

HARMONIZATION OF UNIVERSITY AVIATION COURSES

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Abstract. *Aviation is one of the factors which contribute to globalization and it makes the world more connected and more accessible. Aviation speaks English. Our function as university ESP teachers is to prepare graduates for professional success. However, as social and cultural changes occur, especially on a global level, so do the requirements for accomplishment of this function. Now, with almost two decades into the 21st century, ESP is coming to a new age. This is the age of multinational cooperation and harmonization. The new way of working could not only widen the teachers' horizons and strengthen the opportunities for the best practices, but also harmonize the education in the language departments in different higher institutions which deal with similar target groups of students and target language use situations. Harmonization in aviation education fosters standardization and transparency. It plays a key role for the mobility of students and teachers. Harmonization in aviation training is promoted by a common aviation course which is being developed due to the cooperation of Aviation Faculty, National Military University, Bulgaria, Air Force Academy, Romania, and the War Studies University, Poland, within the framework of Strategic Partnership Erasmus+ program. The joint aviation English course is expected to boost the cooperation among three air-force tertiary education institutions and to introduce a policy intended to harmonize the language studies of future aviation specialists.*

Key words: *English for specific purposes, harmonization, internationalization, standardization, aviation English course*

1. ENGLISH LANGUAGE AND AVIATION

The world we live in has become interrelated economically, socially, politically and culturally, and there is a great need for frequent communication across borders. Nowadays there is a dynamic movement of workers, products and knowledge to foreign countries. A lot of human activities have become globally oriented and integrated. Rapid technological innovations have made distances irrelevant and have created immense transformations in the way companies and people work. However, there are various impediments to the numerous multinational encounters. Language is the most obvious and fundamental obstacle, because without a common language efficient communication is either impossible or filtered and slowed down through an interpreter.

Aviation is one of the factors which contribute to globalization and it makes the world more connected, more accessible and more open. Aviation speaks English. Pilots taking off from Sofia airport speak first to a Bulgarian air-traffic controller but during different

legs of the journey they might communicate with Serbian, Swiss, Spanish, or British controllers. During flight, pilots are also listening to other pilots – German pilots returning from Korea, Egyptian pilots on their way to the USA. All nationalities are in the sky and effective communication in English is a critical component of aviation safety. On the other hand, airplane manufacturers sell across the whole world. In the cockpits of most planes every written instruction is in English regardless of whether the location of the factory is in France, China or Sweden, and regardless of whether the customer is Hungarian, Brazilian, or Mexican. In addition to this, each airplane is sold with technical manuals which are regularly updated, and the language in these manuals is English. Airplanes themselves speak in English at various phases of flight and these verbal warnings are part of the installed equipment in the airplane. English is also the language of international air force missions, NATO air-policing, defence and security air force activities, civil-military air traffic management cooperation, etc. There is no doubt that high competence in English language is a priority for pilots, air-traffic controllers (ATC), aircraft maintenance personnel, airport managers in both civil and military aviation, because international encounters occur between individuals from different lingua-cultural backgrounds. The International Civil Aviation Organisation (ICAO) which is the United Nations' institution in charge of developing the standards in international civil air transport, confirms emphatically the function of English as the common language of aviation – “Air-ground radiotelephony communications shall be conducted in the language normally used by the station on the ground or in the English language.”

The role of English as a lingua franca in aviation dictates the development of university aviation English language courses which focus on educating graduates who could progress not only in their academic work, but also later on in their professional lives. These courses with their standards, training and assessment, aim at producing, measuring, maintaining and certifying language skills. This means that in each aviation English course it is necessary to refer to the target-language use situation, to consider who is using the language, in what activities language plays a key role, and what purpose the language is serving. The need for context is of utmost importance. In aviation English, as in any other ESP course, English language is viewed as a means to achieving professional goals, not an end in itself.

