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***A perceived needs assessment in the Italian aviation
context: attitudes towards ICAO language proficiency
requirements, testing and training with regard to job
security of pilots and air traffic controllers***

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List of Acronyms

AAIB	Air Accidents Investigation Bureau
ADREP	Accident/Incident Data Reporting System
ATCO(s)	Air Traffic Controllers/Air Traffic Control Officers
ATPL	Air Transport Pilot License
CBLT	Content-based language training
CPL	Commercial Pilot License
CRM	Crew Resource Management
ELPAC	English Language Proficiency for Aeronautical Communication
EOP	English for Occupational Purposes
ESP	English for Specific Purposes
FTO	Flight Training Organization
ICAEA	International Civil Aviation English Association
ICAO	International Civil Aviation Organization
LPRs	Language Proficiency Requirements
NS	Native Speakers of English
NNS	Non-native Speakers of English
PPL	Private Pilot License
RELTA	Royal Melbourne Institute of Technology English Language Test for Aviation
RTF	Radio Telephone

Abstract

In 2004 the International Civil Aviation Organization (ICAO) published a set of Language Proficiency Requirements and demanded that pilots and controllers working on an international setting demonstrate a basic level of language proficiency. The objective of this strengthened provision was to avoid language-related problems during air-ground communications and to highlight the crucial importance of English as a prerequisite to reliably perform this job.

This thesis begins with an approach focused on the students and aims at identifying the attitudes that Italian pilots and controllers have towards the ICAO language proficiency requirements in aviation. It will then go on to examine the attitudes towards the training provided in the context of aviation. Particularly, the objective was to investigate pilots' and controllers' opinions with regard to ICAO language descriptors and periodical test of English for Aviation seen as a short-term objective, and the perception of language proficiency as a long-term objective for successfully fulfilling future professional duties and as a sense of personal responsibility. The last part of the study aims at exploring the actual methodology used to teach aviation English. Data were collected through mixed methods. Qualitative data was gathered through focus groups, whereas quantitative data was collected by administering a survey questionnaire. As for the methodology in this area, data were collected through interviews to four teachers and then compared to the data collected from the students in the last part of the questionnaire.

The data collected demonstrate that pilots and controllers think that ICAO level 4 is a barely sufficient level of English to perform their job safely. Moreover, the general perception is that a higher level of language should be seen as a long-term objective in the field of aviation, because it is the only means to prevent dangerous situations during flight operations. As it turned out, the data gathered both through the focus groups and the questionnaires revealed no support for the central hypothesis of the

study, that is students consider the proficiency of English merely as a tool to pass the periodical LPRs test. Moreover, the information on the type of course and methodology applied in the aviation field confirm that pilots expect a course of aviation English to enhance speaking and listening abilities, completely fulfilling the ICAO requirement to adopt a communicative approach.

Introduction

Since the birth of the civil aviation in the '50s, English has been adopted by the international aviation community as the *lingua franca* in this working field. However, over the years several aviation incidents and accidents have occurred, and the triggering cause was identified in the inability to properly use the English language, especially by part of non-native speakers (NNS, henceforth). In 2004 the international Civil Aviation Organization (ICAO) published a set of Language Proficiency Requirements (LPRs, henceforth) and a Proficiency Rating Scale and mandated that pilots who fly internationally and air traffic controllers of its member states demonstrate a basic level of English language proficiency. To this end, ICAO announced that all pilots and controllers must reach a level 4 on the newly created Rating Scale by 2008, deadline extended to 2011 for some member states. *The Manual on the Implementation of ICAO Proficiency Requirements* (Doc 9835 AN/435, 2010), provides clear recommendation about the use of language during air-ground communications. Standard radiotelephony phraseology, a semi-artificial sub-language (Breul, 2013) used by pilots and controllers for standard, common and ordinary communications has the objective to make communications between operators clear, concise and unambiguous. However, radiotelephony (RTF, henceforth) phraseology does not constitute the major problem in the communications. A high percentage of incidents and accidents are, indeed, the consequence of the poor ability of pilots and controllers to convey messages in plain English, eg. to explain unexpected turn of events impossible to express by using the limited RTF phraseology. Therefore, it is necessary for pilots and air traffic controllers to achieve full competence on both standard radiotelephony phraseology and plain language. Of course, the implementation of the language proficiency can be considered a measure to avoid language-related problems during communications in flight and to highlight the crucial importance of English as a prerequisite to reliably perform this job.

The central hypothesis of this study, generated by the personal working experience of the author as a TEA (test of English for Aviation) examiner, is that pilots and

controllers limit their competence to the first of the two linguistic abilities, that is the use of standard phraseology. Too often it is actually considered by many pilots as a sufficient means to fly safely, whereas the second, more extended ability to speak plain language is still underestimated and sometimes the improvement of this language ability is merely seen as a short-term objective in order to pass the periodical assessment test.

In order to explore this hypothesis, the main issues addressed in this paper are firstly to observe the attitudes of pilots and controllers towards the LPRs mandated by ICAO, and secondly the type of methodology used by instructors to meet the perceived needs expressed by the candidates.

The study is divided into three phases. The first and second phases will answer the first three research questions and check the proposed hypothesis, taking learners as the center of the analysis. They try to identify the Italian ESL pilots' and controllers' attitudes towards the language proficiency requirements and testing set by the ICAO related to the appropriate level of English necessary to guarantee safety during flight operations. It was then important to find out whether the language proficiency is seen as a short-term objective for passing the periodical LPRs testing, or as a long-term objective for successfully fulfilling future duties as professionals in the aviation context. Moreover, opinions about the reliability of ICAO level 4 were analyzed.

The final stance of this thesis is aimed at answering the fourth research question. It is a presentation of pedagogical implications, particularly the need to consider aviation language from the perspective of an English for Specific Purpose (ESP) approach, hence with work-related objectives and a distinct methodology to be applied in order to respond to the central students' linguistic needs.

In chapter 1, the literature regarding the historical background and the ICAO foundation and the requirements set to contrast the severe accidents caused by the inconsistency or the lack of English language in the aviation context will be reviewed. The differences between Standard Radiotelephony Phraseology (1.3.1) and Plain language (1.3.2) are presented, and a definition of aviation English in the context of English for Specific Purposes based on the Bullock's (2015) model was outlined. Thus,

the ICAO Language Proficiency Requirements and the test of English for aviation will be presented, with particular attention to the TEA test (Test of English for Aviation) as one of the major assessment tests used in Italy. To conclude, a general overview of a course organization in the context of aviation will be discussed, starting from the specificity of the purpose of aviation to the syllabus design and the appropriate methodology to choose to teach this specific language.

In chapter 2, the methodology employed in the current research will be outlined. Thus, the research questions and the central hypothesis will be described (2.2), and a rationale of the mixed method applied in the research will be outlined. Data were collected through diversified methods. As for the perception of ICAO LPRs and the importance of mastering English at an appropriate level with a long-term objective, qualitative data were collected through focus groups, whereas quantitative data were collected by administering a survey questionnaire. Qualitative data related to the methodology used by teachers in this context were collected through personal semi-structured interviews.

In chapter 3, the data collected through focus groups, questionnaires and interviews will be analyzed through the creation of themes generated following the research questions order, and principally by using key words to create sub-themes to organize and present the data.

In chapter 4, the findings of the current research will be discussed. Hence, the data collected will be further explained and compared. Again, the data will be presented following the order of the themes and subthemes generated in the phase of data codification (paragraphs 3.2 and 3.4). In paragraph 4.2, the data will be illustrated in order to answer the first research question, whereas in paragraph 4.3, the data will be discussed in order to answer the second research question. In paragraph 4.4, the third and fourth research questions will be responded by comparing the results of the interviews with the insights provided in the last part of the questionnaires and in the focus groups. In paragraph 4.5, the limitation of the study will be briefly looked at. In the conclusion, some final remarks will be outlined.

1 Literature review

1.1 Introduction

The aim of the current chapter is to present the historical background of the institution governing this field, a general overview on the definition of aviation English, the language proficiency implementation proposed by the ICAO and the consequent impact on the teaching and assessment of English in the aviation context, as a result of the numerous aircraft accidents involving language factors happened over the last few decades.

1.2 Historical Background: the Chicago Convention and ICAO

The Chicago Convention took place on 1. November 1944 and was one of the most important meetings held internationally where representatives of different world Countries joined to discuss key issues related to aviation, in particular the importance of English as the language used for air-ground communications. Since UNO was established, in 1945, the need of a recognized aviation governing body able to manage and rule air transport was immediately apparent, and ICAO was founded two years later, in 1947. The first aim of the newly formed institution was, of course, that of setting international standards and procedures that could render the flight operations and interactions between pilots and air traffic controllers as safe and efficient as possible. As a result, ICAO established English as the official language of aviation for international flights. This was, actually, the first step taken towards the consolidation of English as a *lingua franca* in the international communication in aviation, in 1951.

Nevertheless, ICAO is only a division of the United Nations and it does not have regulatory control but a merely advisory function (Feldman, 1998). This is the same reason why Feldman (1998) criticized the fact that English could not this way be considered compulsory in aviation communication. The fact that such a

recommendation was not a mandatory rule caused a lot of deficiencies in the development of skills and proficiency in English, although skill-level requirements had never been defined, and training was designed to master standardized terminology, called Standard Radiotelephony Phraseology for radiotelephone communication (Uplinger, 1997). In 1998, ICAO passed resolution A32-16 that stated that “the Council was urged to direct the Air Navigation Commission to consider the matter of English Language Proficiency [...] and to strengthen the relevant provisions of Annex-1 & 10-obligating contracting states to take steps to ensure that air traffic controllers and flight crews involved in flight operations in airspace, where the use of the English language is required, are proficient in conducting and comprehending radiotelephony communications in the English language” (Friginal, Mathews and Roberts, 2020: 36). The characteristic of radiotelephony communication will be described in detail in paragraph 1.4.1., but according to Bullock (2015: 6) it can be defined as a “coded, fixed and restricted type of language”, that in many cases has led to communication errors that caused incidents and accidents because insufficient from a linguistic point of view.

Although recognized as a *lingua franca* on the international setting, before 2008 (2011 for some countries) regulatory specification for training and testing were lacking. Moreover, the ICAO did not mandate the use of English internationally for ATC communications, but only recommended communication in the language “normally used by the station of the ground” (Uplinger, 1997) causing in many cases inability to comprehend the message by part of every crew in the airspace.

Over the years, ICAO has recorded and investigated a great number of incidents and accidents, in flight and on ground. What has emerged from these investigations is that a high percentage of incidents and accidents, indeed, depended on the difficulty encountered by pilots and air traffic controllers to elaborate messages in plain English, e.g. to explain some unexpected circumstances not included in the phraseology. According to Uplinger (1997: 3) “ATC terminology is highly specialized and occurs infrequently in the general language, so mastery of ACT terminology

alone does not produce functional proficiency in English. A fairly high level of functional proficiency is needed to master ATC terminology¹ [...]”.

The importance of expanding the skills and abilities in the English language used in this peculiar context is that the mastery of phraseology combined with a good proficiency of English will result in a less stressful and more efficient management of unexpected, exceptional flight situations, or an effective use of it in a range of contexts, e.g. work-related.

Literature on the subject of English for Aviation divides into two definite time periods, and the watershed is represented by the announcement by ICAO in 2003 that all the pilots of its member states must demonstrate an operational level of English (level 4 of the ICAO language proficiency scale) by 5. March 2008, deadline that was later extended to 2011, because many member states found it difficult to respect the given timetable. “Proficiency standards developed by the International Civil Aviation Organization (ICAO) call for pilots on international routes, air traffic controllers and aeronautical station operators to speak and understand English at an “operational” level [...]” (Werfelman, 2008: 42). As demonstrated in paragraph 1.7.1, the need for plain language proficiency can arise quickly when on board, whenever an unexpected situation develops (idem: 43).

1.3 Defining aviation English

A common theme in the literature is to give an exact definition of what Aviation English is. The field covered by the term is quite wide, as it includes all types of language used by professionals within aviation domain, such as engineers, technicians, commercial staff, etc. Nonetheless, the sole focus of ICAO’s attention is the use of phraseology and plain language used by flight crew and air traffic controllers, and this thesis as well will provide information about language related to the latter figures.

¹ ATC terminology is used in some cases as a synonym of RTF standard phraseology

1.3.1 Standard Radiotelephony Phraseology

Standard radiotelephony phraseology can be defined as the semi-artificial sub-language (Breul, 2013) used by pilots and controllers to conduct standard, common and ordinary radiotelephony communications (RTF): “the purpose of phraseology is to provide clear, concise, unambiguous language to communicate messages of a routine nature” (ICAO, 2010: 1.1.3). During routine flight operations, pilots and air traffic controllers adhere to RTF phraseology which ICAO defines as “the formulaic code made up of specific words that in the context of aviation operations have precise and singular operational significance” (ICAO, 2010: 6.2.8.4).

According to Philips (1991 quoted in Breul, 2013:74) the main peculiarities of this semi-artificial sub-language are the following:

- Rules about the order of priority of different messages;
- Particular spelling code for letters and numbers;
- Rules for callsigns;
- Rules about message structure (syntax);
- Rules about the messages to be sent in a condition of emergency;
- A list of conventional expressions and their meanings;
- Phraseology.

It is clear that there are differences between general English and phraseology on every linguistic level (Breul, 2013). Considering a representation of the different levels in the terms described in the wheel diagram by Aitchison (1972), the “inner circles” represent the basic disciplines, such as phonology, lexis, syntax and semantics. In order to make a description of these disciplines in the aviation language clearer, some examples will be provided.

1. Phonology: pronunciation of the digits and letters is very specific.

1 – One	WUN
2 – two	TOO
3 – three	TREE
4 – four	FOW-ER
5 – five	FIFE

6 – six	SIX
7 – seven	SEVEN
8 – eight	AIT
9 – nine	NINER
0 – Zero	ZEE-RO

Figure 1-1 Aviation numbers

A- Alfa
B – Bravo
C – Charlie
D – Delta
E – Echo
F – Foxtrot
G – Golf
H – Hotel
I – India
J – Juliett
K – Kilo
L – Lima
M – Mike

N – November
O – Oscar
P – Papa
Q – Quebec
R – Romeo
S – Sierra
T- Tango
U – Uniform
V – Victor
W – Whiskey
X – Xray
Y – Yankee
Z – Zulu

Figure 1-2 Aviation alphabet

Pilots and controllers pronounce the words in a different way to prevent miscommunication. Not only, they also extend the words to be clearer and more specific to other pilots. An example of radiotelephony communications is the following:

- Tower, this is YANKEE ZULU ONE NINER NINER TANGO (YZ199T), ready for take off.

- Roger, YANKEE ZULU ONE NINER NINER TANGO. Proceed on runway ONE NINER RIGHT (19 Right).
2. Lexis: phraseology uses “specific expressions to convey meaning” (Breul, 2013: 75), that differ significantly from the expressions used in general English: e.g. *affirm* (yes, of course), *negative* (no), *roger* (confirm), *request* (I would like to, can I..?), *say again* (could you repeat, please?).
 3. Syntax: generally speaking, syntax in the phraseology is very simplified resulting in a reduced vocabulary (about 400 words), very short sentences with deletion of function words and prepositions (*climb 150; cf climb to [flight level] 150*), auxiliaries and subject pronouns (*will shortly loose radar contact; cf. you will shortly lose radar contact*) with the consequent production of nominalized sentences, usually imperative or passive. Actually, deletion and ellipsis can be considered the most evident syntactic modifications to phraseology in aviation English.

1.3.2 Plain Language

Plain language, on the other hand, is used in all those situations where phraseology does not suffice because it does not provide ready-made forms for communication, e.g. in case of unexpected turn of events where pilots and controllers are required to use natural language.

A clear definition of natural language is given by ICAO, that considers it the best instrument for human interaction in case of unexpected situations:

“Linguistic research now makes it clear that there is no form of speech more suitable for human communication than natural language. [...] Human language is characterized, in part, by its ability to create new meanings and to use words in novel contexts. This creative function of language is especially useful in accommodating the complex and unpredictable nature of human interaction, including in the context of aviation communications. There is simply no more suitable form of speech for human interactions than natural language.” (ICAO, 2010: 1.3.2.)

Examples of possible emergency situations in which natural language must be used are technical problems on board, failure of ATC equipment, alerts, etc. According to

Falzon (1986 quoted in Lopez et al., 2013: 47) “[T]he transition from an operative language², such as phraseology, to natural language in unusual situations is accounted for [...] by the absence of procedure patterns in such situations which leads operators to use a more powerful but not specialized representation tool, i.e. natural language”.

However, ICAO describes very clearly the use of this natural language, defining it more specifically plain language:

“ICAO standardized phraseology should always be used in the first instance.” (ICAO, 2010: 4.3.3)

“ICAO standardized phraseology shall be used in all situations for which it has been specified. Only when standardized phraseology cannot serve an intended transmission, plain language shall be used “(2001: 5.1.1.1).

Nonetheless, ICAO is very clear with the use of the terminology and refers to the language to be used when phraseology is no sufficient as plain language, and not as natural language. This, in fact, is specified by ICAO as follows:

“Plain language in aeronautical radiotelephony communications means the spontaneous, creative and non-coded use of a given natural language, although constrained by the functions and topics (aviation and non-aviation) that are required by aeronautical radiotelephony communications, as well as by specific safety-critical requirements for intelligibility, directness, appropriacy, non-ambiguity and concision.” (ICAO, 2010: 3.3.14).

