Chapter 30

AVIATION EQUIPMENT: AIRCRAFT GROUND RECEPTION, DISPATCH, BASING OF AIRCRAFT AND AIR TRANSPORTATION SERVICES. SPECIALIZED TERMINOLOGY

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INTRODUCTION

English as the main language of communication plays a significant role in world aviation. Aviation terminology used in this field is critically important for ensuring safety, accuracy and efficiency during flights, maintenance and coordination between all participants in the aviation system.

An airport in the aviation sector is not only a transport hub connecting air routes, but also a complex infrastructure that supports the uninterrupted operation of aircraft. Aircraft ground handling is a key component of airport operations and covers a wide range of procedures and services aimed at maintaining the continuity of aviation operations. This includes all ground processes – from the arrival and departure of aircraft to maintenance, passenger service and cargo handling. Terminology related to these processes is an important part of knowledge for aviation industry specialists, as it contributes to a better understanding of various aspects of airport activities.

The study of English-language terminological vocabulary in the field of aviation on the topic "Aviation equipment: aircraft ground reception, dispatch, aircraft basing and air transportation services. Specialized terminology" is aimed at compiling an English-Ukrainian (Ukrainian-English) dictionary of aviation industry terminology with an explanation of English-language aviation industry terminology.

We have looked at the aviation terminology through technical and safety aspects.

We have used computer and traditional lexicography in an attempt to expand and supplement specialized lexicographic sources with current English vocabulary in the field of modern aviation ground equipment service with its further use in classes on technical (in particular, aviation) translation in groups of applied linguists / translators.

The selected array of English aviation terms serves as material for the creation of an explanatory illustrated specialized dictionary on the topic "Aviation equipment: aircraft ground reception, dispatch, aircraft basing and air transportation service. Specialized terminology", which encourages the study / review of the following issues:

– the current state of lexicography;

– the structure of an explanatory dictionary, its purpose and features;

– aviation terminology as part of the English technical language;

– sources of replenishment of terminology related to ground maintenance of aviation equipment;

– interpretation of terms that are widely used by English-speaking countries in the studied area (translation transformations);

– terms distribution by the topic for compiling an explanatory illustrated dictionary.

The terminological array was selected from the following sources: Internet electronic sources on the topic; Multitran dictionary[1]; Cambridge Dictionary[2]; Collins Dictionary[3]; R. Gilchenko "English-Ukrainian Dictionary of Aviation Terms" (2009)[4], etc.

1. The current state of lexicography (brief overview)

Lexicography can be considered one of the oldest types of applied linguistic activity, the results of which are used by modern man. Lexicography as a science is a fundamental tool for understanding, describing and systematizing language. It studies the structure, history and evolution of the dictionary as the main means of communication. The term "lexicography" was finally established in the 18th century and reflects the importance of systematizing words and expressions to ensure access to information and improve language skills. In a world of constant change and development of language, lexicography remains a key tool for preserving, researching and disseminating linguistic wealth.

Lexicography, as a science, has various approaches to its definition, which reflect its essence and role in the study of language. First of all lexicography is a separate science, the object of study of which are dictionaries, their compilation and use[5].

[1] Multitran dictionary. URL: https://www.multitran.com/

[2] Cambridge Dictionary. URL: https://dictionary.cambridge.org/

[3] Collins Dictionary. URL: https://www.collinsdictionary.com/

[4] Англійсько-український словник авіаційних термінів [близько 24 000 термінів та словосполучень] / уклад. Р. О. Гільченко. – Фастів : КуПол, 2009. – 280 с. – ISBN 978-966-2026-05-4.

[5] Tarp S. Lexicography in the Borderland between Knowledge and Non-Knowledge. Tübingen: Max Niemeyer Verlag, 2008. 308 p. DOI:10.1515/9783484970434. ISBN: 9783484970434

It is the dictionary that should reflect the fact that the lexical system of a language is not limited only to vocabulary; it is determined by cause-and-effect relationships with morphology, syntax, and communicative-linguistic properties of categories, classes, and groups to which lexical units belong.

Practical lexicography arose about 4 thousand years ago in the form of various glosses, glossaries, and dictionaries.

According to many scholars, English scientific lexicography began with Samuel Johnson's dictionary in 1755, French with D. Diderot's Encyclopedia in 1765, and German with the Brothers Grimm's German Dictionary in 1852. Arabic scientific lexicography arose in the 17th century in the form of interpreters of the words of the Quran and for a long time was limited to religious topics. It is believed that American lexicography was born in the 19th century from Noah Webster's dictionaries.

In the 1990s of the 20th century, research in the field of lexicography began in two directions: a detailed analysis of language units and the creation of specialized dictionaries for specific needs. For example, in education, as well as a description of the corresponding lexical layer, such as slang, dialects, new words, jargon, professional vocabulary, etc. These studies were conducted in two opposite directions, balancing the tendency to unify the dictionary and the tendency to specialize it.

Later, in the 1990s, the clear division between dictionaries of different types began to decrease, and lexicographic publications of a mixed (complex, universal) type, such as explanatory-translation, etymological-phraseological and other dictionaries, became popular. The popularity of these dictionaries is explained by the diverse needs of readers, which are determined by their profession, level of knowledge, perception, etc. In foreign lexicography, the term *"user's perspective"* or a strategy of orientation towards the potential user of a lexicographic publication is gaining popularity. This approach is especially important in translation lexicography, which helps to establish equivalent relations between lexical units of different languages.

With the development of new fields of knowledge, special thesauri acquire fundamental importance. They contribute to the user's quick and high-quality information search and are informative reference books intended for specific research purposes. A thesaurus is seen as a dictionary with conceptual differentiation of the lexicon according to the relevant thematic groups of varying degrees of generalization and quantity[6]. The usefulness of a thesaurus lies in the fact that it helps to better understand and use words in context, since it provides conceptual differentiation of vocabulary and groups words according to their meanings and themes. This

[6] Селіванова О. О. Сучасна лінгвістика: напрями та проблеми. Полтава: Довкілля, 2008. 712 с. С. 325. ISBN 966-8791-16-9.

is especially useful for writers, translators, researchers, and anyone who works with texts, as it allows them to find more precise and appropriate words to express their thoughts, as well as understand the semantic connections between different terms.

