

CROSS-LINGUISTIC ISSUES IN AVIATION TERMINOLOGY: ENGLISH-BASED TERMS IN OTHER LANGUAGES

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Abstract

Aviation operates as a highly globalized and safety-critical domain in which professional communication relies on standardized terminology. Due to the dominant role of English as the international language of aviation, a significant proportion of aviation terminology originates in English and is subsequently adopted by other languages. This process, however, raises a number of cross-linguistic issues related to equivalence, semantic precision, and terminological consistency. The present study examines English-based aviation terms as they are integrated into other languages, focusing on linguistic adaptation strategies such as borrowing, calquing, transliteration, and semantic narrowing. Using a qualitative, comparative approach, the paper analyzes selected aviation terms to identify common patterns of cross-linguistic variation and potential risks associated with partial equivalence and semantic shift. The findings suggest that while English-based terminology facilitates international standardization, its adaptation into national languages may generate conceptual asymmetries that affect professional communication. The study contributes to aviation terminology research by highlighting the need for concept-oriented approaches in multilingual contexts and offers practical implications for translation, training, and terminology management in aviation.

Keywords: *aviation terminology, cross-linguistic issues, English-based terms, terminological equivalence, multilingual communication*

I. Introduction

Aviation is one of the most internationalized domains of professional activity, characterized by intensive cross-border interaction and strict safety requirements. Within this domain, language functions not merely as a means of communication but as an operational tool directly linked to risk management and decision-making. As a result, aviation terminology occupies a central position in ensuring clarity, predictability, and mutual understanding among professionals from different linguistic backgrounds.

English has been established as the global working language of aviation, particularly in air traffic control and international flight operations. Consequently, a large proportion of aviation terminology is created, standardized, and disseminated in English before being adopted into other languages. While this practice supports international standardization, it also introduces cross-linguistic challenges related to the transfer of specialized concepts across linguistic systems.

The adoption of English-based aviation terms into other languages is not a purely mechanical process. Differences in linguistic structure, semantic organization, and terminological

traditions often result in partial equivalence, semantic narrowing, or functional reinterpretation of terms. These phenomena raise important questions about terminological accuracy and consistency in multilingual aviation environments.

The aim of this paper is to analyze cross-linguistic issues arising from the use of English-based aviation terminology in other languages. By examining selected terms and their equivalents, the study seeks to identify common patterns of adaptation and to assess their implications for professional communication and aviation safety.

II. Literature Review

Research on aviation terminology has traditionally focused on standardization, phraseology, and safety-oriented communication. Within the broader field of Language for Specific Purposes (LSP), terminology is viewed as a concept-driven system designed to represent specialized knowledge in a structured and unambiguous manner. Scholars emphasize that in safety-critical domains, terminological precision is not a stylistic preference but a functional necessity.

Cross-linguistic terminology studies have demonstrated that the transfer of specialized terms between languages often involves more than lexical substitution. Previous research highlights issues such as semantic shift, incomplete equivalence, and conceptual mismatch when English-based terms are introduced into other linguistic systems. These problems are particularly evident in highly regulated domains where terms are closely linked to procedures and institutional frameworks.

In aviation, the dominance of English has led to extensive borrowing and adaptation of English terminology. While this process promotes international interoperability, it also creates tension between global standardization and national language norms. Several studies point out that terminological inconsistency at the national level may affect training, documentation, and professional understanding [2; 5].

Despite growing interest in multilingual aviation communication, relatively limited attention has been paid to the linguistic mechanisms through which English-based aviation terms are adapted into other languages. This gap underscores the need for systematic cross-linguistic analysis grounded in terminological theory.

III. Methodology

The study adopts a qualitative, descriptive-analytical approach. A selection of widely used English aviation terms was identified based on their frequency in international aviation documentation and professional discourse. These terms were then compared with their equivalents in other languages, with particular attention to semantic scope, functional usage, and conceptual alignment.

The analysis focuses on linguistic adaptation strategies, including direct borrowing, calquing, transliteration, and semantic modification. Rather than providing an exhaustive inventory, the study aims to illustrate representative patterns that reflect broader cross-linguistic tendencies in aviation terminology.

IV. Analysis and Results

One of the most common strategies for adopting English aviation terms is direct borrowing or transliteration. Terms such as *radar*, *transponder*, and *autopilot* are widely used across languages with minimal phonological or morphological adaptation. This strategy preserves terminological uniformity but may limit integration into the grammatical system of the target language.

Another frequent strategy is calquing, where the internal structure of the English term is replicated in the target language. For example, *flight level* is often rendered through literal translation of its components. While calquing may enhance transparency, it can also obscure the concept if the resulting term does not align with existing terminological conventions.

Some English-based aviation terms exhibit partial equivalence when transferred into other languages. The term *clearance*, for instance, may be translated using a general word meaning “*permission*,” which fails to capture its specific procedural and institutional connotations in aviation. Such semantic narrowing or shift may lead to conceptual asymmetry between languages.

In certain cases, English terms are functionally reinterpreted within national aviation contexts. Terms related to automation, digital communication, or unmanned systems often acquire locally specific meanings shaped by regulatory and technological factors. This phenomenon reflects the dynamic interaction between global terminology and national professional practice [6].

V. Discussion

The analysis demonstrates that cross-linguistic variation in aviation terminology is shaped by a combination of linguistic, conceptual, and institutional factors. While English-based terminology supports international standardization, its adaptation into other languages may introduce ambiguity or conceptual misalignment if not guided by terminological principles.

From a safety perspective, terminological inconsistency poses potential risks, particularly in training and documentation [3]. The findings underscore the importance of concept-oriented terminology management and coordinated efforts between linguists, translators, and aviation professionals.

VI. Conclusion

This study has examined cross-linguistic issues in aviation terminology with a focus on English-based terms used in other languages. The findings indicate that borrowing, calquing, and semantic modification are common adaptation strategies, each with distinct advantages and limitations. While English-based terminology facilitates global communication, its cross-linguistic transfer requires careful management to maintain conceptual precision.

The paper contributes to aviation terminology research by highlighting the linguistic mechanisms underlying multilingual variation and by emphasizing the need for systematic terminological approaches in international aviation contexts. Future research may expand the empirical scope by incorporating corpus-based methods and additional language pairs.

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Western European Journal of Linguistics and Education

Volume 3, Issue 12, December 2025

<https://westerneuropeanstudies.com/index.php/2>

ISSN (E): 2942-190X

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