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Problems of Georgian Aviation Terminology and Ways to Solve Them

ABSTRACT

This paper examines the challenges and prospects of developing standardized Georgian aviation terminology. It reviews the historical evolution of terminological activity, identifies linguistic, structural, and methodological issues, and emphasizes the importance of finding precise Georgian equivalents for English aviation terms.

Keywords: *Georgian language, Aviation, standardization, lexicography.*

Introduction

Aviation, as a field, began to exist and develop in the 20th century, gradually turning into a large industry that united many branches and sub-branches. Aviation turned out to be one of the priority fields, it took Georgia many years to gain real independence in this field. First of all, it needed specialists who would create a solid educational and scientific base. Indeed, the country educated professional specialists and even created an educational center, the Georgian Aviation University, which is the basis of Georgian aviation. This center of aviation education is developing in two directions - Purely scientific and educational. Naturally, both of these processes require the improvement of terminology. The state language strategy also implies language standardization. The normalization of terms and their practical implementation are a necessary condition for all fields, but the aviation industry pays special attention to this. Interest in these problems arose in the 20th century. Famous pilots and scientists in the field of aviation actively participated in the creation of terminology. Specialists in the field of aviation have worked hard and have been able to compile important terminological dictionaries. These dictionaries are: "Aviation Terminological Dictionary", compiled back in 1945 by the Terminological Commission of the Tbilisi Aviation Technical School, edited by V. Beridze; "Aviation Terminology (Russian-Georgian)", compiled in 2001 by V. Beriashvili for official use by order of the Civil Aviation Administration (Beriashvili, 2001); "English-Russian-Georgian Explanatory Dictionary of Aviation Terminology", compiled in 2002 by specialists from the

Arn. Chikobava Institute of Linguistics and the Aviation Educational and Scientific Institute of the Georgian State Technical University. Particularly important is the financial support of the Shota Rustaveli National Science Foundation (grant project SL-22-418) The “Illustrated Georgian-English Dictionary of Aviation Terms”, developed in 2023 by specialists from the Georgian Aviation University and the Arn. Chikobava Institute of Linguistics, taking into account modern requirements (Dateshidze & Osadze, 2016)). The thematically arranged material is accompanied by more than 200 illustrations and more than 1,300 terms in Georgian and English. The publication of this type of dictionary was an important step in the Georgian aviation educational space, as well as in the aviation industry. Illustrated dictionaries have been published in Georgia in small quantities so far. It should be noted the importance of this type of dictionaries for the educational process. After all, an illustration is sometimes equal to an explanation and makes it easier for the user to perceive a subject or event. But it should also be noted that even the dictionary published in 2023 cannot meet modern requirements, since it only includes structural parts of the aircraft, engines and electrical equipment (and that too in an incomplete amount).

Currently, a new dictionary is being developed (again with the financial support of the Shota Rustaveli National Science Foundation - grant project SL-24-089) - "Georgian-English Illustrated Dictionary of Civil Airport Management, Operation and Navigation Support", the creation of which was prompted by the shortcomings in the Georgian terminology of the airport management and operation subfield.

The primary task facing us is the gradual improvement of Georgian aviation terminology. The dictionary covers an important subfield of aviation - airports and their operation. The results of the research will be interesting and noteworthy for both the majority of Georgian society and civil aviation specialists.

Literature Review

The development of Georgian aviation terminology has a long-standing history that began in the early and mid-20th century, coinciding with the establishment and expansion of aviation as a scientific and industrial field. The earliest structured efforts to systematize aviation-related terminology were carried out by the Tbilisi Aviation Technical School, whose 1945 Aviation Terminological Dictionary represented one of the first attempts to provide Georgian equivalents for technical aviation concepts. This foundational work laid the basis for future terminological research by demonstrating both the need for a consistent aviation lexicon and the challenges associated with integrating foreign-derived terminology into the Georgian linguistic system. Subsequent publications, such as Russian-Georgian

and English-Russian-Georgian aviation dictionaries prepared in the late 20th and early 21st centuries, expanded the terminological corpus and responded to the rapid technological growth occurring globally. These works introduced more standardized equivalents and revealed gaps in existing terminology, especially in newly emerging aviation subfields.