In spite of the above citations, a definition of plain language is far from clear, and the boundaries should be better defined. Plain language characteristics include a wider range of vocabulary outside the aviation area (medicine, IT, military organizations, etc.) and the ability to construct more complex sentences from a grammatical point of view compared to radiotelephony phraseology. Although the specifications for

² Falzon (1986) uses the term “operative language” instead of “specialized language” or “language for specific purposes” to refer to the languages used for specific working activities. The author’s term is maintained in the present description.

plain language use are less well defined, guidelines from ICAO (2010) highlight the importance of “fluent, clear, concise and unambiguous language”.

In light of what illustrated so far about plain language, it is crucial to stress the significance of language proficiency awareness among students, test takers and, most importantly, among users. The importance of a good level of English becomes evident especially during urgent or emergency situation, when phraseology does not cover the appropriate needs, and a low level of language may become another barrier to the successful performance of their job. According to Emery (2015) plain language must always be focused on possible non-routine, real-life situations in aviation operations. An example of communication, for which phraseology does not provide a standard construction and the ability to have an adequate language level results indispensable, is the following extract from a communication between ATC and pilot (ICAO, 2010):

ATC: You will let me know about your intentions for the main landing gear?

Pilot: UD Wilco: We'll try to let the gear down again and if it remains up and I'm unable to release the nose gear then we'll land with all three up.

ATC: Roger. So, if you wish, you may come for a go around and visual check of your landing gear.

Pilot: Ok. Roger.

ATC: UD have you got the field in sight?

Pilot: UD Affirm.

ATC: Roger. You will... you will pass over the field and make a low pass over the runway 29 for landing gear check.

This extract clearly shows that phraseology would not be enough to adequately express the ATCO and the pilot's intentions.

The effective transition between standard phraseology and plain language is referred to by ICAO as “code-switching” (ICAO, 2010: 3.3.2.1), and it is a critical component of ICAO language proficiency requirements (Emery, 2015).

1.3.3 A definition of aviation English

According to Wang (2008), radiotelephony phraseology is “the core of aviation English” when used in RTF communications between pilots and ATCOs. It includes

phraseology set by ICAO, but it may sometimes require the use of general English (Wang, 2008).

Although, it may be very tempting to define aviation English in terms of ICAO's plain language, the explanation is not so simple. It is interesting to see how Bullock (2015) defines the communicative process of English for Aviation as operating on more than one language level. He states, in fact, that the communication in the aeronautical context is not simply "a harmonized two-tier lexicography" (phraseology and general English), but the interaction of three language levels, as shown in figure 1.

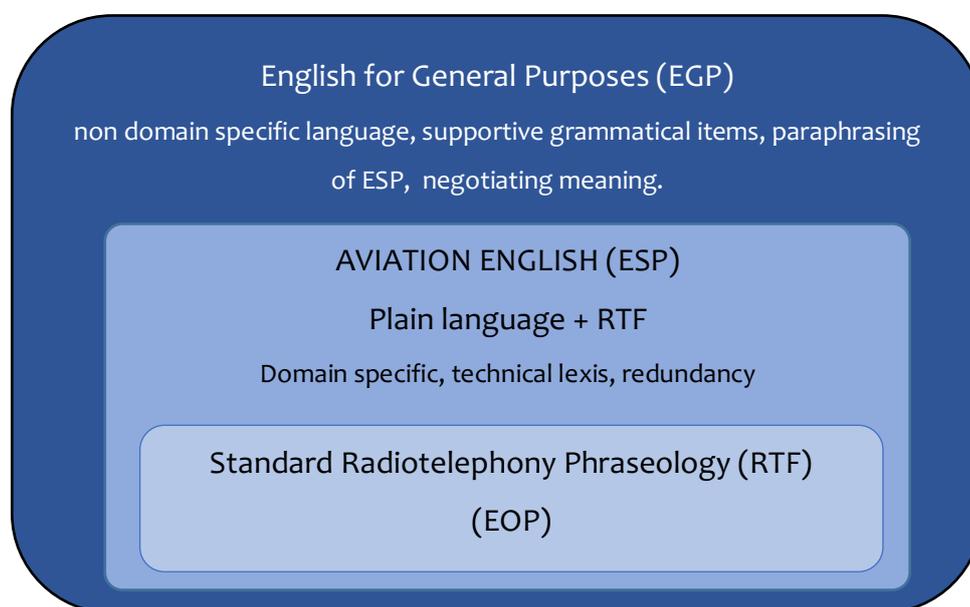


Figure 1-3. Levels of aviation language (adapted from Bullock, 2015)

This graphic clearly illustrates the hierarchical relationship described above: phraseology as a subset of aviation English, which is in turn a subset of general English. It is a good level of general English that permits to master aviation English as ESP and, consequently, standard radiotelephony phraseology, and not the other way around.

Estival and Molesworth (2009) suggest that instructors, teachers and test examiners recognize to which extent general English is necessary, and when its subset, aviation English, is more appropriate. Mell (ND) differently claims that the use of spontaneous native English is not appropriate considering the ESL aviation environment. In other

words, standard phraseology is the core of aviation language, but it is not enough to deal with uncommon events. On the contrary, a general or natural English use is far too extended to be used in this context, although it feeds much into aviation English language.

Upplinger (1997) argues that the acquisition of specialized terms is easier when other aspects of language are mastered first, such as sentence structure and word formation. Another interesting definition that is worth mentioning comes from Olena Petrashchuk (2015) that describes Aviation English as “a combination of professional jargon and work-oriented uses of English which are predominant in the field of aviation”, as a synthesis of its ESP function (see paragraph 1.9.1). However, “English of international aviation is not to be considered English for general purposes [...]” (Alderson, 2009), in other words it is not to be seen as general English.

To conclude, a high level of proficiency in the English language, together with a good mastery of phraseology, is fundamental to guarantee safety during flight operations.

1.4 Pilot-controller communication

We have already seen how the “inner circles” of linguistics (Aitchison, 2010) are necessary to analyze and ideally improve the mastery of phraseology and aviation English and, of course, they will help become more aware of other type of problems that may occur in aviation communication.

According to the Flight Safety Foundation (ALAR BN 2.3, ND) “[u]ntil data-link communication comes into widespread use, air traffic control (ATC) will depend primarily upon voice communication [...]”. However, there are various linguistic factors involved, and achieving effective radio communication includes many of them. Some of the aspects that might contribute to (in)effective communication in aviation and will be briefly described.

1.4.1 Prosody

Communicating effectively via the radio in aviation English is not only a matter of using phraseology correctly or having a high proficiency of English in terms of vocabulary or grammar construction. In fact, it has been demonstrated that prosody (intonation, stress and rhythm) may positively affect the understanding of a message exchange. According to McMillan (1998), speed and lack of pauses during message delivery have been a major cause of readback errors and in one of his studies he states that “the rapid speed at which controllers deliver instructions is probably the most common miscommunication complaint received from pilots” (McMillan, 1998: 46). Moreover, another study conducted by Nevile (2008) confirms that timing, silence and intonation are indispensable requisites in verbal communication, in particular they play an important role in the cockpit as they help distinguish “clearances” from “checking questions” (e.g. *Cleared to take-off* vs. *Cleared to take-off?*). This communication complication gets even more amplified in a context of ESL, and one of the objectives of this study is understand whether the lack of comprehension may result from an inappropriate use of prosodic features that adversely affect NNS of English. Is this an ability pilots and controllers think should be taught in aviation English trainings in Italy?

1.4.2 Language differences on the flight deck

The direct consequence of the globalization of aviation is the constitution of multinational and multicultural crews having different linguistic and cultural backgrounds. Communicating in English is much more difficult for the flight crew whose first language is not English, especially when they are working under pressure like in the case of an emergency. According to the Flight Safety Foundation (ALAR BN 2.3, ND), Crew Resource Management (CRM) studies have demonstrated that the “language differences on the flight deck are a great obstacle to safety”. The problem is not only related to ELS pilots – who must demonstrate a high proficiency of English in compliance with the ICAO regulations – but also the native speakers of English who

may not understand some of the exchanges due to the numerous regional accents and dialects. The methodology used to teach aviation English should include a set of listening-comprehension tasks that help students improve their ability to understand the many foreign accents that may be found in the cockpit and in the control tower, and the ability to use clarification strategies to overcome possible problems related to the inability to understand them. This is another aspect analyzed by the survey proposed to the pilots and by the interviews conducted with the teachers of aviation English in some of the flight training organizations in Italy.

1.4.3 Hierarchy and the politeness theory

Another reason that may originate miscommunication is the “flight deck gradient” (Flight Safety Foundation ALAR BN 2.3, ND), in which condition co-pilots use mitigated speech in order to avoid confronting higher graded seniors, even when directness is necessary. Linde (1988, quoted in Breul, 2013: 78) has elaborated a “politeness theory”, according to which crew members should be trained for directness “in forms of communication that can challenge a superior’s assessment of a situation, while indicating respect for the superior’s position”.

1.4.4 Working under stress conditions

A number of high-quality data-driven articles have been published of the subject of cognitive workload affecting language proficiency. To mention one of them - considering the focus of this thesis is not of psycholinguistic nature - Farris et al. (2008) conducted some experiments to measure proficiency of ESL for pilots working under different workload levels. The results of this experiments show that repetition of messages (readback) are less accurate and first language accent is broader in low-level ESL proficiency candidates. They also demonstrate that short messages are more likely to be understood than longer messages. Generally speaking, an increase in cognitive workload during RTF communication increases language misunderstandings leading to error.

1.4.5 Disturbed signal

Communication problems may arise from poor radio transmission which results in a degraded speech signal. Not only, but the cockpit is a very noisy environment that makes everyone, but in particular ESL pilots, struggle with understanding of radio communications. This is why, according to Mell (ND: 1) communications should be “smooth and effortless” and should be resolved as quickly as possible.

1.4.6 Pilot-Controller Communication Loop

Communication between air and ground operators is in general very predictable because the controller usually receives the flight plan details in advance. This way, every single message along the route appears in a predetermined sequence. Nonetheless, even in these restricted circumstances miscommunication does occur as a result of a number of factors that can include overlapping calls, disturbed radio signal and so on. An important confirmation-correction process thanks to which safe and redundant communication can be guaranteed is constituted by the pilot-controller communication loop, as illustrated in Figure 1-4. To conclude, an introduction to the study of some of the linguistic and communicative aspects has been set forth to gain a linguistic awareness much needed for a language proficiency implementation and training. The above described aspects will be reconsidered in the next paragraphs where methodology of teaching in aviation English will be addressed.

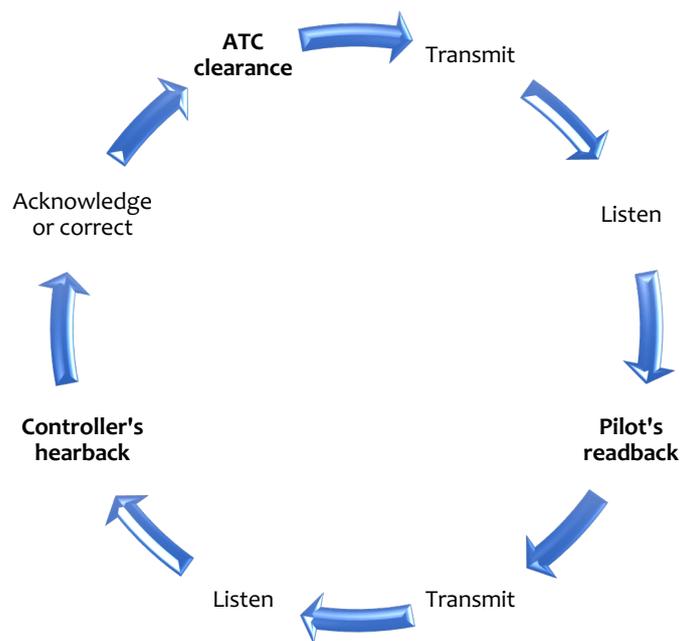


Figure 1-4. Pilot-controller loop

1.5 Aviation as a *lingua franca*

Unlike many other varieties of English for specific purposes, aviation English is a type of language that is mandated by law and strictly regulated internationally. It defines and compels the language that aviation personnel must use.

Estival and Farris (2008) have put forward a clear distinction between Aviation English and English as *lingua franca* (EFL, henceforth). They claim that aviation English can be considered as *lingua franca*, that is a stable variety of English used as a working language all over the world, but it cannot be seen as ELF. A contrastive opinion is proposed by Barbara Seidlhofer (2004) who points out that aviation English can be considered a language that has no native speakers because it must be studied by English native speakers, as well. It is in this context that the original meaning of *lingua franca* would perfectly fit, as it is considered the language used by speakers who do not share a common language. Moreover, aviation English has such a restricted domain that can only be used in the aviation field.

Because a great number of speakers of this community are by no means all native speakers, it is more useful to think about the English language as *lingua franca* (Kim

and Elder, 2009), although the extended view of *lingua franca* that includes native speakers had already been recorded in the past by Richards et al. (1992, quoted in Estival and Farris, 2008).

In other words, aviation English can be defined as the language for specific purpose used by both native speakers (NS, henceforth) and NNS who use English in the working context, where English is a second language for many of the users.

Communicative success, though, should also be meant as the mutual interaction between listener and interlocutor, whatever their nationality (Kim and Elder, 2009). It is in this perspective that, although ELF often refers to the common language used by NNS of English, NS have the responsibility to modulate their speech in order to become understandable to an international audience (Alderson, 2009; Estival and Molesworth, 2009).

The role of both NS and NNS is seen here from the point of view of the linguistic requirements. They both must guarantee clear intelligibility during flight operations, that is the ultimate objective. Also, being a NS does not necessarily mean having a high proficiency in aviation English.

As described before, clear, unambiguous, fluent communication in aviation English is of utmost importance for air safety, and all speakers must take responsibility to achieve that goal as a long-term objective, in spite of their native language.

Kim and Elder (2009) reckon that the solution is in the training of aircrew and ATC. It is through training that pilots and controllers must learn certain strategies, such as speech simplification and paraphrasing of utterances, when these may be felt as solutions to miscomprehension. Moreover, training should produce an enhancement in the use of aviation phraseology, as required by ICAO. Cookson (2009) states that NS should simplify more their language avoiding idiomatical expressions and repairing interactions by adjusting their accents when these may undermine the understanding of the international interlocutors.

To conclude, considering the aviation English's status of *lingua franca*, it is important to attentively consider the choice of the teaching methodology in order to improve

those linguistic aspects that reinforce effective communication on the international setting.

1.6 Aviation English as a matter of safety

1.6.1 The Swiss Cheese Effect

The Swiss Cheese Model (see. Figure 1-5, adapted from Reason, 1990) (or cumulative act effect) is based on the research carried out by Dante Orlandella and James T. Reason (Reason, 1990) of the University of Manchester. It is still used in the risk analysis and risk management of human systems in aviation, engineering and healthcare. It is part of the human factor training compulsory for all crew members all over the world.

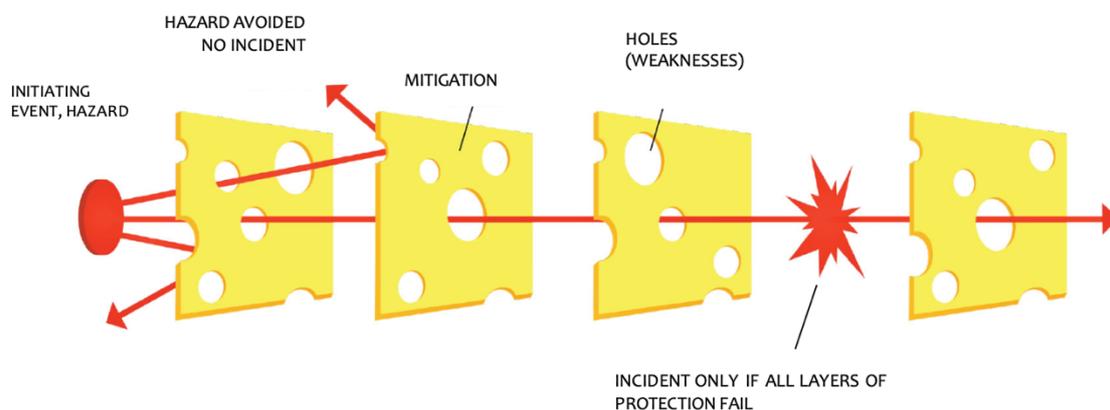


Figure 1-5. The Swiss Cheese Model (adapted from Reason, 1990)

What this model shows is how most of the accidents can be traced to one or more of four levels of failure (also called latencies), that involve organizational influences, unsafe supervision, preconditions for unsafe acts and unsafe acts. The holes in the cheese slices represent limitations in the single parts of the system and have the characteristic to continuously change in size and position. It is when the holes are perfectly aligned forming the accident trajectory that the hazard passes through all

the defenses leading to failure or accident, as presented in Figure 1-5. As already mentioned, aircraft accidents are rarely caused by a single factor but are the consequence of a concatenation of multiple factors that follow the primary cause. The Swiss Cheese Model includes both latent failures and active failures. The former are the latent factors in the system that may have been present for some time before the incident is triggered, until they emerge and contribute to the accident. The concept of active failures includes the unsafe acts, usually attributed to human errors. The latent factors themselves may not be the direct cause of the accident, but it is when the series of unfortunate events sets into motion and combines with active failures that the latent factors contribute to an aviation accident (Barbieri, 2014). Preconditions for unsafe acts include improper communication practices. Although an analysis of the many accidents and incidents recorded and investigated in the aviation environments is not the scope of this paper, some of them will be described in order to illustrate how the linguistic factor has been a necessary condition for the incident to take place.