In the 21st century, lexicography is becoming more oriented towards applied linguistics, focusing mainly on the needs of the potential user (*user-centered, learner-centered*), rather than on the lexicographer himself or on a specific type of lexicographic publication (*lexicographer-centered, dictionary-centered*).

Among the characteristic features of modern lexicography is also the use of electronic corpora as a basis for creating dictionary resources, since they are the result of complete computerization. The priority direction of modern lexicography is computer lexicography, which is based on machine ideology and technology[7]. The emergence of electronic corpora as a basis for creating dictionary resources has several reasons:

1. The large volume of the dictionary makes its use difficult.

2. A detailed description of linguistic units can lead to confusion of the user in connection with the current linguistic and cultural situation.

3. Interesting lexicographic concepts of the dictionary and integral means of describing language resources can limit the dictionary resource.

Computer lexicography is distinguished by a number of characteristics, including:

– use of a palette of colors and visual effects;

– presentation of a significant amount of information using hyperlinks;

– expanded search capabilities, both within a specific dictionary article and throughout the dictionary;

– the ability to add personal comments, own translations, etc. using the footnote function;

– use of multimedia elements, such as illustrations, animation, audio and video;

– the ability to systematically update information;

– integration into basic office programs;

– ease of access and ease of use;

– saving time and material resources.

However, the choice of which version of the dictionary to use today – electronic or printed – undoubtedly remains only with the user.

An electronic dictionary has significant advantages over a printed dictionary in many aspects. This makes its use more widespread today among people of different backgrounds and for different purposes.

[7] Селігей П. О. Сучасне термінотворення: симптоми та синдроми. *Мовознавство*. 2007. № 3. С. 48–61. http://dspace.nbuv.gov.ua/handle/123456789/182920

That is why the creation of electronic dictionaries is one of the key tasks in computer lexicography, since they ensure the storage, processing and transmission of information. The ability to use information effectively is critical for success in any area of life.

Electronic dictionaries are effective because they can be constantly updated and quickly search for words using algorithms, even compared to their traditional counterparts.

However, we should not neglect the use of traditional printed versions, because one could not exist without the other, which makes both options relevant today.

It should be noted that modern computer technology tools make it possible to create user dictionaries for certain needs of specific use quite easily.

2. Structure of an explanatory dictionary, its purpose and features

A dictionary is an indispensable attribute of a person's professional life. People turn to a dictionary for help in order to find out information about words. A dictionary is much more than just a reference book; it is also, to some extent, a record of the vocabulary of a language.

Each dictionary has a "micro" and "macro" structure. From the point of view of the "macrostructure", a dictionary can consist of three parts: a preface, a main part and appendices. Some dictionaries do not have appendices, but most dictionaries have a preface, even though a short one. The cover usually contains an introduction or preface, which explains the innovations and characteristics of the corresponding edition, as well as instructions for using the dictionary, which may consist of a one-page diagram or a more extensive description. The first page may contain an explanation of the transcription system used to indicate pronunciation, a list of abbreviations used in the dictionary, and an essay on some relevant topic, for example, the history of the language or varieties of the language around the world. The appendices in dictionaries of different purposes can be diverse, for example: abbreviations, foreign words and phrases, ranks in the armed forces, counties of Great Britain and states of the United States, weights and measures, musical notation, Greek and Cyrillic alphabets, punctuation, works of Shakespeare.

The main part of the dictionary contains an alphabetical list of "headwords". Each headword is accompanied by a number of information, which together with the headword make up a "dictionary entry". Usually, the headword is printed in bold and is placed one or two spaces to the left of the other lines. The entries are presented in two columns on each page, although in some, usually large dictionaries (for example, NODE, W3, and

also ECED) there may be three columns. Headwords represent a certain selection of vocabulary and other elements that the editors have decided to include in the dictionary, taking into account the size and purpose of the dictionary.

General-purpose dictionaries usually have a common list of headwords that covers the core vocabulary; they differ in the amount of technical and specialized, as well as colloquial, slang, and dialect vocabulary they include. Editors strive to be up-to-date, especially in socially and culturally significant fields such as computer science, medicine, ecology, fashion, etc. The inclusion of the latest vocabulary in such fields is often used as an argument in favor of a new edition. If you look at the headwords in a general-purpose dictionary, you can see that it includes more than just terms.

A dictionary entry may include elements that are not terms, including derivational affixes and compound forms, as well as abbreviations. In some dictionaries (e.g., CED, NODE), the list of headwords includes names of places and people, as well as geographical and biographical articles.

The "microstructure" of a dictionary is the arrangement of information in dictionary entries. The amount and type of information in a dictionary entry depends on the type of the headword, but usually includes some or all of the following:

– spelling;
– pronunciation;
– spelling changes in certain cases;
– part of speech to which the lexeme belongs;
– meaning;
– definition;
– examples;
– usage;
– interjections (undefined derivatives), e.g., idioms, phrasal verbs;
– etymology.

Some dictionaries contain additional information, e.g., about word combinations or syntactic functions of words.

Today, no lexicographer starts with a blank sheet of paper, but relies on a tradition of compiling dictionaries that goes back more than six centuries[8]. While some lexicographers revise and update existing dictionaries to produce a new edition, others take up the challenge of innovation and forge new paths in lexicography. Even then, they rely on the work of previous generations of lexicographers, both in determining the list of headwords and in deciding what information to include. The data comes from a variety of

[8] Collins Dictionary of Aeronautical English. London: Peter Collin Publishing, 2001. 249 p. P.39 (Foreword) ISBN-10: 1901659100, ISBN-13: 978-1901659108

sources. First, there is access to previous dictionaries, from which both the list of headwords and lexical information can be obtained. It is not uncommon for the same definition to be reproduced in subsequent editions of the dictionary. Second, dictionary publishers maintain a "citation file" in which they record the results of the publisher's reading program's work on identifying new words, along with examples of their context of use, usually in the form of complete sentences.

