The Proceedings of the International Civil Aviation English Association (2023) Conference

Jennifer Roberts
Editor, Embry-Riddle Aeronautical University

Eugenia B. Bava
Airborne Aviation English

VANYA KATSARSKA
Bulgarian Air Force Academy

SVETLANA DIMITROVA-GYUZELEVA
New Bulgarian University

ANTONELLA GARGARELLA MARTELLI
Aviation English AR

See next page for additional authors

CURRENT TRENDS AND FUTURE PERSPECTIVES IN AVIATION ENGLISH TRAINING

Developing Training for Today and Tomorrow

The Proceedings of the International Civil Aviation English Association (2023) Conference

Hosted by Turkish Airlines Aviation Academy

TURKISH AIRLINES AVIATION ACADEMY

ICAEA

Jennifer Roberts (ed.)

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Preface

The 2023 International Civil Aviation English Association (ICAEA) International Conference took place in Istanbul, Turkey from September 18th to 20th, as the first face-to-face ICAEA event following the Covid-19 pandemic. Turkish Airlines Aviation Academy served as the conference host, marking the third time they have graciously hosted an ICAEA event. The theme of this year's conference, *Current Trends and Future Perspectives in Aviation English Training: Developing Training for Today and Tomorrow*, allowed us to reflect on how technology played a role in Aviation English training and assessment during the pandemic and look forward in regards to how technology will continue to evolve and influence the field in the future.

A truly international event, more than 100 participants attended from over 30 countries. The conference programme was divided into seven sessions, each with a sub-theme linked to the overall conference topic. Morning sessions were filled with presentations, while afternoons contained interactive workshops with hands-on activities for participants to engage with one another, share experiences, and learn techniques and strategies to take home. Day 1 focused on materials design and development; Day 2 looked at the role of technology in aviation English training – with an emphasis on trainee pilots; and Day 3 provided opportunities to hear from presenters who shared their own personal experiences as case studies. The conference closed with an update by ICAEA on ICAO Document 10197: Handbook on the announcement of the next ICAEA conference in Hong Kong in May 2024.

The ICAEA Board is grateful to the speakers and workshop presenters for the effort they put into preparing and delivering their sessions. As a follow-up to the conference, speakers were invited to contribute to the conference proceedings. Five speakers agreed to participate in the proceedings, and have summarized the content of their presentations and workshops in full articles available in this publication.

The proceedings begin with Eugenia Bava from Airborne Aviation English who writes about syllabus design for pilots with consideration of student context and aviation background. Next, Vanya Katsarska and Svetlana Dimitrova-Gyuzeleva from the Bulgarian Air Force Academy describe their research-based approach to designing a competency-focused syllabus for ab-initio military pilots. From Aviation English AR, Antonela Gargarella Martelli writes about the Aviation English needs and challenges for cabin crew, arguing for standardization of English training in this domain. Ingrid Sekelová from the Technical University of Košice then shares her research study comprised of three parts to determine the language needs of aircraft mechanics. Finally, Petek Sirin from Ozyegin University writes about the effectiveness of pyramid lessons in reducing language anxiety in the Aviation English classroom.

The ICAEA community wishes to express their appreciation to these authors for contributing to this publication. We hope that you will find the content engaging and useful.

Designing an Effective Syllabus in Aviation English Training for Pilots: How Context Shapes Content

EUGENIA B. BAVA[1]
Airborne Aviation English
eugeniabbava@gmail.com

Abstract
Following experience in Spain and Argentina teaching Aviation English, it became evident that not only was it necessary to assess the pilots' preceding English language knowledge before starting their training for their language certification exams, but it was also necessary to assess their context. ICAO Circular 323 (2009) states, "Aviation English training providers should have at their disposal placement tests to be able to position potential students at the right stage in the training programme, analyse the students' needs and place them in compatible groups," including their aviation background. The differences regarding pilots' academic profiles in these two countries will be described in this paper with the aim to reflect on its impact on syllabus building and the best practices and techniques for effective and quality teaching of Aviation English. Observations will additionally be made as a result of students' feedback regarding the language tests they had to undergo (with different institutions) to obtain their operational English language level to reflect on the objective of Language Proficiency Requirement tests and their adherence to ICAEA's Test Design Guidelines. This paper is based on the findings of a survey carried out with 62 pilots who trained in Aviation English and took a language proficiency exam in Argentina or in Spain, as well as on the author's own teaching experience. It will also bear reference to EASA PART-FCL documents and Argentina's CAA regulations.

Introduction

Despite the existence of ICAO Annex 1 that aims at a standardisation of personnel licensing requirements, the pilot career is far from being homogeneous worldwide. This paper will solely focus on pilots with fixed wing land aircraft type certifications and licenses, to make the scope of the study manageable.

The structure of a pilot's career and the requirements in building hours differ not only from continent to continent, but also between countries. This has considerable implications, not only for pilots looking to validate their license in another territory, but also for professionals that work in training. As the pilot career progression differs, so do job prospects and student's needs in English training. This paper will address the considerations

[1] Eugenia B. Bava is a former Air Traffic Controller from Argentina, where she has worked for 10 years. She is also a certified Private Pilot, Dispatcher, Cabin Crew and Ramp Agent. Based in Málaga (Spain), she currently works independently as an English teacher for Specific Purposes in the field of aviation, as she has done for the past 14 years. She has worked as a rater, interlocutor, and item writer for Argentina's CAA LPRs examination, acting as subject matter expert and English Language expert. She holds a BA in Translation, Simultaneous Interpretation, and the CELTA Certification.

to be taken into account when planning a training syllabus. Additionally, after personal experience preparing pilots for their language examinations, and getting feedback from their experience, some observations will be drawn regarding practises in testing.

Radical Differences in Pilots' Careers

Career Progression: First Steps

Pilots begin their careers as ab-initio students, seeking their first license as "private pilots." This Private Pilot License (PPL) is achieved by sitting a theoretical examination that covers the basic principles of flight and general flight regulations, together with a check ride with an examiner. The minimum flight time required before this examination is 40 hours in Argentina and 45 hours in Spain.

At the PPL level there are no notable differences between Spain and Argentina. The next license to be obtained is the Commercial Pilot License (CPL). At first glance, it seems that both countries require 200 hours of flight time. However, in Argentina when obtaining the PPL, the hours flown until that point as an ab-initio pilot are not credited towards the CPL. Therefore, a pilot in Argentina would need at least 240 hours of total flight time to obtain the CPL.

On the other hand, in Spain, as in any European country under EASA regulations, if the pilot's goal is to become an airline pilot, there are two main possibilities: doing an integrated training course or a modular training course (EASA, Regulation 1178/2011). In the integrated ATPL course, students begin with no knowledge or experience of aviation with the objective of reaching the requirements to apply for a first-officer job within 18 to 24 months. They attend theoretical classes for 6 months full-time, then sit for the Civil Aviation Authority's (CAA) exams and do their required flight time (a total of 150 hours.)

Conversely, in the modular ATPL course, the student will first go through their PPL (theory and practice) followed by modules that allow them to obtain the required licenses and ratings: Instrument Rating (IR), Multi-Engine Rating (ME), CPL. The advantage here is that time can be better managed (as it is not full-time) and the negative aspect of the modular course, however, is that they must complete more flight time (200 hours.)

The differences in total flight time can be clearly seen when comparing a pilot doing the Integrated ATPL course in Spain, getting a CPL with 150 hours as opposed to the 240 hours of an Argentinean pilot. This entails a 90-hour disparity in a license that requires around 200 hours, thus resulting in 45% more flight time needed in Argentina for the same license.

Obtaining an Airline Pilot Job

In both Argentina and Spain, the Air Transport Pilot License (ATPL) is to be obtained with 1500 hours of flight. Nonetheless, both countries make concessions to employ pilots at an earlier stage in their careers.

In order to become an airline pilot in Spain, the vast majority of airlines require the CPL, ME, and IR ratings, plus endorsements such as an ICAO Operational Level 4 of language proficiency in English, as well as the Multi Crew Cooperation (MCC) course, and the ATPL theoretical credits. The ATPL theory consists of 13 subjects that cover aircraft performance, principles of flight, human factors, and meteorology, among others. These subjects are studied exhaustively; therefore, students are employed by an airline with great theoretical knowledge about the aircraft they fly, but with very little practical experience (as little as 150 hours of flight.)

In Argentina, in turn, a pilot needs what is called a First-Class Commercial Pilot License (CPL1) to obtain a job at an airline. The primary requisite for this license is a total

flight time of 900 hours. It additionally requires more specific flight hours, plus ME and IR ratings and 11 theoretical subjects. These subjects cover similar topics to the 13 above-mentioned ATPL subjects, although they are not explored with the same level of detail, given that flight schools promote the CPL1 theoretical course as consisting of 400 hours of training against the 1060 hours that the ATPL theoretical courses usually consist of. The CPL1 license confirms that pilots are fit to work as an airline's first officer with the required experience and they usually complete their ATPL hours within a very short time. Many pilots choose to self-study the FAA ATP (USA) as a way to complement the theoretical knowledge that they lack until this point.

Other Professional Activities

In order to accumulate the 700 hours a pilot in Argentina must fly after achieving their CPL and before being able to apply for an airline job, many need to fly different aircraft and in different environments before becoming first officers.

The first job many pilots aim for is with a private company, where usually requirements are CPL with ME and IR ratings plus the ICAO LPRs certification. Examples of other activities where pilots develop their skills while accruing hours are agricultural flights, firefighting, or flight instruction. In Argentina, the flight time requirement is 400 hours for the former license and 500 hours for the two latter (ANAC, 2023.)

Regarding flight instruction, there are substantial differences for the two countries: in Spain the flight instructor license can be achieved with 200 hours of flight, but at a considerably high cost. This means that pilots opting for flight instruction are often driven by vocation, as it has the same flight experience requirement as that of an airline job. Conversely, in Argentina, pilots need 500 hours of flight, but a minor added investment for the theoretical instructor course. This means flight instruction comes as an alternative to

quickly building up their time while earning a salary for flying, as opposed to it being a vocation necessarily.

In reality, pilots in Argentina reach the first officer seat with at least 80% more total flight time, but also with remarkable practical skills and hands-on experience, as they have had to adapt to flying in different contexts, types of aircraft and aerodromes.

In Spain, on the other hand, the majority of students resort to flight schools with the goal of becoming airline pilots. Consequently, since it is a rather short career, there is not much input during the course (as it is specifically focused on achieving the ATPL theoretical credits) about different types of activities and job opportunities. Ninety-five percent of the author's students from Spain do not possess experience with landing on different types of surfaces, have not flown conventional landing gear planes, or been exposed to a more varied type of flying as in Argentina. However, they are very knowledgeable about airline aircraft systems, human factors, among other subjects.

Implications of the Lack of Standardization for Aviation English Teachers

The major discrepancies between pilot careers in these countries have a profound impact when developing an Aviation English curriculum that is relevant, effective, and challenging for students. Before starting with their Aviation English lessons with the author, students must complete a diagnostic test consisting of a listening and a speaking task to assess their level in correlation to ICAO LPRs descriptors.

However, as well as factoring in the differences to be found between student's general English levels and skills, as would be the case for an ESL class, there are some added essential factors to be taken into consideration when creating an Aviation English syllabus. As Bullock (2016) states, "central to the methodology is knowing what the learner needs".

Theoretical Knowledge and Experience

"In the case of ab initio students, there will be a great deal of technical or operational subject matter that cannot be taken for granted, while the resolution of an in-flight emergency or a navaid malfunction are topics that are relevant and motivating for experienced professionals" (ICAO, 2009). Groups should be segmented, and the syllabus adapted according to the stage of the pilot's career and the context where they are carrying out this career. Hence, different activities should be designed for ab-initio pilots, student pilots, pilots with experience but no theoretical knowledge or for those lacking in practical skills, depending on where they are based and the acquired operational knowledge and experience.

Time Availability

As the curricula differ significantly from one country to another in terms of duration, so do students' needs. In Spain, they usually have a shorter time to fulfill the requirements of flight schools to complete their training. More often than not, students are not informed about the language proficiency examination when signing a contract for their education. As a consequence, some students only find out about the exam a few months before finishing their contracts. As a result of this, students from Spain have only a very short time to achieve the minimum ICAO Operational Level 4 rating. As there are not usually any prior language level requirements to study the theory and then complete the ATPL exams, a student with a very low level of language proficiency will find attaining ICAO level 4 in English extremely challenging.

In August 2023, the author carried out a survey to 62 pilots that have trained and been tested for language proficiency in Argentina and in Spain with the aim to collect data regarding their experience with training and testing. One of the questions asked was the time that was invested in their Aviation English training. The results revealed that 27% had

devoted only weeks or days to their training, 29% from one to three months, 18% from three to six months, 5% from six months to a year and 21%, more than a year. Out of the 56% that responded less than three months, 70% were from Spain.

Students with a severe time constraint are not looking for an Aviation English class that is relevant for their future development in the cockpit, but rather they look for training based purely on exam format in order to pass the exam. The inherent danger here is that, as noted by Bullock and Westbrook (2020), “many ICAO LPR exams are questionably fit for purpose, and so candidates opting for this short-term goal will most probably not be prepared for the kind of operational language they will need in the cockpit, unaware of the inherent threats to safety.”

General English Level

The general English level with which students start their Aviation English training is not only relevant to communicate more efficiently in radio operations, but also to better understand how to effectively express a non-routine situation that can develop in the cockpit. Students tend to rely largely on standard phraseology and while that is recommended for routine situations, it is also true that phraseology does not cover non-standard situations that can arise. As EUROCONTROL’s “All Clear?” phraseology manual states: “while standard phraseology is available to cover most routine situations, not every conceivable scenario will be catered for, and RTF users should be prepared to use plain language when necessary, following the principle of keeping phrases clear and concise”. Importance should be given to practising the communication of non-routine situations as they would be in the real world. Communication in a non-standard situation should not be a barrier, but rather an aid.

Cultural Background, Exposure, and Education

Cultural context and openness to foreign languages can dramatically impact a student's exposure and therefore, familiarity with the target language. According to Kuo and Lai (2006), "if students are given cultural knowledge, immersed in a culturally rich environment, and exposed to culturally basic material, they may learn the second language with more ease because their background knowledge about the second-language culture will make comprehension less difficult."

In Spain, media is widely preferred in Spanish. This has its origins in a law that was passed in 1941 which dictated that the screening of films in any language other than Spanish was prohibited. Even though in 1977 the abolishment of censorship was instated, dubbing had already cemented itself as the main form of localisation as opposed to subtitling. According to "Sur in English" in 2018, it was estimated that only 4% of the general Spanish population watch subtitled films while the rest prefer dubbed. This extends to other sorts of media, such as TV and literature.

On the other hand, in Argentina there was no law regarding censorship, and as explained by Giorgio Iemmolo, Director of Academic Development at EF Education First, the reason why Argentina is the leading South American country in English language speaking is that "Argentina has implemented various initiatives and laws to improve language education in schools. To achieve these objectives, a system of language teacher training in communicative methodologies has been developed. Investment in the professional development of teachers enhances the English proficiency of entire generations of students. Our research consistently shows that investment in teacher training is one of the most effective measures for long-term improvement in English proficiency, as evidenced in Argentina, which remains the country with the highest level of English in Latin America."

In the world map shown hereafter by English First's English Proficiency Index (see Figure 1), it becomes clear that student's general English level in Argentina is superior to the level found in other countries of South America and Spain. This is the world's largest ranking of countries and regions by English skills, which is based on test results of 2.2 million adults in 113 countries and regions.