In the aviation context, clear, concise, efficient and unambiguous communication is of paramount importance and this fact is recognized by government officials, national and international regulators, aircraft operators, academics, and all those concerned with aviation safety. In order to ease the process of communication and ensure the highest level of safety, ICAO established and regulated standard rules that govern the exchanges between pilots and air-traffic controllers. This is an organised system for transmission of information, instructions, requests, clearances and advice; it defines what, where and how needs to be said in a particular situation. The language is standardized and it is called standard radiotelephony phraseology. This is a restricted and coded sublanguage where each word and phrase has a precise meaning that is often exclusive to the aviation domain. Pilots and ATC are required to adhere to it whenever possible. In its Language Proficiency Levels (LPL), in addition to the language for routine situations, ICAO also emphasizes the role of ‘plain language’ used in emergency or non-routine situations when standard phraseologies do not suffice. The communication between pilots and controllers relies on context and knowledge of navigation, procedures and technical equipment is essential. There is no non-verbal communication, so the exchanges must be clear and

accurate. Furthermore, the sender and receiver of the messages cannot both transmit and receive at the same time, which means that they are “unable to interject remarks or comments that may serve to monitor effective mutual understanding” (ICAO ch. 3.3.1).

Aviation English is a relatively broad term; it does not comprise only the communication between pilots and controllers. Peter H. Ragan from Embry-Riddle Aeronautical University gives an account of the content areas which are identified in the scope of Aviation English:

1. Flight - Air Traffic Control; Flight Services
2. Technologies - Airframe and Powerplant; Mechanics; Avionics; Aircraft Manufacture
3. Engineering - Aeronautical Engineering; Aerospace Engineering
4. Business - Airline / Charter Services; Fixed Based Operations; Airport Management; Marketing
5. Education and training – Flight; Maintenance; Engineering; Business; Administration.

Each of these areas is very specific, it is related to particular knowledge and it requires certain skills. Due to this fact the English language needed for each of these areas is characterized on the one hand by some common linguistic and discourse features and on the other hand by some specific language behavior patterns and linguistic and discourse features. That is why each aviation English course should be developed based on the analysis of the purposes, needs, and the specific activities for which language will be needed.

2. ESP AND THE NEW MILLENIUM

2.1. Multinational cooperation

There is no doubt that one of the primary functions of ESP, aviation English in our case, is to prepare graduates for professional success. However, as economical, social, political and cultural changes occur, especially on a global level, so do the requirements for accomplishment of this function. Now, with almost two decades into the 21st century, I believe that ESP is coming to a new age. This is the age of multinational cooperation. It is fundamental that higher education institutions within the same geographical area join forces to work together. We should share expertise and resources so that we could easily identify and implement training solutions. While university budgets are under pressure and the costs for education are rising, ‘share and pool’ might be a good ESP strategy to acquire and maintain specific language knowledge, skills and abilities. Cooperation widens teachers’ horizons, inspires students and strengthens the opportunities for the best practices.

2.2. Harmonizing education

Furthermore, we could take multinational cooperation at the next level and harmonize the education in the language departments in different higher institutions which deal with similar target groups of students and target language use situations. By the word harmonize I mean the agreement and voluntary synchronization of the educational process in the university language departments regarding their language training in order to respond efficiently to the global academic and key stakeholder requirements. Although educational systems, with their idiosyncratic ESP language courses, differ substantially across countries, harmonization could foster standardization. No doubt standardization in aviation is essential. It enhances safety and ensures interoperability. The language departments can make their curriculum and syllabi, number of ECTS credits, duration of ESP courses, compatible. Harmonizing the goals and

objectives of the aviation English courses, the language departments will strengthen their capacity to meet the urgent call in aviation for standardization and enhanced language abilities of all members involved in that field. Harmonization does not only intend to spread knowledge across countries, but also to make it comparable to international standards, it requires understanding of the complexities of aviation and mutual respect between the partners.

Aviation is a multicultural professional community with a prescribed sets of rules, regulations and a guideline applying to its members all over the world, rather than being a community of different multicultural practices based on individual languages and cultures. As a result of this, I could deduce that harmonization of university aviation English courses is quite feasible and attainable. Harmonization of aviation English language courses is a prerequisite for mobility of students and teachers, and it ensures that their qualifications, skills and competencies are appropriately recognized and transferred.