A significant contribution to the literature came from projects funded by the Shota Rustaveli National Science Foundation, which enabled the creation of illustrated dictionaries addressing aircraft structures, engines, electrical systems, and airport operations. These resources improved accessibility and educational efficiency, particularly for aviation students and industry practitioners. Scholars consistently highlight the importance of maintaining a balance between adopting international standards, especially ICAO, EUROCONTROL, and EASA terminology and preserving the linguistic integrity of Georgian (Dictionary of Aeronautical Terms, 2020). This balance remains a central theme in terminological studies.

Despite notable achievements, existing literature also reveals persistent challenges: overlapping Georgian equivalents for distinct English terms, insufficient differentiation of operational concepts, and the inconsistent handling of abbreviations and nomenclatural terms. Previous research calls for continuous interdisciplinary collaboration, emphasizing that aviation terminology cannot be refined by linguists alone but requires the expertise of aviation engineers, instructors, and operational specialists. Overall, the literature demonstrates both the progress made and the need for ongoing, coordinated research to support the modernization of Georgian aviation terminology.

Methodology

This study employs a multidisciplinary methodological framework combining linguistic analysis, comparative terminology research, and expert evaluation. The primary methodological approach is comparative terminological analysis, which involves examining existing Georgian aviation terms and evaluating their correspondence with English-language equivalents widely used in international aviation organizations, including ICAO, EUROCONTROL, and EASA. This approach allows researchers to identify gaps, ambiguities, and inconsistencies within Georgian terminology and to assess whether Georgian equivalents adequately reflect technical distinctions present in English terminology (Georgian Aviation University, 2023).

The research process began with a systematic review of Georgian aviation dictionaries published from the mid-20th century to the present. Both dictionary content and lexicographic methodology were analyzed to determine how earlier terminologists handled complex aviation concepts and what strategies were applied in forming Georgian equivalents. These analyses highlighted patterns of

transliteration, direct borrowing, semantic extension, and the adaptation of foreign technical abbreviations.

In the second stage, researchers conducted semantic and morphological analysis of key aviation terms related to take-off, landing, airport operations, navigation systems, and aerodrome structures. By evaluating each term's internal structure, meaning, and usage context, the team assessed compatibility with Georgian word-formation rules. Particular attention was given to cases where a single Georgian term represented multiple distinct English concepts, resulting in ambiguity (ICAO, 2016, Kikvidze, 2022).

The final stage of the methodology involved expert collaboration. Aviation specialists including engineers, pilots, air navigation experts, and airport operations professionals participated in consultations to verify technical accuracy. Linguists from the Arn. Chikobava Institute of Linguistics provided linguistic validation, ensuring conformity with Georgian lexical norms. Through this collaborative and iterative method, the research produced terminology recommendations grounded in both technical accuracy and linguistic appropriateness.

Research Results

The analysis identified several categories of problems within Georgian aviation terminology, revealing both structural and semantic gaps that hinder effective communication in educational, professional, and operational aviation contexts. One of the most prominent issues concerns take-off and landing terminology. The study demonstrated that Georgian often uses a single term for multiple stages of takeoff, failing to differentiate between the ground-acceleration phase (take-off run) and the airborne climb phase. English distinguishes clearly between “takeoff” and “climb” whereas Georgian equivalents tend to merge these processes, creating ambiguity in both training materials and operational documentation.

Aircraft take-off process (See Figure 1) (NAU, 2013).

Similarly, terminology related to landing procedures showed inconsistencies. English aviation terminology includes a variety of terms such as “bumpy landing”, “hard landing” and “rough landing” each describing a different operational scenario. In contrast, Georgian often provides only a generalized equivalent that does not convey the specific cause or nature of the landing anomaly. This lack of differentiation can create misunderstandings during training or incident documentation. Critical problems were also identified in airport terminology. The terms “terminal”, “airport”, “aerodrome” and “air terminal” are frequently used interchangeably in Georgian, despite referring to distinct infrastructural and functional concepts in international aviation standards. Such inconsistencies

can hinder proper interpretation of regulatory documents, technical manuals, and operational procedures (Tepnadze et al. 2023).