1.6.2 Incidents and accidents where language was a contributing factor

In literature, it is possible to read about a great number of examples ranging from severe accidents to minor incidents, where (mis)communication is known to have been a key, fatal factor. According to Brian Day (Chairman of the ICAO proficiency requirements in common English study group), miscommunication has been a contributory factor in 70% of the cases. The literature regularly mentions the fact that ICAO has reported 7 major, significant accidents happened from 1976 to 2001 that were the direct result of miscommunication and that culminated in the decision of the ICAO to strengthen measures related to language proficiency implementation. However, many more accidents and incidents have happened over the years, from when ICAO was established to nowadays.

1.6.3 LOT Airlines: the plane lost over London

On 4. June 2007 the pilots of the LOT Polish Airlines Boeing 737-500, SP-LKA en route from London to Warsaw noticed that the information on two principal navigation instruments disappeared as a consequence of an error in entering their navigational position. This situation forced them to enter Instrumental Meteorological Condition (IMC), that means that they were forced to use on board instruments because they did not have any ground references. The co-pilot flew the aircraft using standby instruments, while the first officer tried to resolve the problem. In this situation, pilots were forced to request the control tower vectoring to the airport, meaning that they had to completely rely on air traffic controllers' instructions that, of course, were given in English. The aircraft flew around the surrounding airspace for nearly half an hour because the two pilots were unable to understand instructions from ATC (Werfelman, 2008; UK AAIB, 2008).

According to the report produced by the UK AAIB, during the flight there were “a number of exchanges between [the pilots] and the controller in which it was apparent that the commander, who was making the radio calls, was not able to understand some of the instruction” (UK AAIB, 2008:16).

Fortunately, they managed to land safely and nobody was injured, but the risks they ran all through this unfortunate incident were many. Firstly, they might have caused a mid-air collision with another aircraft that was flying at the same altitude but managed to maintain separation thanks to revised instructions issued by the tower, the report said. Secondly, a runway incursion may be caused by inability to understand correct alignment to the runway.

Other deadly accidents:

- 1976 - A mid-air collision near Zagreb caused by the abrupt switch to Serbo-Croatian at a critical moment by part of one of the pilots on board of the Inex Adria flight; 176 fatalities (Cookson, 2009);

- 1977 - Tenerife, one of the worst accidents in the history aviation occurred because of an incorrect use of a single grammatical item; Dutch-speaking pilot lacks English proficiency; 583 fatalities (Alderson, 2009; ICAO, 2010);
- 1990 – The Colombian crew on board of the Avianca 52 flight approaching New York were unable to declare “fuel emergency” and crashed because they were not given priority for landing; 73 fatalities (Alderson, 2009).

Unfortunately, (too) many other accidents may be mentioned. The consensus in the literature is that the crashes are the results of many factors, and language proficiency is only one of the many contributory issues (Cookson, 2009). Still, it remains a crucial component in the air-ground exchange.

1.7 Language proficiency of non-native speaking pilots

The literature provides three studies that directly relate to the language proficiency of non-native speaking pilots. Two of these show similar results.

The first of the two, conducted by Farris (2007), shows that NNS pilots' communicative abilities are affected more during high cognitive workload than NS pilots. Moreover, she demonstrates that the lower their level of English, the higher the risk of miscomprehension. Not only, but the study proves also a severe reduction of fluency. Another study conducted by Tiewtrakul and Fletcher (2010) at the international airport in Thailand reports similar findings: NNS pilots using English have more problems of misunderstanding than NS.

A slightly opposing perspective comes from the research carried out by Estival and Molesworth (2011) in which they examined particular areas of communication breakdown. They had both NS and NNS rank a number of radio communicative tasks in order of difficulty. The results show that there is no difference between NS' and NNS' opinions on the difficulty of the task. What is more, both NS and NNS declare that they have difficulties in understanding other pilots and consider this task the most difficult of all. The researchers conclude that, although English language proficiency may be a contributory factor for communication problems, it is not to be

considered a primary reason. Korean pilots interviewed in Kim and Elder's (2015) research agree with this opinion.

It is a matter of fact that focusing only on the language proficiency of NNS will not produce informative and complete results. However, as required by the regulations issued by ICAO, a minimum language proficiency in Aviation English must remain compulsory. Only in recent years more in-depth studies have been conducted on the pedagogy and assessment policy in the area of aviation English (among the others Alderson, 2009; Van Moere et al., 2009; Mitsutomi, 2012; Bullock, 2015; Gutierrez Santos et al., 2018). The proficiency of NNS pilots and ATCOs whose English is their second language must not be neglected and the same pilots and controllers must become aware of the importance of language competence and training, not only as a means to fulfill with the ICAO regulations to periodically pass the language proficiency testing, but also for the importance it has to perform well during flight and in case of unexpected circumstances.

The present study has the objective of gathering more information on this subject by evaluating perceived students' needs for training in this field and cross check the results with the actual methodology used in aviation training in Italy.

1.8 Language Proficiency Requirements and Implementation

In this context, much of the literature is focused on the explanation of language proficiency requirements, ICAO rating scales and testing procedures. A brief overview of the pedagogical and methodological procedures will be provided. Unfortunately, not many researches focus on the attitudes of pilots and controllers towards these requirements and on what trainers and teachers do to meet the standards set by ICAO. One of the objectives of this research is to gather data to inform about the linguistic perception of pilots towards the importance of English language proficiency in the area of aviation considered not only as a set of skills necessary to pass the periodical language examination, but as another competency (Emery, 2015) professionals must have to safely and reliably perform their job.

1.8.1 Language Proficiency Requirements

Technical investigation into the most severe aircraft accidents and incidents, in which linguistic competence was considered the unsafe act in the system has produced the need to certify the level of English proficiency among pilots in the international community in order to handle non-routine situations.

As a result of this, National Aviation Authorities have integrated the LPRs into their regulatory frameworks and course designers have developed language training materials that can help pilots and controllers reach ICAO level 4 (Emery, 2015). As well, ICAO decided that such competence is not meant to be limited to the use of English in standard radiotelephony phraseology for air-ground communications, but it is to be extended to a plain English usage (ICAO, 2010).

On 5 March 2003 the ICAO Council adopted the amendment 164 of rectified Annex1 that introduced the new requisites of language use, both for flight crew members and for air traffic controllers. In particular, point 1.2.9.4 of the abovementioned Annex specified that the deadline for compliance with ICAO regulations by part of all member states was 5 March 2008, although some member states only complied the ICAO requirements in 2011. Commercial pilots, private pilots, helicopter pilots and air traffic controllers must demonstrate the ability to speak and understand the language used in aeronautical communications according to the Language Proficiency Requirements (LPRs) and holistic descriptors (See Appendix A).

Although much criticism has been made against the validity of ICAO LPRs (see Van Moere, 2009; Alderson, 2009 and 2011), they must be considered the standard requirements to be used in language proficiency in the aviation industry around the world. According to Emery (2015), ICAO level 4 is found to be the entry requirement for ab-initio pilots, as well, and citing Albritton (2007 quoted in Friginal, Mathews and Roberts, 2020) he asserts the importance for airline companies and flight training providers to ensure that a standard protocol is in force for their flight students to receive reliable language assessment in accordance with ICAO LPRs prior the beginning of the flight training.

1.8.2 The ICAO rating scale

As a means to “ensure, as far as possible, that all speakers have sufficient language proficiency to handle non-routine situation” (ICAO, 2010, 4.2.2), ICAO has provided an analytical rating scale and holistic language descriptors in order to define the level of English pilots must possess to comply with ICAO regulations.

The six language descriptors are: Pronunciation, Structure, Vocabulary, Fluency, Comprehension, Interaction (ICAO, 2010: 4.6.4 – 4.6.7). A brief analysis of the descriptors of the rating scale for level 4 (figure 1-6) will give a clearer idea of the linguistic abilities that pilots and ATCOs need in order to handle non-routine situations in air-ground communication.

Both *Structure* and *Vocabulary* refer to unusual or unexpected circumstances, whereas *Comprehension* and *Interactions* refer to unexpected turn of events. Whatever the definition, in the context of radiotelephony, they describe situations that diverge from planned and routine situations, and pilots and controllers call for the use of plain English (Emery, 2015). The unexpected circumstances or events not always influence safety, but they can merely refer to communications in which phraseology is not sufficient for an exchange in certain circumstances, eg. in the case of a message from the ATCO to inform a pilot that a taxiway is closed. Sometimes the situations may be more serious, for example in the case of engine failure or a request to go around due to possible runway incursion. In any case, in spite of the urgency of the situation and the predictability of the communication, both operators from on board the plane and in control tower must have an adequate level of language that permits them to face possible situation that contain exceptional elements (ibid.).

Comprehension is vital for this exchange, because both parties are involved in a mutual exchange of information that require more complex language abilities. *Fluency* descriptor refers to “transition from rehearsed or formulaic speech to spontaneous interaction” (ICAO, 2010), where rehearsed or formulaic refer to standard phrases used in RTF exchanges. According to the descriptors, operators must be able to switch from one type of language (phraseology, strictly coded) to the other (plain language) quite easily.

Structure	Vocabulary	Fluency	Comprehension	Interactions	Pronunciation
Basic grammatical structures and sentences patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected circumstances, but rarely interfere with meaning.	Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete, and work-related topics. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.	Produces stretches of language at an appropriate tempo. There may be occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting.	Comprehension is mostly accurate on common, concrete, and work-related topics when the accent or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic of situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.	Responses are usually immediate, appropriate, and informative. Initiates and maintains exchanges even when dealing with an unexpected turn of events. Deals adequately with apparent misunderstanding by checking, confirming, or clarifying.	Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding.

Figure 1-6. ICAO descriptors of the rating scale for level (ICAO, 2010)

Vocabulary and *structure* refer to the ability to talk about topics that are strictly “connected to the professional lives and activities of pilots and ATCOs, including communication on the radiotelephone” (Emery, 2015: 12).

As previously seen, *Pronunciation* is also of paramount importance in the exchange because - although it may be influenced by the regional accents - it must not, in any case, interfere with understanding and, if found problematic by pilots and controllers, it must be resolved with simple clarification strategies.

The scale is used by the examiners that hold the test of English for Aviation (TEA or equivalent) to evaluate NS and NNS pilots’ and ATCOs’ speaking and listening skills in the use of radiotelephony and common English related to aviation (VanMoere et al., 2010; ICAO, 2010). It is important to point out that standard phraseology use is different from the testing of language proficiency and it usually takes place during licensing courses.

Each of the descriptors is rated from level 1 (Pre-elementary) to 6 (Expert user) (Kim and Elder, 2015). Pilots’ and ATCOs’ overall levels are given by the lowest score across all the six language criteria, and only pilots who get a level 4 are allowed to fly internationally (Kim and Elder, 2015; VanMoere et al., 2010). On the contrary, a lower level would not permit a pilot to work abroad, becoming a restraining resource for the airways company they work for.

A study conducted by Emery (2015) tried to investigate the minimum level of competency pilots must possess compared to the CEFR. He did this in collaboration with some subject-matter expert informants. What emerged from the study is that all the informants agree that the minimum level personnel working in this field should have from the beginning of their career is a B2. In the same vein, Bullock (2015: 36) specified that a level 4 “equates to approximately a good B1 low level B2 on the Common European Framework of Reference (CEFR). As language levels in aviation are based on a holistic (overall) evaluation of proficiency with a minimum requirement for Level 4 in all 6 criteria, a “can do” scale, such as the CEFR, is not appropriate tool”. Also, Wegler (2015: 54) concretely listed some of the limitations of level 4:

- Pronunciation, stress, rhythm and intonation sometimes interfere with ease of understanding.
- Vocabulary range and accuracy may be limited beyond common, concrete and work-related topics.
- There may be occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction.
- When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.

What this thesis will investigate is whether the level 4 as presented by the ICAO descriptors may be considered a sufficient level to manage unordinary situations during operations.

1.8.3 LPRs Testing

The way new standards were formulated forcefully determined the way in which language testing should be designed and conducted. ICAO never imposed any particular test or test design, but only issued some directives on how to deal with the test in this domain, defining an operational level 4 to be considered the minimum standard level.

According to ICAO (2010), there is not a single globally recognized testing method, but different testing programs can be designed and used worldwide, both for a domestic public and for an international population of test-takers. Nonetheless, some very well-defined principles on which institutions must rely on for the development of language testing have been outlined and must be used as a “recommended framework” for the development of the Aviation English tests.

Firstly, ICAO recommends fairness as a highly relevant concern for testers to keep in mind when developing tests. It is to be considered in terms of validity, reliability and practicality. Secondly, according to the guidelines included in the *Manual on the Implementation of ICAO Language Proficiency Requirement*, a compliant test must meet the following requirements (Fulcher and Davidson, 2012):

- the test must assess listening and speaking proficiency in a context related to aviation;
- the test assessment must be based on the ICAO rating scale and the holistic descriptors;
- the test must not focus on phraseology only, but on the use of English in a broader context.

Aviation language tests must be considered extremely high levels, not only for pilots, but also for all those professional figures gravitating around flying operators (Alderson, 2010). For long time, there had been no standardized aviation English test, until 2015 when ICAO took steps towards a harmonization of test standards recognizing two of these tests as the most reliable: the English Language Proficiency for Aeronautical Communications Test (ELPAC) and the Royal Melbourne Institute of Technology English Language Test for Aviation (RELTA) (ICAO, 2015). At present, only the ELPAC remains the officially recognized test by ICAO and it is related as to meet all the ICAO proficiency requirements and language testing practices.

Still, many countries take free action on which test to use for their domestic staff, because ICAO does not have the mandate to impose certain Aviation English tests, but it can only make recommendation on the standards.

In light of these statements, Alderson (2010), after investigating the validity of some of the most used tests around the world, recommends that the quality of the test should be monitored by the International Civil Aviation Organization in order to guarantee high professional standards.

Some criticism comes from Moder and Halleck (2009) who note that ICAO's guidelines fail to point out whether the test should focus on English for General Purposes on aviation topics, or more narrowly on English used in air-ground communication. Furthermore, they believe that the ICAO's policy on aviation language testing suffers the interference of national concessions of political expediency and does not focus enough on the validation procedures. Fulcher and

Davidson (2012) also point out that the descriptors barely mention the aviation English domain, but only refer to communication in “common, concrete and work-related topics”. Also, Douglas (2014) suggests that the rating scale and test should include features of English as *lingua franca*, in order to resolve problems of miscommunication between NS and NNS using accommodating communicative strategies. A possible solution for the member states would be to ideally only use the one indicated by ICAO, but as said before, the institution cannot impose it.

1.8.4 TEA: Test of English for Aviation

The most popular and effective test used to assess the language of pilots (private, commercial and helicopter) and controllers in Italy is the Test of English for Aviation (TEA test), developed by the Mayflower College in Plymouth, England.

The test has been developed to test pilots’ and controllers’ ability to communicate in English, using plain English and it is held as a face-to-face interview with one examiner. It lasts approximately 25 minutes. The test does not include any writing nor reading.

It consists of 3 parts. In the first part operators are asked a series of questions about their aviation background and their job. Possible questions in this part can be: could you tell me about your job?, can you describe what you do at work? is a pilot’s job important? how much training is necessary to be a pilot/controller? There is no right or wrong answer to these questions and the aim for the candidates here is to show understanding and to speak at length about their job.

The second part of the test is divided into 3 parts in which candidates must listen to a series of recordings of international speakers of English, and they can be heard only twice. In part 2A, the examiner plays 10 recordings in which a pilot or a controller is talking in a non-routine situation. After each recording the test-taker must tell the examiner what they understand about the situation and all the information contained in the message is important to get the score. In part 2B there are three recordings in more general, non-routine situations. Again, after each recording the candidates have 20 seconds to ask the speaker questions to find out more about the

situation. Part 2C, is similar to part 2B, but this time the candidate must give the speaker some advice. There are no right or wrong answers for these 6 recordings, and the objective is to assess the ability of the pilot or controller to interact with a possible interlocutor in order to better understand and resolve a situation of insecurity or emergency.

The third part of the exam consists in the description and comparison of 2 connected pictures in about 30 seconds each. The description of the photos is followed by a series of questions about the two pictures, and a final discussion of general aviation topics related to the pictures. The objective of the third part of the exam is to assess the ability to talk about work related topics, at length, fluently, using vocabulary and grammar correctly.

After the test is completed, the examiner assigns scores from 1 to 6 to every descriptor (fluency, pronunciation, structure, vocabulary, comprehension, interaction) in accordance to the standards issued by the ICAO. The lower score determines the overall result. Once the candidate receives the certificate from the Mayflower College, the score gets transcribed to the license and has a 4-year validity in case of a score 4, a 6-year validity in case of a score 5, and life-long validity in case of a score 6.