3. COMMON MODULE SYSTEMS FOR AERIAL SURVEILLANCE AND SECURITY (SASS)

A promising initiative which promotes multinational cooperation and harmonization in higher education is a joint project developed by Aviation Faculty, National Military University, Bulgaria, Air Force Academy, Romania, and the War Studies University, Poland, within the framework of Strategic Partnership, Erasmus+ program. The partner military universities are responsible for education of cadets and preparation of junior officers for their respective air forces. Their education programs are designed to address various issues in the aviation field. Moreover, their aim is to develop well-educated and trained, open-minded, and effective aviation specialists who communicate in English. These three military education institutions bring their experience and expertise into the Partnership in order to increase the knowledge, skills and competences of future aviation specialists. The project is in line with the Erasmus mobility exchanges and the Bologna process. A common aviation module called Systems for Aerial Surveillance and Security (SASS) is in the process of developing. SASS module consists of six academic courses: Air law, Meteorology, Basic principles of navigation, Safety management, Air force safety and security and Aviation English. The common module will be offered in the three partner institutions, in most cases to international groups of Erasmus+ students. It will serve as one of the instruments for strengthening the interoperability of the air forces of the partners, which is considered crucial for their effectiveness. Moreover, it will promote shared approaches regarding education. Actually, the SASS module lays the foundation for future joint degree study programmes which may happen in the long run.

4. AVIATION ENGLISH COURSE PROMOTES HARMONIZATION IN EDUCATION

The article gives an overview of the initial stages in the design process of one of the courses in the common module, namely Aviation English course. It outlines the course framework and the basic guiding principles underlying the design of the course. This is work in progress, so not all the details can be shared yet. However, the main purpose of the article is to emphasize the importance of multinational ESP cooperation and the value of harmonization in the Aviation English university studies by means of this particular case.

This is a narrow-focused joint international aviation English course which is built on the fundamental requirements of an ESP course design. It is an undisputed fact that any ESP course should be needs driven, and has an “emphasis on practical outcomes.” (Dudley-Evan & St. John, 1998). Needs analysis reflects the key assumption that the learner is at the heart of any teaching programme. The idea of analyzing the language needs of the learner as a basis for course development has become almost synonymous with ESP. In order to reach the desired goals and enhance learning, we based our needs analysis on the comprehensive concept of needs analysis proposed by Dudley-Evans and St. John (1998). It includes the following:

- Professional information about learners: the tasks and activities English learners are/will be using English for - target situation analysis (TSA) and objective needs;
- Personal information about learners - wants, means, subjective needs;
- Language information about learners: what their current skills and language use are - present situation analysis (PSA);
- Learner’s lacks: the gap between PSA and TSA;
- Language learning information: effective ways of learning the skills and language determined by lacks;
- Knowledge of how language and skills are used in the target situation - register analysis, discourse analysis, genre analysis;
- What is wanted from the course;
- Information about the situation in which the course will be run - means analysis.

We used various sources and techniques in order to perform the needs-analysis of our course. On the one hand, the source of information was a focus group of students representative of the general population of learners - cadets and civilian students. On the other hand, an important source of information was the subject-matter professors who were acquainted with the target-situation and the objective immediate and future language needs of the learners. These teachers provided information from observations, case studies and authentic data collection which was an indirect method of collecting information derived from the target situation and analysing it for the purpose of our course. Yet another source was the language specialists who have been teaching aviation English at the respective universities for more than 10 years. These teachers were acquainted with the TSA, they had designed similar programmes targeted to specific learners in similar contexts. ICAO language proficiency requirements, its holistic descriptors and guidelines were also studied in relation to our specific Aviation English course. Questionnaires and semi-structured interviews were used in order to elicit the information. Based on the needs-analysis conclusions were drawn which underpinned the design of the course.

Means analysis – examination of the conditions under which the course is to take place with special attention to the available resources and facilities – is relatively straightforward due to the fact that the educational process in the three institutions has been an ongoing process.

