



Global Aviation English Research

Eric Frigal, Malila Prado & Jennifer Roberts (Eds.)

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As mechanical failures occur less frequently in flight operations, there has been a growing focus in recent years on the human factors that contribute to aviation incidents and accidents. Aviation English (AE) has emerged as a key concern in human factors due primarily to the incidents and accidents caused by inadequate English proficiency and insufficient communicative skills. The publication *Global Aviation English Research*, co-edited by Eric Frigal, Malila Prado, and Jennifer Roberts, shows important gaps in the aviation industry and offers a timely examination of language's critical role in this high-stakes domain. This book is a valuable collection of contributions from experts in the field, each dedicated to advancing research and practice from diverse perspectives. It comprises thirteen chapters, with a brief introduction in Chapter 1. The twelve subsequent chapters contribute to our increased understanding of the AE domain and the associated curricular and assessment needs.

Chapter 1 introduces the important role of AE in global aviation as both a safety tool and a lingua franca for international communication. The chapter traces AE's development, highlighting milestones like the Language Proficiency Requirements (LPRs) established by the International Civil Aviation Organization (ICAO) and AE's growing importance in aviation safety. By providing a historical and theoretical framework, this foundational chapter sets the stage for understanding AE's scope, challenges, and significance in a globalized aviation industry.

Chapter 2 explores AE within the human factors in aviation. It emphasizes that language should be analyzed as thoroughly as other operational factors. It introduces a taxonomy categorizing communication issues into technical, procedural, cultural, and language factors, highlighting language's role in safety. Case studies, such as the 2012 ATR 72 crash in Russia, illustrate how low English proficiency impacts performance. The chapter calls for better

language testing, systematic investigation of language in accidents, and linguistic expertise in accident analysis.

Taking rather a different approach, Chapter 3 examines the linguistic features of military aviation communication from an avialinguistic view. It focuses on coding verbal messages for clarity and efficiency. It discusses brevity codes, simple syntax, and cryptic terminology used for fast, precise exchanges under pressure. Unlike civilian aviation, military communication includes additional terminology for tasks like combat and reconnaissance. Challenges include high-speed operations, environmental stressors, and cross-cultural communication. It thus highlights avialinguistics' role in refining communication strategies through training and research.

Chapter 4 revisits the AE components and looks at code-switching in AE. Traditionally, AE has two prescribed registers: standardized phraseology for routine situations and plain AE for non-routine situations. Guided theoretically and methodologically by Prado and Tosqui-Lucks (2019) and Frigal (2024), these two distinct registers were shown to exhibit variation in linguistic features and communicative purposes (Zhao, 2024). Positioned at opposite ends of a register continuum, these registers are now joined by a third: plain non-aviation-related, often seen in politeness expressions like greetings. The frequent overlaps among these registers challenges ICAO's strict separation. While prescribed code-switching is common, non-prescribed switches also occur, affecting clarity. The chapter encourages policymakers to consider the role of politeness in AE.

Taking a different angle, Chapter 5 discusses the role of pragmatic strategies in AE. Using a Communities of Practice framework, it analyzes two non-routine interactions to evaluate explicitness strategies like repetition, rephrasing, and clarification. The study finds repetition ineffective when misunderstandings stem from role expectations rather than language. The chapter emphasizes teaching pragmatic skills in aviation training, stressing emotional control and mutual understanding to enhance safety in non-routine situations.

Chapter 6 examines the aviation language policies in Higher Education Institutions (HEIs) within a multilingual context. It explores how aviation language policies are shaped by academic authorities, faculty, and students. While English is a lingua franca in aviation, tensions arise as international and national language policies, such as ICAO's LPRs, are inconsistently implemented. An important gap is that there are no AE course in pilot

training. The chapter calls for AE course integration and policy consistency with multilingual contexts to prepare future aviation professionals.

Further perspectives on this are provided in Chapter 7, which critiques the ICAO LPRs and highlights their problems in meeting real-world needs. The LPRs focus on “native-like” proficiency and assume L2+ English speakers are the only ones responsible for communication issues. They do not test L1 speakers even though they frequent use non-standard phraseology. This chapter suggests reforms based on evidence, such as expanding ICAO phraseology for non-routine situations, refining rating scales, and improving collaboration among Member States to create shared resources for accent training.