1.8.5 Attitudes to LPRs and testing

Given the nascent nature of literature regarding the constraints of ICAO testing and rating scale, a very limited body of work on attitudes and beliefs of pilots and controllers towards LPRs and test is the obvious consequence. However, some studies conducted by Kim (2013 and 2015) and Alderson (2011) show that this is actually an emerging area of investigation. Notwithstanding, there is a limit to this work, as well. While Kim's (ibid.) research only considers the Korean aviation industry, Alderson (ibid.) provides an unprincipled study that does not include the attitudes of a wider population of aviation industry.

The current thesis seeks to investigate the perception and attitudes of Italian pilots and controllers towards the LPRs test. Particularly, one of the aims is to understand

whether English language is necessary as a short term objective and is limited to the language that serves to pass the exam, or whether pilots and controllers feel the personal responsibility to master English with a more distant, long-term objective that ensures higher professional performances and security during flight. In this view, 101 Italian pilots and controllers have been asked to fill in a questionnaire. The data collected permits a deeper understanding of their perception of the linguistic needs in this field.

1.9 Aviation English classification into Specific Purposes Context

The literature in this field of research does not pay much attention to the subject of teaching but focuses more on other linguistic aspects of aviation English. Besides, much of the literature available on teaching is less data driven, and much still needs to be investigated on the subject of teaching aviation English. Nonetheless, it is interesting to briefly analyze how the aviation English should be seen through the lens of English for Specific Purposes and how this vision may affect the syllabus design and, subsequently, the methodology to apply in order to fulfil students' needs. It is the stance of this thesis to understand whether the methodology used by teachers of Aviation English in Italy are in line with the studies conducted in the field, and if it meets the expectations expressed by pilots and controllers.

1.9.1 Target situation and students' needs analysis as the core of an ESP approach

English for Specific Purpose is a vast topic that has developed into more and more refined definitions and has attracted linguists' interest since the middle of the 20th century (Basturkmen, 2010).

As outlined in paragraph 1.4.3, aviation English must be regarded as English for Specific Purposes, that is a specialized subset of general English related to aviation, that includes plain language and radiotelephony phraseology. At the same time, specialized phraseology may be considered as English for Occupational Purposes (EOP), or a restricted type of language (Wang, 2008). Mackay and Montford (1978

quoted in Wang, 2008) reckon that the use of a jargon does not produce an effective type of communication in unexpected situations:

“[...] the language of international air-traffic control could be regarded as “special” in the sense that the repertoire required by the controller is strictly limited and can be accurately determined situationally, as might be the linguistic needs of a dining-room waiter or air-hostess. However, such restricted repertoires are not languages, just as a tourist phrase book is not grammar. Knowing a restricted “language” would not allow the speaker to communicate effectively in a novel situation, or in contexts outside the vocational environment.” (Mackay and Montford, 1978: 4)

This definition clearly explains why a pilot or a controller should not limit their mastery of the language to the sole phraseology, seen solely in the context of English for Operational Purposes. The same idea was expressed by Uplinger (1997), who claimed that the exclusive use of specialized terminology does not prevent ambiguity, for this reason it is important to develop the functionality of the language. In order to do so, an ESP approach in this field is fundamental.

It is a common belief among various scholars (Wang, 2005 and 2008; Lin et al, 2014; Kim, 2015) that Aviation English courses should be designed and developed before the licensing as part of the compulsory education (eg. at high schools like *istituti tecnici aeronautici* in Italy) in order for pilots and controllers to become proficient in the English language before they access the job market.

The great advantage and the purpose of an ESP course is to provide students with the language that permits them to perform adequately in a work-related situation. Of course, an ESP course of aviation English cannot be treated merely as a general English course although it includes many aspects of the general use of the language, and for this reason it needs to “develop its own methodology and curriculum separate from those of general ESL learning, because it has different objectives, content target learners, and goals that the broader field” (Lin et al. 2014: 220). In other words, considering the previous statement in a completely reversed perspective, although general English feeds into aviation English, the latter is much more technical and has a more restricted domain of use. Without a general

knowledge of English to support the structure of the English for Specific Purposes, the construction of the discourse would be impossible.

Nonetheless, the goal of an aviation English course is not simply to have students acquire subject-matter focused material (Richards and Rogers, 2001 quoted in Bullock, 2015). It is actually an expansion of the ability to use a range of English, necessary to face possible complications, building up from a more restricted jargon, that is specific phraseology.

In order to be so adherent to the specialized language, an ESP course must identify in advance the target situation where the language will actually be used and, accordingly, the linguistic features of that particular domain. This process, named needs analysis by Hutchinson and Waters (1987) and Basturkmen (2010), or target situation analysis by Munby (1978), constitutes one of the starting points for designing the syllabus of the ESP course.

The identification and isolation of specific language and communication skills (Basturkmen, 2010) naturally leads to the elaboration of the ESP course. Principally, Munby's (1978) model captures in more detail the learners' needs in terms of speech acts necessary to face specific situation students may encounter (Balint, 2004).

Whatever the theory, an ESP course should prioritize the language forms pilots encounter in their job and exclude the language forms they do not need. Also, Mell (ND) claims that it is necessary to focus only on specific competencies in order to meet plain language requirements.

So far, the ESP course has been presented as an approach focused on content, but ESP theorists support the centrality of the learner in the process of teaching a specialized subject, as well. A curriculum that focuses not only on course content, but also on students' needs perception and interests is of paramount importance. So, besides obtaining the language specifically needed in a particular context by asking professionals in the field, it is also useful to assess the general needs as perceived by the learners (Balint, 2004).

Students in this field know exactly why they are learning the language, they are aware of the target situation and know that they must have a good proficiency in

English for professional growth, and this is the core distinction between ESP and general English course attenders.

In this light, Hutchinson and Waters (1987) distinguish 3 target needs related to students that course designers and teachers should attentively keep in mind:

1. Necessities: what students really need according to the demands of the target situation, that is “what the learner has to know in order to function effectively in the target situation”;
2. Lacks: it is important to identify what students already know, in order to focus only on what they lack. This prevents repetitions or tedious situation in class and concentrate on real necessities.
3. Wants: the intrinsic, perceived needs of students, considered not only from an objective point of view.

Hutchinson and Waters (1987) resume this concept very clearly in the following citation: “[T]he analysis of the target situation needs is in essence a matter of asking questions about the target situation and the attitudes towards that situation of the various participants in the learning process”. Of course, what students want matters for the success of the course, as it consequently results in higher motivation and thus produces a better and faster learning (idem).

Furthermore, a clarification about what an ESP approach is has been put forward by Hutchinson and Waters (1987), who claim that an ESP approach should not be seen as a method or materials used to teach a specific language, but as a product fundamental to develop methodologies and materials for teaching aviation English. Overall, these studies highlight the need for an analysis of the target language situation and the students’ expectations preceding the syllabus design and the choice of an adequate methodology. Actually, it becomes crucial to effectively tailor-design a course for the purposes of this occupation. Balint (2004) also stresses the importance of the needs analysis in order to prevent a possible conflict that may arise when curriculum and students’ beliefs and assumptions clash.

1.9.2 Aviation English Training vs General English: characteristics

Differently from general English courses, which have robust sets of ready materials to gather from, aviation training is very much a new subject among ESP courses. In spite of the many correspondences between general and aviation English training, the differences are significant and must be kept into consideration when designing a syllabus, producing materials and teaching.

Some of the factors are described in the following table (adapted from Aviation English Academy):

	Aviation	General English
Type of students	Students are professionals, mid-career, adult learners with little time for study	Learners are more flexible, and usually have more time to dedicate to study
Consequences	Serious personal and career consequences for failure to achieve desired results in an English course	More flexibility, language-learning failures do not have major consequences, there may be future opportunities to improve
Type of training	Few training options	Many training options available
Materials	Very limited aviation English materials available	Many English teaching materials available on the market

Table 1-1 Differences between general and aviation English

The above schematized differences are consistent. There are in particular two main differences between the two type of courses.

Firstly, the outcome of a language training is a key factor. In the case of AE, if the training does not meet the professional pilots' and controllers' needs, it may lead to personal and professional consequences. In particular low levels of performance during flight operations may have severe, or even catastrophic, effects.

Secondly, whereas the materials and resources for general English courses are very vast, the aviation English programs still have very limited resources to offer. However, the more successful language programs do not limit the materials but

apply to the rule “the richer that the language learning environment is, the more successful the language training is likely to be” (Aviation English Academy, ND).

1.9.3 Syllabus design and teaching as a product of ESP approach

Aviation English is best seen as English for Specific Purposes and therefore, the syllabus design should be examined within the frame of ESP, where the target is the review and adaptation of the curriculum in order to meet the needs of the students’ linguistic objectives (Balint, 2004). Nunan (1988: 6) claims that the syllabus is “[...] a statement of content which is used as the basis for planning courses of various kinds [...]”. In other words, syllabus design relates to the “what” of a language training program, whereas the methodology adopted refers to the “how” a language should be taught (ibid.).

Syllabus design and teaching in aviation are regulated by ICAO in the same way tests for proficiency level assessment are, that is the ICAO has provided guidelines (ICAO, 2009 and 2010) on what contents should be delivered in a course, but the actual syllabus and methodology are freely adopted by syllabus designers and teachers. “[...] there is no system of accreditation or qualification for schools or teachers developing and delivering aviation English training. Like aviation English testing, aviation English training is an unregulated industry” (ICAO, 2009).

Even so, in order to make syllabus design and training even simpler, ICAO has provided a general curriculum of the communicative language functions, events, domains and tasks presented in Appendix B of the Manual on the Implementation of ICAO Language Proficiency Requirements (2010). The purpose of this “list of contents” is to outline what functions and skills the students need to acquire during the language training.

- Appendix B, part I of the Manual of the Implementation of ICAO Language Proficiency Requirements (2010) sets out 4 groups of main linguistic functions and related grammatical structures mainly used in pilot-controller exchanges. The very same functions are presented also in Mell (ND), and are the following:

1. Triggering actions: orders, requests and offers to act, permissions, approvals, undertakings, advice (example: go around; ready for departure; request clearance to take off);
 2. Sharing information: present states, actions, events; future state, actions and events; immediate or recent past states, actions, events; past states, actions and events; necessity; feasibility and capacity (example: Alitalia 12345, hold position, the traffic already departed declared emergency);
 3. Managing the pilot-controller relationship: greetings, thanks, satisfaction/complaint, reprimand, concern and reassurance, apologies (real example retrieved from <https://youtu.be/tzy9jCFkolw>: “sorry, I have just realized what’s happened... I was distracted by the airliner that was moving when I turned to the runway and also the wake turbulence from the landing Airbus on the parallel...);
 4. Managing the dialogue: opening and closing, self-correction, readback, acknowledgement, checking, repetition, dis-confirmation, clarification, relaying (example of read-back in an exchange ATC-pilot: ATC: Scavac two-zero, cleared for take-off runway zero-one. Pilot: Cleared for take-off runway zero-one, Scavac two-zero).
- Appendix B, part II of the Manual of the Implementation of ICAO Language Proficiency Requirements (2010) contains a list of relevant work-related events and domains that characterized the ordinary communications between pilots and ATCO and should be included in a course of English for aviation. Some examples of events and domains mentioned the appendix are: approach delays (holding instructions, holding procedures, etc); bird hazard (position, names and types of birds, damage to aircraft, etc); fire on board (ground services, aircraft interior, firefighting equipment, etc); and many others.

They are a good starting point to develop materials and activities focused on vocabulary and grammar.

- Appendix B, part III of the Manual of the Implementation of ICAO Language Proficiency Requirements (2010) defines the language tasks of air traffic controllers only. Some examples of these tasks include managing air traffic sequences, control

aircraft or vehicle ground movement, route or plan flights, resolve aircraft conflict situations, etc. and are more focus on RTF English, exclusively.

Practical instructions or examples on how to use the above functions, events, domains and tasks to prepare materials for the lessons are not given, though. However, a more refined and focused syllabus can be worked out of this list, bearing in mind also other variables important for the task. Firstly, the assessment of the students' starting level according to the ICAO scale is fundamental, because it allows the teacher to create learning situations and produce materials not too difficult for the students, according to the comprehensible input rule ($i+1$) proposed by Krashen (1988). Secondly, the type of students and the context are also important. Teaching expert professional pilots who have a sound grasp of the phraseology and many years of field experience is different from teaching AB Initio pilots, who are more uncertain about the operational jargon and have barely no practical experience of real air-ground communication.

Other major recommendations come from ICAO (2010). To start with, it strongly recommends a consistent use of a communicative approach in order to develop communicative skills and strategies (speaking, listening, and interactive skills), and vocabulary. Unlike other approaches, the communicative approach is based on objectives and needs of the learners, not on a "disciplined pre-written script" as it happened in the past with more formulaic type of approaches (Bullock, 2015: 7). It actually defines the goals that the students must achieve rather than the methodology or the teaching system, that remain a choice of the teacher. What is important to stress about the communicative approach is that it aims at teaching communication, that is not the same as teaching language (Littlewood, 1983) and this is fundamental in aviation. Although grammar, syntax and reading are linguistic aspects that underpin oral communication, they are seen as "secondary" in the process of aviation language training because the principal objective is voice-only communication. Kukovec (cited in Bullock, 2015) maintains that "although students may have suitable grammatical proficiency, using it in an operational context may

provide difficult”. Uplinger (1997) points out that a pilot-controller communication can be considered effective when the speaker is able to either avoid ambiguity, or to resolve it when it occurs. Nonetheless, a valid course in this domain must offer activities that are designed to cover all six language skill areas, which also include structure (see paragraph 1.9.2).

Furthermore, as for listening strategies enhancement, ICAO suggests that audio and visual media be adopted, provided they have appropriate quality. In particular, it states that “audio and video material, so valuable for improving listening comprehension and vocabulary, should provide content and situations applicable in some way to the students’ professional environment” (ICAO, 2009: 1.3.9). It also advocates content-based language trainings (CBLT) in order for the language to become “the vehicle for learning meaningful and appropriate content” (ICAO, 2009: 1.3.6), that results in higher motivation and, hence, in more efficient learning. There are a number of aviation English course books and technical manuals available on the market, but they are not always complete in terms of materials to use in order to meet the students’ language objectives. The logical consequence is that these manuals need integrating with extra resources, hard to define as “ICAO’s plain language materials” (Read and Knoch, 2009 quoted in Bullock, 2015). English teachers, for their part, must learn as much as they can about subject-matter domain (Wang, 2007; Douglas, 2014) and need to closely cooperate with subject-matter expert (Long, 2015). Without the intervention of field experts, elaborating meaningful, real-life mirroring materials would be particularly difficult for teachers who have an exclusive English education background.

Other directives refer to the blended type of learning, that is the use of both computer-based and classroom learning. This type of multiple-resource course should guarantee the effectiveness of the training program.

To conclude, all these aspects considered, the language provided in the course must be relevant both in terms of content and functions (Uplinger, 1997). It must work on the communication strategies necessary for pilots and controllers to deal with

misunderstandings and circumnavigate possible linguistic gaps happening during flight, before they turn into catastrophic events.

1.9.4 Teaching methodologies applied in the field: linguistic aims of training AE personnel

While the syllabus design defines content and ordering of the course, and assessment in the final phase, methodology is related to what specifically happens in the classroom in order to deliver the syllabus. The literature available on the topic of teaching aviation English strongly recommends the adoption of a communicative approach in line with the ICAO guidelines (Bullock, 2015; Farris et al., 2008; Uplinger, 1997) and supports the reliability of ICAO operational level 4, with only some authors moving criticism towards the reliability of such level (Alderson, 2010; Wegler, 2015; Kim and Elder, 2009).

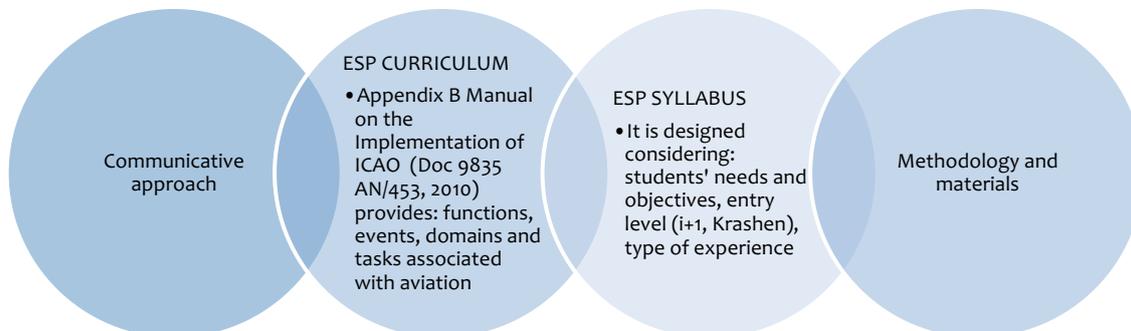


Figure 1-7 From curriculum to methodology development into a communicative approach

Adopting a communicative approach, however, does not clearly define the methodology that should be adopted by teachers. “If the communicative approach is at the heart of teaching aviation English, then central to methodology of such teaching is knowing what the learner needs” (Bullock, 2015 : 38). So, once the teacher knows the functions and forms of communication in aviation English, it should be easy for him or her to outline the teaching techniques that support the chosen

methodology (idem). Sarmiento (2011) and Davis (2015) assert that once the teacher has identified the actual language requirements in aviation English, it is easy to specify the methodology to teach them, and it is overall easier than teaching a general English course.