Our target audience is young male or female cadets and civilian students at the three military institutions. It means that they are non-native speakers of English and English language will be the lingua franca for them during the course. They are at the age of 20-25, mostly intelligent and well educated in mathematics and science, usually highly motivated and enthusiastic about aviation. Their specialities may vary from military pilot and air-traffic controller to maintenance or security personnel. They will have at least one year of studies in their higher education institution. On average one group will consist of 8 to 15 people.

Regarding the entry language proficiency level of the participants in the SASS Module we considered that Common European Framework of Reference (CEFR) could offer a useful guide. CEFR is a framework “designed to provide a transparent, coherent and comprehensive basis for the elaboration of language syllabuses and curriculum guidelines, the design of teaching and learning materials, and the assessment of foreign language proficiency” (Council of Europe, 2015). Based on discussions with language specialists and subject-matter specialists we found out that B1 on the CEFR can be considered a minimum entry level of language proficiency for all SASS courses, including the Aviation English course.

David Crystal in his scholarly “The Cambridge Encyclopedia of the English Language” points up that ESP is a course built upon the goals that the course participants set. The students’ goal for the SASS course is twofold: on the one hand to provide aviation related terminology in English; on the other hand, to improve the English language communication skills and competences in order to function better in an international aviation environment. Competencies, as learning objectives, are the key to planning programs in higher education, if higher education is to remain focused on supplying the fast-changing, globalized aviation market with knowledgeable graduates with useable skills. These competencies consist of: specific linguistic competence which is pertinently determined for workplace needs; background competence which is necessary to qualify graduates as members of their particular profession; and cultural competence which contributes to a successful and efficient communication. The objectives of the joint aviation English course are to increase the linguistic competence and to improve listening, speaking and presentation skills. It focuses on using unambiguous pronunciation, structure and vocabulary in aviation context and communicating intelligibly, meaningfully and appropriately in English in aviation context. As for the cultural competence it will not be explicitly taught, it will be implicitly embodied in the course, due to the fact that course participants are teachers and learners of at least three cultural backgrounds and they are constantly engaged in communication during the course. Efficient international communication cannot be achieved merely by adherence to the syntax-semantic rules of English, but it is also dependent on each member’s ability to understand the cultural mindset of the other member and adapt their language and behavior accordingly. Cultural awareness is an additional asset to any multinational aviation English course.

The SASS course sets requirements which are the same for all students. However, each student has his/her own learning style, and the path he/she takes to fulfil these requirements will be strictly individual. To ensure that this path is conscious and the student learns from it, we have mandatory course requirements – students have to be involved in self-study periods and guided-study periods. These periods will develop their skills for independent learning, which could be realised via an electronic environment. Collection of reference materials, activities and links to resources will be suggested. Learners can set their own action plan depending on their particular individual needs, lacks and wants. So another additional asset of the SASS course is developing learner autonomy and boosting their self-study skills through 90 guided and self-study hours.

As revealed above, SASS course designers are applying a variety of information-gathering tools. David Pratt (1980) calls this “an array of procedures.” He states that needs analysis refers to an array of procedures that can identify, validate, and prioritize needs. In the very beginning we identified and prioritized the needs. However, we share Pratt’s view that the needs are not absolute and they should be checked frequently for the validity to

ensure that they are the real needs for the learners involved. This is especially true as the course is hopefully going to be sustainable and repetitive during the following years.

Teaching aviation English is ultimately about safety and the stakes are high. High stakes ask for a high level of professional responsibility and personal dedication, so apart from being proficient in English, the aviation English teachers should have background knowledge in the field. Good knowledge of the aviation area is fundamental, so the requirement for an aviation English teacher on this particular course is at least 2 years experience in the aviation field. Thus they will not only have “the ability to ask intelligent questions” as Hutchinson and Waters put it, but they will also be able to explain concepts, prompt ideas and help students elaborate arguments.