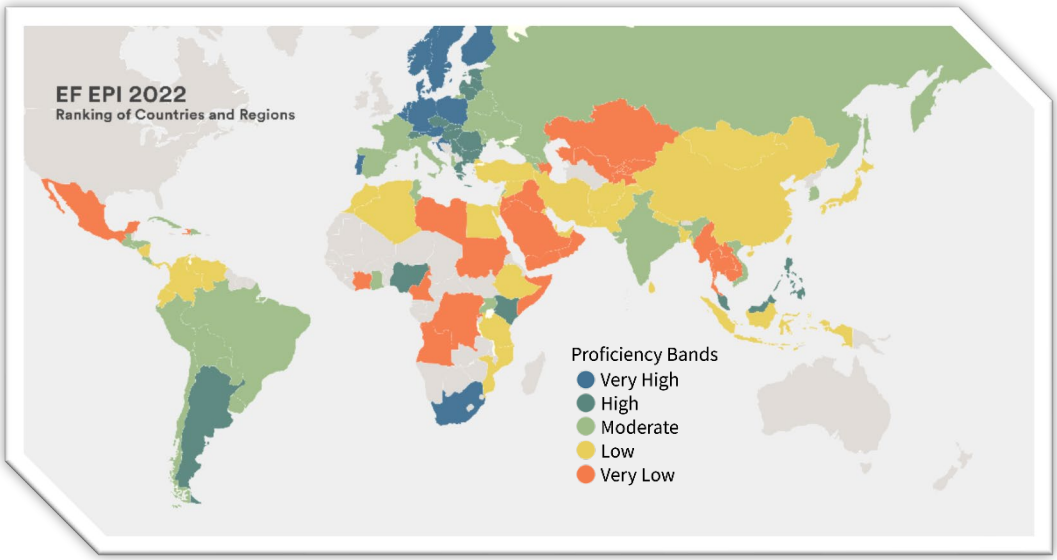

Figure 1. English First's English Proficiency Index

As a result of this, students in Argentina are more familiarised with the English language and incorporate it more readily than Spanish students. In Latin American Spanish, borrowings from English are relatively more frequent, and often foreign spellings are left intact. "Anglicisms have their proven use in Spanish. This phenomenon in Spanish language is persistent due to its dissemination in the media, which provides a global view of the Anglo-American influence regarding the Spanish language, and which today are fully integrated into the language. This seems to be pronounced even more in the Hispanic Southern American continent" (Insua Canosa, 2017).

In the aviation industry, where English serves as the lingua franca, students who are deeply familiar with anglicisms have a distinct advantage. They find it easier to assimilate new vocabulary, comprehend its accurate pronunciation, and effectively apply it in practical situations. Teachers can leverage this discrepancy in background and linguistic proficiency when designing curriculum, particularly in pronunciation classes, tailoring instruction to meet the diverse needs of their students.

Testing ICAO LPRs: Are We Evaluating Relevant Skills?

In Spain and Argentina, as test design guidelines for item writing are followed, language proficiency exams share a similar format. Many tasks such as picture description, personal interview and listening to operational communications are alike, if not identical.

However, there are notable differences in the administration of the test across examination centres. One major peculiarity found in Spanish testing centres is that the number of times that test-takers are allowed to listen to a recording can vary. When asked how many times candidates were allowed to listen to recordings, 76% of survey respondents said more than once (15% of those that declared more than once added that they were able to listen to a recording up to 3 times), while 24% stated they were given the opportunity to listen to the audios only once.

When asked to clarify, some said that for ATIS reproductions of 45 seconds long or more, they were given the opportunity to listen to it only once and then asked to read back as much information as possible. This comes into conflict with pilots' everyday operations, where it is more than feasible and natural to have the chance to listen to an ATIS a second time to verify the copied information. According to ICAEA's Test Design Guidelines, it should be considered that "the more directly related the test content and contexts are to the real-world communicative contexts pilots and controllers operate in, the more authentic and

valid the test is. Authenticity is maximised by ensuring LPR test instruments include test tasks that mirror radiotelephony communication situations so that test-takers are required to demonstrate their language abilities to communicate in radiotelephony communication contexts – both in speaking and listening components of the test."

This should be an opportunity to reflect on the purpose of the test, given that it should not be focused on memory, on notetaking speed or any skill tested on a psychometric test, but rather on the accuracy of oral comprehension. As stated by Michael Kay (2015), one of the trademarks of inferior test instruments is that "test tasks rely on technical knowledge, memory or other skills which affect results."

Thirty-one percent of candidates reported that asking for a second listening results in penalty. They reported to be told that ICAO Level 6 could not be attained if a second listening took place. If this data is extrapolated and applied to routine situations, it would mean that native English speakers never need to listen to an ATIS twice, even factoring in interference, speed of the recording, accent variation, note-taking skills, etc. This does not seem to be the case, as even native English speakers ask controllers to "say again" when not understanding or not being able to copy all instructions.

It could also be added that penalisation for the second listening of an audio is contrary to safety guidelines involving checking and clarifying in communications (ICAO, 2010). Reading back instructions is mandatory and asking the ATC to "say again" is always encouraged when not certain. Assumption without clarification is a clear safety issue and can easily lead to miscommunication and readback/hearback errors. Contrary to the rationale for such exams, which expect students to copy all the information during the first listening period, students and candidates should be taught the skills and reasoning of clarifying and checking potentially misheard instructions. This is supported by the fact that they are

included as descriptors in the ICAO Rating Scale for the criteria of *Interactions* (ICAO, 2010).

Another question that was asked in the survey was whether candidates were penalised for not understanding non-essential information, e.g. the name of the aerodrome in an ATIS they are hearing for the first time and has not been introduced previously, the name of a waypoint that has not been spelled in a clearance, not being able to specify a model of an aircraft in a picture description, etc. The result was that 40% responded affirmatively.

When in a real-life scenario an ATIS is heard, it is tuned by the pilot from a broadcasting station they are interested in hearing as it is relevant to their flight. When asking for a clearance, the different routing options have already been pre-studied as possibilities and the pilot has the corresponding chart in their hands to follow the cleared route granted by the ATC. If none of this information has been previously provided, it cannot be expected that a candidate shall know all the aerodrome or waypoint names worldwide.

Some test-takers in Spain also declared that they were not given the opportunity to take notes during the listening section of the examination. This again differs from real-life cockpit situations where aircrew are able to write down information and suggests more a test of memory than language proficiency.

While certain testing methodologies may not effectively assess the pertinent skills required for pilots' English proficiency, and in some instances, may even conflict with aviation safety protocols, as Aviation English instructors tasked with preparing pilots for their Language Proficiency tests, it remains crucial to ensure students are adequately equipped to confront the rigors of these assessments. Consequently, it proves beneficial to gradually introduce students to more demanding tasks. This might entail tasks such as gathering additional data with each iteration, incorporating audio elements with interference, and

limiting the number of times an audio clip can be replayed. Such progressive exposure helps cultivate resilience and adaptability, ensuring students are well-prepared to excel in their assessments while also enhancing their overall proficiency in listening comprehension.

Conclusion

In summary, while standards and recommended practices extend throughout the world, the requirements for obtaining pilots licenses differ from country to country. Through statistical and experiential evidence, it is noticeable that Aviation English trainers have to adapt not only to the student's existing general English level and skills, but also to the differing pilot profiles and time constraints, thereby significantly changing the syllabus according to the student's background, context, and goals. As stated in Circular 323 of ICAO (2009), "in training, one size does not fit all: individuals and groups differ."

We need to embrace this opportunity as educators to personalise classes even more, in order to give the student a better experience and generate further motivation. "It is well known to what extent motivation drives efficient learning. If we see the relevance of what we are learning, we learn it all the more readily". Equally, "if the content and function of the language learnt are relevant to real-life operational situations, it will be more easily and naturally available and applied when it is required" (ICAO, 2009.)

As to testing and as stated beforehand, certain existing administrative aspects of examinations could be modified and adherence to the recommendations of the ICAO LPRs may well need reiterating. Tests are not only expected to replicate real-life procedures and potential in-flight situations to test candidates' abilities to communicate in English but should also align with safety standards and premises in the aviation communication context. This is no more evident than when needing to clarify or check instructions given by ATC, rather than acting on an assumption of what has been understood.

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Survey to 62 pilots from Argentina and Spain, conducted in August 2023.

Designing a Competency[1]-Focused Aviation English Syllabus for Ab-Initio Military Pilots

VANYA KATSARSKA[2], **SVETLANA DIMITROVA-GYUZELEVA**[3]
Bulgarian Air Force Academy, New Bulgarian University
vkatsarska@af-acad.bg, sgjuzeleva@nbu.bg

Abstract
Safety is the paramount goal in aviation. Radiotelephony communication is not an easy task in light of the complexity and the diversity of factors that have an impact on the professional assignments. Successful communication between military pilots and air traffic controllers can be ensured by designing a relevant aviation English language syllabus for trainees. This article outlines the main stages of a research study aiming to create a proposal for a competency-focused aviation English language syllabus for ab-initio military pilots. It discusses the reasons for designing such a syllabus where apart from linguistic competency, other competencies are integrated – interactive, intercultural, and professional. The objective is to develop pilots who can perform well in their authentic professional environment and communicate efficiently in English in both routine and non-routine situations. The article highlights the ten tenets that synthesize the key principles of the proposed syllabus design.

Key words: syllabus design, aviation English language, military, pilot, competencies

English as a Lingua Franca in Aviation

Since the early days of aviation, flying has attracted young, adventurous, non-risk averse, smart and quick-thinking daredevils. Efficient communication is an integral part of each flight. Pilots need to be equipped with appropriate competencies in order to communicate successfully with the air traffic controllers (ATCOs) and ground personnel in international environments. Pilots of all nationalities are in the sky. English is the common language, so communication in English is a critical component of aviation safety. As Estival, Farris and Molesworth (2016) explicitly stated, "the ICAO language proficiency requirements which were introduced in 2003 and came into effect in March 2011 solidified the role of Aviation English as the lingua franca of aviation, elevating proficiency in the English-based language of radiotelephonic communications from a recommended to a required status" (2016, p. 3). Language is the most

[1] In this article the word "competency" is synonymous with "competence."
[2] Vanya Katsarska, PhD is a senior lecturer at the Air Force Academy, Dolna Mitropolia, Bulgaria. Her areas of expertise include curriculum and syllabus design, English for specific purposes, and aviation English.
[3] Svetlana Dimitrova-Gyuzeleva, PhD is an associate professor in pedagogy and applied linguistics at New Bulgarian University, Sofia, Bulgaria. Her areas of expertise include FLT methodology and teacher training, English for academic and specific purposes, discourse studies and ELT materials design.

obvious and fundamental obstacle for effective communication. Failing to communicate in English during flights can have serious consequences. Safety is the ultimate goal in flying. Teaching aviation English must always be planned and conducted with this ultimate goal in mind.

Aviation English education is complex and multidimensional. The mandatory use of English as a lingua franca in air-ground communication and the availability of regulatory documents for the standardized radiotelephony phraseology (ICAO 2001, ICAO 2009, ICAO 2010) should have an impact on the planning, teaching and assessment of aviation English courses. What aviation English teachers should be aiming at is developing competent aviation English language speakers who possess not only linguistic knowledge but also the ability and skill to activate that knowledge in their professional communicative context. The acquisition of knowledge, skills and attitudes and their application is integrated.

One subfield of aviation English that has been insufficiently researched so far is military aviation English. The roles of military pilots differ from civilian ones. The most important task for the civilian pilot is the safety of the aircraft while for the military pilot it is achieving the assigned mission. Civilian pilots deal with passengers and their demands while military pilots engage in combat missions and combat or mock combat trainings related to surveillance, escorts, intercepts, bomb dropping, gun employment, etc. Civilian pilots take off and land on huge hubs while military pilots fly in formations and sometimes land on aircraft carriers. Fatigue and red-eye flights are persistent problems for civilian pilots, while G-tolerance and loss of consciousness are issues for jet fighter pilots.

Despite the fact that all pilots, military and civilian, share the same sky and the same language – English, the different tasks of civilian and military pilots sometimes lead to different phraseology. The International Civil Aviation Organization (ICAO) has been one of the most important aviation-related agencies for more than 70 years. ICAO has unequivocally

established English as the official language of aviation. The radiotelephony communication between pilots and ATCOs, between pilots of different aircraft in the air, or between pilots/ATCOs and the ground staff, consists of standardized phraseology and plain English. The ICAO Language Proficiency Requirements were developed "in a laudable effort to improve aviation safety worldwide" (Emery, 2016, p. 9) and they consist of descriptors and a rating scale which establishes six levels of language proficiency. STANAG 3817 is the NATO supplement to the ICAO radiotelephony phraseology in Annex 10, volume II, Document 9432/AN952. It provides the unique phraseology to be used by military pilots, ATCOs, and ground personnel. No doubt, it is not possible to provide every conceivable situation in the military environment but it recommends the additional military phraseology in most frequent air force situations.

Syllabus Design for an Aviation English Language Course

Syllabus design has developed through the years in accordance with the educational innovations and methodological novelties. There are various interpretations of the definition and concept of syllabus. Breen suggests that "the syllabus offers a route map to its users" (1984, p. 48), and Yalden sees it as "a public document, a record, a contract, an instrument which represents negotiations among all the parties involved" (1984, p. 13). The syllabus is an administrative document that is a tool for planning and control. In most cases, it is used by the school authorities, and it is evaluated by different criteria. Nunan defines it as "the planning, implementation, evaluation, management, and administration of educational programs" (Nunan 1988, p. 8). Celce-Murcia asserts it is "an inventory of objectives the learner should master… in a recommended sequence" (2001, p. 9). The syllabus has a well-defined goal, clear objectives, appropriate start and end point, and a particular sequence.

The term "syllabus" in the context of this article means a systematic plan of a specific course for a certain type of learner, and comprises the content of the individual course. It is an operational document that refers to the specification of the general learning objectives and to

the scope, selection, gradation, and sequencing of the contents of an academic course, the aviation English course in this particular case. Syllabus is the official paper used by teachers which outlines the learning objectives, the content to be taught, and the approach to teaching which will serve best the learners' and the stakeholders' needs. The syllabus serves as a guiding light for the selection or development of appropriate teaching material. The syllabus is not supposed to offer tangible courses - teachers using the same syllabus may use different teaching resources and course books but the acquired knowledge, skills, and competencies, i.e. the learning outcomes, should be the same. The syllabus is aligned with the school principles implemented in the curriculum and with the existing national and international standards.

The task-based syllabus became popular with the flourishing of communicative language teaching. In the task-based syllabus, classroom activities evolve around purposeful tasks that the students want or need to perform with the target language. Emery (2016) suggests the task-based syllabus for aviation English studies. Kearns et al. believe that the task-based approach and the content-based approach are logically related and that the task-based approach is an early form of CBE in ATCO training (Kearns, 2016).

A content-based syllabus is the type of syllabus that is generally recommended for aviation English training programs "for reasons of learning efficiency, relevance of the subject-matter, motivation, and cost-effectiveness" (ICAO Cir.323/AN185, 2009, p. 1.3.1, and Doc 9835, 2010). The primary focus is delivery of specific professional content in any area of aviation such as thermodynamics, aircraft fuel and lubricants system, electrical system, etc. In the meantime, language learning occurs simultaneously and effortlessly, in many cases even without explicit teaching. However, most of those researchers and practitioners who recommend content-based instruction and syllabus (ICAO, 2009, Mathews, 2008, Emery, 2016) work in flight schools where the theoretical training for pilots, known as ground school, is conducted in English, since "not only is English the lingua franca of flight operations, but it

is fast becoming the lingua franca of ab-initio aviation training" (Emery, 2016, p. 9). All the lectures devoted to subject-matter knowledge (aerodynamics, avionics, etc.) are delivered in the English language, the whole course and handouts are in English, and everyday communication is in English. As a result of this, content-based training may seem as a viable, logical, and cost-effective option for both students and teachers. In some other cases, when the academic training is in the local language and English is just a separate discipline in the curriculum, content-based instruction might pose some difficulties. Dacheva (2019) discusses the difficulties when EFL teachers work together with domain teachers. Such collaboration is not only time-consuming but also "the language training and the subject-matter training are incompatible in their approaches and above all they are inherently different, hence – the approaches used to instruct are inordinately divergent" (Dacheva, 2019, p. 466).