In sum, there is not a correct way to teach aviation English, but the course content should be carefully constructed on the basis of the students' linguistic objectives. The teacher is the "director" who decides what should be taught and how in order to meet realistic goals. However, some principles to ensure successful learning are taken from Brown (2002) and perfectly accommodate aviation English teaching. He suggests:

- Meaningful learning: a type of content-centered learning that produces better long-term retention of language, that should be the responsible long-term objective of all pilots and controller;
- Intrinsic motivation: this kind of behavior stems from "needs, wants and desires" and is very strong and self-rewarding. The investment in professional and personal terms is very high for pilots and controllers, so is the motivation to maintain a high level of language;
- Communicative competence: it is gained through activities and tasks that help use the authentic language effectively. To tell it with Mitsunomi (2012: 3): "[...] to learn to speak one must speak. To learn to listen, one must engage in listening exercises".

Considering this last point presented, the teacher in a communicative classroom must talk less and listen more. The reduced TTT (teacher talking time) means that the teacher becomes a mere facilitator and an observer in the classroom, and fosters the students learning (Larsen-Freeman, 1986).

The other important component of an organized aviation language course are the activities proposed. Because the students are most of the time adult learners who need to invest their money and time at best, the activities proposed must give them a quick response to their study. Exercises intended to enhance the ability to speak

English in the aviation context must be correct and authentic (Lin et al., 2014) and students must engage in activities full of key words and expressions that can successively be reused in real life situations. To tell it with Mitsutomi (2012: 3):

“The ultimate goal of the ICAO language proficiency requirement is aviation safety through communication. It is another safety net in the complicated web of international traffic. That communicative web stays knit together only if all those who have a part in it take their responsibility seriously. Native and non-native English speaking pilots and controllers share this burden on linguistic responsibility. They also share the joy of knowing that they are communicatively competent regardless of the nature of the operational situation. And this linguistic confidence is yet another bonus added to an already interesting and challenging career.” (Mitsutomi, 2012: 3)

In other words, the course content should be defined, developed and planned according to the students’ final working objectives, in order to “look further beyond the test into real-life communicative situations” a student is likely to encounter (Bullock, 2015: 7).

2 The Study

2.1 Introduction

In the present chapter the methodology of the research will be outlined. First, the research questions and the central hypothesis that generated them will be described in paragraph 2.2. To continue, the research design based on mixed methods will be presented (paragraph 2.3). The different methods applied for gathering data will be sequentially presented, highlighting the function of every single phase of the study. It is made clear that the present research employs both qualitative and quantitative data, collected through focus groups, questionnaire and structured interviews, in order to achieve data consistency. It is, in fact, pointed out by Dörnyei (2007) that the advantage of using mixed methods in a research is that they will allow “elaborated and comprehensive understanding of a complex matter, looking at it from different angles”. Thus, the participants taking part in the study will be described sequentially, considering the different candidates’ category for each phase of the study: focus groups participants will be described with particular attention to their professional identity and their average language level. Thus, the sampling procedure applied for the questionnaire data collection will be specified, and lastly the instructors teaching aviation English in some of the flight training organizations in Italy will be presented. Difficulties regarding the collection of data from instructors will be also discussed in paragraph 2.6.2, even though limitations will be discussed in more detail in chapter 5. Finally, the method of data analysis will be outlined within every phase of data collection.

2.2 Research questions and hypothesis

This project was conceived during my time working for the Flight Training Organization in Treviso. As a TEA (Test of English for Aviation) examiner I witness many candidates taking the exam with a very poor level of English and still not taking

too seriously the importance of improving their level of English, not only as a means to pass the imminent exam, but also to warrant security during flight. As a result of this personal working experience, the hypothesis tested in this study is that pilots and controllers consider the mastery of English level as a secondary competence and taking the language proficiency exam is only considered as a short-term objective to have the flying license renewed. On the basis of this hypothesis and the review of the literature, the following research questions were developed:

- 1: What are the pilots' and controllers' attitudes towards the language proficiency requirements mandated by the International Civil Aviation Organization?
- 2: Is the mastery of English seen as a short-term or as a long-term objective by pilots and controllers?

As the hypothesis was that the level of English among flight operators was insufficient, and as a result of the analysis of the data collected during the focus group, a third question in this area was formulated:

- 3: What is the students' perception of the training provided in the context of aviation English?

Furthermore, considering the importance of the methodology adopted to teach English in this very specialized and restricted field, an extra research question was posed:

- 4: What is the methodology actually used to teach English for aviation?

The first three questions of the research focus on the students and are very closely related to each other, because the starting point for the analysis is the language

proficiency requirements scale provided by the ICAO. The fourth research question focus on the instructor and is analyzed in the last stance.

2.3 Mixed methods rationale

The methodological approach taken in this study is a mixed methodology based on both qualitative and quantitative research approaches to collect valid data to prove the research hypothesis and answer the research questions. The decision of adopting a mixed methods approach was based on the assumption that collecting different types of data best provides an understanding of the research questions. The advantages of combining qualitative and quantitative research are manifold. On the one hand, a qualitative approach gives rich and detailed insights based on personal experiences. On the other hand, a quantitative approach permits a broader view based on hard data and statistics. The combination of the two methods offers a “more comprehensive means of legitimizing findings than do either QUAL or QUAN methods alone” (Dörnyei, 2007: 62) and permits the researcher to compare information deriving from both data types. Essentially, “[q]uantitative and qualitative inquiry can support and inform each other” (idem: 42). Furthermore Johnson and Onwuegbuzie (2004: 14-15 quoted in idem: 167) describe the advantage of using both types of methods as follows: “[...] If you visualize a continuum with qualitative research anchored at one pole and quantitative research anchored at the other, mixed methods research covers the large set of points in the middle area”. This citation highlights the importance of using mixed methods in order to achieve consistency of data.

Therefore, this mixed methods research included both qualitative data as retrieved from two focus groups conducted with two homogeneous groups of 5 pilots each. The pilots in the groups had different types of licenses (private pilots, commercial pilots and instructors), experience and levels of English. Quantitative data was collected thorough an online questionnaire completed by 101 pilots and controllers. Moreover, in order to answer the fourth research question, 4 extra personal demistructured interviews were conducted in order to collect qualitative data aimed at

describing the type of methodology adopted by language instructors in Italy. The study is divided into three phases. The first two focus on the students and answer the first three research questions and aim to verify the central hypothesis of the study, whereas the third phase is aimed at answering the fourth question of the research.

The study design is sequential (Dörnyei, 2007). The qualitative data gained from the focus groups are examined first, and the quantitative data collected through the questionnaire follow. Qualitative data related to the teaching methodology applied in the context of aviation are analyzed in the last stance.

2.4 Focus group: qualitative data collection

2.4.1 Focus group rationale

Differently from the structured interviews, focus group interviews – as the name suggests- are conducted in small groups of 6 to 12 participants who “think[...] together, inspiring and challenging each other, and reacting to the emerging issues and points” (Dörnyei, 2007: 144). This has the advantage of creating “deep and insightful discussion” and economically collect a large amount of qualitative data (ibi.).

The qualitative data collected through the focus groups revealed no support for the initial hypothesis posed in the study, but an opposite perspective was confirmed by the majority of the respondents: English language in aviation should be seen as a priority competence in order to guarantee safety during flight. Moreover, what emerged is that for all of the interviewed candidates the language level 4 proposed by the ICAO is perceived as barely sufficient for pilots and controllers to perform their job adequately.

In the present research, the focus groups served as a starting point to elaborate the questionnaire items, as proposed by Dörnyei (2007: 146): “in applied linguistic research [they] have been widely used for generating ideas to inform the

development of questionnaire and subsequent deep interviews”. Thus, the purpose of this set of interviews was to obtain a better idea, based on insider knowledge and they had primarily a “development function” in the definition proposed by Greene, Caracelli and Graham (1989, quoted in Dörnyei 2007: 165):

Qualitative and quantitative methods are used sequentially so that the results of the first method inform the development of the second. For example, a focus group interview is used to develop items for a quantitative questionnaire.

Although they did not confirm the central hypothesis of the study, the focus groups permitted to explore the phenomenon from a different angle and generate more research questions then tested through the quantitative method. All the research questions, however different, are strictly related and their results will entangle in the discussion of data. Being focus groups so flexible and information-rich (ibid.), they permitted the preparation of a consistent items pool. The consequent data collected in the questionnaire confirmed and in some cases expanded what emerged in the focus groups.

2.4.2 Participants

Considering the nature of the focus group and the type of data they provide, it is not possible to apply a probability sampling procedure to select participants. Considering this aspect, a convenience and opportunity sampling best fitted the purpose of selecting informative candidates (Baldy, 2005; Dörnyei, 2007). Therefore, the members of the target population were selected for the purpose of this study on the basis of professional and language-related criteria. Ten pilots were contacted by a training center located in the province of Treviso and invited to take part in the focus groups. The candidates were eager to participate and gave their availability. Some of them are colleagues or friends. No air traffic controllers gave their availability to take part in the focus group though being invited.

The pilots were divided into 2 homogeneous groups in terms of level of English and aviation background. The first group was made up of 5 pilots with a level 5 on average possessing an ATPL type of license. The second group was made up of 5 pilots with a level 4 on average with both PPL (2 participants) and ATPL (3 participants) licenses but with a similar aviation background. The reason for this segmentation is manifold. First and foremost, it is important to make sure that the participants in one group have something in common with each other: this results in them feeling more at ease and talking more openly, generating a great number of thoughts that may be worth analyzing later. Secondly, homogeneity of the group is important and according to Dörnyei (2007: 145) “in order to obtain a wide range of information, the usual strategy is to have several groups which, as a whole, are different from each [sic] but each of which is made up of similar people”. Thirdly, according to Dörnyei (2007) the use of homogeneous sample ensures faster data saturation, that is the point when additional data does not reveal from the discussion. Conducting two heterogeneous focus groups with homogeneous participants allowed collection of comprehensive data from two different perspectives.

2.4.3 Data collection

The focus group interviews were conducted in Italian through Skype and consisted of a relaxed and informal conversation of about one and a half hour each. None of the participants dominated the scene and they all had the chance to express their opinions for approximately the same amount of time. The interviews were recorded using both the recording system present in the application (Skype video call recording) and an external Panasonic voice recorder as a backup. Participants were asked to grant permission to record and they were ensured anonymity.

After, an introductory part where the purpose of the interview was explained and basic rules were given, a series of questions following a question line (divided into opening, introductory, core and closure questions) were asked (Baldry, 2005: 42). In order to make the focus group more dynamic, candidates were shown two photos (Barbour, 2009; Carey and Asbury, 2012), one representing a TEA exam session and

one showing a runway incursion. Candidates used the photos as a starting point to discuss the different language needs they may encounter in these two kinds of situations. Indeed, in some cases questions were not answered following the original order and autonomy in the conversation among participants was allowed in order to have them generate ideas more easily. In particular, the questions asked had the objective of generating ideas related to the perception pilots have of the language proficiency requirement issued by the ICAO – particularly, if they consider level 4 a good level in terms of plain language proficiency -, if they reckon that the mastery of English should be a precondition in a pilot's job, what type of courses they attended to improve their level of English and what linguistic aspects they consider most important in a course of English for aviation. As for this last set of data, saturation was not fully reached, and the data collected was limited to a shallow level (Richards, 2005 quoted in Dörnyei, 2007). A complete list of the questions posed in the focus group is given in Appendix B.

2.4.4 Method of data analysis

The qualitative data collected in the focus groups were analyzed following the sequence: transcription, coding for themes and making interpretations (Dörnyei, 2007: 246). In practical terms, the very first step was to transform the recordings into texts, and to do so Express Scribe, a computer-assisted transcription software, was used in order to reduce the amount of time dedicated to the transcription phase. Thus, the coding consisted in highlighting the salient parts of the transcription after reading and labelling them with key words. The coding made the identification, retrieval and grouping (*ibid.*) of common themes easier. The last part of the data analysis consisted in generating analytic memos starting from the themes and sub-themes labelled. They were useful to draw the first conclusions about the hypothesis of the study and some of the research questions at a glance (*idem*). The key issues of the first three research questions were actually used as main, guiding themes, and a series of subthemes were retrieved from the discussions using key words.

2.5 Quantitative data collection: online questionnaire

2.5.1 Questionnaire rationale

A survey was developed out of the item pool generated by the data collected through the focus groups. The purpose of the questionnaire was to confirm and test the results of the data gathered in the focus group “in terms of the breath of its distribution in the population” (idem: 164). Moreover, it had the purpose to verify the central hypothesis of the study and answer the first three research questions presented in paragraph 2.2.

2.5.2 Questionnaire draft design and piloting

A first draft of the questionnaire was developed using the item pool created starting from the ideas generated in the focus groups. A selection of the most appropriate items for answering the research questions was made and particular attention was paid to wording of the items, so that they could not result misleading.

Initial piloting

The draft of the questionnaire was provided to an expert pilot. Feedback revolved particularly around two aspects: the first was the wording of the items, sometimes too long or unclearly phrased; the second was the inconsistency of some questions aimed at answering the central hypothesis of the study. Both adjustments were made before forwarding the questionnaire to a second group of pilots.

Second piloting

On the basis of feedback received from the initial piloting, a near-final version of the questionnaire was formulated. However, not knowing how the actual items would work in practice (idem: 112), the modified copy of the questionnaire was sent to a group of ten pilots, who were the same candidates that took part in the focus group. Thereby, other minor adjustments were suggested. An item analysis was conducted

in order to make sure the instructions and the questions were clearly and correctly understood. After the second piloting, the questionnaire was created and distributed through Google Modules. Anonymity was promised, as specified in the general introduction of the questionnaire.

2.5.3 Participants

The easiest way to reach a representative sample was to ask the pilots involved in the focus groups and in the piloting phase to “spread the voice”. Thereby, a snowball type of sampling was chosen. According to Dörnyei (idem: 98), snowball sampling “[...] involves a ‘chain reaction’ whereby the researcher identifies a few people who meet the criteria of the particular study and then asks these participants to identify further appropriate members of the population”. As a result, a hundred and one pilots and controllers filled in the online questionnaire. Twelve of the 101 questionnaires had to be rejected due to ambiguous or uninfluential data, and 89 were considered valid.

In order to better analyze and understand the data collected through the questionnaires, it is important to outline the population sample who took part in the survey. The whole data was collected from 7 ATCO (7,9%), 56 ATPL (62,9%), 12 CPL (13,5%), 10 military pilots (11,2%) and 4 PPL (4,5) (Figure 2-1). The surveyed participants are all Italian, non-native speakers of English. It is also important to highlight that the companies these Italian professional pilots work for may not be Italian (eg. Easyjes, Ryanair, etc.).

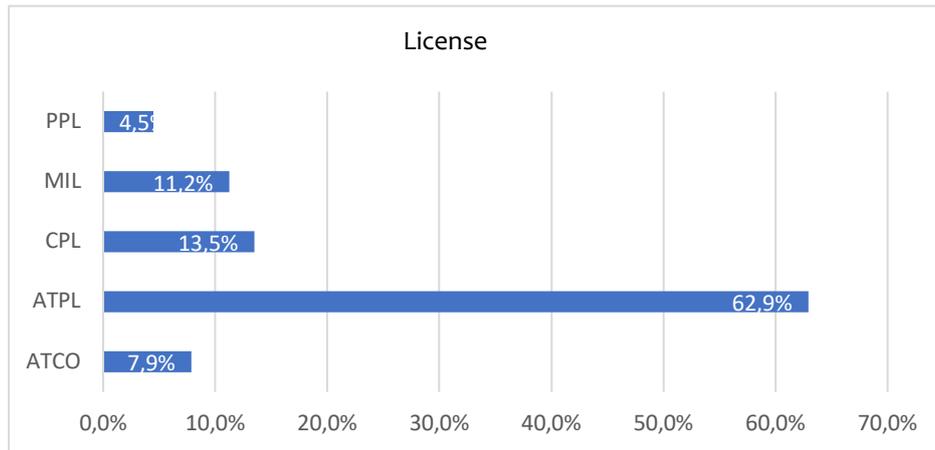


Figure 2-1

Considering the ATPL and the CPL licenses very similar in terms of flight regulations, they were grouped and counted as a single license typology for the statistics produced in the next paragraphs. On the contrary, PPL pilots, were sometimes excluded from the calculations regarding questions very focused on work-related subjects. Although private pilots must have a proficiency similar to the professional pilots in order to guarantee safety when they fly internationally, they are not tied to a company contract.