Some citation files have a long history, for example, the Oxford file was created in the mid-19th century, when citations began to be collected for what later became the OED. Third, and increasingly important, lexicographers have access to computer corpora – large collections of texts in electronic form. Lexicographers at *Oxford* and *Longman* use the *British National Corpus*, which contains 100 million words of both spoken and written English; lexicographers at *Collins* use the *Bank of English*, a constantly growing corpus, now over 400 million words, developed by the University of Birmingham.

A computer corpus can be searched quickly and efficiently. It can be used to check information or to find answers to specific queries. But, more importantly, it can provide the input for the creation of dictionary entries. Using a matching program, a lexicographer can perform a KWIC (Key Word in Context) search and obtain a list of all occurrences of a word in the corpus, along with a specified amount of context for each occurrence. The search results tell the lexicographer how many meanings to define for a lexeme and provide examples of usage.

The third aspect of dictionary development is the writing of dictionary entries. A dictionary is rarely the work of a single lexicographer. More often, a dictionary is developed by a team, with individual members specializing in certain aspects of lexical description. Many dictionaries have, for example, a pronunciation specialist or an etymologist, as well as consultants in technical areas of vocabulary or other varieties of language. Lexicographers write the definitions, and an editorial team coordinates the contributions of all authors. Dictionaries are now compiled on a computer, so that all members of the team can have simultaneous access to the text of the dictionary under development. This makes careful editorial control, which is always a necessity, even more important before the dictionary is released to the public.

In modern lexicography, the term "dictionary system" is used, this system includes a complex of dictionaries created on the same principles and with the aim of describing lexical units of the language. It consists of different genres of dictionaries, which together provide a holistic view of the language. It is important to understand that creating the most complete lexical system in the form of a single edition is almost impossible.

Therefore, an interconnected system of dictionary and encyclopedic editions is needed, which complement each other. Each edition of this series will have its own independent lexical system, which represents a significant part of the maximum lexical system. However, such a project requires long-term and extensive collective work, as well as significant financial costs. The classification of dictionaries is based on the idea of an idealized dictionary as an invariant, taking into account its linguistic, psychological, semiotic and sociological coordinates. Classification is an important component of any science. Since the classification can be based on various criteria, in the field of modern lexicography there are several ways to classify dictionaries. Sometimes it is difficult to give an unambiguous characteristic to dictionaries, since this is due to the diversity of available dictionary information. Thus, existing classifications of dictionaries can be compiled from different points of view and do not always fully cover the entire variety of lexicographic sources.

For practical research work, it is interesting to consider the features of explanatory dictionaries, because it is the compilation of such a dictionary that constitutes the practical result of the work performed.

Compared to any other dictionary, an explanatory dictionary provides more information about various aspects of a lexical unit – spelling, pronunciation, grammar, meaning, etymology and illustrations. These dictionaries are intended for users – native speakers, language and translation specialists, ordinary citizens who are immersed in an in-depth study of vocabulary[9].

Explanatory dictionaries generally provide more contextual information about a word or phrase, including its use in different contexts, synonyms, antonyms, examples of use, and additional explanations of its use and meaning. Some explanatory dictionaries may also contain illustrations, diagrams, tables, or other graphical materials that help explain certain concepts or reflect other aspects of the language.

Sometimes the term "explanatory dictionary" is used to refer to dictionaries that are aimed at a wider audience, including people who are not professional linguists. Such dictionaries may be less technical and more accessible to a wide range of readers. Nevertheless, "…there are several factors that improve the criteria for selecting <…> terms and their explanation in explanatory dictionaries <…>."[10]

[9] Mustafai J. Types of Dictionaries. *KNOWLEDGE – International Journal*. Vrnjacka Banja, Serbia. March 2018. Vol. 22. No. 6. P. 1667. ISSN (E) 1857-923X, ISSN 2545-4439 for printed version.

[10] Saidov U. Problems of Improving the Descriptions of Administrative Terms in the Explanatory Dictionaries of the Uzbek Language. *American Journal of Philological Sciences.* Vol. 04. Issue 04. P. 172–180. P. 174. ISSN – 2771-2273

An analysis of general philological explanatory dictionaries shows that words and terms in them are interpreted differently. In particular, semantic, gender, and enumerative comments are widely used. Also given are such types of annotations as nominal annotation, descriptive-counting annotation, relative annotation, referential annotation, synonymous annotation, antonymic annotation, relative-syntagmatic annotation, derivational annotation, mixed annotation, negative annotation, etc. The types of interpretation of individual units are presented separately[11].

Thus, general philological explanatory dictionaries offer a multifaceted approach to the interpretation of words and terms, using various types of annotations and comments, which allows for a deeper understanding of the meaning of linguistic units and their connections in the language system.

3. Aviation Terminology

In the field of aviation, English plays a key role as the common language of communication. Aviation terminology used in this field is an important element in ensuring safety, efficiency and accuracy in the process of flight operations, maintenance and interaction between all participants in the aviation space. It covers a wide range of terms used to describe aspects of airspace, aircraft, navigation, flight safety, meteorology, as well as the processes of aircraft maintenance and operation. The study and understanding of this terminology are essential for pilots, controllers, technical personnel and all other professionals working in this field to ensure safety and efficiency in aviation activities. In 1944, the International Civil Aviation Conference in Chicago led to the establishment of ICAO as a permanent international body and laid the foundation for rules and regulations ensuring the safety of air navigation worldwide.

In terms of usage English aviation terminology can be conditionally divided into different communication cycles in the aviation context. This communication could be between air traffic controllers and pilots or crew members in and outside the cockpit; in air traffic control centers or between aircraft maintenance personnel. It also could be used for creating instructions and forms, translating aviation technical texts, etc. A number of regulatory acts that are either mandatory for implementation in the international aviation communication space (through national Aeronautical Information Publication) or accompany internal aviation communication (regulatory documents for airlines, flight training institutions, maintenance companies) define and limit the language that aviation personnel must use.