In this article we would like to advocate for a communicative competency-focused aviation English syllabus for officer-cadets in the specialized training programs of military pilots. A competency-focused approach is an alternative to models such as task-based approach and content-based approach, and it is a variation of the competency-based approach. Communicative competency-focused education is a hybrid approach. It is a combination of the credit-hour-based approach and the competency-based approach. A communicative competency-focused aviation syllabus requires a different attitude towards proficiency and moves the emphasis from knowledge of specialized vocabulary to competency in using this knowledge, from grammar to pragmatics, from form to function, and from language as a system to language as a professional practice. Thus, the syllabus will increasingly reflect the communicative approach. Competency-focused learning is complex and it stresses that effective performance relies on an integration of skills, knowledge, and attitudes. It aims to provide a systematic approach to aviation English training. The competency-focused aviation English syllabus should enable students to cope with predictable activities during routine flights

as well as unforeseen situations during non-routine flights. It is aimed at tangible learning outcomes and relevant job performance. The final goal is not to develop pilots who do well in training and pass their English language exam successfully but to develop officers who do well in the cockpit and the tower. It helps students to reach their highest level of operational capability while ensuring a basic level of competency as a minimum standard.

Needs analysis is a concept which has been widely discussed and recognized in the field of English for specific purposes (see Hutchinson and Waters, 1987; Dudley-Evans and St John, 2004; Basturkmen, 2008). Needs analysis is the main requirement for an aviation English syllabus design (Emery, 2016; Assassi, 2020). It is the process of collecting information on the language learners, teachers, and stakeholders on one hand and on the target language use situation on the other. Analyzing needs gives course designers a framework for the selection of language content according to the requirements and goals of particular learners and thus, developing a tailor-made and well-grounded syllabus and course. Carol Moder insists that the role of the syllabus designer is to follow the target language use situation (TLU) as closely as possible, stating that "the task of the curriculum or test designer is to mirror as accurately as possible the language, tasks, and contexts of the target language situation" (2013, p. 238).

Background of the Research Study

Considering the local context and the target population profile can help in the design of a focused and comprehensive aviation English syllabus. The Bulgarian Air Force Academy (BAFA) is the case in point. It is a reputable higher education institution that provides a strong education foundation, a breadth of technical knowledge and skills in various aeronautical engineering specialties, in tactics and armament specialties, in piloting and navigation. It should be indicated that it is a military academy with all characteristics special for this type of school. Military schools are institutions where young people are forced to become different, to assimilate their personalities and to build a strong new community (Parenteau, 2021). It all

starts with the change of their former identity. In the first month of cadets' life, the gates of the air-force school are locked, so the outer world is further removed. Fences separate families and friends from the cadets. Haircut, uniforms, and rigid routines mold newcomers into different people with a new outer appearance. They become physically stronger, tougher, and more disciplined. These boys and girls change their morale and identity, too. They all become one entity. They start sharing the same values and this process continues later on. Listening to the national anthem at dawn every day, saluting the flag, and learning about the bravery and courage of their predecessors make these young people identify themselves with the military community. Cohesion, both horizontal with their peers and vertical with their superiors, is characteristic for the military organizations. By the end of this process young military officers are ready to sacrifice themselves for the team, the organization, and the country. They have adopted a new culture.

Bulgarian military pilots and air traffic controllers work in multinational, multilingual and multicultural environments where most days the air-ground communication is conducted in the English language. Against this background a need exists to provide BAFA cadets with special professional language - aviation English. This special language employs standardized phraseology, developed deliberately and designed for aviators to speak briefly and clearly, together with plain English, vocabulary, grammatical structures and functions used in aviation context. Any misunderstanding during flights can cause a disaster or some kind of damage. That is why English language proficiency is a safety measure in this field and has become a compulsory element of any aviation training. Just a general understanding of the English language will not suffice in this context.

Radiotelephony communication is the most prominent element of an aviation English syllabus for ab-initio pilots because the air-ground communication requires the highest level of accuracy, fluency, interactiveness, and proficiency in order to ensure the safety of flights.

Successful speakers of aviation English should be able to reproduce the stereotypical phrases and to communicate with the standard ICAO phraseology on one hand; and on the other hand, they should be able to communicate with intentional utterances i.e. plain English (ICAO, 2001; Friginal, Mathews, and Roberts, 2020; Kim and Elder, 2009.)

Methodology

This article summarizes some of the results from a research study that aimed to construct a proposal for an aviation English language syllabus for military ab-initio pilots at the Bulgarian Air Force Academy (BAFA). The objectives of the research study were to analyze the perceptions of various stakeholders regarding the communicative needs of military pilots; to formulate the goals, learning objectives and learning outcomes for the syllabus; to specify the content (topics and functions) of the syllabus; and to specify the communicative approach and some task types which are recommended to be included in the lessons. The syllabus components were outlined after exploring the stakeholders' needs and analyzing jobs and professional tasks. A mixed methods research approach, an exploratory sequential design, proposed by John Creswell and Vicky Plano Clark (2018) was applied in this study.

This article offers a concise synopsis of an extensive research study, presenting only key highlights, while the full study encompasses a broader range of detailed findings.

In this research study the data derived from a focus group, overt naturalistic observation of typical working days, and three surveys. Following Creswell and Plano Clark's model (2018), two strands in a sequence, qualitative and quantitative, were implemented. First, the aim was to investigate and explore the professional opinions and beliefs of a small-size population group, i.e. to identify variables. Then a quantitative phase came next to assess the extent to which the qualitative results could generalize with a larger sample and different participants. These two sets of data were analyzed, then integrated and interpreted in light of the theoretical

achievements in the aviation field so far, in order to understand better the needs of BAFA cadets in relation to the use of the English language and the design of an aviation English syllabus.

In the qualitative strand, the data were collected from an international focus group. Using the DACUM method, the study solicited data from 11 Bulgarian, 6 Romanian, and 5 Polish teachers. The focus group consisted of aviation academic experts, some of them simultaneously active-duty practitioners, who had a variety of professional expertise - subject-matter teachers, EFL teachers, deans of aviation faculties, pilots, and air traffic controllers. All of them had more than seven years experience in the aviation field. There were 7 female participants and 15 male participants. Their age group was 35-54 years old. The focus group was convened to address the critical question, "What competencies would best serve the English language communicative needs of pilots, and how can these be incorporated into an aeronautical English language syllabus?" The methodology involved a series of interactive sessions, each carefully designed to facilitate open dialogue and collaborative brainstorming. Prepared questions, aimed at eliciting specific competencies necessary for effective communication in aviation contexts, were used as conversation starters. The moderator, the Dean of BAFA, encouraged participants to share personal experiences and insights, leading to a rich tapestry of information.

In the quantitative strand the focus group and the observation qualitative findings were used to develop three context-specific surveys that were quantitatively tested with 53 teachers in aviation English from 25 countries in 3 continents, 106 Bulgarian air force officers and 24 cadets from Bulgaria. The surveys were created using Google Forms and distributed via authors' personal network and the social network LinkedIn.

The answers of the respondents of the three surveys are valuable as they are all representative members of a group of specialists who are completely aware of the target language use (TLU) domain and the needs, wants and necessities of military air crews, and of the essential issues in the aviation communication. Most of the teachers and military personnel had both life and

professional experience. 42.3% of the teachers were between 40 and 50 years old while 55.6% of the pilots and ATCOs were 30 – 50 years old. All cadets were in the age range 20-24. 48.1% of the military personnel had more than 10 years of professional experience. 77.4% of the teachers have been teaching English as a foreign language for more than 10 years.

The population of the teachers was diverse and heterogeneous which is definitely an advantage because they contain variability of characteristics and provide worldwide perspectives on the researched topics. On the other hand, the pilot/ATCO population was rather homogenous consisting of Bulgarian military pilots and air traffic controllers, both new and experienced. This choice was deliberate due to the needs analysis and the need to generalize only for the cadet population at the Bulgarian Air Force Academy.

Survey One had 31 questions; Survey Two had 24 questions; Survey Three – 15 questions. Part I in all surveys collected demographic information for the respondents. The aim was to determine the profile of the participants. Part II of the surveys had 6 common questions. They were constructed and formulated so that the research study goals and objectives could be fulfilled. Nevertheless they had some different questions depending on the respondents‘ general characteristics. Survey 1 investigated the current educational situation at the respondents‘ institutions and their views on various aspects of syllabus design. Survey 2 focused on the respondents‘ experience in using aviation English during their work days and their perceptions of the radiotelephony phraseology in English. Survey 3 served as a pre-course questionnaire for the cadets and dealt with their learning styles, needs and necessities.

Results and Discussion

Qualitative Strand

The focus group emphasized the importance of English in the academic studies of cadets, in the hands-on traineeship during their university years, and in their future professional life. Moreover, communication is crucial for good teamwork and it is fundamental to flight safety.

One of the members explicitly said, “the importance of communication for orderly and efficient job performance cannot be overemphasized.” The participants drew the attention to the various purposes of military aviation English during a typical working day at an air force base, during international training exercises, and during wartime. During combat, aircrews are under an enormous stress. In flights when complex or coded instructions are given in English, pilots need proficiency and fluency in military aviation English language.

At the end of the focus group session devoted to professional competency, all participants unanimously agreed that it is an indispensable part of the communicative competency for military pilots. One fundamental part of the communication between pilots and air traffic controllers is context-dependent and technically referential. Radiotelephony communication relies on meaningful context and knowledge of navigation, aerodynamics, technical equipment, weather phenomena, armament, and combat operations. The professional competency is constantly developing; “the conceptualization of professionalism is in a state of constant flux” (Ivanova, 2020, p. 37). The domain-specific knowledge exchanged between aviators and ATCOs embodies special characteristics, which are crucial for conveying ideas and understanding the message in a multicultural environment.

Furthermore, focus group members came to the conclusion that linguistic competency is intertwined with interactive competency. If pilots and controllers do not possess it, they will be unable to perform in their real-life environment and to fly or guide the airplane. Vicheva clarifies that all communication is related to overcoming difficulties while speaking, i.e. communication problems are constantly being solved by implementing relevant communicative strategies. Metastrategies in speaking can support and optimize the communication (Vicheva, 2019, p. 199).

Some of the focus group questions guided participants to discuss the relationship between language and culture because after all aviation English “has brought together users of different

cultures, languages and professional expectations" (Borowska, 2020: 4). Being representatives of different cultures themselves, the participants shared the idea that culture influences and shapes even aviation English which follows standardized phraseology and adheres to prescribed sets of rules, regulations and guidelines applying to civilian and military professionals all over the world rather than to different practices based on individual languages and cultures. There are some studies which have already addressed the topic of culture in aviation English communication (Monteiro, 2018; Pacheco, 2019). However, as Monteiro claims, "the impact of cultural background on radiotelephony communications between pilots and air traffic control officers interacting in the English language is still underestimated, requiring training in intercultural communicative strategies" (Monteiro, 2018, p. 6).

The outcome of the focus group discussions was the competency grid illustrated in *Table 1* It comprises the following core competencies - linguistic, interactional, intercultural, and professional. It also highlights the most important sub-categories identified in the qualitative strand: vocabulary, pronunciation, accuracy, fluency, gender equality, power distance, background content knowledge, regulations, teamwork, collaborative communication and behavior.

Linguistic Competency	**Interactional Competency**
know and use correctly standard radiotelephony phraseology	communicate successfully in routine situations
know and use clear, concise and unambiguous language in aviation context	communicate successfully in unpredictable situations
use intelligible pronunciation and intonation	cope adequately with apparent misunderstanding by checking, paraphrasing, confirming, clarifying information and repairing breakdowns
be able to accommodate to various native speaker and non-native speaker accents	demonstrate fluency in speaking
know and use accurate grammar	demonstrate accuracy in speaking
Intercultural Competency	**Professional Competency**
be aware that there are different cultures with different values, beliefs and behaviors	possess initial background professional knowledge
demonstrate openness and flexibility to different cultures e.g. accept their communication style or work strategy	comply with the rules and procedures for radiotelephony communication
be aware of the effects of gender on communication	demonstrate a professional attitude and tone
be aware of the effects of losing face on communication	demonstrate tolerance and collaborative efforts for successful communication
be aware of the effects of military hierarchy and authority on communication	be able to offer and accept teamwork

Table 1. Aviation English communicative competencies

The focus group reached the conclusion that pilots must develop competencies that reach beyond linguistic competency in order to be able to perform successfully and efficiently in English in their international aviation environment. This aligns with Kim and Elder who address this issue and claim that the communicative needs of pilots and ATCO extend beyond their language proficiency, requiring negotiation, collaboration and interaction (2009, p. 14).

Second, for the qualitative strand, an overt naturalistic observation of typical working days at the air force base was conducted. This stage of research work aimed to carry out a Target Situation Analysis (TSA), as advocated by Dudley-Evans and St John (2004). The main purposes were to determine the subdomains of aviation English for pilots, the type of tasks that military pilots perform, the frequency of these tasks and their relevance to the aviation English

domain. Through the observations, it was found out that cadets have unique language needs. They need to participate in routine and non-routine radiotelephony communications, using aviation English language. Pilots exchange messages predominantly with ATCOs. In addition to this, they need to interact with their instructors during tandem flights and on the ground; they participate in pre-flight briefings and debriefs, give shift handover, and occasionally communicate with the mechanics before or after the flight. Accurate, reliable, and task-relevant exchange of information is the goal. The tasks observed were routine flights, pre-flight briefings, debriefs, standups, pre-flight instructions, pre-flight inspection, mission briefing, weather reports, and guiding the aircraft. Listening and speaking skills were vital for completion of the tasks. The researchers' observations corresponded with those of Garcia and Fox (2020) who enumerate different factors that may interfere with the ease of understanding: rate of speech, accent, density of the transmission, topic familiarity, increased mental workload, etc. (2020). After that it had to determined which task-types promote meaningful integration of the authentic tasks into the syllabus. That is why all authentic tasks were broken down into smaller segments and translated into 10 classroom task-types. All task-types possessed that unique correspondence between language knowledge and professional background knowledge. Furthermore, the content in the tasks was close to real-life, the topics were relevant to the aviation field, and the material was engaging.

Communicative functions are another component that must be incorporated into the aviation English syllabus in order to facilitate students most effectively using English in their work environment. The authentic tasks observed during the field trips were analyzed in terms of language functions. In this case a top-down process was used i.e. the use of a predetermined list of functions generated from ICAO documents. Doc. 9835 lists 4 groups of communicative functions directed towards:

1) triggering actions;

2) sharing information;

3) managing the pilot-controller relationship; and

4) managing the dialogue.

The overt naturalistic observation confirmed the reliability and validity of the ICAO 9835 document regarding functions. The most recurrent ones were asking for and issuing clearance, giving and cancelling orders, informing and advising, acknowledging and confirming, correcting and self-correcting, and giving options. They ensure fluent and smooth speech. As Altiparmak mentions, disruptions in the flow of speech may occur due to various reasons such as low English language proficiency, stress, fatigue, etc. (2019). One way to overcome these speech disfluencies is by means of using the relevant functional language.

Quantitative Strand

For a reliable and useful aviation English course, 86.8% of the survey respondents recommend homogeneous groups in terms of specialization, not more than 12 students in a group, and 54.7% believe B1 CEFR is the minimum entry level.

Four of the questions common for survey 1 and survey 2 investigated the level of importance of dependent variables - competencies, skills, topics, functions - regarding their relevance to an aviation English course. The respondents had to mark their answer on a 5 point Likert scale, with 1 being not important at all to 5 being very important.

According to the findings all competencies listed above were confirmed. The study aimed to investigate the interaction of linguistic competency with the interactional competency, cultural competency and professional competency. According to the correlation analyses, all correlations were statistically significant. Linguistic competency strongly correlated with interactive competency. Pearson correlation coefficient was 0.830. Another strong correlation was between the linguistic competencies and professional competency - 0.777. The correlation

between linguistic competency and cultural competency was on medium strength at 0.568. The data is outlined in *Table 2*.