2.5.4 Data collection

As regards the online questionnaire. The questionnaire consisted of 31 items (Appendix C) orderly divided into 5 sequential sections in the following way:

- Questions 1-5: personal data
- Questions 6-7: use of standard phraseology
- Questions 8-15: test of English for Aviation
- Questions 16-22: English knowledge as a guarantee of safety during flight
- Questions 23-31: course of English for aviation

In each section, scales were mixed up in order to “create a sense of variety” (idem: 111), and open-ended questions were only used as clarification questions. Because the questionnaire was anonymous and the personal data only revealed age, type of

license and information about English in the working context, personal questions were posed at the beginning of the questionnaire for practical reasons regarding the consequent analysis of the data. Questions 8-15 were aimed at getting the general perception about the test of English for aviation. Question 12 was particularly aimed at getting straight students' feedback about their perception of ICAO level 4 in terms of safety guaranteed during flight operations. Questions 16-22 were proposed to answer the second research question and to highlight the importance of having a high level of competence on the long run, especially for ATPL pilots and ATCOs who normally use English in their job. The answers to these questions also had the important role of supporting or contradicting the hypothesis of this research. Through the answers 23-31, students expressed their perceived needs of the training provided in the field of aviation.

The questionnaire was created and administered using Google Modules and the link was copied and shared following the principle of the snowball sampling, as described in paragraph 2.5.3. The questions were formulated in Italian. It remained opened (available for answering) for a period of 15 days.

2.5.5 Method of data analysis

Questionnaire data were collected through Google Modules, that already provided a general statistical overview of the data. The data were downloaded on a spreadsheet and data were scanned and filtered. Data were manipulated in order to produce descriptive statistic that helped summarize findings “[...] by describing general tendencies in the data and the overall spread of the scores” (idem: 213).

2.6 Qualitative data collection: semi-structured interviews

2.6.1 Interview rationale

The fourth research question regards the teaching methodology applied in the field of aviation. In order to collect useful data to answer this question, it was necessary

to consider the investigation from a different perspective, and thus new information were collected directly from instructors working in 4 major flight training centers in Italy. It was possible to compare the data collected from the instructors through the semi-structured interviews with the data gathered through the focus groups and in the fifth part of the questionnaire.

2.6.2 Participants

The participants constituted a typical type of sampling (idem: 128) and were selected on the basis of their position as instructors in some of the major FTO in Italy. This common attribute was necessary to meet one of the research objectives.

A large number of instructors were contacted to ask for their availability to take part in the research project, but many of them either did not reply to the phone call or e-mail or simply did not want to do the interview. So, only four instructors gave their availability.

Of the four language instructors interviewed, two of them have a certification for teaching English, specifically a CELTA certification and TEFL certification. Two of the four interviewees do not have a certification for teaching English as a foreign language. One of the two declared to have a degree in foreign languages, the other said he had working experience abroad (England and USA). These experiences allowed them to considerably enhance their linguistic level. In all four cases, the instructors had previous working experiences as English teachers in other private schools or training organizations. Only one of them is both a pilot and an instructor and one had other working experience as a secretary at the flight training organization that made him keen on airplanes and flight. The other two instructors had barely no aviation experience.

2.6.3 Data collection

For this part of the study it was decided to use semi-structured interviews that, according to Dörnyei (2007), offer a compromise between two extremes (structured

and unstructured). The advantage is that “although there is a set of pre-prepared guiding questions and prompts, the format is open-ended and the interviewee is encouraged to elaborate on the issues raised in an exploratory manner” (ibid.). This means that “the interviewer provides guidance and direction [...], but is also keen to follow up interesting developments and to let the interviewee elaborate on certain issues” (ibid.).

The semi-structured interviews involved four instructors and it was only possible to carry them out through Skype due to Covid-19. Exactly like the focus groups, they were conducted in Italian, lasted approximately 45 minutes each and were quite relaxed and informal. The interviews were recorded using both the recording system present in the application (Skype video call recording) and an external Panasonic voice recorder as a backup. Participants were asked permission to record the interview and they were ensured anonymity. The interview started with an introductory part where the purpose was explained. The first five questions were aimed at understanding the teachers’ educational background and the type of certificates he/she possessed, whereas the rest of the questions were developed in order to collect data that could be compared with those resulted from the focus groups and questionnaire (see Appendix D). However, sometimes they were answered without strictly following the original sequence and, as in the case of the focus groups, freedom in the conversation was allowed in order for interviewees to generate extra ideas easily. The questions revolved around the general topic of teaching and students’ needs analysis and focused mainly on the methodology, the materials and the techniques adopted to teach aviation English.

2.6.4 Methodology of data analysis

The methodology used to analyze the qualitative data collected in the interviews was similar to that used for the focus groups. Firstly, the data were transcribed using a computer-assisted transcription software (Express Scribe). The resulting written text was this way easily codable and key themes were highlighted and labelled. Again, the

generation of analytic memos out of the labelled themes permitted to draw the first conclusions about the results.

2.7 Ethics

All the participants involved in the present research project were informed of the objectives of the study and the methods used to collect such data. In the case of the interviews and focus groups, participants were informed that they would be recorded using both a video recorder and a voice recorder. Moreover, they were asked permission to record and promised that their privacy would be protected. As regards the questionnaire, participants were guaranteed anonymity in the very first introductory part of the questionnaire.

2.8 Conclusion

In this chapter, the methodology of the current study was presented in detail, discussing the rationale for a mixed method adoption and the description of the three phases of the study. For every phase, the participants, the methodology of data collection and data analysis were looked at in depth.

3 Analysis

3.1 Introduction

The present chapter is concerned with the analysis of the data and will be divided into three sections.

The first two will report on qualitative and quantitative data collected through the focus groups first and the questionnaire second, and aim at answering the first three research questions:

- *What are the pilots' and controllers' attitudes towards the LPRs and the LPR testing?*
- *Is the mastery of English seen as long-term or as a short-term objective?*
- *What is the students' perception of the training provided in Aviation English?*

Being the first two sections strictly interrelated, a typology development mixed-methods analysis (Dörnyei, 2007) was used. The analysis of the data from the focus groups yielded a set of themes (corresponding to the research questions) and sub-themes that were then compared to the very same typology of data gathered through the questionnaire survey. The analysis of the different data types was conducted sequentially and then compared at the level of conclusion in chapter 5.

The third section will report on data collected through structured interviews to aviation English teachers and aim at answering the fourth research question:

- *What is the methodology actually used to teach aviation English in Italy?*

The data collected through the interviews were then compared to the data emerged in the last part of the questionnaire in order to check whether the actual methodology used in the aviation English teaching corresponds to the perceived needs expressed by the pilots and controllers in the survey.

3.2 Qualitative data analysis: focus groups

As previously outlined (see paragraph 2.4.1), the first three research questions were investigated by asking a set of questions in the focus groups (Appendix B). The questions were divided into themes corresponding to the principal topics investigated by the research questions. Key words drawn directly from the candidates' answers were then used to generate sub-themes and label the main information categories emerged in the discussion and proved very useful in presenting the data. In particular, these themes and sub-themes can be grouped and summarized as follows:

1. Attitudes towards LPRs and LPRs testing

- Plain English use
- Adequacy of ICAO level 4
- TEA exam (or equivalent LPRs test) and criticism

2. Mastery of English as a long-term objective

- Language standardization
- Routine as a language deteriorating element
- Company-paid language courses

3. Perception of the training provided in the aviation context

- Communicative approach and difficulties related to accents and comprehension
- Course content
- Aviation English teachers' competence
- Teaching methodology

The themes above are in many cases interrelated and for this reason it was sometimes difficult to assign them to a specific sub-theme. The labelling of the information outcoming the focus groups interviews and the consequent notes and

memos written next to the key words permitted to draw some important conclusions that will be presented in the following paragraphs, where the single themes and related subthemes will be discussed. Moreover, in order to illustrate the different themes, some quotations³ extracted from the original interviews will be used.

3.2.1 Attitudes towards LPRs and LPRs testing

3.2.1.1 Plain English use

As regards the attitudes of pilots towards the language proficiency requirements, it is important to report their impressions about the importance of mastering plain English during air-ground communications, particularly during abnormal situations. It is crucial to underline that, in most cases, the interviewed candidates referred to plain English using the term “general”, but what actually was discussed in the interview was the use of ICAO’s plain language. This is what two of the candidate pilots reported:

“[durante le operazioni di volo] si parte sempre da un linguaggio standardizzato, che si conosce bene, per poi sfociare, in caso di gestione di situazione inaspettate, in un tipo di lingua che ti permette di gestire l'emergenza. In quel caso bisogna conoscere bene la lingua per essere chiari, rapidi e precisi e non perdere la concentrazione [...]”⁴

³ The quotations from the focus groups will be copied in the original language and the translation in English will be provided in footnote.

⁴ “[during flight operations] you always start using a standardized language, one that you know well, and then you end up – in case of unexpected situations – using a type of language that allows you to manage an emergency. In that case you need to have a good mastery of the [plain, *ndt*] language to be clear, quick and precise, without losing concentration.

“Si parte da una manovra che è, ad esempio, un “go around” [...] applichi gli automatismi ricorrenti e poi alla fine, quando devi spiegare il perché hia fatto quella manovra, ovviamente usi un inglese più generale⁵”

These statements, of course, demonstrate that, although the adherence to standard RTF phraseology is absolutely the right thing to do in the majority of the ground and en-route situations, there are times when the use of plain language becomes crucial. The candidates stressed the importance of improving the use of plain language, as described in the following paragraphs.

3.2.1.2 Adequacy of ICAO level 4

From the considerations about the plain English use in the previous paragraph, interviewees came up with other thoughts regarding the appropriacy of ICAO level 4 as an adequate level to guarantee safety during flight operations. Nearly all pilots in the focus groups claimed that the level 4 is barely sufficient to guarantee safety during flight operations, especially for professional pilots and controllers, and it proves clear in the following quotations:

“Io penso che il giusto compromesso per noi piloti professionisti sia di avere almeno un livello 5 pieno se si lavora in ambito internazionale. Sicuramente raggiungere quel livello è importantissimo⁶”

⁵ “You start from a maneuver like a “go around” [...] and you apply the usual automatisms, but in the end, when you have to explain why you did that, you obviously have to use a more general English”

⁶ “I think that a right compromise for professional pilots like us is to have a level 5, especially if we work on an international setting. Certainly, reaching that level is very important”

“Con un livello più basso del 5 vedo che alcuni colleghi hanno delle difficoltà a comunicare, soprattutto in situazioni difficili dove bisogna reagire velocemente e avere una buona padronanza della lingua inglese, non solo tecnico”⁷

3.2.1.3 Language Proficiency Testing

Another aspect related to the attitudes towards the language proficiency requirements regarded the periodical proficiency test and criticism was brought forward by the candidates. They always referred to the language proficiency test as “TEA” (Test of English for Aviation), but it is not the only existing test present in Italy. For this reason, the acronym was substituted by the hypernym “test” in order to generally refer to all the possible existing aviation English checks.

What pilots reckoned, by and large, is that the test of English for aviation is not directly connected to the knowledge of RTF phraseology but to a type of general English linked to the aviation context.

“Io sono dell’opinione che una persona che ha un inglese tecnico scarso possa comunque dimostrare un buon livello di inglese per passare un [test] di inglese. Ma ciò non è completo”⁸

This quotation shows that the test can be passed by people who actually have a low level of radiotelephony competence, and for this it should be considered incomplete. However, the RTF phraseology is a type of competence that is usually tested during licensing, in flight and in classroom.

⁷ “With a level lower than 5, some colleagues of mine have difficulties in communicating, especially in difficult situations when you need to react quickly and have a good mastery of English, not only technical”

⁸ I think that a person who has a low technical English knowledge can have a good level of English and pass the test anyway. But it is not complete.

Only few pilots (those with a lower level of proficiency) in the focus groups considered the test difficult or very difficult, but in general they stated that the exam has a “medium” level of difficulty. This fact leads also to another conclusion, discussed above: the minimum level 4 checked in the test is not always a guarantee of security and safety during emergencies. Another drawback is that the test, unlike the real life, is slower and the instructions given by the examiner and the recordings can be heard twice, and that is not always possible in real life. It is true that assessments are standardized for a number of reasons, but the general feeling is that the proficiency test does not completely mirror the real-life condition.

Another important reflection produced during the focus groups is that 8 candidates out of 10 considered the periodical proficiency test as a “source of improvement”, that is the starting point to become aware of the importance of English in this field and to grow a sense of responsibility, above all in professional pilots who use it internationally. They said that:

“Può essere utile e a spronare [...] ad avere quel livello necessario oltre alla fonìa. Forse successivamente, per chi dimostra già un buon livello, questo test non ha alcuna utilità”⁹

“Secondo me l’obiettivo del [test] dovrebbe essere quello di far sì che i piloti si rendano conto che devono migliorare il loro livello di inglese”¹⁰

The last interesting thought about the proficiency test is that the attitude towards it has changed over time. In 2008, when the ICAO regulation had just been adopted by most of the member countries, the test was a “source of anxiety” for many pilots, especially when they did not know what to expect and considered the result of the test as an essential score to maintain their position in the company they work for. The

⁹ It can be useful to urge [pilots] to reach a necessary level, beyond RTF phraseology. Perhaps, for those pilots who demonstrate a good level of English, this test is of no use in the future.

¹⁰ In my opinion, the objective of the [test] is to have pilots [and controllers] realize that they must improve their level of English.

perception of the test difficulty has been scaled down over the years. This is particularly true for those who have a level 5 or higher.

“E’ vero che al primo [test] c’è sempre l’apprensione di dover passare un esame, e quindi è normale essere più nervosi. Ma poi questa cosa nel tempo passa. Ora so che posso passarlo e non mi preoccupa”

3.2.2 Mastery of English as a long-term objective

3.2.2.1 Language standardization

A good mastery of English should be seen as a basic competence to start a pilot or a controller career. It is as essential as having competences in meteorology or mass and balance, to mention some. Correspondingly, what came out from the discussion in the focus groups is that nearly all pilots – the only exceptions were represented by the private pilots who took part in the study – reckoned that a good mastery of English should have, in this field, a long-term objective of fulfilling their working duties professionally and responsibly. What the interviewees said is:

“Io penso che bisogna conoscere bene sia l’inglese tecnico che l’inglese general per poter fare meglio il nostro lavoro, quindi l’obiettivo è decisamente a lungo termine”¹¹

“È importante conoscere bene l’inglese tecnico, ma poi hai bisogno di quel che ti permette di gestire tutte le situazioni, per esempio un’emergenza a bordo”¹²

¹¹ I think we should know well both technical and general English in order to better do our job, and for this reason, the objective is definitely long-term.

¹² Knowing the technical English is important. But then you need what permits you to manage all the other situations, such as an on-board emergency.

“In un certo senso passare l’esame non è proprio l’essenziale. L’essenziale è avere una buona comunicazione che ti permetta di fare bene il tuo lavoro”¹³

Generally speaking, test taking was seen by the interviewees as secondary compared to the importance of communicating in English during flight operations. So, the responsibility and the desire of a continuous improvement was demonstrated during the focus groups by all the pilots, who stated – as in the case of test taking – it must be seen as an improvement for their career. Then, the short-term objective of passing the test was for many of them a mere “exam to pass” in order to have their license renewed, and, in the case of ATCOs, in order to avoid hazardous directions.

3.2.2.2 Routine as a language deteriorating element

One of the principal dangers of working the same routes every day is that in 99% of the cases, because flights are accurately briefed, the technical language used in exchanges between plane and tower are always the same. Routine then is considered by the aviation operators as a deteriorating element for their level of English.

“La possibilità di mantenere un buon livello di inglese in ambito lavorativo è molto complesso perché non c’è la possibilità di uno scambio costruttivo, linguisticamente parlando”¹⁴

Like in a vicious circle, if there is no opportunity to grow linguistically and become a fluent user, the consequence is that cognitive effort may cause slow and unclear communication and, in other words, become a barrier for air-ground exchanges. So,

¹³ Passing the exam is somehow not really essential. The essential is to have good communication skills that permits you to do your job properly.

¹⁴ The opportunity to maintain a good level of English in this working environment è very complex because there is not a change for a constructive exchange, linguistically speaking

maintaining a good level of language permits a minor cognitive overload during real life situations. This is what one of the pilots said:

“È importante che la scuola [di volo], oltre a una preparazione aeronautica, dia una preparazione linguistica che permetta di lavorare senza sforzo in un contesto internazionale”

3.2.2.3 Company-paid language courses

According to the interviewees in the focus groups, what can be done to contrast the problem related to language loss due to working routine is to attend periodical courses, possibly paid by the companies they work for. A good knowledge of the language is a company - and not only a pilot's or a controller's - responsibility, although they are the first accountable for ensuring a high level of professionalism. Nevertheless, a company should invest in its personnel in order to maintain high stakes accountability. The following comment is the most salient in expressing this concept:

“[...] Se un'azienda sa che un dipendente non ha il livello sufficiente, gli fa fare i corsi di inglese e lo fa raggiungere il livello minimo. Così si migliora il livello della popolazione aeronautica, non con il [test]!”¹⁵

Three of the pilots claimed that having courses paid by the company they work for is a “perfect solution” in order to maintain a proficient level of English. One of them said:

¹⁵ If a company knows that one of its employees does not have a sufficient level, it has him do English courses so that he can reach the minimum level. This is the way the aviation population level [of English, tn] will improve, not through a test”

“Sto migliorando un po’ perché adesso l’azienda, da qualche anno, ogni tanto compra un corso e ci permette di frequentarlo”¹⁶

3.2.3 Perception of the training provided in the aviation context

3.2.3.1 Communicative approach and difficulties related to accents and comprehension

In the context of aviation, it is important for pilots and controllers to develop a type of communicative approach to the language. It is interesting to note that the principal issues described in the focus groups are problems they normally encounter in their working days, namely foreign accents and comprehension. Consequently, participants believed these aspects should be improved in a course of English for aviation. For some pilots who normally work for foreign companies or on international routes, it is easier to find a communicative condition where they must exchange information in English, and this naturally leads to an enhancement of the communicative abilities. On the other hand, though, some pilots, especially those who do not work on long routes, find it difficult to understand foreign accents.