[11] Sharopova R. J. Methods of Explaining Terms in an Explanatory Dictionary. *American Journal of Science on Integration and Human Development*. Vol. 01. Issue 08. 2023. P. 128. ISSN (E): 2993-2750.

For example, direct communication between air traffic controllers and pilots during a flight is carried out mainly using aviation English "for communication", which was developed specifically for this purpose.

The peculiarities of this working language are that it must be learned even by native English speakers, and like other special-purpose languages, it has a limited scope and is used only for communication in a certain aviation communication cycle.

One of the important components of aviation English used in negotiations with pilots during the flight is certain standardized terminology and expressions provided by the International Civil Aviation Organization and recorded in the Aeronautical Information Publication, which is updated every 3 months.

Such communication involves a special pronunciation and syntax, as well as discourse and dialogue structures. This aviation language is taught in special aviation training courses. This standardization is the result of decades of experience gained as a result of accidents and incidents that arose due to confusion and misunderstanding between pilots and controllers. However, we should note another feature of aviation English to ensure communication between air traffic controllers and pilots during the flight: "When circumstances require it, and the necessary terminology and phraseology are absent, clear and concise plain language should be used to indicate intentions"[12] (i.e., everyday English or clear unencrypted text in aviation).

The International Civil Aviation Organization notes that "…English should be available on request at any aviation station, at all ground stations serving designated airports and routes used by international air services"[13]

A number of dictionaries are used to translate scientific and technical texts in the field of aviation, which, for the most part, record aviation terminology of the most common areas of aviation activity.

We consider it necessary to create a highly specialized explanatory dictionary with illustrations on the topic "Aviation equipment: aircraft ground reception, dispatch, basing of aircraft and air transportation services", since the existing array of terminological vocabulary requires a more advanced presentation to facilitate the assimilation of narrow-sector terminology in a way convenient for the interested user.

[12] AIP Australia. General Section: GEN 3.4 – 6, 5.1.4. – Canberra, Australia: Australian Defense Force, 2024. – 810 p. P. 238. URL:https://pathfinderaviation.com.au/wp-content/uploads/2020/11/general_05NOV2020.pdf

[13] ICAO. ANNEX 10 to the Convention on International Civil Aviation: Aeronautical Telecommunications, Vol. 2: Communications Procedures including those with PANS status. ICAO: Montreal, Canada: International Civil Aviation Organization, 2001. 6th edn. 96 p. P.57 https://skybrary.aero/sites/default/files/bookshelf/2279.pdf

4. Sources of terminology replenishment related to the airport and ground service of aircraft equipment

For high-quality communication among all participants in the process of ground service of aircraft, it is necessary to use a large amount of professional vocabulary, starting from passenger registration to baggage sorting and ramp service. Each stage of ground service requires accuracy and clarity in understanding and using specialized terminology. In this context, it is important to note that the frequency of terms use related to ground service of aircraft is very high nowadays and reflects the standards of the modern aviation industry.

The source for selecting aviation vocabulary for a given topic can be, first of all, official professional documents, for example, the standard for the aviation industry Mutual Assistance Ground Service Agreement, MAGSA, in which airlines can participate. MAGSA is published by the International Air Transport Association (current version from 1981) and is used by airlines to estimate prices for aircraft maintenance and support at so-called MAGSA rates, which are updated annually based on changes in the US producer price index. Airlines can enter into ground handling contracts under the terms of the Standard Ground Handling Agreement (SGHA), published in the International Air Transport Association (IATA) Airport Management Manual. Of course, airlines can also enter into ground handling contracts under non-standard terms, but even there, special terminology is necessary.

Another source of terminology related to aircraft ground reception, dispatch, basing of aircraft and air transportation services is a large number of educational and explanatory materials published annually by various organizations. They provide aviation industry trainees, students of specialized higher education institutions and already experienced airport employees with the most up-to-date information related to all operations that are included in the cycle of ground maintenance of aviation equipment. The group of interested persons covers a wide range of people: education seekers, teachers, administration of higher education institutions that train future personnel for the aviation industry, as well as ground crews of international airports. Therefore, the local use of aviation terminology related to ground reception, dispatch, basing of aircraft and air transportation services is not limited to the immediate boundaries of the airport.

5. Terms of wide use in the studied area (translation transformations)

The selected terminological array of 500 units for compiling a user-friendly explanatory dictionary with illustrations was carefully checked for the translation of each term or term combination.

The search for translation was carried out in existing dictionaries and reference books. Using the method of observation, comparison and analysis of translation, the most correct translation from all the proposed options was selected based on contextual use, taking into account the repeatability of the translation of the term in different sources.

As a result of the selected array translation analysis, the following translation transformations were obtained, which ensured the correctness of the translation and its fixation in existing lexicographic sources.

Addition of a word: *station manager – менеджер на робочому місці; customer care department – відділ надання послуг клієнтам; documents verification – підтвердження правильності документів; ticketing procedures – процедури продажу квитків; ground personnel – персонал наземного обслуговування; catering trolley – візок для постачання продуктів; baggage reconciliation – встановлення відповідності багажу; airport questions – питання, що виникають у клієнтів в аеропорту; unaffected runway – непошкоджена злітно-посадкова смуга; taxiway centerline lights – осьові вогні рульової доріжки; visual glideslope indicator – візуальний індикатор нахилу схилу; cold-soaked fuel – паливо, охолоджене до температури робочого середовища.*

Deletion of a word: *baggage handler – носій; flier points redemption – пункти лояльності; "end bag" identification tag – бирка «остання сумка»; check-in process – реєстрація; aviation geography – аерогеографія; landing gear – шасі; flight departure – вилітм; rescue personnel – рятувальники; aircraft aerial – антена; wheel chock – підкладень; frozen deposit – кригоутворення; high visibility tabard – світловідбивний жилет.*

Word rearrangement: *customer service agent – агент з обслуговування клієнтів; baggage-related issues – проблеми з транспортуванням багажу; accommodation voucher – ваучер на проживання; the boarding process – процес посадки; airport code – код аеропорту; airport information desk – інформаційна стійка аеропорту; luggage tracking – відслідковування багажу; engine noise – шум двигуна; Approach Light System – система вогнів наближення; runway holding point lighting – освітлення злітно-посадкової смуги; runway status lights (RWSL) – світлові індикатори стану злітно-посадкової смуги; surface-movement radar – радіолокатор контролю наземного руху; waste holding tank – бак для туалетних відходів.*