		Interactional competency
Linguistic competency	Pearson Correlation	0,830**
	Sig. (2-tailed)	0,000
	N	160

		Cultural competency
Linguistic competency	Pearson Correlation	0,568**
	Sig. (2-tailed)	0,000
	N	158

		Professional competency
Linguistic competency	Pearson Correlation	0,777**
	Sig. (2-tailed)	0,000
	N	160

Table 2. Correlations between linguistic and interactional, cultural and professional competencies

Despite the fact that the correlation between the linguistic and the cultural competency was slightly lower, it was actually reconfirmed by the respondents' comments of the open-ended questions in the surveys. For instance, one pilot shared - "I had a situation once where I could not quite understand the pronunciation of the Romanian air traffic controller but I continued flying the plane - good thing there was no emergency." In this case it was clear how interrelated the linguistic and the intercultural factors are. The pilot demonstrated not only linguistic failure but also fear of losing face and the desire to avoid conflicts. He revealed concern for potential complications and awareness that he had been endangering the safety of flight due to a language problem. A lot of respondents reported instances of culturally influenced behavior that affected their work and their communications. Here are a few examples: "some pilots explain in too many words what they want (especially Italians)" – stereotyping; "it is complicated when in one mission there are Bulgarian pilots who fly Russian airplanes and American pilots who fly F16 - mish-mash" – different cultural values and different measurement systems; "he is acting like a big boss, while actually safety comes first, not the boss" – power aspect; "civies (civilian colleagues) talk down to us but we are better in our profession" – organizational culture; "…the

level of respect at civilian airports has decreased" – respect and judgmental attitude; "Everyone should observe the rules of polite behavior and refrain from expressing their personal preferences" - deferential style of communication and avoiding conflict style. Obviously, language is subject to culturally-conditioned attitudes and beliefs that cannot be ignored in the language classroom. Teaching a foreign language is not a value-free activity and, consequently, language teachers, whether they realize it or not, are introducing certain patterns of thoughts, values and beliefs to their learners. Another respondent summarized, "I can understand better a Bulgarian speaking in English rather than a foreigner speaking in English. It is important to practice English with foreigners in order to understand their way of thinking and speaking."

The voice-only communication between pilots and air traffic controllers presupposes that "listening and speaking accuracy are crucial to a successful radiotelephony communication" (Assassi, 2020, p.101). *Table 3* below presents the findings with respect to the level of importance of the English language skills (listening, speaking, reading, and writing) in terms of their relevance to an aviation English course.

variable	N teachers	mean	mode		N officers	mean	mode		N cadets	mean	mode
Listening	53	4.89	5		106	4.82	5		24	4.87	5
Speaking	53	4.85	5		106	4.79	5		24	4.79	5
Reading	53	3.75	4		106	4.43	5		24	4.41	5
Writing	53	3.13	3		106	2.90	2		24	3.19	3

Table 3. Mean and mode of language skills

The majority of the international aviation English teachers, of the Bulgarian pilots, of the BAFA cadets considered that listening was the most important skill in occupational settings while speaking was the second most important skill. Reading comprehension was ranked third. On the other hand, writing was reported to have less importance for their future work domain.

Although all ICAO language regulations insist that radiotelephony communication "requires speaking and listening skills, but not reading and writing" (Doc 9835, 2010, p. 3.3.1), our

empirical study revealed that students need to develop their reading skills in addition to their listening and speaking skills. Thus, the reading skill was included as an objective in the syllabus.

Aviation communication of military pilots extends to communication with mechanics, engineers and commanders, to deliver briefings and explain aircraft problems with the engine or hydraulic system, to negotiate routes and settle disputes with civilian employees at other airports, etc. All in all, the topics of the aviation English syllabus address the standardized phraseology for routine flights (e.g. take-off clearance), plain English in operational contexts in routine and non-routine situations (e.g. flock of crows on final approach, request go-round), and aviation English in wider context (e.g. bio-acoustic technology at airports).

Content selection is identified as an issue of vital importance (Friginal et al. 2020, Bullock 2016). This was another component analyzed in the surveys. It should be noted that the objective is not to teach content (this must be the main focus of the other subject-matter courses) but to teach language using these topics. The contribution of the research study lies in analyzing the TLU situation and the opinions of a decent number of stakeholders as a result of which a list of military aviation English topics is proposed.

The topics in the aviation English syllabus should be appropriate on one hand for the language level of the students, and on the other hand for their expertise level. In this case the target audience comprises cadets who are inexperienced pilots. They have not completed their academic studies – they have not passed their technical or operational subjects yet. Sometimes cadets can encounter an aviation concept for the first time during their lessons in English. It is important that the topics and the classroom materials are technically and operationally accurate. Topics are expected to be both comprehensible and challenging. Suitable topics for ab-initio pilots are the ones which are not too complicated and which do not require depth of scientific knowledge and understanding. On the other hand, topics shouldn't be too general or too simplistic because they will humiliate the intelligence of our audience. The topics should be

meaningful; they should engage cadets in language-driven activities and motivate them to acquire appropriate target language. In the same vein Friginal, Mathews, and Roberts (2020) state that "special attention to the content material and the target language use (TLU) tasks must be given in order to ensure the material is relevant and expertise-level appropriate for the students, as their target language use needs are related, but different enough to warrant tailor-made materials for specific contexts and ability levels" (p. 219).

Topics depend on three factors - the goal and learning objectives of the syllabus, the required communicative competencies, the target audience, and to some extent the teacher. It is particularly important to include a wide scope of topics because this will ensure rich and appropriate aviation vocabulary, a variety of functions, diverse structures, etc. It seems a restricted approach to practice only radiotelephony communication or plain English during flights.

In the aviation English syllabus, multiple methods of presentation are encouraged and supported. Teachers and researchers continue to experiment and test various techniques, methods and approaches but they have not reached a unanimous decision yet as concerns the perfect method. Actually, it is not important which methodology or methods are used but which learning outcomes are mastered. Regarding the teaching materials, Silva and Tosqui-Lucks claim that, "exposure to authentic pilot-ATCO communication must be prioritized" (2020, p. 420).

The competency-focused syllabus caters to the autonomy of students and makes them capable of dealing successfully with their professional tasks. Students are constantly encouraged to be responsible for their own learning and competency development by using instruments such as portfolios and personal plans. The competency-focused aviation English syllabus should also teach students to prioritize their own needs and to follow their goals.

The communicative competency-focused aviation English starts from identifying the relationship between language, content, and competencies. This relationship is expressed in aviation topics. These topics aim at building mandatory target vocabulary, i.e. language that is essential for the topic and supplementary target vocabulary that naturally occurs within the topic. The relationship between language and competencies is constructed by the students during the course of study and guided by the syllabus rather than existing as a previously defined pool of knowledge.

While working on competency development and focusing on meaning, the teacher should explicitly draw students' attention to linguistic elements as they come up in lessons. Language forms that can be difficult or challenging for the students or essential to the communicative tasks should be identified and pre-selected before the lesson. The teacher should draw the attention to these forms and structures.

Outcomes of the Research Study

Finally, the findings from the qualitative and the quantitative strand of the exploratory sequential design (after Creswell and Plano Clark, 2018) were combined and some insights, which could guide the design of an aviation English syllabus, were arrived at. These insights were shaped in two models: a framework for the components of an aviation English syllabus design and 10 tenets as a foundation of an aviation English syllabus design for ab-initio military pilots. In order to identify the 10 tenets below, a synthesis of the main and recurring characteristics relevant to the target language use international domain of ab-initio military pilots communications was carried out, informed by important theoretical studies and the BAFA empirical study.

Tenet 1. Radiotelephony communication (standard phraseology and plain English) is the most prominent element of an aviation English syllabus for ab-initio pilots because the air-

ground communication requires the highest level of accuracy, fluency, interactiveness, and proficiency in order to ensure the safety of flights.

Tenet 2. Compliance with radiotelephony standard phraseology is obligatory for student pilots. It should be taught and practiced in the aviation English classroom, which means that it should be a component of the aviation English syllabus.

Tenet 3. Radiotelephony standard phraseology is not enough to ensure successful air-ground communication. A successful speaker of aviation English should be able to communicate with intentional utterances, not just reproduce stereotypical phrases. Plain English is a must for the aviation English syllabus.

Tenet 4. An aviation English syllabus needs to focus on interactional and strategic competencies.

Tenet 5. An aviation English syllabus is the manifestation of the professional context and the cultural norms of English as a lingua-franca in the aviation occupational domain.

Tenet 6. The course and its syllabus should be designed in such a way as to respond to the students' specific needs.

Tenet 7. The aviation English language learning should be driven by materials and activities that meet the goals of the course and take into consideration the critical characteristics of the TLU communication.

Tenet 8. A competency-focused aviation English syllabus requires evidence-based assessment, i.e. the knowledge of English grammar or lexis has to be validated when performing an authentic job-related activity.

Tenet 9. The course should ensure that acquired competencies are transferable.

Tenet 10. The course should promote student autonomy and active learning.

All in all, a competency-focused syllabus is supposed to lessen the students' learning curve and move them swiftly through the specialized English language training pipeline. The syllabus

encourages a learning process that elicits language from the aviation domain and strategies for producing authentic interactions. The syllabus is clear and holistic in order to provide both students and teachers with the necessary guidelines and at the same time not burden them with unnecessary details.

Conclusion

Aviation English syllabus designers and teachers have the professional and social responsibility to ensure high standards of teaching and assessing radiotelephony communication. This article has provided a brief report on a research study that aims to change the perspective of teaching aviation English to military pilots by introducing a competency-focused syllabus where apart from linguistic competency, other competencies are integrated – interactive, intercultural, and professional. The aviation competency-focused syllabus prepares ab-initio military pilots for adequate communicative performance while managing complexity. The syllabus is rigorous in order to support successful communication in routine and non-routine situations and flexible in order to be applied to various groups of ab-initio military pilots. The long-term objectives of the syllabus are to improve the interoperability of the Bulgarian air force with its partners and to ensure safe flights. The proposed syllabus helps young daredevils reach for the stars.

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Current and future challenges in teaching specific Aviation English for Cabin Crew

ANTONELLA GARGARELLA MARTELLI[1]

Aviation English AR

antonellagmartelli@gmail.com

Abstract

This paper explores contemporary trends in teaching English for Cabin Crew Members (ECC) with insights drawn from the author's background in teaching English and experience as a Cabin Attendant. The presentation also highlights the centrality of English proficiency in cabin crew duties, emphasizing its importance in communication with passengers, safety protocols, and documentation. Despite the lack of official English language standards for cabin crew, the paper argues for the necessity of proficiency due to the critical nature of their responsibilities. An analysis of teaching challenges reveals a lack of official training programs and guidelines, leading to deficiencies in English proficiency among cabin crew. The paper advocates for the standardization of English training to bridge existing gaps. Furthermore, the paper delves into the pedagogical challenges of teaching English for Specific Purposes (ESP) to cabin crew, emphasizing the need for tailored instruction and materials. Insights from a survey underscore the importance of specialized training and highlight challenges such as unfamiliarity with subject matter and time-consuming research for lesson planning. To address these challenges, the paper suggests incorporating English for Cabin Crew into airline training programs and utilizing innovative teaching methodologies and authentic materials to enhance learning outcomes.

Introduction

This paper delves into the contemporary and prospective trends in the teaching and training of English for Cabin Crew Members. Drawing from the author's extensive background in teaching English, enriched by hands-on experience at the Civil Aviation Accident and Incident Board of Argentina (former JIAAC) and my role as a Cabin Attendant, this research is propelled by a firsthand understanding of the field. The aim is to provide valuable insights into evolving methodologies and strategies that can enhance the language proficiency and communication skills of cabin crew members, thereby contributing to the overall safety and efficiency of air travel operations.

Role and Functions of Flight Attendants

Undoubtedly, the primary and paramount responsibility of Flight Attendants revolves around ensuring the safety and security of passengers during flights. Flight Attendants act as

[1] Antonela Gargarella Martelli has a bachelor's degree in teaching English. She has been teaching Aviation English to Cabin Crew, Aeronautical Engineers and Pilots for 14 years. She has worked for the Aviation Accident Safety Board in Argentina (former JIAAC; current JST). She complemented her experience working as a Cabin Attendant and becoming a Facilitator in Human Factors. Antonela has recently published her book "English for Cabin Crew". She also possesses a B737 Flight Attendant licence.

vigilant guardians in the cabin, akin to the eyes of the pilots in the passenger domain. Their pivotal role encompasses the detection of potential safety and security risks, establishing them as the central figures in maintaining a secure environment on board. Thus, the main duties on board of cabin crew members can be grouped into three major categories: safety, security and passenger service (Damos, Boyett & Gibbs, 2013).

Beyond their safety-centric duties, flight attendants undertake multifaceted responsibilities. They serve as communicators, keeping passengers well-informed about updates, safety protocols, and relevant regulations. Moreover, cabin attendants must adeptly address challenges, demonstrating the readiness to execute efficient evacuations in case of emergencies. The ability to assertively communicate with peers becomes crucial during such critical situations, ensuring coordinated efforts for problem resolution or evacuation procedures.

In addition, in the realm of customer service, cabin crew extend their role to provide unparalleled excellence. They create an atmosphere of comfort for passengers, especially those unfamiliar with air travel. This dedication to service excellence is vital in fostering a positive and reassuring experience for all onboard.

Highlighting the significance of language proficiency, particularly in English, it is imperative in understanding the demands of the aviation industry. Post the Chicago Convention in 1944, English emerged as the universal language of aviation becoming a fundamental requirement for industry professionals (ICAO 2009). For cabin crew members, English is intricately woven into their tasks. From communication with passengers to the documentation of emergency equipment checklists and the delivery of announcements, including emergency commands and procedures—English forms the bedrock of their daily operations. In fact, according to BAA training (2015), cabin crew are responsible for checking and ensuring that all safety equipment is present and functional. They need to read manuals, which are written entirely in English, to understand how to check the safety. The

multilingual context within which cabin crew operate underscores the critical role of English proficiency in executing their duties seamlessly and maintaining the highest standards of safety and service excellence.

English – One of the Most Important Functions of Flight Attendants

Graddol (1997;2006) claims that there are more speakers worldwide of English as a second or foreign language than as a first language, and most of the contexts in which English is used occur among speakers of English as a second or foreign language. Thus, we are now seeing the emergence of English as an international language (EIL) or lingua franca, which sets its own standards of proficiency to ensure mutual understanding between multi-cultural users with different levels of proficiency. This evolution is particularly pertinent for language proficiency requirements in aeronautical radiotelephony communications (ICAO, 2010). Indeed, the introduction of mandatory language proficiency testing for commercial pilots and air traffic controllers has been the purpose of ICAO to ensure and strengthen language proficiency sufficient enough to reduce miscommunication during flight operations. (ICAO, 2010). Although in DOC 9835 (ICAO, 2010) it is claimed that English language proficiency is required by flight crews involved in flight operations, it is certain that cabin crew don not have to be assessed to reach English language standards before becoming operational cabin crew. Therefore, why has English been standardized for some aviation actors and not for others if communication assertiveness and mis-communication mitigation is the same target for all aviation figures participating in flight operations?

First, there is no EU (or ICAO requirement) that cabin crew members must speak English. Regulation (EU) No 965/2012 specifies the following two requirements:

1) *The operator shall ensure that all personnel are able to understand the language in which those parts of the Operations Manual, which pertain to their duties and responsibilities, are written (ORO.MLR.100(k)), and*

2) *The operator shall ensure that all crew members can communicate with each other in a common language (CAT.GEN.MPA.120).*

Secondly, drawing from the author's experience as a cabin crew member and training coordinator for the Transport Safety Board in Argentina (formerly known as JIAAC; presently referred to as JST), it is conceivable to infer that the absence of formalized English language standards for cabin crew may be attributed to the predominant utilization of Plain English[2] among flight attendants during onboard communications. However, this is not completely accurate. Cabin crew also use technical and specific vocabulary, commands, and certain *cabin phraseology*, such as "cross check and report", "arm/disarm doors and crosscheck". This non-official phraseology is sometimes used on board even if the airline is non-English-speaking-native. Thus, instead of saying that cabin crew use only Plain English, I would say they use *cabin language*. Thus, what are the current teaching challenges when training crew members in English?