Needs analysis is the stepping stone for a focused syllabus, while a systematic and comprehensive approach to syllabus design is the stepping stone for a specialized language course that can be easily managed. There were some important issues that we kept in mind before designing the aviation English course syllabus. First, the syllabus should adequately reflect the conclusions of the needs analysis. Second, the type of syllabus should be established, i.e. we needed to decide on what basis we were going to select the items to be included in the syllabus and how these items would be organized. The syllabus can be organized around different aspects, such as topics, functions, skills or learning tasks. However, it does not mean that other aspects are not presented in the course at all. The other typical distinction is between product oriented and process oriented syllabi. As Nunan (1988) explains, “what we mean when we refer to ‘process’ is a series of actions directed towards some end. The ‘product’ is the end itself.” Based on our needs-analysis, we found out that the aviation English course aims to develop the language skills, listening and speaking in particular, necessary to fulfill learners’ future job-related tasks in English. In addition to this, they also need to use the language in their immediate academic context and in specific work situations in the future. However, these specific work situations may vary from pilot-controller routine communication, up to discussions about aircraft equipment and aerodromes. Since aviation is a very interdisciplinary field, this syllabus comprises several of its domains (e.g. flight, weather, safety, navigation) organized around concepts that are prototypical for the whole field.

We support Hutchinson and Waters’ view that main role of the syllabus can be “to provide opportunities for learners to employ and evaluate the skills and strategies considered necessary in the target situation.” We needed a syllabus which is showing the general directions what should be taught, which is more flexible, leaves room for methodological considerations and is in accordance with the learner-centred approach. Our syllabus should give general guidelines for materials design.

In ESP course design it may be challenging to find balance between a specific and a wide focus. The use of general English is insufficient to express specific aviation knowledge and could easily lead to rough estimation, misunderstanding and incomprehension which would endanger safety. If the focus of our SASS course is too wide, English with an aviation flavour only, the course will fail to teach the language required in operational situations and in exchanges which call for the specific language functions such as clarification, confirmation, making requests and offering action, expressing intentions, describing ongoing situations, resolving conflict situations and responding to emergencies. Too wide a focus may result in an excessively long period of training. However, if the focus is too narrow, for example restricted to standardised phraseology, the course will fail to teach some important work-related aviation-specific vocabulary and functions which are not addressed in the routine phraseology.

It is a well established fact that in all emergency situations aviation personnel needs proficiency in the language in order to cope with the problem and to communicate the appropriate decision.

As a result of all these considerations, we have come up with 15 topics, such as standardized language in the air and on the ground, aerodrome, fixed-wing and rotary wing aircraft, meteorology (clouds, wind, precipitation, drafts, and turbulence), navigation systems, aviation laws and regulations, etc.

Materials development is a very important stage in the SASS course design process. Not only topics in the syllabus but also materials and methods of teaching are derived from an analysis of a specific purpose target language use situation so that they are authentically representative of content and tasks in the target situation. Good course materials typically exploit some samples of authentic language use and encourage genuine communication. The content is up-to-date and relevant to the course goal. The materials should prepare learners for using the language efficiently in real-life situations by setting tasks that are likely to occur in their professional aviation environment. We share Stojković and Faraj's (2016) idea that "the fundamental purpose of scientific discourse is not mere presentation of information and thought, but rather its actual communication" and we will apply it in both directions. First, in the content and topics presented by the language teachers, and second as a requirement for the students' presentations. Being able to communicate the topics effectively with precise and straightforward language is an essential ESP skill.

Nowadays it is considered that collaboration with subject-matter experts is of vital importance in the development of training and assessment of language for specific purposes (Dudley-Evans and St John, 1998; Douglas, 2000). Engaging in an international common aviation module is an ideal opportunity for the language specialists to work closely with their colleagues teaching the other aviation courses. The SASS aviation module promotes the sharing of expertise and facilitates exchanges between teachers and universities which are involved in the use of English in aviation.