Transliteration: *port – порт (для підключення обладнання); picket – пікет.*

Mixed transcoding: *indicator – індикатор.*

Adaptive transcription: *documentation – документація; reconstruction – реконструкція; evacuation – евакуація.*

Loan translation: *rebooking – перебронювання; loading gate – посадкові ворота (для пасажирів); bus transferring – трансфер автобусом; service requests – сервісні запити; marking – маркування; average weight – середня вага; routine inspection – періодична інспекція; preflight inspection – передпольотний огляд; scheduled check – запланована перевірка; machinery operations – машинні операції; mechanised loading equipment – механізоване навантажувальне обладнання; torch of effective brightness – ліхтар ефективної яскравості; handling oversized luggage – обробка негабаритного багажу*

Descriptive translation: *frequent flyer data – інформація щодо пасажирів; які часто здійснюють рейси; airbridge – повітряне сполучення між певними пунктами; follow me vehicle – автомобіль-супровід для керування літаком; pushback – переміщення літака в аеропорту; marshalling – рух повітряного судна на землі; wing walker – супроводжуюча людина біля кінця крила; emergency hand signals – сигнал; що подаються руками; під час виникнення надзвичайної ситуації; prop wash – завихрення від повітряного гвинта; rule of thumb – правило/спосіб; що базується на досвіді.*

Equivalent translation: *Unit Load Device (ULD) – пристрій пакетування вантажів; disembarkation – висадка (з повітряного судна); reservation – попереднє замовлення (місця); бронювання; Departure Control System (DPS) – система контролю вилетів; supervise – контролювати; apron – бетонована площадка (перед ангаром); marshaller – сигнальник (на аеродромі); flight deck – 1. багатомісна кабіна екіпажу; 2. злітно-посадкова палуба (судна); mast – щогла; vent – отвір (впускний чи випускний); flap – закрилок.*

It is interesting to note the percentage of a particular translation transformation usage within the studied array of specialized aviation terminology. The most used transformation was word rearrangement – 164 translated units in total, which is 32.8%; loan translation – 130 terms, which is 26%. Addition of a word – 71 terms (14.2%); deletion of a word – 19 terms (3.8%); descriptive translation – 18 terms (3.6%); equivalent translation – 91 terms (18.2%). The least common in translation were such transformations as mixed transcoding – only 1 term from the selected array of terminological units was found (0.2%); transliteration and adaptive transcription – 3 terms for each of the transformations (0.6% for each of the total array). The general percentage calculations of translation transformations used within the studied array are shown in Fig. 1.

Each of the indicated translation transformations is the most appropriate option used to ensure the translation. For example, using the translation as an equivalent for terms that already have an established equivalent in the Ukrainian language preserves its meaning in professional literature.

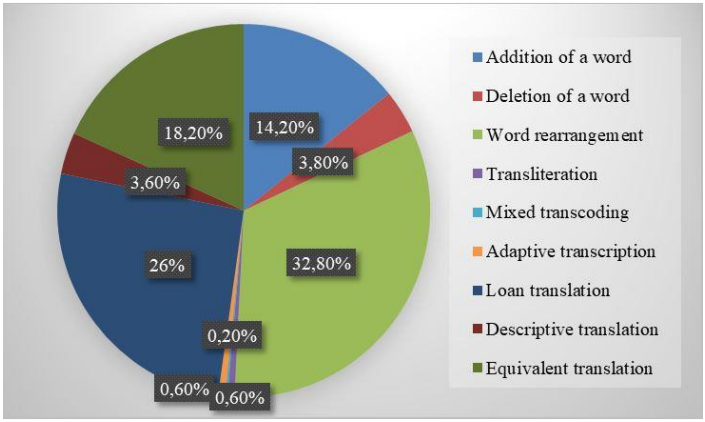

Fig. 1. Percentage ratio of translation transformations used in the translation of selected terminology on the topic "Aviation equipment: aircraft ground reception, dispatch, basing of aircraft and air transportation services. Specialized terminology"

The addition or deletion of a word was observed in cases where, after applying these transformations, the term acquired its fullest meaning in the language of translation and the appropriateness of its use in the translated form was confirmed by its use in the texts of the aviation industry.

The rearrangement of words ensured a more natural sounding of the terminological unit in the Ukrainian language.

Loan translation helped to preserve the specificity of the original term, creating a new term in Ukrainian by literally translating its components. This allowed to maintain a connection with the original term and make it easier to understand for specialists who use both languages – English and Ukrainian.

A number of terminological units (18 / 3.6%) were translated using descriptive translation in the absence of a direct equivalent in Ukrainian and the impossibility of using other translation transformations.

6. Distribution of the selected set of terms by topic for compiling an explanatory illustrated dictionary

To create an explanatory dictionary on the topic of "*Aviation equipment: aircraft ground reception, dispatch, basing of aircraft and air transportation services*", terms were selected from various articles and books that served as illustrative material for the study. The most powerful source in terms of the amount of terminological array for the study was the online platform Skybrary, which covers a large number of articles on ground maintenance of aviation equipment, namely: description of aircraft

maintenance procedures, management of ground operations and ensuring safety at airport parking lots, management of ground incidents, risk management during loading, refueling and technical inspection of aircraft, as well as coordination between the crew and ground services. It can be argued that the information presented on the platform is relevant, since, firstly, Skybrary specializes in aviation safety issues; secondly, the data is updated in accordance with the latest research and incidents in the industry; thirdly, the materials are regularly checked and updated by experts to ensure the highest level of accuracy and relevance.

The selection of terminological material for compiling an explanatory illustrative dictionary was carried out primarily on the basis of terminological units thematically united within the concept of "aviation equipment: aircraft ground reception, dispatch, aircraft basing and air transportation services". The selected terminological units were translated into Ukrainian, accompanied by a definition and illustrated with examples. They are relevant for the aviation sector at the moment and are used in professional documents related to ground maintenance of aviation equipment and general aviation safety.