Lack of Official Training, Programs, Guidelines and Assessing from Civil Aviation Authorities

The misconception surrounding cabin crew roles, functions, and the critical importance of communication in conjunction with other flight and aviation parties persists as a significant issue within the aviation industry. This oversight becomes particularly pronounced when neglecting to acknowledge the authentic communication scenarios routinely encountered by cabin crew in the execution of their daily responsibilities, characterized by the nuanced language referred to as *cabin English.* This neglect leads to a barrier in the English language proficiency of cabin crew members, as there exists a lack of effective English training programs specifically tailored to their unique linguistic

[2] **Plain English** is a way of writing or speaking the English language intended to be easy to understand regardless of one's familiarity with a given topic. It usually avoids the use of rare words and uncommon euphemisms to explain the subject. Plain English wording is intended to be suitable for almost anyone, and it allows for good understanding to help readers know a topic. It is considered a part of Plain Language.

requirements. Furthermore, the absence of mandatory official assessments by responsible aviation authorities exacerbates this issue. Consequently, the cumulative effect of these factors poses a substantial challenge in the realm of teaching aviation English for cabin crew. This study underscores the imperative for a comprehensive understanding of the intricacies involved in cabin crew communication, advocating for enhanced training programs and official evaluations to bridge the existing gaps and ensure proficient linguistic skills among cabin crew personnel. To substantiate this notion, the following quote extracted from a survey conducted to 40 Argentinian and Italian cabin crew supports the aforementioned assertions as follows:

"During my tenure as a flight attendant, I distinctly recall instances where some colleagues whose native language was not English hesitated to conduct briefings or read announcements due to their perceived lack of proficiency in the language. Consequently, they sought assistance from other crew members, necessitating role swaps. It is imperative to emphasize that prior to passengers boarding the aircraft, cabin crew members are assigned specific roles based on the section of the plane and the corresponding door they are responsible for operating during the flight. Adherence to this procedural assignment is mandatory. However, in the scenario described, language barriers likely led to a deviation from this safety protocol. This situation highlights the potential danger of complacency. The necessity of conducting briefings, including those for emergency exits, unaccompanied minors, pregnant passengers, and other special cases, cannot be overstated".

Therefore, the inability to overcome language barriers may result in numerous drawbacks, such as work delays, which could lead to undesirable outcomes. Indeed, it is not surprising that good communication is not always the case during emergency situations. Flight Safety Foundation (FSF, 2003) indicates that poor communication can contribute to problems during evacuation procedures. The National Transportation Board of Canada (TSBC, 1995) claims that effective crew coordination is crucial to a successful evacuation,

but ineffective crew communication leads to ineffective crew coordination. As evidenced by the occurrence data, poor crew communication may result in unnecessary injuries or fatalities and unnecessary exposure to risk for passengers and aircrew alike (TSBC, 1995, p. 20).

Furthermore, it is essential to emphasize the significance of bolstering support from civil aviation authorities specializing in language and communication. This reinforcement underscores the core potential premise that efficient English training for Cabin Crew and official assessment of *Cabin English Language* should be obligatory, with the objective of enhancing and standardizing English training programs tailored for cabin crew trainers, instructors, and educators.

The overarching goal is to facilitate a constructive impact on cabin communication and air safety, while also addressing challenges encountered during the English training of cabin crew personnel. The centrality of effective communication to cabin safety is paramount. This encompasses the necessity for a standardized proficiency in Cabin English language as a constituent element of effective communication practices.

English Training: Insights from Argentinian and Italian Cabin Crew Members

The following statistical data, derived from a questionnaire administered to 40 Italian and Argentinian cabin attendants, was conducted to gather pertinent information conducive to reinforcing the arguments posited within this academic paper. Additionally, the survey aimed to solicit insights regarding the English cabin training protocols implemented within their respective airlines, as well as to elicit reflections on respondents' experiential knowledge in this regard.

Initially, it is noteworthy to highlight that the respondents exhibited proficiency levels ranging from intermediate to advance in English. This finding was unexpected, given that a significant portion of participants reported encountering language barriers despite possessing a high proficiency in Plain English. This observation underscores the potential utility of cabin language training within broader cabin crew training initiatives. Furthermore, a majority of

respondents (61%) expressed the view that proficiency in English is integral to their professional responsibilities, with a notable proportion affirming that English proficiency is a prerequisite for employment and service as a cabin attendant within the airline industry. Subsequently, an inquiry was conducted with cabin crew regarding their willingness to endorse the prospective standardization of Cabin English. A notable 98% of the respondents affirmed their agreement, substantiating their positions with articulated reasons. Herein, elected exemplars of their justifications are presented as follows:

"Yes, because English is the universal language".
"Yes, English is the flying language and standardization would improve passenger service".
"For cabin crew, it would be good to have the same requirements operational 4 than pilots, if not possible at least technical and medical terms, and specific phrases".
"We should have some kind of minimum level of knowledge".
"Yes, a standard level of English for everyone guarantees effective communication and teamwork".
"It is essential cabin crew know how to speak it at high levels especially in emergency/medical situations to avoid misunderstandings".
"I definitely agree. I believe it is an industry where the standardization of procedures implies that we all handle the same codes, so, it would undoubtedly contribute to operational safety".

Additional questionnaire statements revealed a strong desire among respondents for English training at least within their respective airlines, with 82% expressing a preference for such training tailored specifically for cabin crew roles. Interestingly, 84.5% of participants indicated a lack of existing English training opportunities within their airlines, while a mere 10% reported receiving some form of training, predominantly of a communicative nature.

Furthermore, an overwhelming 97.4% of respondents acknowledged the adverse impact of English barriers on safety and customer service.

Key Considerations for Addressing Lack of English for Cabin Crew Standardization

Transitioning to the conclusion of the initial segment of this paper, several key considerations merit attention. To address English-related challenges faced by cabin crew, it is proposed that international organizations consider formalizing an industry-standard language protocol akin to those established for pilots and air traffic controllers. Alternatively, the formulation of regulatory guidelines pertaining to emergency commands, medical terminology, hazardous materials, numerical communication, and other pertinent aspects of cabin language, including customer service and managing disruptive passengers, could prove beneficial.

Collaboration with international regulators is deemed essential to advance these proposals and gradually integrate Cabin English Training into airline annual recurrent programs and/or training for Cabin Crew. Additionally, mandating the inclusion of English for Cabin Crew within airlines' introductory and recurrent training frameworks would serve as a positive step toward mitigating language barriers within the aviation sector as well as addressing challenges encountered in English for Cabin Crew members training.

English for Specific Purposes (ESP) Teaching for Cabin Crew

Another challenge inherent in English instruction for cabin crew pertains to pedagogy. Teaching English for Specific Purposes (ESP) diverges from the methods utilized in teaching General and/or Plain English. According to Hutchinson and Waters (1987), ESP is characterized as "an approach to language teaching in which all decisions as to content and method are based on the learner’s reason for learning." Strevens (1988), in a similar vein, defines ESP as "a particular case of the general category of special-purpose language teaching, with the same principles applicable regardless of the language being learned and taught."

Both Strevens (1988) and Hutchinson and Waters (1987) identified key distinguishing features of ESP, including:

- ESP is tailored to address the specific needs of learners.
- ESP aligns its content with particular disciplines, occupations, and activities.
- ESP is distinct from General English.
- ESP may focus solely on the acquisition of targeted learning skills.
- ESP emphasizes language usage relevant to designated activities, encompassing grammar, vocabulary, register, study skills, discourse, and genre.
- ESP may employ different teaching methodologies compared to those utilized in General English instruction.
- ESP is typically geared towards adult learners in professional contexts.

In light of aviation English instruction targeted at cabin crew members, it is imperative to underscore the aforementioned characteristics. Drawing from professional experience, these features manifest themselves tangibly in ESP instruction. Indeed, examples pertinent to teaching English for cabin crew within the aviation domain include:

ESP's alignment with the specific needs of learners, with many cabin crew members and pilots requiring English proficiency for their roles, prompting a preference for ESP-focused instruction rather than General English.

ESP's content relevance to particular fields, such as aviation, necessitating targeted language instruction tailored to the syntax, vocabulary, and discourse utilized in cabin crew duties.

The utilization of distinct teaching methodologies in ESP instruction, such as drilling, repetition techniques, audio-visual materials, language transferring (L1<>L2) to avoid false friends, and listening comprehension strategies, tailored to the specific demands of the aviation context.

ESP's applicability to adult learners in professional contexts, reflecting the prevalent demand for specialized language training to enhance job performance.

The teaching ESP entails a distinctive pedagogical approach, as delineated by Dudley-Evans (1998), which diverges from conventional methods employed in General English instruction. ESP instruction emphasizes contextualized learning, wherein teaching activities are situated within relevant subject matter to facilitate the acquisition of language or skills. Authentic topics and material pertinent to the subject area serve as vehicles for conveying substantive content.

The methodology and content utilized in ESP instruction are wholly contingent upon the learner's specific objectives for learning English. For instance, in the case of cabin crew members, acquisition of fixed expressions is crucial for effectively managing onboard situations. Methodological techniques such as drilling, repetition, and role-playing are commonly employed in ESP instruction to reinforce learning outcomes.

ESP instruction constitutes an evolving process, continually shaped by evolving societal needs and labour market demands. The overarching challenges in teaching ESP encompass the refinement of pedagogical approaches, the development of innovative teaching methodologies, and the adaptation of teaching materials to suit the specific needs of learners. Although the objectives of teaching ESP have been discussed, Hutchinson and Waters, (1987) provide us a few theories related to the objective of teaching ESP. They stated that ESP should teach English to the students based on their discipline, in order to develop their underlying competences. Therefore, teaching ESP should be oriented to the goal of the learner which is the language usage in their field of study or work. Further, there are several aspects to consider in the teaching process of ESP:

- ESP instruction prioritizes the learner and their ultimate learning objectives.

- Emphasis is placed on language usage within contextual frameworks rather than isolated grammar instruction, with materials crafted to create meaningful contexts for learners.
- Effective interaction among participants is promoted, with collaborative group work encouraged to facilitate mutual learning.
- Learners' self-confidence, motivation, and autonomy are nurtured through the immediate applicability of acquired language skills to their professional roles.
- Specialized vocabulary acquisition is emphasized to enhance learners' professional competence.
- Utilization of authentic, real-life materials and multimedia technologies enriches the learning experience.
- Learners are encouraged to develop self-learning and self-evaluation skills to foster lifelong learning habits.

Difficulties and Strategies in ESP for Cabin Crew: Insights from Argentinian and Italian Educators Survey

While English as a second language (ESL) instruction typically encompasses all four language skills (listening, reading, speaking, and writing), ESP instruction may prioritize specific skills essential to learners' professions. For instance, speaking and listening skills are of paramount importance for cabin crew members, necessitating tailored instruction to enhance effective communication in professional contexts. Learners engage in practice exercises utilizing fixed phrases pertinent to real-world scenarios encountered in their professional roles.

English lessons tailored for cabin crew must be carefully designed to address their specific needs. An exemplary lesson or study unit for cabin crew could resemble the following example:

The study unit should centre on the routine tasks performed by cabin crew during flights, such as addressing "seat problems". This *scenario* should be contextualized, with potential solutions to these issues identified and articulated in English. Flight attendants are anticipated to familiarize themselves with predetermined phrases and employ them during in-class practice sessions. Techniques such as *role-playing* and *drilling* may be utilized in this form of cabin crew English training.

However, teachers encounter several challenges when training cabin crew in English, including the need for specialized ESP lesson planning, inexperience in ESP teaching, and a dearth of real-life or situational specific materials tailored to cabin crew contexts. Addressing these challenges necessitates meticulous planning and preparation, as well as ongoing professional development to enhance instructional efficacy.

A survey was conducted among Argentinian and Italian educators to re-affirm the assertions made in this study. Findings revealed that the majority of respondents possessed a college or university degree, with a significant proportion primarily engaged in teaching General English. Only a minority, comprising 19% of the surveyed cohort, reported teaching both ESP and English for Cabin Crew. Notably, educators specializing in ESP were notably fewer in number compared to those primarily focused on General English. Respondents cited challenges such as unfamiliarity with subject matter and specific terminology, the need for extensive time and lengthy research in lesson planning, and the difficulties to foster student motivation. Bullock (2016) claims there are books available but these do not always provide appropriate materials for every student. Teachers may therefore have to consider preparing a lot of material themselves whilst ensuring it meaningful and contextually authentic in order to be more motivating for the student.

Key Considerations for Addressing Teaching English for Cabin Crew Challenges

Transitioning to key considerations for addressing these teaching challenges, careful consideration is warranted when planning English for Cabin Crew lessons. Educators must

ascertain the specific English language requirements of cabin crew members, determining whether ESP is requisite for immediate application within their professional environment. This entails focusing on requisite skills, specialized vocabulary, and on-board communication norms. The creation of tailored content, including provision of *cabin-specific language* and accent training, is essential to meet learners' needs and foster motivation. Emphasis on vocabulary acquisition, emergency procedures, and *cabin-specific language* forms the nucleus of ESP training, with instructional techniques such as drilling, repetition, and utilization of authentic materials enhancing learning outcomes. By providing learners with contextualized language *scenarios* and authentic materials, educators can maximize learning efficacy. For instance, real-life boarding passes and simulation cabin equipment are invaluable resources for practicing customer service interactions and emergency procedures in English. Ultimately, the culmination of such specialized training provides cabin crew members with expertise in *cabin-specific language* and enhances their proficiency in communicative, teamwork, and interpersonal skills, thereby facilitating their effective performance in their professional roles. Moreover, the selection of teaching materials should be guided by the need for authenticity and relevance, with texts carefully chosen to introduce language structures pertinent to the ESP specialization. Materials should regularly be updated to target current labour market demands and align with learners' professional interests.

According to ICAO DOC 9835, it is stipulated or recommended that, "All speakers must adhere to pronunciation patterns deemed acceptable by the broader international aeronautical community." Furthermore, to enhance listening, pronunciation, intonation, and accentuation skills, the utilization of multimedia technology can prove advantageous in strengthening cabin crew proficiency, as previously discussed. Several applications and software tools are commonly employed for this purpose. For instance, “Audacity” facilitates audio manipulation tasks such as shortening and merging audio segments, enabling the creation of cohesive audio materials. Similarly, “ChatGPT” is utilized to generate scenarios

and real-life situations, expediting lesson planning endeavours owing to its efficiency. Additionally, platforms like “Fiverr” offer access to a global network of freelancers, enabling instructors to commission the recording of safety announcements in diverse accents (e.g., Australian, South African, and British), thereby furnishing authentic materials for accent training and listening comprehension exercises with cabin crew learners. Moreover, attention is drawn to specific challenges associated with phoneme sounds (such as /**dʒ/** as in passengers, oxygen, emergency, and engine, /**w/** as in window, wet, wing and row, /**v/** as in vest, over, voice and five, /**h/** as in hello, hand, how and hour, and /**θ/** as in three, throw, toothache and thanks), necessitating careful consideration and integration into English for Cabin Crew instruction.

Conclusion

In conclusion, the challenges surrounding teaching specific Aviation English for Cabin Crew are multifaceted and demand careful consideration. English proficiency is paramount for cabin crew members. However, the absence of standardized training programs and official assessments poses significant obstacles in achieving proficiency among cabin crew personnel. Addressing these challenges requires concerted efforts from international organizations, airline operators, and regulatory bodies. Standardizing English training protocols and integrating Cabin English into airline training programs are essential steps toward bridging existing gaps. Collaboration with civil aviation authorities is crucial to ensure regulatory support and enforcement of language proficiency standards for cabin crew. Furthermore, the pedagogical challenges of teaching ESP to cabin crew necessitate tailored instructional approaches and materials. ESP instruction should prioritize contextualized learning, specialized vocabulary acquisition, and practical communication skills relevant to cabin crew duties. Educators must utilize innovative teaching methodologies and authentic materials to enhance learning outcomes and foster motivation among learners. Moreover,

leveraging multimedia technology can enhance pronunciation, accentuation, and listening skills, addressing specific challenges associated with phoneme sounds.

