Artificial Intelligence for English for Specific Military Purposes: An Adaptive Framework for UN Peacekeeping Missions

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DOI: https://dx.doi.org/10.47772/IJRISS.2025.925ILEIID00009

Received: 23 September 2025; Accepted: 30 September 2025; Published: 04 November 2025

ABSTRACT

This study investigates the integration of artificial intelligence (AI) into English for specific military purposes (ESMP) training for Pakistan army personnel who are preparing for United Nations peacekeeping missions. Using an explanatory sequential mixed methods design with stratified random samples of officers (n = 30) and troops (n = 30), the research examined perceptions of AI's suitability for mission-oriented English training. Quantitative results revealed that officers reported strong digital literacy (M = 4.53) and institutional endorsement (M = 5.00), but low personal readiness (M = 3.43). In contrast, troops demonstrated moderate digital literacy (M = 3.37) but higher motivation (M = 4.23) and strong support for compulsory AI-ESMP training (M = 4.30). The qualitative findings reinforced these patterns: officers emphasized institutional policy, infrastructural requirements, and security concerns, while troops regarded AI as flexible, motivational, and practically useful. These findings confirm the feasibility of developing an AI-ESMP Adaptive Framework to enhance communication, operational readiness, and multinational collaboration in peacekeeping environments.

Keywords: Generative AI; English for Specific Military Purposes; AI-ESMP Adaptive Framework; UN Peacekeeping Missions

INTRODUCTION

English is widely acknowledged as the lingua franca of diplomacy, multinational collaboration, and United Nations Peacekeeping Missions. For Pakistan, one of the largest troop-contributing countries, effective English communication is critical for operational success. However, persistent challenges remain, as troops often rely on general English training that does not fully address the mission-specific communicative demands of peacekeeping, such as operational briefings and incident reporting. Research within English for Specific Purposes (ESP) highlights the importance of tailoring language instruction to particular contexts. This is where English for Specific Military Purposes (ESMP) becomes indispensable, strengthening peacekeeping readiness.

At the same time, Artificial Intelligence (AI) technologies are reshaping the delivery of language education worldwide. Adaptive learning systems, real-time feedback, and generative AI simulations provide flexible, learner-centered, and authentic language training opportunities. This study addresses the gap between the need for tailored ESMP and the potential of AI by examining the perceptions of both officers and troops to propose an AI-ESMP adaptive framework for future implementation.

LITERATURE REVIEW

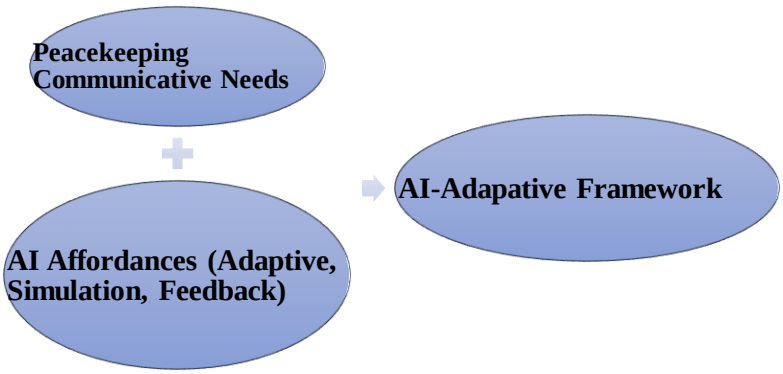
Artificial intelligence (AI) offers significant advantages in education, notably by supporting adaptive learning pathways, delivering immediate feedback, and boosting student motivation. Specifically, AI-driven personalization enhances learner autonomy (Woo & Choi, 2021), while Generative AI can effectively simulate authentic scenarios (Ejaz & Jamil, 2024. However, alongside these benefits, researchers like Bannister et al. (2023) emphasize the necessity of considering ethical and infrastructural challenges, including system

reliability and data governance. Some of these aspects of concern can be cybersecurity failures, risk of leaking on cognitive intelligence, communication weaknesses, and directly compromising tactical secrecy. Likewise, weak data governance of sensitive personnel data threatens ethical assessment, eroding trust and fairness within the military structure.

THEORETICAL AND CONCEPTUAL FRAMEWORK

This study is grounded in three complementary theoretical perspectives that converge to inform the proposed AI-ESMP Adaptive Framework. First, the theory of English for Specific Purposes (ESP), when applied to the military domain, underlines that language instruction should be systematically tailored to meet the specific and high-stakes communicative demands inherent in that context. Second, Artificial Intelligence (AI) in education provides the pedagogical affordances necessary to meet these needs, including personalization, real-time feedback, and authentic simulation. Third, defense studies contextualize this solution by highlighting AI's emerging role in multinational coordination and communication in high-stakes military environments. Together, these perspectives provide a robust foundation for the study and the conceptualization of the AI-ESMP Adaptive Framework as a bridge between the peacekeeping communicative needs of the Pakistan Army and the pedagogical affordances of AI technology.

Figure 1. Conceptual framework for integrating AI into ESMP training



METHODOLOGY

This study adopted an explanatory sequential mixed-methods design. Stratified random sampling ensured adequate representation of both strata: 30 officers (teachers) and 30 troops (learners). In the quantitative phase, Likert-scale questionnaires captured digital literacy, ESMP literacy, AI suitability, readiness, and motivation. Descriptive statistics were used to summarize the results. In the qualitative phase, semi-structured interviews explored participants' perceptions of AI's potential, barriers, and institutional implications. Data integration followed a side-by-side explanatory approach.