The selected array of examples (500 units) was distributed by thematic groups (i.e., by a certain common theme or content), to facilitate the perception / understanding and assimilation of new aviation vocabulary by the students of translation specialties and specialists in the field of technical (in particular, aviation) translation. All of them are connected by common subject features, as well as the scope of application.

The distribution of a lexical or terminological array by thematic groups is a kind of inventory that allows the most clearly grouping of a specific terminological system, without trying to reveal the internal semantic connections of words or the features of the semantic structure of the language in general. It is important to note that any thematic classification of terms is to a certain extent conditional, since the delimitation of the selected groups is based on the subjective mental structures of the authors, which indicates the open nature of the thematic group.

All selected terms were divided into the following thematic groups regarding aircraft ground handling:

Airport professions: *"heavy crew" – розширений екіпаж; airline employee – робітник авіалінії; customer service agent – агент з обслуговування клієнтів; fire-fighting personnel – пожежники; customer service manager – менеджер з обслуговування клієнтів; wing walker – супроводжуюча людина біля кінця крила; flight dispatcher – диспетчер повітряного руху; handling agent – співробітник із оформлення (пасажирів); loading supervisor – людина, що відповідає за завантаження; flight attendant – бортпровідник; reservation agent – агент, що допомагає з попереднім замовленням місць (бронюванням місць); company-employed*

personnel – персонал компанії; ground handling agent – агент з наземного обслуговування.

Passenger service: *aircraft deplaning – висадка пасажирів; airport information desk – інформаційна стійка аеропорту; baggage reclaim – повернення багажу; rebooking – перебронювання; documents verification – підтвердження правильності документів; disembarkation – висадка (з повітряного судна); boarding announcement – оголошення про посадку; customer care department – відділ, що відповідальний за надання якісних послуг клієнтам; check-in process – реєстрація; cross-checking passenger headcount – перевірка кількості пасажирів на борту; first class lounge – зал очікування першого класу в аеровокзалі; frequent flyer data – інформація щодо пасажирів, які часто здійснюють рейси; inbound customs paperwork – необхідна документація для проходження митного контролю при в'їзді; ticketing arrangement – упорядкування операцій, пов'язаних з квитками.*

Aircraft Ground Maintenance: *hold floor-loading limit – ліміт навантаження на підлогу трюму; loading of aircraft with cargo – операція з завантаження повітряного судна (ПС); loading procedure – процедура завантаження; aircraft towing – буксирування літака; refuelling – дозаправлення паливом; bulk loading – завантаження; on-board handover – передача обов'язків на борту; on-stand servicing activities – сервісне обслуговування на місці; tyre inflation – накачування шин; aircraft rescue protection – аварійно-рятувальний захист повітряного судна; engine core de/anti-icing – захист від обледеніння внутрішнього контуру двигуна; external check – зовнішня перевірка; fitness of the aircraft – придатність повітряного судна; aircraft servicing – обслуговування повітряного судна.*

Aircraft components: *aircraft aerial – антена; mast – щогла; vent – отвір (впускний чи випускний); airframe – корпус літака; elevator – руль висоти; empennage – хвостове оперення; inner tyre wall – внутрішня стінка шини; panel – секція (крила, фюзеляжу); steering pin – блокувальний штифт управління розворотом коліс передньої стійки шасі; flap – закрилок; rudder assembly – кермо напряму у зборі; flying control surfaces – поверхні керування польотом; hold compartment – відсік для багажу.*

Risks: *wing tip clearance hazard – небезпека зазору кінцівки крила; engine fire – загоряння двигуна; personal safety risk – ризик для особистої безпеки; hazardous surface – небезпечна поверхня; hydraulic leak – витік гідравліки; damage wear – пошкодження внаслідок зносу; equipment degradation – погіршення стану обладнання; "wingtip clearance is not assured" – «зазор між кінчиками крила не забезпечено»; emergency hand signals – сигнал, що подаються руками,*

під час виникнення надзвичайної ситуації; towing collision – зіткнення під час буксирування; first aid materials – матеріали для надання першої медичної допомоги; PAN call – PAN виклик (абревіатура: Потрібна Можлива Допомога); runway excursion – викочування за межі злітно-посадкової смуги; jet blast – ударна хвиля від реактивного струменя; jet efflux hazard – небезпека струменя реактивного двигуна.

Airport Environment: *IATA Safety Audit for Ground Operations (ISAGO) – аудит безпеки наземних операцій від міжнародної організації повітряного транспорту; roller floor – роликова підлога; apron lighting – освітлення площадки перед ангаром; ramp surface – поверхня трапу; hangar space – ангарний простір; short term parking – короткострокове паркування; stony ground – кам'янистий ґрунт; unaffected runway – непошкоджена ЗПС; Flight Service Station (FSS) – станція служби забезпечення польотів; congested area – зона інтенсивного повітряного руху; Integrated Tower Working Position (ITWP) – інтегроване робоче місце вежі управління; mechanised loading equipment – механізоване навантажувальне обладнання; ramp traffic – рух на трапі; aerodrome manoeuvring area – маневрений майданчик аеродрому; Air traffic control (ATC) safety barriers – бар'єри безпеки управління повітряним рухом.*

Systems & Appliances: *Unit Load Device (ULD) – пристрій пакетування вантажів; Departure Control System (DPS) – система контролю вилетів; Ground Power Unit (GPU) – аеродромний пусковий агрегат (АПА); Follow Me Vehicle – автомобіль-супровід; Auxiliary Power Unit (APU) – допоміжна силова установка; Thermal Anti-Icing System – теплова система прибирання льоду; interphone – бортовий переговорний пристрій; Ground Air Conditioning Unit – Наземна система кондиціонування повітря; Air Traffic Control (ATC) Facilities – засоби управління повітряним рухом (УПР); Advanced Surface Movement Guidance and Control System (A-SMGCS) – удосконалена система управління наземним рухом і контролю за ним; omnidirectional capacitor-discharge device – всеспрямований конденсаторно-розрядний пристрій; runway status lights (RWSL) – світлові індикатори стану злітно-посадкової смуги; fan cowl static port – статичний порт в обтічнику вентилятора.*