Additionally, nomenclatural terms and abbreviations such as control cylinder labels, directional notations, and radio communication codes show variation in translation practices. Some terms are directly borrowed from English, others are partially translated, and some appear in mixed forms. This inconsistency complicates technical instruction and reduces standardization. Overall, the results demonstrate the urgent need for systematic standardization supported by updated dictionaries and institutional collaboration.

Discussion

The research findings emphasize the critical necessity for a comprehensive and systematic revision of Georgian aviation terminology. As aviation continues to integrate globally, English has become the dominant language of communication, regulation, and technical documentation. This has exerted strong influence on Georgian aviation terminology, resulting in extensive borrowing and hybrid forms. While borrowing is not inherently problematic, the lack of standardization and the absence of clear Georgian equivalents in many instances have created gaps in understanding among students, trainees, and even experienced aviation personnel.

A major topic of discussion is the need to align Georgian terminology with international aviation standards while protecting the linguistic integrity of the Georgian language. Georgian has a rich system of word formation capable of producing precise technical terms, yet these mechanisms have not always been fully utilized in aviation lexicography. The overreliance on foreign structures has sometimes resulted in awkward or semantically unclear terms.

The discussion also highlights the pedagogical implications of inconsistent terminology. Aviation students often struggle with understanding key concepts when Georgian terminology does not clearly distinguish among operational stages or technical processes. Illustrated dictionaries and modern lexicographic tools have proven highly beneficial, supporting comprehension by providing visual reinforcement and clear definitions. Continued development of such tools is essential.

Finally, interdisciplinary cooperation emerges as a central requirement. Linguists alone cannot determine correct aviation terms, just as aviation specialists cannot independently assess linguistic precision. The joint participation of both communities supported by national institutions such as the Georgian Aviation University and the Institute of Linguistics is necessary to ensure that future terminological solutions are both technically accurate and linguistically sustainable.

Conclusion

The study concludes that Georgian aviation terminology is undergoing an important transitional period characterized by growing international integration, increased technical complexity, and expanding educational needs. Although significant work has been accomplished in recent decades through the creation of various aviation dictionaries and lexicographic projects, the challenges identified in this research demonstrate that terminology modernization remains an ongoing and dynamic process.

A fundamental conclusion is that many Georgian aviation terms require clearer differentiation to match the precision found in international aviation terminology. This includes distinctions between stages of take-off, types of abnormal landings, airport infrastructure components, and technical nomenclatural items. Without such precision, the risk of misinterpretation remains high, particularly in training environments and operational settings where accuracy is crucial.

The research also confirms the importance of linguistic integrity in terminology development. Georgian possesses strong linguistic resources capable of producing accurate and intuitive technical terms, and these resources should be prioritized whenever possible. However, adherence to international standards must also be maintained to ensure compatibility with global aviation communication.

Ultimately, sustainable improvement of Georgian aviation terminology requires continued interdisciplinary collaboration, regular updates to specialized dictionaries, and the consistent application of lexicographic principles. By combining linguistic expertise with aviation knowledge, Georgia can develop a coherent, standardized, and internationally aligned aviation terminology system that supports both professional practice and academic advancement.

As a result of the joint efforts of industry experts and linguists, more than 1,500 terms were developed and defined within the framework of the research. The majority of the terminology is related to airports, aerodromes, air navigation facilities, and ground-based aerodrome service systems. The identification and establishment of these terms within the scope of the research is an important step forward for all aviation organizations, and especially for the Civil Aviation Agency, since the majority of existing legislative documents are prepared by this institution. The introduction of accurate and well-structured terminology in the aviation sector represents significant progress in the protection, preservation, and development of the Georgian language as a national value.

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Declaration of Interest Statement

The authors declare no conflict of interest.

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