach needs entirely different linguistic structures than a gymnastics judge or a karate practitioner. Traditional textbooks cannot accommodate this micro-specialization within a single classroom. AI solves this by allowing each student to customize the text generation to their specific athletic

domain. Furthermore, the interactive simulation of press conferences addresses a major psychological barrier in language learning: foreign language anxiety. Interacting with an AI conversational agent provides a low-stakes, non-judgmental environment. Students can make errors, analyze structural corrections, and re-prompt the system multiple times, which builds the linguistic confidence necessary for real-world athletic interactions. However, the instructor's role changes rather than diminishes. The educator must shift from a primary information provider to an AI facilitator, teaching students how to formulate accurate prompts and critically evaluate AI outputs to prevent the adoption of "AI hallucinations" or incorrect stylistic variations.

Conclusion. Integrating AI text generators into the ESP curriculum for physical education universities significantly enhances professional vocabulary acquisition and oral communicative competence. By transforming the language learning process into an active, prompt-based interaction, AI technologies align cleanly with the practical, result-oriented cognitive profiles of sports students.

Strategic Recommendations:

Prompt Engineering in ESP: Modern ESP syllabi for sports universities should explicitly include units on digital literacy and professional prompt engineering tailored to sports management and communication.

Hybrid Evaluation Models: Assessment criteria should evolve to measure how effectively students can co-create, edit, and utilize AI-generated professional documents rather than merely restricting technological aid.

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