General Terms: *waste holding tank – бак для туалетних відходів; bathroom-and-lavatory equipment – санітарно-технічне обладнання; galley – кухня-буфет; external services – зовнішні служби; fork truck – вилочний навантажувач; potable water tank – резервуар для питної води; average weight – середня вага; Improvised Explosive Device (IED) – саморобний вибуховий пристрій (СВП); rule of thumb – правило/спосіб, що базується на досвіді; "lessons learned" event – подія, з якої були*

засвоєні певні «уроки» та здобуто відповідні знання; cold-soaked fuel – паливо, охолоджене до температури робочого середовища; dangerous goods regulations – правила перевезення небезпечних предметів; environmental factor – чинник впливу навколишнього середовища; oversize items – предмети, що перевищують допустимий розмір.

Flight Preparation: *aviation decoding – авіаційне декодування; time zones – часові зони; airbridge – повітряне сполучення між певними пунктами; outbound flight – міжнародний рейс; Air traffic control (ATC) clearance – дозвіл Служби керування повітряним рухом; flight departure – виліт; forthcoming flight – прийдешній політ; hours of darkness – години темряви; reduced visibility – обмежена видимість; direct visual detection – безпосереднє візуальне виявлення; logistical inconvenience – труднощі пов'язані з логістикою маршруту; visual flight rules (VFR) – правила візуального польоту; general aviation flight – рейс авіації загального призначення; standard routing – стандартний маршрут; push and hold – процедура натиску та утримання; steering direction – напрямок рульового керування.*

Quantitative analysis of the selected terminological array showed that the largest number of terms was included in the group "Aircraft Ground Maintenance" – 102 terminological units, which is 20.4% of the entire selected array of terms within the framework of the study, and the smallest number of relevant terms was included in the group "Flight Preparation" – 19 units, which is 3.8% of the entire array, respectively. In addition, from English-language aviation sources, it was possible to select: "General Terms" – 79 units, which is 15.8% of the sample; "Airport Environment" – 61 units (12.2%); "Systems & Appliances" – 30 units (6%); "Airport professions" – 37 units (7.4%); "Passenger service" – 71 units (14.2%); "Aircraft components" – 45 units (9%); "Risks" – 56 units (11.2%).

The general distribution% of the selected terminology by the topic is shown in the diagram (see Fig. 2).

The entire selected array of terminological vocabulary was included in the created explanatory dictionary, with each vocabulary unit accompanied by an illustration for greater clarity.

The dictionary layout was created in the Microsoft Excel application, which is a convenient and effective tool for compiling a terminological dictionary due to its ability to organize and structure a large amount of information. The application has the following functions that allow you to organize data, automate certain processes, and easily edit and view records. The following Excel functions were used in the work on creating a dictionary of aviation terms.

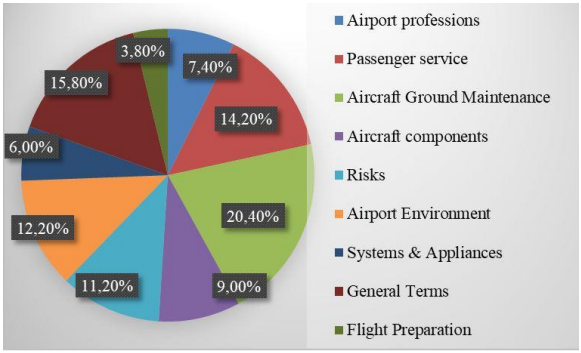

Fig. 2. Percentage ratio of term semantic groups on the topic "Aviation equipment: aircraft ground reception, dispatch, aircraft basing and air transportation services"

Data structuring using tables. Each dictionary entry in Excel was organized as a table with clearly defined columns for each entry element: term, transcription, Ukrainian translation, term definition, definition source, and image (see Fig. 3).

Термін	**visual glideslope indicator**
Транскрипція	/ˈvɪʒuəl ˈglaɪdˌsloʊp ɪnˈdɪkeɪtə(r)/
Переклад українською	візуальний індикатор нахилу схилу
Визначення терміну	A ground device that uses lights to assist a pilot in landing an airplane at an airport.
Джерело визначення	https://en.wikipedia.org/wiki/Visual_Glide_Slope_Indicator

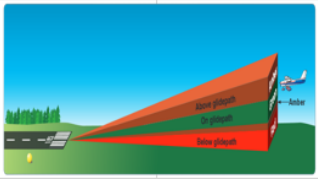

Fig. 3. Data structuring using tables

Using cells for categorization. Each term, along with its characteristics, was placed in separate cells (see Fig. 4). In particular, separate cells were allocated for such categories as:

– term (for example, omnidirectional capacitor-discharge device);

– transcription (/ˌɒmnɪdaɪˈrɛkʃənl kəˈpæsɪtər dɪsˈtʃɑːrdʒ dɪˈvaɪs/);

– translation into Ukrainian (всеспрямований конденсаторно-розрядний пристрій);

– definition of the term (for example, “An electrical device that discharges stored electrical energy in multiple directions”);

– source of the definition (URL address for source reliability).

Термін	**omnidirectional capacitor-discharge device**
Транскрипція	/ˌɒmnɪdaɪˈrekʃənl kəˈpæsɪtər dɪsˈtʃɑːrdʒ dɪˈvaɪs/
Переклад українською	всеспрямований конденсаторно-розрядний пристрій
Визначення терміну	An electrical device that discharges stored electrical energy in multiple
Джерело визначення	https://skybrary.aero/articles/aerodrome-lighting

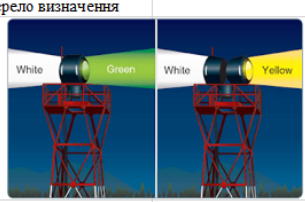

Fig. 4. Elements of a created dictionary

This design makes it easy to visually separate records, and also adds logic and convenience to working with data.