RESULTS

The quantitative findings highlighted notable differences between officers and troops. Officers reported strong digital literacy (M=4.53) and full endorsement of institutional adoption (M=5.00), but low personal readiness (M=3.43). Troops, in contrast, demonstrated moderate digital literacy (M=3.37) but significantly higher motivation (M=4.23) and support for compulsory AI-ESMP training (M=4.30).

Table 1. Descriptive statistics for officers and troops (Means and Standard Deviations)

Variable	Officer (M, SD)	Troops (M, SD)
Digital Literacy	4.53 (0.51)	3.37 (0.67)

Readiness	3.43 (050)	4.30 (0.79)
Motivation	3.87 (0.68)	4.23 (0.77)
Institutional Support	5.00 (0.00)	_____

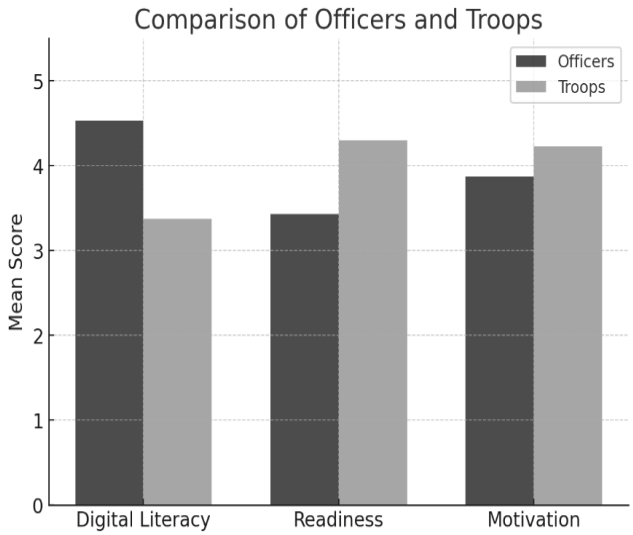
The joint display matrix integrated quantitative and qualitative results, revealing a clear divergence in perspectives. Officers emphasized policy alignment, security, and infrastructural readiness, while troops valued AI's flexibility, feedback, and practical mission relevance.

Table 2. Joint display of officers' and troops' perspectives on AI-ESMP.

Theme	**Officers**	**Troops**
Digital Literacy	High competence, Confidence in Use	Moderate skills require training
Readiness	Cautious, low personal readiness	Strong readiness, support compulsory AI-ESMP
Motivation	Supportive but measured	Highly motivated, career relevance
Barriers	Infrastructure, security, syllabus issues	Connectivity, operational restrictions

The following bar chart visually illustrates the comparison between officers' and troops' perceptions of key variables.

Figure 2. Comparison of responses from Officers and Troops



DISCUSSION

The results indicate a complementary readiness profile between officers and troops. Officers, with their digital competence and institutional authority, are positioned as facilitators of policy and infrastructure. Their low personal readiness is not a lack of competence but a professional responsibility born from their role in protecting operational integrity and navigating long-standing bureaucratic procedures. In contrast, troops, despite lower digital literacy, bring strong enthusiasm and motivation to adopt the AI-ESMP Adaptive Framework. This synergy of institutional caution and user-level motivation is critical for successful implementation.

These findings validate the theoretical underpinnings of the study. ESP Needs Analysis explains the distinct language needs of officers and troops, while recent ESMP scholarship situates these needs within peacekeeping contexts. AI learning theories support the observed preference for adaptive, scenario-based learning, while defense research aligns with officers' recognition of institutional modernization. The

convergence of theory and results thus confirms the value of an AI-ESMP Adaptive Framework for UN peacekeeping.

LIMITATIONS

However, one of the factors behind the cautious approach of the officers had been that by incorporating the AI-ESMP Adaptive Framework for the Pakistan Military, as cautioned by Bannister et al. (2023), its application might result in cybersecurity vulnerabilities, reliability challenges, and ethical concerns in data governance. These limitations point to the need for cautious, well-regulated implementation to ensure that technological advancement does not compromise operational integrity or institutional trust.

CONCLUSION AND RECOMMENDATIONS

This study concludes that an AI-ESMP Adaptive Framework is both feasible and desirable for the Pakistan Army. By embedding mission-driven communicative tasks within AI-enabled environments, the framework balances officer-level endorsement with troop-level motivation. To implement such a framework, the study recommends a multi-pronged approach, i.e., capacity-building in AI literacy for both officers and troops, phased adoption of AI-ESMP alongside conventional methods, investment in secure infrastructure, and embedding ESMP into official military ELT policy. By doing so, the Pakistan Army can set a precedent for other troop-contributing nations in using AI to support peacekeeping effectiveness.

Conflict of Interest

The authors declare no conflict of interest. The research was conducted independently, without any financial or non-financial influences.

Authors' Contributions

The following have been the contributions of the Authors:

- Unaiza Khudai collected data, analyzed, and compiled
- Dr Shanti Chandran supervised and guided the design and conduct of the research
- Dr. Marsha proofread the composition and checked for technical detailing of the paper, and helped in revising the final manuscript.

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to Major Rab Nawaz, Retd, for facilitating the conduct of research and collection of data for the study.

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