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English Language Needs of Aircraft Mechanics: A Triangular Approach to Determining Language Needs in Aircraft Maintenance

INGRID SEKELOVÁ[1]
Faculty of Aeronautics, Technical University of Košice, Slovakia
ingrid.sekelova@tuke.sk

Abstract

This research, which was presented at the ICAEA Conference 2023, focused on the target situation analysis of aircraft mechanics' language needs in the Slovak Republic. In the form of a triangular approach, the issue was studied from three different viewpoints. Firstly, the perspective of managers, heads of maintenance, and aircraft mechanics at Slovak MROs was determined by informal interviews. Secondly, document analysis permitted the determination of language features that are present in aircraft manuals and task cards. Lastly, a third viewpoint was a questionnaire that was distributed to the aircraft mechanics. 80 responses were analyzed by means of descriptive and inferential statistics. The results determined that the skill of reading is the most needed for everyday tasks of aircraft mechanics. An evaluation of various communication activities was performed as well, and it revealed that there is a need for all language skills. This research also paid attention to the attitudes of aircraft mechanics toward the role and use of the English language in aircraft maintenance. It is viewed that with the use of these results, it is possible to further determine which language features have to be addressed by the courses to prepare the participants of specialized English courses for the communication of aircraft mechanics. These results can interest language teachers, who lack the appropriate amount of time to perform a similar study, or students who aspire to work in aircraft maintenance and can better understand the nature of communications in this job.

Background Knowledge

When it comes to the use of the English language in aircraft maintenance, it constitutes an inevitable part of tasks that have to be performed by aircraft mechanics. In this paper, the term *aircraft mechanic* is understood as all licensed or unlicensed aircraft mechanics and aircraft maintenance technicians who need to consult and work with written aircraft manuals while performing any type of aircraft maintenance. Regardless of the country in which aircraft mechanics work, they come into contact with the English language every day. To perform a task requiring a certain type of maintenance, it is first necessary to consult the manual which is standardly written in the English language as well as all other technical documentation that is needed during work tasks. Manuals and other technical documentation

[1] Ingrid Sekelová is a PhD canditate at the Faculty of Aeronautics at the Technical University of Košice, Slovakia. She holds a Master's Degree in English and French translation and interpretation and focuses her dissertation thesis on the implementation of language needs of aircraft mechanics in the education process.

are very rarely translated into native languages as quality translations are very costly (Friginal et al., 2020).

Simplified Technical English

Around 80% of all aircraft mechanics worldwide are non-native speakers of English which supported the development of Simplified Technical English (STE) (Friginal et al., 2020). This variation of the English language aims to ease the understanding of aircraft manuals which should be written in STE. According to STE, the language used in manuals is supposed to follow the rules of STE, such as no use of modal verbs or that every word has only one meaning (Aerospace and Defense Industries Association of Europe [ASD], 2021). The end user of the manual, which is written according to these rules, does not have to perceive that it is written this way (Knezevic, 2015). However, additional efforts have to be implemented in the process of writing such a manual in accordance with STE. Although aircraft manufacturers often do not comply with these rules as they may seem unnatural for native speakers and require additional effort. Consequently, the inconsistent use of STE by aircraft manufacturers does not follow the basic aim of STE to make the text easier to understand. Even if the manufacturers started to use STE consistently in the coming years, many aircraft that are going to still operate will have manuals that do not comply with STE. Similarly, as with the translation of manuals, rewriting them to the STE standard would require a lot of investment time and money (Friginal et al., 2020).

Even though STE focuses on the readability of manuals, it cannot handle every issue that non-native English speakers may encounter as mechanics. Shorter sentences and words ought to be simpler to understand in general, but language complexity is only one factor in the overall difficulty of reading written text. Most of the academic English that is taught in schools does not mimic STE standards or the technical language found in manuals. For example, the way manuals connect ideas should be taken into consideration when creating a

language course for aircraft mechanics. Study materials for language classes should reflect the reading complexity of aircraft manuals (Friginal et al., 2020). One of the issues with aircraft manuals is also the terminology used. The terminology present in manuals is mostly formed by long multi-word terms which may require additional knowledge to refer to them correctly. The difficulty is even more elevated as the terminology is very diverse (Borowska, 2021).

In addition, there is a general recommendation to use STE in written documentation. The purpose of STE is to write technical texts in a clear, simple and unambiguous manner. It contains various writing rules and a dictionary of approved words. An example of a STE rule is to use only the active voice in procedural writing: “Use the active voice as much as possible in descriptive writing” (ASD, 2021). Unfortunately, according to previous research, not all manuals comply with these rules (Friginal et al., 2020).

Legislation

According to ICAO Annex 1 (ICAO, 2018), which outlines the licensing of personnel, or ICAO Document 9835 (Manual on the Implementation of ICAO Language Proficiency Requirements) (ICAO, 2010), the ICAO language requirements do not apply to aircraft mechanics' language proficiency. Although ICAO does not officially state that these requirements are valid for aircraft mechanics, EASA Member States follow the additional document no. 1321/2014 on maintaining the airworthiness of aircraft and products, parts, and equipment of aviation technology and on the approval of organizations and personnel involved in these activities (EASA, 2014). According to this document, if a holder of an aircraft maintenance license cannot read, write, or communicate in the language used for the technical documentation and procedures required for the issuance of the certificate of release to service, they are not permitted to exercise his privileges (EASA, 2014). While recognizing the importance and need for the language used in technical documentation and procedures,

which is mostly English, there is no other way to determine whether an aircraft mechanic's level of English is sufficient.

There are missing guidelines from such organizations that would define what English knowledge is needed for aircraft mechanics. ICAO Circular 323 AN/185 (ICAO, 2009) provides guidelines for Aviation English training programs for pilots and air traffic controllers. Some of the guidelines apply to language training in aircraft maintenance, however, the main focus is on pilot-air traffic controller communications. Language courses for other aviation personnel should follow similar structures and should be focused on the actual language needs of a particular profession. However, these needs of aircraft mechanics are not specified (Sekelová et al., 2022).

According to a survey conducted by EASA in 2018 (EASA, 2018), the majority of respondents consider the development of a system for determining the level of English for aircraft maintenance to be urgently needed. They recommend that similar provisions to those currently in place for pilots and air traffic controllers be used and suggest that national aviation authorities verify the level of English before issuing a license. The results of this survey state that the aircraft maintenance community sees the importance of the English language and they consider it necessary to include the English language in the basic syllabus of Part 66 and also check the level of English before delivering the aircraft maintenance license.

The lack of language requirements for aircraft mechanics prompted the Civil Aviation Authority of Malaysia (CAAM) to adopt language requirements for aircraft mechanics in 2014 (Department of Civil Aviation Malaysia [CAAM], 2014). The reason for this decision was some accidents that were caused by the lack of knowledge of English and also the declining knowledge of English in Malaysia. The rating system was inspired by Document 9835, which adopted the ICAO language proficiency rating scale and designated Level 4 as

the operational level. The requirements for aircraft mechanics do not include radiotelephony or standard phraseology. CAAM recognizes the importance of all four language skills, especially reading, for aircraft mechanics. The validity of such a language certificate provided by approved training organizations would have a similar validity to the validity of certificates for pilots and air traffic controllers. Level 4 is to be reviewed after three years, level 5 after five years and level 6 is to be valid indefinitely. Individuals must have prior knowledge of English to apply for admission to aircraft mechanic training (CAAM, 2014). Malaysian training organizations would welcome guidance material from ICAO on the specifics of English language training for aircraft mechanics (Dilong Training Services, 2013). Malaysia has developed the Aviation English Language Proficiency Assessment (AELPA) as equivalent to the ICAO language requirements, but it focuses on all four language skills (Jalal, 2019). AELPA requires aircraft mechanics to master four language skills, unfortunately, CAAM does not provide as detailed guidance on language requirements as ICAO in its Document 9835.

Although both EASA and the aircraft maintenance industry are aware of the importance of the English language for aircraft mechanics, it appears that the adoption of minimum English language proficiency requirements will take several more years. The lack of legal requirements for the English level of aircraft mechanics results in a lack of specialized language courses for aircraft mechanics. Some aviation English courses available are aimed at pilots and air traffic controllers, whose communication differs considerably from that used in aircraft maintenance (Friginal et al., 2020).

Lack of Specialized Courses

Lack of specialized courses for aircraft mechanics could be caused by the lack of requirements together and missing guidelines. For instance, a testing center from Argentina (Helguera, 2019), first started to provide language exams for pilots and air traffic controllers but encountered a demand for tests and courses specialized for aircraft mechanics. They

pointed out the missing guidelines for such courses, the same was mentioned as language institutions in Malaysia that implemented certification of aircraft mechanics' English in a similar form that is existent for pilots and air traffic controllers based on ICAO Language Proficiency Requirements.

Despite the lack of language requirements for aircraft mechanics, those interested in working in the aircraft maintenance industry may want to improve their English language skills. Their options include self-study or attending language schools, but it is important that they improve not only their knowledge of general English, but also specialized terminology and grammatical forms that occur, for example, when working with manuals and other technical documentation. To improve your professional language, we can consider it useful to take an English language course, which is specialized for aircraft mechanics. Such a course should address the grammatical structures, vocabulary and communication situations encountered by aircraft mechanics during their work.

Currently, in Slovakia, none of the certified training institutions provide language courses for aircraft mechanics, therefore, Slovak aircraft mechanics who want to study specialized English have to look for options in other countries. For Slovak aircraft mechanics who would like to improve their English, online courses that they can take from the comfort of their homes or a course in the Czech Republic are probably the most accessible, as the opportunities for such education are considerably limited in Slovakia. Despite the lack of human contact, the researcher perceives online courses as the most suitable for working aircraft mechanics, who may be attracted by the time flexibility of such courses. According to the researcher, the possibility of self-study using access to the online platform, combined with face-to-face lessons organized by language schools, can achieve the most results. The current situation inspired the present research, the aim of which was formulated as determining the language needs, communications activities, and attitudes of aircraft mechanics in Slovakia.

Needs Analysis

Conducting a needs analysis is a critical phase in devising a tailored curriculum, as it identifies the requirements of a particular profession, enabling these needs to be incorporated into the curriculum design. Over time, various methodologies for needs analysis have been refined and expanded, enhancing the efficacy of identifying these needs.

As indicated by Brown (2009) the objective of a needs analysis is to collect data regarding the linguistic requirements of a specific group. This process involves the systematic gathering and subsequent examination of both quantitative and qualitative data, which is essential for the development of an appropriate course. The needs that are uncovered through this process are then transformed into educational goals, forming the foundation for the development of instructional materials, evaluations, and assessment methodologies. The evolution of needs analysis methodologies has been significant, transitioning from initial reliance on educators' intuitive judgments to more formalized procedures as a crucial component in the development of courses for English for Specific Purposes (ESP), as referenced in West (1994).

Carrying out a needs analysis only in the form of a questionnaire for students, where the questions are devoted to what the students would like to learn, will not show sufficient information about language needs. Such analyzes only show the current needs of students and not the future needs that will await them after the course ends. When creating an ESP course, the survey of students' opinion is very important, but it should not be the only component on which the course should be based. The problem is that the creators of such courses do not have space for discussion with skilled creators of ESP courses and also often have limited knowledge about the given profession, which causes students to be their only sources of information about the given profession (Anthony, 2018).

Figure 1, based on Brown's (2009) framework, presents a comprehensive approach to conducting needs analysis for specialized language courses. It integrates various analytical perspectives to thoroughly understand and address the requirements of learners. The methodology encompasses an evaluation of both the current abilities and future needs of students, balancing objective criteria with subjective learning preferences. It also considers the practical aspects of course delivery, including environmental constraints and the applicability of content to real-world situations.

Figure 1. Framework for Needs Analysis in Language Course Development (Brown, 2005)

The analyzes shown in *Figure 1* can also be considered as types of needs analysis, but each of these approaches would not be a reliable indicator of language needs by itself. It is believed that a combination of these types would be the best practice in gathering all the necessary information to create a language course for professional purposes that would adequately reflect the needs of its participants. It is up to the course creator to decide on the

types of needs analysis they will carry out in their research, as each situation is specific and requires a specialized approach.

Needs analysis can be based on interviews, observations, or questionnaires. Needs analysis encompasses various different analyses, each focusing on different aspects that have to be considered during the development of a language course for specific purposes. Research presented in this paper is focused on target situation analysis and document analysis.

According to the previous research that conducted need analysis in aircraft maintenance, the results tend to vary. The most needed skill was determined as either listening, writing, or reading. Thesupposition was that the results prove that the reading skill is significantly more used than other language skills and that all language skills are crucial for aircraft mechanics.

Methodology

The research methodology employed in this study was designed to offer a comprehensive perspective on the linguistic needs of aircraft mechanics, utilizing a triangulated approach to enhance the reliability and validity of the findings. This triangulation method, combining qualitative and quantitative techniques, allowed for an in-depth exploration of the target situation analysis, effectively mitigating the inherent limitations associated with individual research methods. By the means of informal interviews, document analysis, and questionnaire, it was possible to look closely at the target situation analysis of aircraft mechanics (Korba, Sekelová, Mikula & Koščáková, 2023).

- Informal interviews were conducted with managers, heads of maintenance, and aircraft mechanics of the maintenance and repair organizations. These interviews were organized during site visits to various maintenance and repair organizations, ensuring a direct engagement with the operational environment. The interviews were focused

on four main topics: the nature and scope of training programs, the utilization and accessibility of technical documentation, the specific language requirements of the aircraft maintenance field, and the dynamics of working with international colleagues. During these interviews, the working operations of the companies were explained and interviewees expressed their point of view on the role of English in aircraft maintenance.

- Document analysis was conducted, wherein researchers were granted access to a range of operational documents that are integral to the maintenance and repair processes. This included an examination of task cards, worksheets, various aircraft manuals, and other procedural documents. The analysis of these documents offered a concrete basis for understanding the textual and linguistic demands placed on aircraft mechanics, highlighting the critical role of clear and precise language in ensuring the accurate execution of maintenance tasks and adherence to international safety standards.
- A questionnaire was self-administered at five maintenance and repair organizations and also made available in an online format to an additional two companies. The data were collected in one month and consisted of 80 responses from all male respondents This questionnaire was designed not only to determine the specific language needs in aircraft maintenance but also to collect crucial demographic information of the respondents. Additionally, it focused also on their individual attitudes toward the use and significance of English in their field. This data provides a broader perspective on the role of language in aircraft maintenance. The results were analyzed by inferential and descriptive statistics with the use of the statistical software Jamovi (2024).

Results

Informal Interviews

In this research, informal interviews explored the diverse aspects of aircraft mechanics' roles, focusing on their training, their interaction with essential technical documentation like aircraft and component manuals, task cards, and work orders, and their linguistic requirements in the context of international travel and collaboration with foreign colleagues, including the dynamics of working with non-native Slovak speakers. These discussions offered insights into the mechanics' language needs, informed by their educational background, daily operational challenges, and the multicultural nature of their work environment, thus providing an understanding crucial for developing effective language training programs tailored to the aircraft maintenance sector (Korba, Sekelová, Mikula & Koščáková, 2023).

Aircraft mechanics' training. During the on-the-job training of aircraft mechanics, they work with training manuals, which contain many technical descriptions and appropriate terminology. Before enrolling in such training, a previous knowledge of English is needed. The training is done in the native language of the country; however, the test and materials are in English. The respondents state that the mixture of both languages is not ideal, the instructors state that at least they are sure everyone understands what is being stated or explained during the training.

Written documentation. As already mentioned, aircraft mechanics come into contact with various written documentation in English, which is made available to them either in printed or digital versions. Some aircraft mechanics stated that some manuals from smaller producers for older aircraft use inconsistent terminology and are sometimes ambiguous. In such cases, aircraft mechanics stated that better knowledge of English helps them to resolve such situations more easily.

Language needs. Interviewees acknowledged the excessive need for understanding written text but also expressed the need for other language skills. They mentioned the

opportunity to participate in training abroad, which requires a good command of English, and also more job opportunities that come with fluent and broad knowledge of English. Despite the advantages of knowing English, aircraft mechanics were not very enthusiastic about studying English.

Cooperation with foreign colleagues. For some branches communication in English within the international company is inevitable. However, not all mechanics participate in such communications, which mostly occur via email or phone. Some companies have international teams of mechanics, who are mostly from Balkan countries. At all companies, interviewees agreed that in certain situations they have to cooperate with foreign colleagues on a specific problem which would not be possible without the common language which is English.

Document Analysis

Aircraft mechanics navigate through a wide range of documents essential for their daily operations, including task cards, work orders, and various manuals like aircraft maintenance, component, and troubleshooting manuals, primarily issued in English by aircraft manufacturers. Given the wide range of English proficiency levels among aviation personnel globally and the fact that a significant majority of aircraft mechanics are non-native English speakers, the aerospace industry has adopted STE to enhance document readability and comprehension. STE, developed to streamline technical communication, mandates concise sentence structures and a restricted vocabulary to minimize ambiguity, although its implementation across aviation texts remains inconsistent.