“È importante fare l’orecchio agli accenti. Magari incontri l’indiano che parla l’inglese perfettamente ma con un accento diverso”¹⁷

However, being the aviation industry a multilinguistic and multicultural universe by now, it is fundamental, for a matter of safety, to develop communicative strategies that help deal with this issue and become familiar with as many types of accents as possible.

¹⁶ I’m improving [my English] a little because, the company has been buying language courses for some time now and it permits us to attend them”

¹⁷ It’s important that your ears get tuned to the different accents. You may encounter the Indian who speaks English perfectly but with a different accent.

Some pilots in the focus groups also said that, in the many case, controllers have a better accent than pilots, that is they are more aware of the importance of modulating their spoken language in order to become intelligible to an international audience. Contrarily, pilots – particularly NS - do not have the same sensibility.

“Dalla mia esperienza ho notato che [...] quando si parla con la torre di controllo, l’approccio con i controllori, nella maggior parte dei casi... loro sono più istruiti e non hanno un accento così forte. I piloti, moltissimi piloti invece, hanno un accento fortissimo e tendono a non modificarlo per venire in aiuto”¹⁸

Differently, other pilots working on international routes stressed that an ATCOs’ unclear communication – due to a strong foreign accent or poor language proficiency – may lead to ambiguous situation that may, consequently, result in emergency situations and, in some cases, in accidents or incidents.

“Si lavora in contesti in cui l’ATC non è assolutamente in grado di aiutare, e molti controllori non hanno un livello linguistico accettabile... per poterti comprendere se ci sono situazioni non standard. A me è successo [...]. E lì ci sono le reali situazioni di pericolo!”¹⁹

As seen in the previous paragraph (3.2.1 Language proficiency testing), the central part of the testing is focused on the ability to understand pilots and controllers talking with different international accents. It represents the centrality of comprehension in aviation. Nonetheless, some pilots said:

¹⁸ In my experience, I noticed that [...] when you speak to the control tower, the approach with the controllers, in the majority of the cases is... they are more educated and don’t have a broad foreign accent. Pilots, many pilots, have a strong accent instead, and tend not to modulate it to help [understand]”

¹⁹ You work in contexts where the ATCOs are not at all able to help, and many controllers don’t have an acceptable language level... to understand you in case of non-standard situations. It happened to me. These are the real hazardous conditions.

“Poi non c’è solo il capire cosa gli altri ti dicono, ma c’è anche il parlare. Come noi vogliamo che gli altri siano chiari con noi, anche noi dobbiamo essere chiari quando ci esprimiamo, così da evitare fraintendimenti che possono portare a situazioni problematiche”²⁰

This statement definitely points out the importance of speaking correctly. Of course, it is not only a matter of understanding what other people say, but the language production is also fundamental to forward messages appropriately in case extraordinary events. The type of English used in this professional area is only oral, not written, and only rarely read (in case a pilot should consult checklists and instruction manuals). Therefore, a course of English for aviation has the function to develop both listening comprehension and speaking strategies and these two abilities must go hand in hand through the entire course of aviation English being both essential to a suitable performance of pilots’ and controllers’ job.

3.2.3.2 Course content

The content of a course of English for Aviation should always be developed considering the specific language needs of the students (see paragraph 2.9.3). Hence, the syllabus should be developed considering contents of aviation and general English in order for students to “recycle” the language they study in class in their working environment.

Pilots in the focus groups totally agreed that a course of English for aviation should offer not only a type of language focused on the technical aspects, but also contents related to the every-day life that may be useful in the aviation field. Some examples are:

²⁰ There isn’t only understanding what other people say, there is also speaking. In the same way we expect other people to be clear with us, we must be clear as well when we communicate, in order to avoid miscommunication that could lead to problematic situations.

“Un inglese generico e un linguaggio tecnico devono andare di pari passo. Secondo me, per poter esercitare la nostra professione non possiamo solo basarci sull’uno o sull’altro. Quindi entrambi vanno insegnati in un corso di inglese nel nostro ambito”²¹

“E’ importante durante un corso di lingua, mescolare un inglese di tipo generale a un inglese più tecnico. Non solamente fonica... quella i piloti la sanno già bene. Ad esempio, si potrebbe imparare la terminologia medica – succede che qualcuno stia male a bordo...- o imparare a descrivere un paesaggio – si può usare in caso di “visual approach” ... e così via”²²

“Cinquanta per cento di ascolti simil-aeronautico in situazioni di lavoro ma non proprio prettamente tecnico, e cinquanta per cento fatto invece di inglese di tutti giorni... questo è proprio ciò che mi servirebbe!”²³

According to these statements, they reckoned that mixing a technical and a general type of English will indeed expand their vocabulary, always using meaningful and realistic materials. The acquired linguistic competence must be easily transferred to the real world whenever they need it. For this reason, real situations must be simulated and constantly practiced. The following quotation clearly describes it well:

²¹ A general type of English and a technical language must go hand in hand. In my opinion, in order to do our job we can not only rely on either one or the other. So, both must be taught in a course of English in our field.

²² It is important in a language course, to mix a general type of English to a more technical type of English. Not only radiotelephony phraseology... that’s something pilots know well. For example, we could learn medical terminology – having on board a passenger who doesn’t feel well happens sometimes – or become able to describe a landscape – this happens in a visual approach... and so on.

²³ Fifty percent listening of aviation-like situations in working situations, but not completely technical... and fifty percent of everyday English... that’s exactly what I need!

“Si tratta di un compromesso. Devi conoscere la terminologia per descrivere i pezzi dell’aeroplano... il finestrino o il pezzo del motore o il tipo di animale... ad esempio l’uccello... che può colpire l’aereo durante un bird strike... può essere importante...”²⁴

In this statement another issue was touched on in relation to the course content. ICAO clearly states in the Manual for language implementation (ICAO, 2010) that the teaching of grammar is “secondary” in reaching the communicative objective, and according to the opinions expressed in the focus group, most of the pilots agreed with it, with the exception of those candidates who had lower levels of proficiency. They actually stated that having a “grasp” of grammar is necessary to correctly formulate sentences. Structure is one of the competences checked in the test, as well. Nonetheless, here is a statement a lot of interviewees did agree with:

“Io lascerei fuori tutta la parte relativa alla grammatica. Quindi chiedere ad un insegnante di non fare nessun tipo di esercizio grammaticale. Non mi interessa memorizzare regole, ma piuttosto mi interessa riconoscere se ciò che sto dicendo è valido, anche se non è perfetto grammaticalmente parlando. Quindi punterei a imparare a costruire in modo automatico un certo tipo di discorso”²⁵

To summarize, in discussing pilots’ perception of needs to address a course content or syllabus, their answers clearly expressed opinion very adherent to the ICAO regulations, that is, the content of a course, although it must keep into consideration the correct use of the standard phraseology for RTF communication, it must firstly aim at improving plain language in the aviation context, that is the teaching of all

²⁴ It is a compromise. You must know the terminology to describe some parts of the airplane... the window or the part of the engine or the animal... the bird for example... that may hit the airplane in a bird strike... it may be important...

²⁵ I’d leave out all the part related to grammar, and I’d ask a teacher to do no grammar exercises. I am not interested in memorizing rules, rather I am interested in recognizing that what I am saying is valid, even if it is not perfect grammatically speaking. So, I’d aim at learning to handle a certain type of discourse automatically

linguistic aspects that a pilot or a controller may come across during their working experience. Vocabulary expansion and limited grammar rules is what pilots and controllers expect. The acquisition of such contents should be seen as a long-term, easy to replicate objective.

3.2.3.3 Aviation English teacher's competence

In order to meet such expectations and be able to satisfy these perceived needs, a teacher needs to have certain particular characteristics. This is what pilots said:

“Sebbene una conoscenza del mondo tecnico possa essere un vantaggio per l'insegnante di lingua inglese in questo ambito, non è necessario che un insegnante sia necessariamente un pilota. Basta una conoscenza generale dei termini tecnici”²⁶

“Un insegnante non deve necessariamente appartenere al mondo dell'aviazione per insegnare aviation English, ma deve essere un insegnante certificato per insegnare general English. L'aspetto tecnico poi viene da sé, lo impara piano piano. Spesso sono gli stessi alunni ad aiutare, perché poi... parlando sempre con i piloti alla fine i termini tecnici sono sempre gli stessi”²⁷

It is very interesting to see how the perception that was depicted through the focus groups interviews was a little different. Although a good knowledge of technical

²⁶ Although the knowledge of the technical world may be an advantage for an English teacher in this area, a teacher doesn't necessarily have to be a pilot. A general knowledge of technical terms is enough.

²⁷ A teacher doesn't need to belong to the aviation world to teach aviation English, but she/he needs to be a certified teacher able to teach general English. The technical aspects will come naturally, she/he can learn them little by little. Often the students are keen to help the teacher, because... Talking with pilots, the technical terms are more or less always the same, in the end.

terms and expressions would be facilitating for a teacher, the objective is they have students learn a wider type of language, namely plain English according to ICAO.

3.2.3.4 Methodology

One of the questions asked to the pilots in the focus groups was about the type of methodology they prefer to learn English as a second language. The question was not very clear to them, as defining “methodology” was quite complex. However, they commented giving good insights that will be hereafter quoted:

“Io preferisco un metodo online ad un corso in presenza, in cui ci si focalizza sull’ascolto e la registrazione per revisione della pronuncia”²⁸

“[...] qualsiasi tipo di argomento trattato con l’insegnante che ti aiuta a capire come entrare nella logica del nativo inglese... e conversare... conversare...”²⁹

There were diverse preferences about the type of course. Some pilots said they prefer an online course because they find it leaner and more practical in terms of acquisition. Others preferred in-class lessons with a teacher that can guide them and always correct them when they make mistakes. Either type of courses will do, and they are in line with what ICAO (2010) defines “blended courses”.

Other ideas of methodology, particularly referred to the organization and administration of the lessons are clearly well represented by the following thought:

“A me piacerebbe un corso strutturato in cui in ogni lezione si affronta una singola, specifica tematica... in modo da approfondire quella e non perdermi. Seguire una sorta

²⁸ I prefer an online method, where you can focus on listening and recording for pronunciation check, rather than an in-class course with a teacher.

²⁹ [...] any topic done with a teacher who can help understand how the “native language” works... and conversate... conversate...

di schema. Con una cosa più strutturata mi troverei meglio... un po' come è suddiviso il libro”

A series of books for teaching aviation English are on the market. They are divided into various chapters, and each of them presents a topic (meteorology, runway incursions, emergency landings, etc). Of course, the books propose a set of exercises that are mostly based on writing and speaking, but the listening part needs integrating with extra tasks, as required by the Manual of Language Implementation (idem). Ideally, the courses should be structured following those syllabus designs. Furthermore, and as seen before, what students expect to learn in course of English of aviation is to deal with different accents and different expression that might be out of the standard domain. This is, for most of the pilots interviewed, a concrete goal that permits them to fulfill professional duties responsibly.

3.3 Quantitative data analysis: questionnaire

The second phase of the research regarded the broadening of the investigation to a larger scale starting from the brainstormed ideas gathered from the discussion in the focus groups. The sections of the questionnaire are five and are sequentially divided into: personal data, standard phraseology usage, test for the English language level assessment, mastery of English language as a guarantee of safety during flight, aviation English course. Being the development of the questionnaire based on the collection of data in the focus groups, it ideally follows the same division of the focus groups data analysis. Firstly, personal data and participants' attitudes towards the standard phraseology and the language proficiency requirements and testing proposed by ICAO will be presented. Secondly the responsibility of mastering English as a fundamental requisite for their job, thus with a long-term objective will be analyzed. Lastly, the perception participants have of the training provided in the context of aviation (see paragraph 4.2) will be examined. In order to maintain this order of data presentation, the answers to the questions will not be presented consecutively.

The on-line questionnaire collected were one hundred and one (101), but after a first analysis some of them had to be discarded due to ambiguous or uninfluential data, and eighty-nine (89) questionnaire were considered valid. Of the 101 participants, 7 answered question 8: *when did you last take the test for the assessment of the English language level (TEA or other equivalent)?*. typing a date that was far too past with respect to the promulgation of ICAO regulation (eg. 2008 in Italy). Other problems were related to questions 9 and 13: 4 private pilots stating to have obtained a very low level at the language assessment test contrarily affirmed to have a very good level of vocabulary, grammar, fluency, interaction and comprehension. Being this information very unclear, it was decided to leave them out of the final analysis. One of the military pilots involved in the survey did not fill in all the questions, so data resulted unusable.

3.3.1 Participants' data

Of the 89 respondents (see paragraph 2.5.3), 51 (75%) obtained their license between 1966 and 2007, that is before the ICAO regulations were issued. The other 17 (25%) obtained their license between 2008 and 2018, that is after the ICAO regulations were promulgated.

It is necessary to highlight the importance of question 4 in this first part of the questionnaire *Was English one of the indispensable requisites to get your job?* (Figure 3-1). In fact, it is crucial to understand data in the next questions, as well.

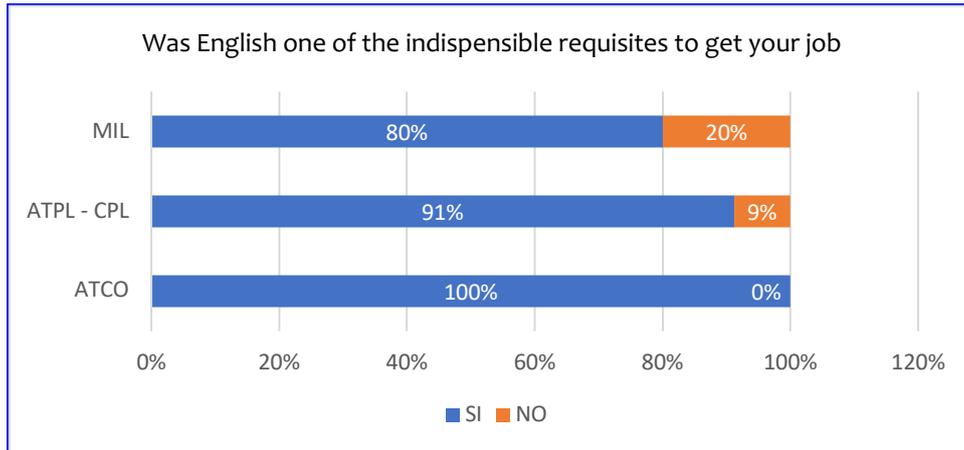


Figure 3-1

It is very interesting to point out that 100% of the air traffic controllers answered positively. Of the 68 ATPL and CPL pilots 62 (91%), and of the 10 military pilots 8 (80%) answered positively. This data clearly shows that, by and large and over the years, English has always been considered an important requirement for airline companies in Italy. Of the respondents who answered no (8 in total, out of 78 professional pilots), 6 (75%) obtained their license in the period between 1966 and 2007 when the ICAO directions were not active (Figure 3-2). Only 2 (25%) “younger” respondents who had their license between 2008 and 2018 answered negatively.

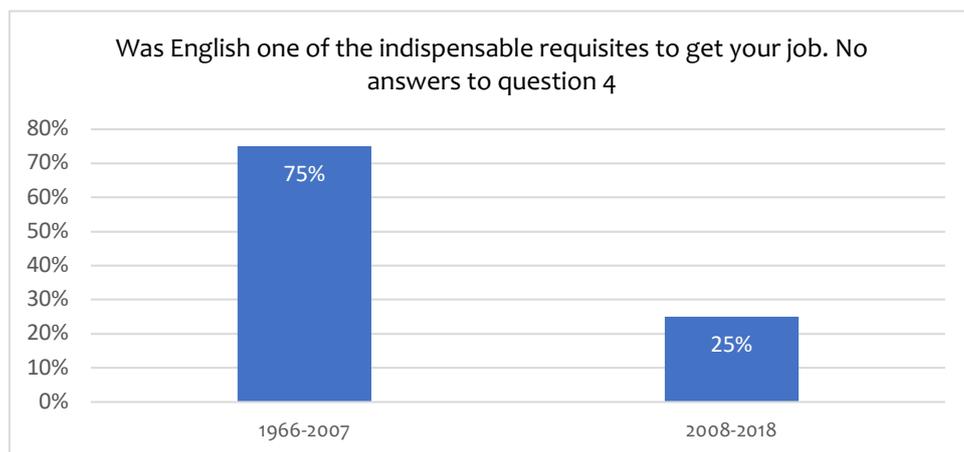


Figure 3-2

In spite of the data collected in question 4, question number 5 - *When you attended the selections for your job, did you take a test to assess you level of English?* (Figure 3-

3) - focused more on the English level assessment during job interviews and selections.