We consider Bachman and Palmer's framework a useful tool which could guide us through the materials development process. According to this framework, language knowledge includes two broad categories: organizational knowledge and pragmatic knowledge. Vocabulary and terminology learning, components of the organizational knowledge, are central objectives in our SASS aviation English course. The language at airports, in the tower, on the flightdeck is highly specialized; many words have meanings that are often exclusive to the aviation domain. I believe that aviation English reinforces Dan Douglas's argument that specific purpose language is precise and it is this precision that is the main focus of specific purpose language use. The ICAO-LPRs have become the established standard for English language proficiency in aviation. At Operational level 4, pilots and ATC must be able to use job-related vocabulary to communicate and to paraphrase successfully when lacking words in unusual or unexpected circumstances. For example, 'monitor' means to listen out on certain frequency, 'out' means that the exchange of transmission is ended and no response is expected, 'clean' for an airplane means that the flaps and landing gear are retracted so that drag is minimized. In some cases words in general English have different meanings from aviation jargons e.g. in general English 'go ahead' means 'do it' while in aviation it means 'speak, don't do anything'; 'direct flight' doesn't mean non-stop flight as many people assume but it means flight by an airline with no change of flight number and it may include a stopover; 'glass cockpit' does not mean it is made of glass, it means technically enhanced cockpit which is equipped with large

sophisticated computerised screens displaying flight information. In the aviation context each word is loaded with meaning. Just a general understanding of a detail in a manual or in the pilot-controller exchange will not suffice. A minor misunderstanding can cause serious damage, as has already been the case in several air accidents and incidents in which communication failure has proven to be a causal or contributory factor (ICAO, 2004). As the syllabus is topic-based, each lesson and each topic is supposed to bring specific vocabulary interwoven in listening, speaking, reading and functional tasks.

Another recommendation of aviation linguistic experts which comes naturally with the joint international aviation English course is to include in aviation English classes training to understand different accents heard in English and to address variations in intonation, rhythm, and pauses that native and nonnative English speakers have. Barbara Clark emphasizes that “it is imperative that they are well-trained and prepared to attune their ears to the range of accents that they will encounter during their flying career.” An international aviation English course, where learners and teachers come from various lingua-cultural backgrounds, no doubt creates an awareness of the importance of pronunciation.

Aviation terminology is in many cases so specialized and occurs infrequently in common situations in general English. As a result of this, if learners master only terminology, they will not acquire functional proficiency in English. Materials developers should balance work-related terminology with exercises for acquiring skills and functions in English.

In aviation English, relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task which contribute to the goal of aviation context. Frequently, grammar is presented as functions. Functional knowledge in Bachman and Palmer’s framework is divided into several subcategories. In aviation English some of them are completely irrelevant, such as the imaginative functions (figurative language, poetic language), because native-speaker idiomatic speech is not the model to be achieved in our context. On the other hand, manipulative functions are one of the objectives in the SASS course - making requests and suggestions, giving orders and warnings. Pilots and ATC routinely speak English radiotelephony phraseology to direct, inform, question, and respond to each other regarding aircraft takeoff, flight, and landing. Knowledge of ideational functions is another objective. It includes the use of language to express ideas or knowledge – for example descriptions of weather phenomena or a technical problem, classifications, explanations of processes and urgent situations. Functions do not occur in isolated utterances. On the contrary, language use involves the performance of multiple functions in connected discourse.

5. CONCLUSION

Course design is a complex undertaking. As Dudley-Evans and St.John say “it’s a dynamic mix of juggling and doing jigsaw puzzles. Juggling because there are a lot of different aspects to keep in mind...and jigsaw puzzles because we are taking different pieces and shifting them around until they fit to make a satisfactory picture.” We are still in the process of juggling with the course parameters - designing and piloting of materials, assessment criteria and monitoring, blended learning and e-learning, evaluation and feedback. We are on the road of developing and fitting them to their appropriate place.

In the aviation field, work-related efficiency means cooperation and collaboration of individual knowledge, skills, competences, resources and facilities. The joint aviation

English course is expected to boost the cooperation among three air-force tertiary education institutions and to introduce a leading-edge policy intended to harmonize the language studies of future aviation specialists. Harmonization will respond to the educational and work-related needs in aviation, foster standardization and transparency and improve safety in aviation communication.

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