Applying bold to the term itself allows you to navigate the information faster and makes it easier for the user to find the desired term among a large number of records.

Text formatting. This function allows you to create your own style. This makes it easier to format all the text in the document, because the already created style is applied immediately to the entire document, so you can avoid setting the style again each time. This is easy to do by going to the “Home” tab and selecting “Cell Styles”. Next, you need to click on “Create Style” and configure the formatting parameters, in particular by selecting the desired text font, size, location and color for the work.

Thus, applying a style instead of manual formatting provides a more systematic look and speeds up work on large volumes of data.

Adding images to dictionary entries. For additional illustration of terms, images were added to help the user better understand the context or object described in the dictionary entry. Images are added as visual examples and placed next to terms, which makes the dictionary more informative. Excel allows you to insert images into individual cells, which is convenient for reinforcing text information with visual materials. To add images, we used the following steps:

– selected a separate cell in which we wanted to add an image to the term;

– added an image by going to the “Insert” tab on the top toolbar and clicking on “Images” in the “Illustrations” group. In the Microsoft Excel application, you can select “From this device” to download an image from your computer, or use “From the Internet” if we have a link to it;

– after inserting an image, its dimensions may be too large or, conversely, small. To change the size, use the “Image Format” tab on the top toolbar. We chose a width of 7 cm for all images to unify their appearance throughout the document.

This feature allows you to efficiently add and customize images in the dictionary you are creating in Excel.

Hyperlinks to sources. The sources of definitions specified in dictionary entries link to external web pages (for example, https://ayuda.avianca.com) (see Figure 5). By using the hyperlink function, you can instantly go to the original source of information, which increases the reliability of the data and allows you to quickly check the relevance and accuracy of the definitions. Having access to the source of the definition gives the user confidence in the relevance and veracity of the information in the dictionary.

Fig. 5. Using hyperlinks in a document

Using multiple sheets for dictionary sections. A separate sheet is created for each main category of terms, for example: “Passenger service”, “Airport professions”, “Aircraft ground handling”, etc. (see Fig. 6):

This allows you to store data systematically and conveniently switch between sections, which greatly facilitates working with a large amount of information.

Due to the application’s inherent ease of export and conversion, it is easy to export data from Excel to other formats, which may be needed for import into specialized programs for creating dictionaries or databases. For example, a dictionary created in Excel can be subsequently exported to XML or CSV format for further processing. It can also be used with other programs, such as CAT tools or import data from databases, which can simplify the process of collecting terminology.

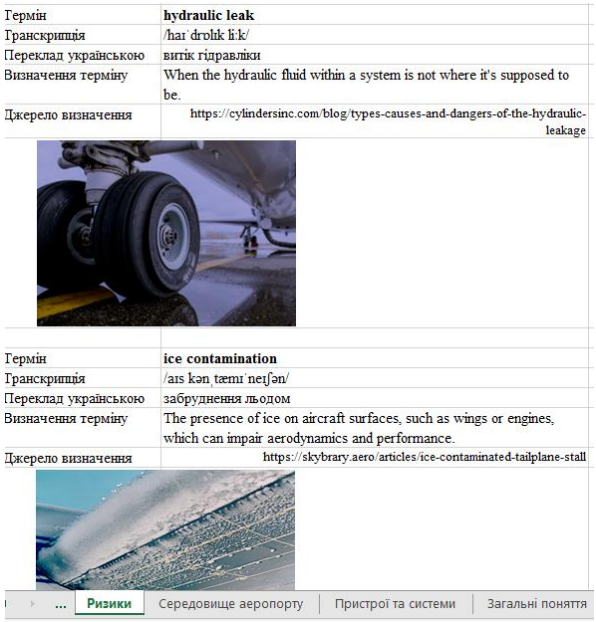

Fig. 6. Location of terms for each category on separate sheets in the document

In order to later transfer data from Excel to CAT tools, you will need to perform the following steps:

1. Prepare the data in Excel, that is, have the created dictionary ready.
2. Save the file in a convenient format, for example, CSV.
3. Import into the selected CAT tool program:

– open the CAT program (memoQ, Trados, etc.);

– select the option to import terminology or create a glossary;

– upload the CSV file and follow the instructions for import.

4. Configure and check the success of the actions performed.

So, if there is a need to expand the already created dictionary in the future, you can use the ability to integrate Excel with other tools.

CONCLUSIONS

The relevance of this study lies in the need to explore current aviation terminology in the field of ground handling of aircraft equipment at the airports, its accurate translation, and systematization, due to the widespread use of these terms and the insufficient number of specifically English-Ukrainian aviation explanatory illustrated and specialized dictionaries on this topic.

The objective of the research is to create an English-Ukrainian explanatory dictionary on the topic "Aviation equipment: aircraft ground reception, dispatch, aircraft basing and air transportation service. Specialized terminology" based on a selected corpus of English lexical units in the field of ground handling of aircraft equipment at the airports.

A corpus of 500 terms has been selected from various sources on the relevant topic and then processed. The terms were grouped thematically and analyzed by translation methods. The thorough processing and systematization of the terms facilitated the successful compiling of the user's dictionary. The created dictionary will be useful for all participants in the field of aviation, from professionals with work experience to students of aviation and related cases of study, as well as anyone interested in the functioning of the airport system. It will help to deepen knowledge of aviation English in the area of ground handling of aircraft equipment at the airports and facilitate the acquisition of specialized aviation terminology.

The steps to transfer the data from Excel to CAT tools were explained.

SUMMARY

The study of English specialized aviation terminology particularly concerning aircraft ground reception, dispatch, aircraft basing and air transportation service highlights the need for specialized English-Ukrainian dictionaries to facilitate the understanding and application of these terms within the aviation industry.

To create an English-Ukrainian aviation explanatory illustrated and specialized dictionaries a corpus of aviation terms was processed.

Thematic distribution and translation analysis resulted in clarifying the meaning of the selected terminological units and systematized the words in the user's dictionary. The possibility of exporting the dictionary created in Excel to other programs for further replenishment and processing (XML, CSV, CAT tools) is described.

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