Chapter 8 focuses on developing authentic target tasks and indigenous assessment criteria for AE, especially in military aviation. Using needs analysis, the study identifies 40 main tasks across four skills and 14 related task phases, such as flight plans. Listening tasks are important but less complex, while speaking tasks are more challenging. The chapter stresses the need for localized, task-centered assessment criteria based on experienced evaluations by Air Traffic Controllers (ATCOs), and critiques existing ICAO LPRs for their lack of clarity.

After this, Chapter 9 explores terminological patterns and translation choices used in official documents on Unmanned Aircraft Systems (UAS) across English, Portuguese, and Spanish. The chapter uses a corpus-based approach to identify patterns and emphasizes the need to analyze terminology in legal and technical aviation contexts. However, its focus on Brazil’s National Civil Aviation Agency and Airspace Control Department limits wider applicability, leaving room for further research into standardizing terminology across different regulatory environments.

Chapter 10 examines the gaps in the Federal Aviation Administration’s English Language Requirements for aviation maintenance technicians (AMTs). Unlike ICAO’s LPRs, which focus on radiotelephony for pilots and ATCOs, AMTs require skills in speaking, listening, reading, and writing for tasks like interpreting manuals and writing reports. This chapter reveals that the lack of standardized assessment tools leaves room for examiner bias. The authors call for targeted language standards that match AMTs’ real-world communication needs.

Then, Chapter 11 explores the role of technical vocabulary in AE and vocabulary instruction within ESP for aviation. The Technical Aviation

Radiotelephony Vocabulary List (TARTVL) was developed including technical words, proper noun, number, acronyms, and multiword units. Evaluation of the list shows that it is a useful training tool that is important for communication between pilots and ATCOs. The chapter calls for integrating TARTVL into ESP and AE training through role-plays, simulations, and direct instruction.

Chapter 12 explores the efficiency of synchronous and asynchronous learning in AE education during the Covid-19 pandemic. Online learning offered flexibility, but challenges such as low motivation reduced its effectiveness. AE's specialized nature needs real-time simulations and interactive tasks, which pose more difficulties in speaking and writing skills. The study highlights issues with online assessments and calls for blended learning, improved instructor training, tailored curricula, and better technology to enhance AE education in digital settings.

Finally, Chapter 13 explores the design of speaking tasks for the Overseas Flight Training Preparation Test (OFTPT), aimed at assessing interaction competence in English L2 ab initio pilots. Emphasizing authenticity, the test incorporates role-plays simulating real aviation scenarios to evaluate skills like paraphrasing and dynamic communication. Findings reveal that while pronunciation is often strong, interaction and comprehension require improvement. Aligned with ICAO standards, the OFTPT offers a practical framework to address gaps in AE assessment.

In sum, *Global Aviation English Research* is an important and timely contribution to the field of AE. It connects research, pedagogy, and practice within this specialized research area. The book examines the multifaceted challenges of aviation communication, including language proficiency, instruction, learning, assessment and the need for safety in multilingual and multicultural contexts. It incorporates different perspectives, e.g., pragmatics, sociolinguistics, discourse analysis and applied linguistics, to show the complexities inherent in AE. The chapters highlight the need for systematic improvements in language training, assessment, and policy-making, while pointing out gaps in real-world use. The book also explores under-researched areas like military aviation communication, pragmatic strategies, and technical vocabulary. It emphasizes evidence-based reforms, authentic task development for both academic and professional audiences. However, the book is not without its limitations. Firstly, although the book covers a wide range of topics, some chapters have limited applicability. Additionally,

the book provides detailed teaching and assessment suggestions but lacks sufficient discussion of the challenges faced by resource-limited training institutions or non-native English-speaking countries.

This publication will be an indispensable resource for a wide audience, ranging from aviation professionals, such as pilots, ATCOs, and safety investigators, to educators and researchers like material designers, curriculum developers, and specialists in applied linguistics, sociolinguistics, and corpus linguistics. It also provides valuable guidance for policymakers who want to meet LPRs with the evolving needs of global aviation. Ultimately, the book shows the important role of AE as a safety-critical tool and calls for ongoing interdisciplinary efforts to improve communication practices in the aviation sector.

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