Standard aircraft manuals are organized to introduce the aircraft's sections and systems, coupled with detailed procedures and descriptions. These documents, which can be extensive, are designed with a clear table of contents, abbreviations, and a lot of illustrative tables and figures, facilitating easy access for mechanics. The manuals typically divide

content into descriptive sections that provide detailed narratives of parts and equipment, and procedural sections that guide mechanics through maintenance tasks with step-by-step instructions. Despite efforts to adhere to STE guidelines, the descriptive content often features more complex language compared to the straightforward, action-oriented procedural segments.

The challenge of fully comprehending these technical documents is increased for non-native English speakers, as academic English training does not always align with the technical language used in aviation manuals. The simplification of sentence structure and vocabulary, as advocated by STE, addresses only a part of the complexity included in technical texts. A closer examination of documents at aircraft maintenance companies revealed that chapters typically begin with longer, more complex narratives before transitioning to simpler, imperative procedural instructions, underscoring the need for language training programs that mirror the linguistic structure and difficulty levels of aviation manuals to better prepare aircraft mechanics for their roles (Korba, Sekelová, Mikula & Koščáková, 2023).

Questionnaire

The sample of the questionnaire was studied from three demographic points of view (see *Figure 2*).

- Considering the age of the respondents, there is a quite high number of younger mechanics aged between 19 and 30. This could indicate that this profession is attractive to the younger generation, which is crucial since the demand for skilled aircraft mechanics is predicted to increase in the upcoming years. In order to be skilled, they need to have proper knowledge of technical skills but also of the English language.

- When it comes to work experience, we can see a certain dedication to this profession as more than 30% of respondents have worked in the field for more than 16 years, from which 14% more than 26 years.
- . The majority of aircraft mechanics spend considerable time studying the language. However, an interesting finding about the years of studying English is that 12.5% of respondents studied English for 0 years, meaning that they either never studied the language, or they started to study it just recently.

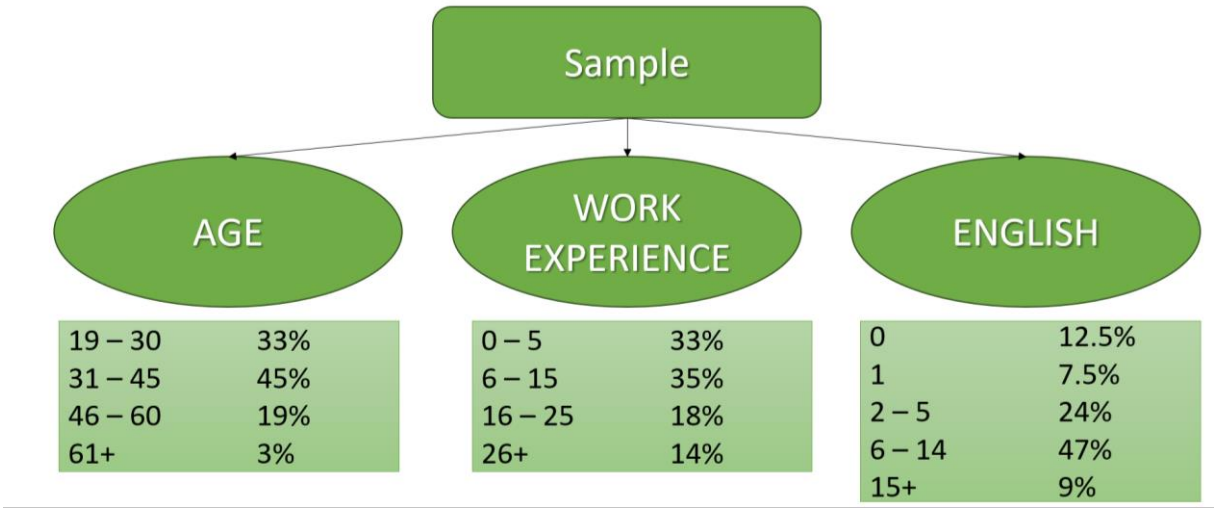
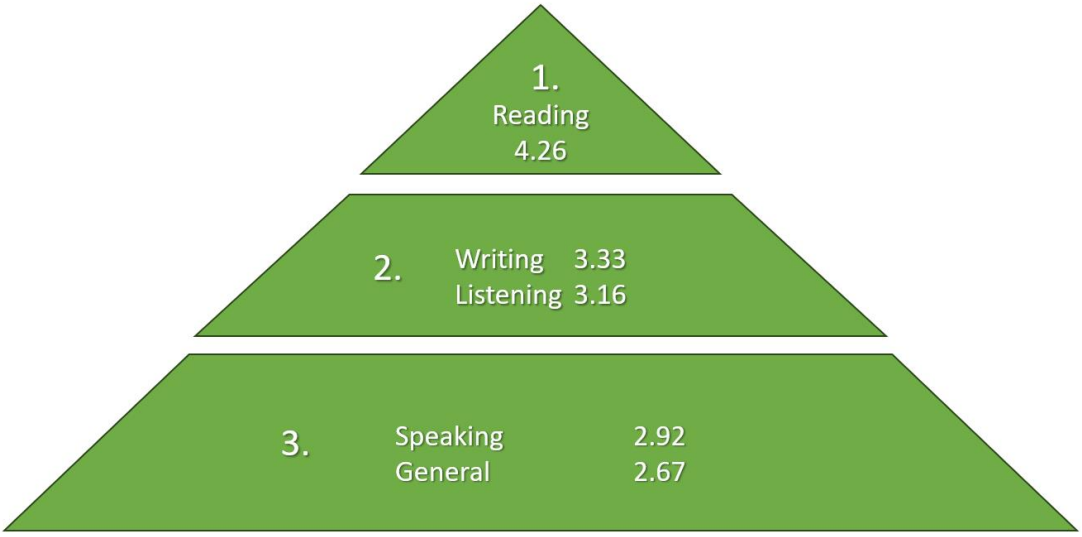


Figure 2. Demographical information

The questionnaire featured questions about all language skills with additional general skill. Each skill was characterized by several communication activities. The general skill was used to summarize the skills that are needed for overall communication in a foreign language and could not be placed under any other skill. Aircraft mechanics had to evaluate how frequently they engage in each of the communication activities by selecting a number on a Likert scale from 1 (never) to 5 (very often).

Based on these answers, it was possible to use inferential statistics and determine the most used language skill in aircraft maintenance (shown in *Figure 3)* . The lowest frequency



of occurrence received the speaking and general skill, followed by writing and listening. The most used language skill was determined to be the reading skill.

Figure 3. Relevance of language skills

Table 1 features, the first five most relevant communication activities, that were all related to the skill of reading, namely, reading and understanding aircraft manuals, written instructions, task cards, detailed descriptions, and emails. This only explains and proves the first position of reading skill as the most relevant skill for aircraft mechanics.

N	Type	Communication Activity	Mean
1.	Reading	Reading and understanding aircraft manuals	4.46
2.	Reading	Reading and understanding written instructions	4.39
3.	Reading	Reading and understanding task cards	4.24
4.	Reading	Reading and understanding detailed descriptions	4.21
5.	Reading	Reading and understanding emails	4.1

Table 1. Most relevant communication activities (1-5)

The next five communication activities are from other language skills, which means that all other skills are also needed and important (see *Table 2)*. Even though the general skill was previously categorized as the least often used, here we can see that a communication activity from general skill occupies the 7th place, above some of the writing and listening communication activities. In the following order, the communication activities are writing task cards, collaboration with foreign colleagues, writing reports, listening and understanding spoken instructions and writing descriptions of work done.

N	Type	Communication Activity	Mean
6.	Writing	Writing task cards	3.67
7.	General	Collaboration with foreign colleagues at Slovak maintenance organization	3.56
8.	Writing	Writing reports	3.51
9.	Listening	Listening and understanding spoken instructions	3.38
10.	Writing	Writing descriptions of work done	3.35

Table 2. Most relevant communication activities (6-10)

In *Table 3, there are* the last five communication activities, which are mostly from speaking skill, but also from listening and writing skill. The 11th place occupies talking with foreign aircraft mechanics, followed by listening and understanding informal language, writing emails, talking about work-related topics and lastly, spoken description of work done. These tables feature only the top 15 communication activities, not all activities that were included in the questionnaire.

It is important to keep in mind that in order to participate in each of these top 15 communication activities effectively, different language aspects are needed. When constructing a language course, focusing on mastering these 15 activities should help aircraft mechanics to communicate effectively in their work. While reading skill was denoted to be

the most relevant, other skills are also needed and should be included in the specialized language courses.

N	Type	Communication Activity	Mean
11.	Speaking	Talking with foreign aircraft mechanics	3.33
12.	Listening	Listening and understanding informal language	3.26
13.	Writing	Writing emails	3.19
14.	Speaking	Talking about work-related topics	3.17
15.	Speaking	Spoken description of work done	3.14

Table 3. Most relevant communication activities (11-15)

Attitudes of Aircraft Mechanics

It is in the interest of the aircraft maintenance companies and the aviation industry itself to promote positive attitudes of aircraft mechanics toward the English language. At present, there are no language proficiency requirements for aircraft mechanics, but it seems that they will be employed in the future. For the sake of safety, maintenance organizations already check the knowledge of English of their employees and therefore it is critical to continually improve one's knowledge in this language. The aviation industry should aim at achieving positive attitudes in aircraft mechanics as it can have a positive influence on safety, performance, and possible implementations of minimal criteria on English knowledge in the future.

The study of attitudes has been at the heart of psychological study for many years, as psychologists aimed at determining the factors that come into play in people's behavior and formation of attitudes. The relationship between attitudes and language learning is crucial as according to psychological theories, positive attitudes can lead to positive actions (Korba, Sekelová, Koščáková & Behúnová, 2023). Furthermore, with positive attitudes, aircraft

mechanics would be more open to the implementation of the minimal criteria of English knowledge and other necessary changes that are to come in the field of aircraft maintenance. At the same time, the attitudes of aircraft mechanics are important as non-compliance with safety regulations and procedures could lead to fatal accidents (Sit, Wong, Tong, 2013).

The attitudes of aircraft mechanics were determined based on their agreement with six statements provided in the third section of the questionnaire (see *Table 4)*. The agreement of aircraft mechanics with the statements had to be expressed on a scale of 1 (strongly disagree) to 5 (strongly agree). These statements were related to the importance of the English language in aircraft maintenance.

No.	Individual attitudes of aircraft mechanics	Average answer
1.	The safety of people on board is dependent on the work of aircraft mechanics.	4.78
2.	Aircraft mechanics should continuously improve their knowledge of the English language due to ensure safety in performing work tasks and aircraft operations.	4.14
3.	Participation of employed aircraft mechanics in specified English language courses for aircraft mechanic would be useful.	4.28
4.	Participation of aircraft mechanic fresh graduates in specified English language courses for aircraft mechanics would be useful.	4.24
5.	English knowledge of aircraft mechanics should be tested in order to issue an aircraft maintenance license (AML).	3.33
6.	Better knowledge of English improves work effectiveness.	4.2

Table 4. Attitudes of aircraft mechanics

The respondents reached a highest level of agreement with the statement, "The safety of people on board is dependent on the work of aircraft mechanics," which collected an average score of 4.78. This highlights the recognition of the critical role played by aircraft mechanics in ensuring the safety of individuals on board. With the understanding that the maintenance responsibilities can directly influence the safety of travel, the motivation to perform their duties in a safe and correct manner is elevated. The second statement is, “Aircraft mechanics should continuously improve their knowledge of the English language due to ensure safety in performing work tasks and aircraft operations” related to the responsibilities aircraft mechanics face while performing their duties. The English language is inseparable from aircraft maintenance and the agreement representing 4.14 upholds this.

Another finding is the inclination towards support for language proficiency initiatives, as evidenced by the average scores of 4.28 and 4.24 for the statements, "Participation of employed aircraft mechanics in specified English language courses for aircraft mechanics would be useful," and "Participation of aircraft mechanic fresh graduates in specified English language courses for aircraft mechanics would be useful," respectively. This implies a collective acknowledgment of the usefulness of English language courses in enhancing the competencies of both employed and freshly graduated aircraft mechanics.

Conversely, the statement, "English knowledge of aircraft mechanics should be tested in order to issue an aircraft maintenance license (AML)," received a comparatively lower average score of 3.33. This suggests a more reserved stance among the respondents regarding the necessity of formal testing for English proficiency as a prerequisite for obtaining an aircraft maintenance license. The reason for this lower score could be the concern about the system of testing that would be developed. Therefore, it is crucial to consider the views of aircraft mechanics and prepare a testing system that would reliably reflect the real-life use of the English language in aircraft maintenance.

Furthermore, the participants indicated a general inclination towards recognizing the correlation between English language proficiency and work effectiveness, as reflected in the average score of 4.2 for the statement, "Better knowledge of English improves work effectiveness." This underscores the perceived instrumental role of English language skills in optimizing performance within the domain of aircraft maintenance.

Based on the attitudes of the aircraft mechanics it is possible to state that they are well aware of their role in ensuring safety and the importance of English for this purpose. They expressed the need for constant improvement in English and they perceived a specialized English course for aircraft mechanics as beneficial.

Discussion

This study sheds light on the complex relationship between English proficiency and aircraft maintenance effectiveness, highlighting the need for improvements in current training methodologies and the potential benefits of enhanced language skills for career progression. One of the results of this research is that the current form of training is not ideal as it uses a mixture of languages. The written documentation can be sometimes unclear and is not written according to the recommendations and rules of STE. A good command of English makes it easier for aircraft mechanics to deal with such inconsistencies. Good English knowledge gives aircraft mechanics more options in their career growth, and they have to use it not only passively by reading but also by communicating with foreign colleagues.

The research identifies a mixed-language approach in training and occasional ambiguities in maintenance documentation, which sometimes deviate from STE standards, as key areas for improvement. It was observed that aircraft mechanics recognize the crucial role of English in maintaining safety and operational efficiency, showing a strong preference for specialized English courses designed for their professional needs. Despite acknowledging the

importance of English proficiency, there is a noticeable reluctance towards the idea of mandatory English certification, indicating a nuanced perspective on the value of language skills versus the apprehension surrounding formal assessments. Based on the attitudes of the aircraft mechanics it is possible tostate that they are well aware of their role in ensuring safety and the importance of English for this purpose. They expressed the need for constant improvement in English and they perceived a specialized English course for aircraft mechanics as beneficial. The EASA survey confirmed that the aircraft maintenance community sees the certification of English for aircraft mechanics as urgently needed, however, according to the aircraft mechanics such certification would not be that welcomed.

The research of language requirements of aircraft mechanics, aimed at identifying the most frequently used communication skills, provides valuable insights for refining English language training in this field. The findings indicate a predominant use of reading skills, with writing and listening also being important, whereas speaking and general language skills are less commonly used. This information is crucial for curriculum developers, guiding them to focus on the most relevant language skills for aircraft maintenance tasks. The positive attitude towards continuous language improvement and specialized training courses among mechanics highlights a collective acknowledgment of the importance of English for career advancement and the enhancement of safety and efficiency in aviation maintenance.

Nonetheless, the study's limitations, such as the gender homogeneity of the sample and its focus on the Slovak Republic, need to be taken into account when generalizing the results. The expected increase in global demand for aircraft maintenance personnel emphasizes the need for scalable and adaptable English language training solutions. Future research could build on these findings by examining the language needs and attitudes towards English proficiency among aircraft mechanics in a wider, more diverse international context. Such comparative studies could offer insights for developing more universally applicable English

training programs, further improving safety and efficiency standards in the global aviation maintenance industry.

Conclusion

Based on this research the lack of specialized courses could be improved by the international requirement for English certification of aircraft mechanics, however, this is a complicated issue that will require a well-thought system of testing and training. The requirement for certification can come from the civil aviation authorities of countries, which is already happening (e.g. Malaysia or Turkey). With the need for a certificate demand for such specialized courses would also increase. However, no requirements should be placed without proper guidelines that would address the form and content of such testing and training. The presented results could help with the development of specialized English courses. Based on the top 15 communication activities it would be possible to derive specific language abilities that an aircraft mechanic should have. Specialized language courses could address the mastery of these communication activities and thus, prepare aircraft mechanics for the communication situations which await them at work. However, there is still the issue of accessible materials that could be used in classes.

In further research, the researcher would like to conduct a more in-depth needs analysis that would focus on other aspects that have to be considered when creating a language course for specific purposes.

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A 360° Look at Language Anxiety among Ab-initio Pilots: How Can Pyramid Lesson Shapes and Technology Assist Us?

PETEK SIRIN[1]
Ozyegin University
petek.sirin@ozyegin.edu.tr

Abstract

Language anxiety has emerged as a noteworthy risk factor, potentially contributing to the risk of accidents or incidents in aviation. This intricate psychological phenomenon holds substantial implications for student pilots, particularly in relation to their speaking skills. This article probes the viability of enhancing students' speaking competence, fostering confidence, and alleviating anxiety. Critical strategies are examined, including the effective incorporation of class materials, the development of purposeful pyramid lesson shapes, and the integration of motivation-building feedback modes. This article seeks to provide valuable insights into navigating language anxiety in aviation training, aiming for an environment that promotes competence and confidence among ab-initio pilots.

Introduction

L2 Speaking Anxiety

In second language (L2) research, the term 'speaking anxiety' is commonly employed to describe the apprehension, fear, or nervousness experienced by L2 learners during oral communication (Horwitz et al., 1986). It is a psychological phenomenon widely observed in second language learning and performance, presenting a prevalent concern. Chen et al. (2022) have highlighted a significant negative correlation between language anxiety and speaking skills. Higher levels of language anxiety are linked to diminished performance in speaking skills.

With regards to the root causes of the L2 speaking anxiety, Young (1990) indicated that these emotions may stem from external and/or internal factors, including the anticipated negative evaluation from teachers or peers, the evaluative nature of the L2 communication setting, limited

[1] Petek Şirin is an Aviation English trainer, examiner, and teaching & learning unit specialist at Ozyegin University. She holds a BA in English Language and Literature from Hacettepe University, an MA in TESOL from Aston University, and the DELTA qualification. She has recently completed her second master's degree in aviation management.

L2 knowledge, and unfamiliarity with a given topic or task. Woodrow (2006) made a crucial distinction by categorizing anxious individuals into two groups: those grappling with skills deficits and those contending with inference retrieval challenges. The former group attributed their speaking anxiety to a lack of practice in verbal proficiency, while the latter felt that anxiety impeded their capacity to recall and express previously acquired knowledge.

Öztürk (2009) conducted a study exploring the factors influencing foreign language speaking anxiety and how students in Turkey perceived it. The research, which involved 383 students, revealed through qualitative analysis that speaking skills were a primary source of anxiety for most students. Additionally, factors such as fear of pronunciation errors, failure to respond to questions immediately, fear of making grammatical mistakes, and concerns about negative evaluation were identified as significant contributors to foreign language speaking anxiety among the participants.

Another study by Cagatay (2015) found that students tend to experience higher levels of anxiety when speaking with native speakers compared to their interactions with peers who share the same language. The study suggested that students should be actively encouraged to engage in authentic conversations with native speakers in informal settings. Real-life experiences, where students can interact meaningfully with native speakers, were emphasized as crucial for building confidence and competence in communication with native speakers.

The observed language anxiety and its impact on speaking skills in second language learning have parallels in the aviation context, particularly among ab-initio pilots. Applying these findings to the context of Aviation English, one can argue that anxiety significantly hampers the path to proficiency. Language anxiety can hinder effective communication in a second language, meaning ab-initio pilots may experience speaking anxiety when engaging in radio communication

or cockpit interactions in a language they are learning. The factors influencing language anxiety in second language learning can be applied to this context. Ab-initio pilots may face apprehension and nervousness due to the evaluative nature of radio communication, potential negative evaluation from air traffic controllers or pilots, and the unfamiliarity with specific aviation terminology or communication procedures. Additionally, the pressure to convey critical information accurately and promptly during flight adds another layer to the challenges ab-initio pilots may encounter.

In high-stress situations, pilots experiencing anxiety may face challenges in expressing themselves clearly, potentially resulting in misunderstandings and safety risks. Furthermore, anxiety has the potential to disrupt cognitive processes, making it difficult for pilots to recall and appropriately use aviation English terminology and phraseology. Elevated anxiety levels may also compromise the decision-making abilities of student pilots, particularly in critical situations. Processing information rapidly may become challenging for anxious pilots, leading to delayed or incorrect responses. Therefore, addressing learners' anxiety and cultivating a supportive learning environment becomes imperative to ensure effective language acquisition and overall success in pilot training (Şirin,2023).

Use of Mobile Phones

One learning tool which may help to alleviate learning anxiety is the cell phone. The integration of cell phones into the classroom environment has introduced a myriad of functions that extend beyond mere communication. These devices have become versatile tools, serving as word processors for notetaking, facilitating research opportunities through access to vast information databases, and offering comprehensive dictionary functions to aid students in enhancing their vocabulary and comprehension skills.

Traxler (2009) has indicated the transformative potential of mobile phones. In their study, Thomas & O'Bannon (2013) have also pointed out the "anywhere-anytime" approach to learning as the use of mobile phones empowers students to access educational resources beyond the limitations of the traditional classroom setting. This approach additionally fosters personalized learning experiences tailored to the unique needs of each student (Traxler, 2009).

In a study conducted by Tıkaç (2020) involving 26 ab-initio pilots, the focus was on personalized learning and practicing speaking skills. A significant majority, 96.1% of the students, perceived that they were provided with ample speaking opportunities using technology. The study suggests that utilizing a tool with individualized characteristics like a cell phone could enhance the learning experience (Srivastava, 2005). Furthermore, the implementation of a portfolio system using mobile phones was identified as beneficial, offering students a chance for learner autonomy. This system allows students to showcase their work and progress independently.

Additionally, the study found that the teachers' concerns regarding technology, particularly mobile phones, were alleviated. Contrary to the perception of mobile phones as distracting, the study revealed that they had positive performance results. The findings suggest that mobile phones, originally viewed as problematic, can be socially constructed into effective learning tools within the classroom by relevant social groups. This highlights the importance of adapting educational strategies to leverage technology and incorporating it into the learning environment effectively.

How Pyramid Lesson Design Works

Addressing language anxiety among ab-initio pilots can be tackled through carefully structured lesson designs such as the pyramid lesson shape. The pyramid lesson shape is a structured pedagogical approach characterized by a hierarchical progression of learning tasks with

foundational concepts forming the base and increasingly challenging material presented as students advance. This method organizes lessons into a pyramid-like structure, where learners begin with basic principles and gradually build upon them to achieve deeper understanding. It aims to provide a clear roadmap for learning by breaking down complex topics into manageable steps.

In essence, the pyramid lesson shape is a form of PPP (Present, Practice, Produce). However, in the context of Aviation English, there is more emphasis on providing the field-specific vocabulary and content to ensure optimal production outcomes. Unlike traditional PPP models, where the focus gradually shifts from presentation to practice and finally to production, the Aviation English variant emphasizes the establishment of a solid foundation in field-specific vocabulary and content information right from the outset. This foundational aspect forms the base of the pyramid, ensuring that students have ample opportunities to familiarize themselves with the specialized language and concepts in the field of aviation. By prioritizing this foundational phase, students are better equipped to engage effectively in the subsequent practice and production stages of the lesson.

Moreover, technology can be effectively integrated into the stages of pyramid lessons to enhance the quality of production. Whether through interactive simulations, recording tasks using mobile phones, online resources, or collaborative digital platforms, learners can be offered dynamic and engaging opportunities for practice and application. This step-by-step progression allows students to thoroughly grasp fundamental concepts and have a sense of confidence in their abilities as they prepare to tackle the challenges of the production stage. Additionally, by breaking down information into digestible segments, this approach enables students to alleviate anxiety tied to information overload during the production phase. Another huge benefit of this approach is the collaborative dimensions. As students go through the stages, the collaborative environment serves

as a support system, facilitating the sharing of ideas, ultimately decreasing the level of stress. Below the stages of the pyramid lesson are explained step by step.

Setting the Stage with Unassessed News Reporting Activity

In our endeavor to refine students' communication skills, we have implemented a structured approach to start the lesson. Students embark on a news report activity that intentionally remains unassessed. This deliberate choice is made to create a low-stakes environment, where learners are liberated from the pressure of evaluation. As a result, students feel more at ease expressing themselves, fostering a mindset that is conducive to risk-taking. The absence of assessment in the initial news report activity serves as a strategic move to mitigate anxiety. Understanding that their performance is not scrutinized allows student pilots to view their mistakes as opportunities for learning rather than hindrances to success. This shift in perspective encourages students to engage more authentically in the learning process. In this activity, two students are given a week to prepare 2-minute presentations on noteworthy events occurring within the same timeframe. These events may include accidents, incidents, changes in the rules and regulations, or shifts in operations. This intentional timeframe provides students with the opportunity for in-depth research, ensuring that their subsequent presentations are well-informed and engaging. The main aim of this activity is to cultivate students' speaking skills and reduce their stress. By giving students a week for preparation, they are afforded the time to refine their research, structure their thoughts, and practice their delivery.

Target Vocabulary Implementation

This stage builds the foundation for learners to understand and use the target vocabulary they will encounter in upcoming listening and reading texts. By employing various techniques, we

ensure an engaging learning experience that promotes active participation and practical application of the language. Below are the techniques that can be applied at this stage to elicit and practice target vocabulary.

- Contextual Guessing: We utilize this technique to enhance learners' ability to deduce the meaning of unfamiliar words from the context in which they appear. This skill is vital for effective comprehension when exposed to new listening and reading materials.
- Discussion and Debate: We facilitate conversations and debates to actively involve learners in using the newly acquired vocabulary. It is useful as it fosters a deeper understanding of the words as learners apply them in meaningful contexts.
- Aviation Environment Familiarization: We employ visual aids to introduce and reinforce the names of components within the aviation environment. This visual approach enhances learners' ability to recognize and recall terminology.
- Checklists and Procedures: We focus on introducing vocabulary through common aviation checklists and procedures.
- Technical Documentation Analysis: We engage learners in the analysis of technical manuals and aviation documents. This approach introduces technical vocabulary as well as helping learners comprehend the language in authentic contexts.
- Vocabulary Quizzes: We conduct regular quizzes focused on aviation-specific terminology to reinforce learning. These quizzes serve as checkpoints for learners.
- Collaborative Learning: We promote collaborative learning through case studies or projects involving the application of aviation vocabulary. This collaborative approach not only reinforces language skills but also encourages teamwork and practical language use.

Comprehensive Language Skills Integration

This stage acts as a crucial transition following the vocabulary practice phase. It aims to integrate acquired vocabulary into broader language skills, focusing on reading comprehension and listening proficiency. Through the introduction of short reading texts, students gain linguistic content and background knowledge related to the theme of the week. This step moves beyond isolated vocabulary exercises by offering learners insights into the practical use of words within a broader context. Following the reading exercise, students engage in discussions centered around the theme. The questions explore various aspects, including the basic definition of the topic, how it occurs, its causes and effects, and potential solutions. This interactive discussion phase serves to reinforce newly acquired vocabulary while encouraging critical thinking and language application. After the discussion, students practice their listening abilities using audio content related to the same thematic focus. This approach enhances overall language proficiency and exposes students to diverse accents.

Mobile Empowered Reflection and Production Stage

After the integrated language skills stage, learners continue with a phase that emphasizes reflective learning and authentic production. In this stage, students engage in individual reflection on the studied topic, reviewing their session notes and contemplating newly acquired vocabulary. Then, they convene in groups for collective discussion before entering the production stage. This exchange of insights and perspectives not only enhances comprehension but also provides an opportunity for knowledge consolidation before moving into the production stage. When the discussion is over and students are ready, they individually record their responses using a voice recording application. Notably, the inclusion of background noise adds authenticity to the recordings, allowing for the assessment of students' focus and articulation amidst environmental

sounds. These recordings are placed in individual portfolios stored on Google Drive on a weekly basis. This organized digital approach facilitates easy access and serves as a chronological record of language progression, providing students and teachers with a valuable tool for monitoring growth. The importance of this stage is highlighted by its integration of technology, utilizing voice recording applications and Google Drive for portfolio management. These technological elements not only streamline the learning process but also create a digital repository for ongoing assessment and reflection. Additionally, the inclusion of background noise in the production stage serves as a deliberate strategy to prepare students for real-world communication scenarios, ultimately contributing to a decrease in language-related anxiety and fostering authentic language use.

Extended Language Exploration, Research and Assessment Phase

Following the in-class recordings (ICR), students receive a research question assignment as tasks outside the class, prompting them to conduct further research on the studied topic. This comprehensive language application phase is termed outside class recordings (OCR), which entails an assignment where students do further research related to the studied topic, often focusing on incidents, accidents, or procedures. Given as assignments outside the class, this task serves as an opportunity for further exploration of target vocabulary and content. Engaging in independent research allows them to deepen their knowledge and expand their language skills beyond the classroom setting. These recordings are then uploaded to the recording portfolio, where they undergo assessment. One of the biggest advantages is that these recordings capture their insights, analyses, and language application beyond the structured in-class environment. Notably, the significance of these recordings is heightened as they directly impact the students' overall course grade. The assessment of OCRs, given as assignments outside the class, serves as a key metric in

evaluating their language proficiency, research capabilities, and overall engagement with the course content.

Constructive Audio Feedback

In our continuous commitment to student growth, the language learning journey incorporates an innovative approach to feedback—audio feedback delivered directly to individual portfolios. Following the hamburger model, the feedback structure begins with positive remarks, transitions to areas for improvement, and concludes with encouraging reflections. This personalized approach, coupled with an open-ended question, aims to invite students into a dialogue, fostering reflection and a deeper connection with the learning process. More importantly, the use of audio feedback serves as a powerful tool in reducing anxiety and building a stronger bond between educators and students.

The initiation of the audio feedback process takes a deliberate positive tone. Recognizing and highlighting the strengths observed in the recorded materials sets the stage for a constructive and affirming dialogue. This deliberate choice cultivates an environment where students feel acknowledged and appreciated for their efforts. Transitioning seamlessly from positivity, the feedback continues in areas that highlight refinement. Delivered with tact and precision, this constructive segment articulates specific points for improvement, guiding students toward a deeper understanding of the nuances within their language proficiency journey. As the feedback unfolds, it seamlessly shifts back to positivity, focusing on the progress made by the student. A distinctive feature of this feedback model is the incorporation of an open-ended question. Positioned strategically at the conclusion, this question invites students into a reflective dialogue. It serves as a catalyst for self-assessment, encouraging students to contemplate their strengths, areas for improvement, and the overall feedback received.

Receiving audio feedback also holds a substantial advantage in enhancing pronunciation, aligning with the crucial objective of articulating words accurately and clearly in the process of language learning. Eksi & Yesilcinar (2016) underscore the pivotal role of technology in this endeavor, advocating that it facilitates effective modeling by teachers and enhances the development of pronunciation skills. The explicit and individualized nature of audio feedback, as highlighted by its ability to remind learners of specific mistakes and provide corrective guidance, contributes significantly to refining pronunciation. This approach creates a safe learning environment, alleviating the social anxiety associated with public correction and fostering a more focused, personalized learning experience. Tıkaç (2020) conducted a study with ab-initio pilots that aligns with the discourse on the efficacy of audio feedback in language learning. The findings of this research emphasize that 76.4% of students who attained a perfect score in pronunciation received audio feedback (Tıkaç, 2020). By offering a consistent and repetitive model, audio feedback aids learners in gradually overcoming challenges, ensuring a more effective language acquisition process.

Conclusion

The considerable influence of language anxiety on aviation safety, especially among student pilots, cannot be ignored. The suggested strategies including the strategic utilization of class materials, the creation of purposeful pyramid lesson shapes, and the incorporation of motivation-building feedback modes, offer practical solutions to tackle the issues. Through the implementation of these approaches, the goal is to boost the confidence and proficiency of student pilots, thereby fostering a safer and more efficient learning environment in aviation training.

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