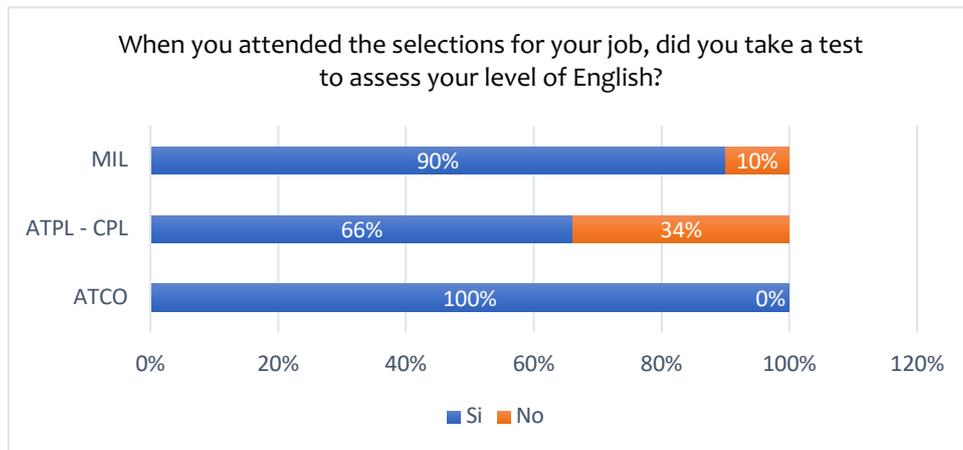


Figure 3-3

The data did not change for ATCOs: 100% answered they did a test to assess their level of English. From these data It is easy to speculate that English for ATCOs is considered more significant than in any other position in the aviation context. Only 1 out of 10 (10%) of the military pilots answered negatively. On the contrary, a higher percentage (34%) of ATPL and CPL pilots answered negatively demonstrating that, in spite of being an indispensable requisite, it is not frequently tested during selections and job interviews.

3.3.2 Attitudes towards LPRs and LPR testing

3.3.2.1 Plain English and RTF phraseology use

As seen in paragraph 1.3.2, the use of plain English is necessary in case of non-standard communications, especially when unexpected or unusual events happen in flight or on ground. It was important then to understand what pilots think about the use of plain English and to what extent they adhere to the use of phraseology for standard communications.

The analysis of standard phraseology usage was examined first. Question 6 *How would you rate the study of standard phraseology in aviation?* (Figure 3-4) was answered by all pilots (ATPL, CPL, MIL, PPL) and ATCOs and the results are the following:

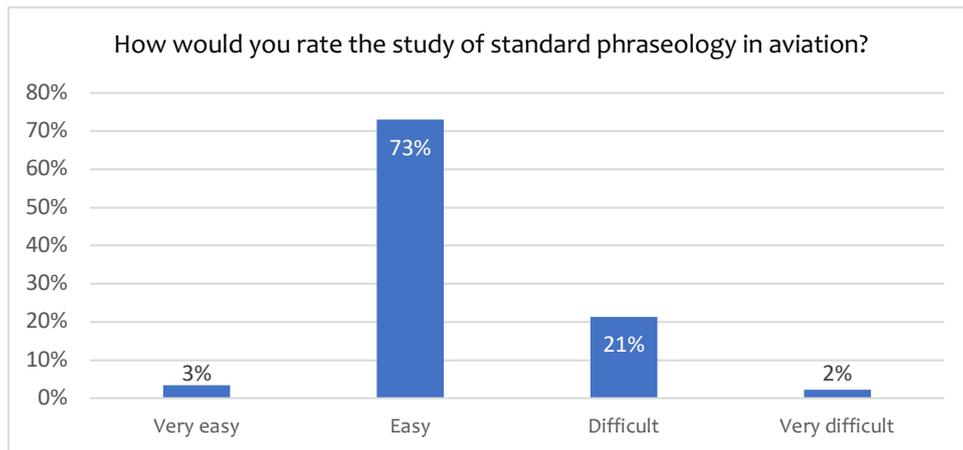


Figure 3-4

When asked about the difficulty of studying RTF phraseology (Figure 3-4), the great majority of the respondents (76%) said that they considered it easy or very easy. Unlike the other 23% thought that the study of radiotelephony jargon was difficult or very difficult. To continue, the analysis about the use of standard radiotelephony, question number 7 was asked in order to inspect the adherence of use. Responses are presented in the following histogram:

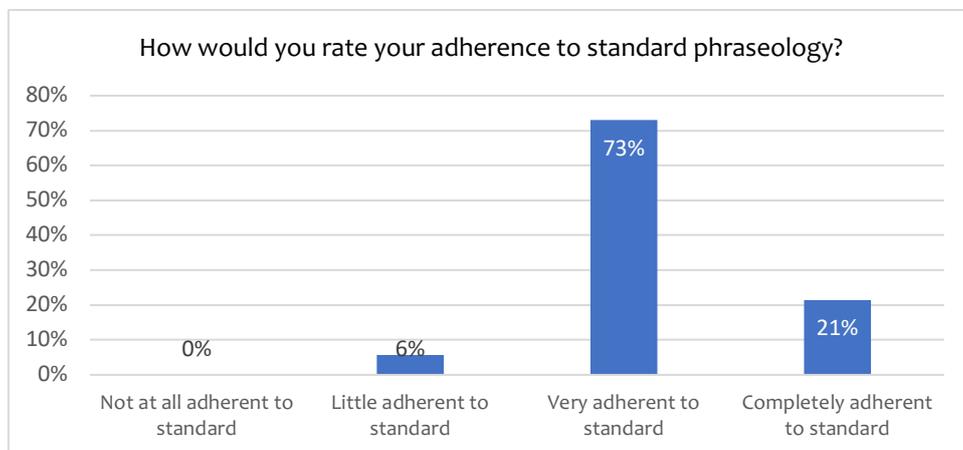


Figure 3-5

This demonstrates that the great majority of the pilots (94%) use standard phraseology properly during flight operations, and this notably reduces misunderstandings. However, 5 respondents (6%) – all professional pilots – declared that their use of phraseology does not completely, closely follow standard regulations.

As far as plain English use is concerned, question 21 *Do you think a good knowledge of non-technical English, defined plain English by ICAO, permits a better performance in your job?* 69% of pilots and controllers (59 respondents out of 85, PPLs excluded) confirmed that they completely agree with this statement. Of the 85 professional pilots, 26 only partly agreed, as represented in the histogram below (Figure 3-6). Clearly, according to the data collected, all the ATCO were totally conformed with the statement, and these data mirrored the previous answers regarding the need of high standard of preparation as in questions 4 and 5.

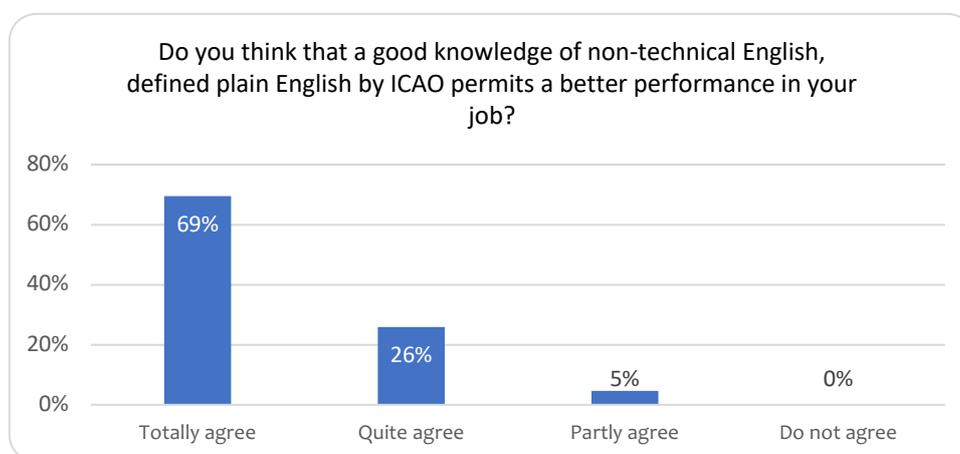


Figure 3-6

It is important to highlight how this question tried to elicit the real attitudes that aviation professionals have towards the language proficiency standards required by ICAO. Of course, the ability to master plain English in this context permits to work safely on an international context: pilots who fly long routes know it well and the data showed in this section demonstrated it.

3.3.2.2 Adequacy of ICAO level 4

One of the issues explored in the focus groups, as well as in the questionnaire, was the adequacy of the ICAO level 4 to guarantee safety during air and ground operations. Nearly all pilots in the focus group affirmed that, in their opinion, ICAO proficiency level 4 is barely enough to guarantee safety in flight. This result was confirmed by the data collected in the questionnaire. In fact, question 12 *ICAO level 4 is an adequate level to guarantee safety during flight operations* aimed straight at investigating pilots' and controllers' opinions about this issue. Of the 89 pilots (PPL included) 26 (29%) and controllers agreed with this statement, 33 (37%) quite agreed and 29 (33%) partially agreed. Only 1 (less than 1%) completely disagreed (Figure 3-7). These data show that the majority of the interviewees did not consider level 4 *fully* reliable to manage unexpected turn of events during flight or ground operations, and they confirmed the findings emerged from the focus groups.

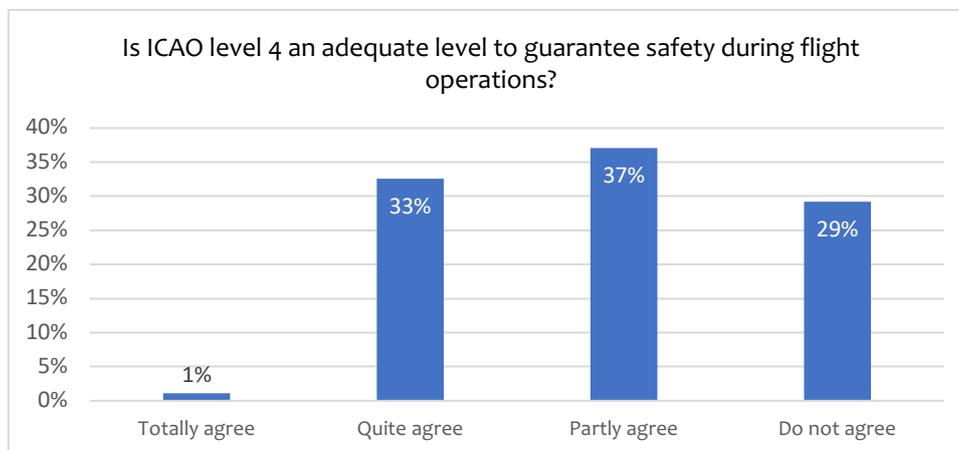


Figure 3-7

3.3.2.3 Proficiency testing and criticism

One of the sections into which the questionnaire was divided regarded the TEA exam and possible criticism to it. Similarly to the focus groups candidates, the pilots and controllers filling in the questionnaire generally have a very good level of English.

Question 9 was aimed at analyzing the overall proficiency level of the respondents, asking *What level did you get [when you last took your proficiency test]?*. The graph (Figure 3-8) presents data regarding both professional and private pilots, and ATCOs.

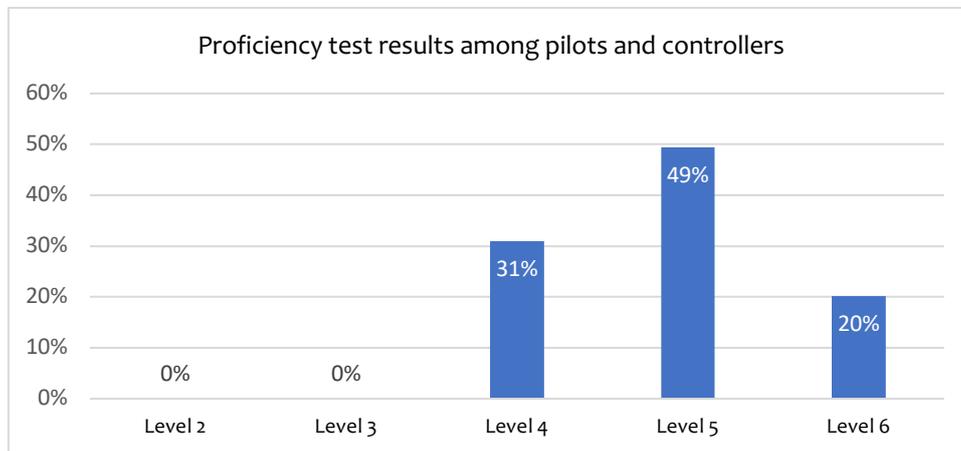


Figure 3-8

The fact that 49% of the surveyed pilots had a level 5 demonstrates that there is a good level of awareness of the importance of English language in this working context, and preparation among pilots and controllers is good. When asked *Should you take the proficiency test today, do you think you would pass it with a level 4 or higher?* in question 10 (Figure 3-9), 80% of the respondents said yes and 16% said *more yes than no*. Only 4% answered *more no than yes*, confirming the trend just illustrated.

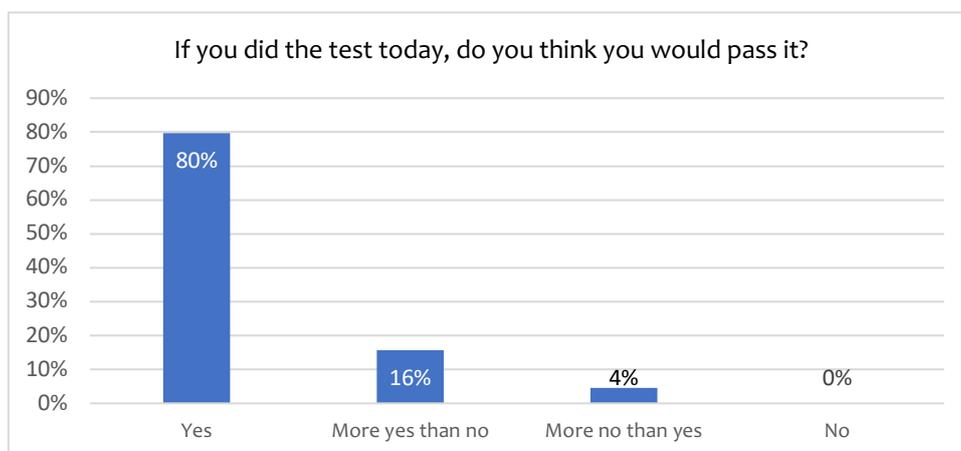


Figure 3-9

Similarly, when they were asked about a possible risk to lose their job in case of a very low level of English (question 11) – *If the final level of the test for the assessment of the English language level (TEA or other) was 3 or lower would you risk losing your job?* – the data emerged is presented in the next graph (Figure 3-10). Of 85 professional pilots and controllers 23 (33%) said they would actually lose their job, 9 (11%) said they are very likely to, and 21 (25%) said they are likely to lose their job for failing aviation English test. Only a total of 27 pilots (32%) said that they are not likely to lose or they would not lose their position as pilots or controllers. The great majority of the no answers came from the military pilots, who do not work for a private company, and from pilots who work on national routes. Similarly, these data demonstrate that companies pay great attention to the level of English that pilots should have, especially after the ICAO requirements were issued. A consistent level of English language is considered a fundamental requisite for this profession.

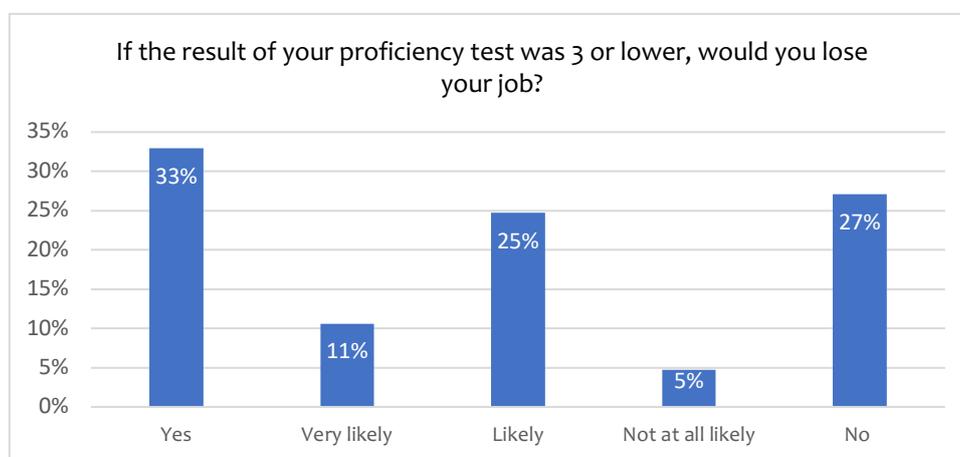


Figure 3-10

As regards the perception they have about the difficulty of the periodical proficiency test, the pilots in the focus groups said that it has changed over time and pilots with a level 5 or higher (50%) said that they consider it easier than in the past, whereas the pilots with have a lower level of proficiency (50%) still considered the test as a major obstacle to overcome. These data were in line with those collected in the

questionnaire. To further investigate this aspect, question 14 in the questionnaire – *Has your perception of the difficulty of taking the test for the assessment of the English language level (TEA or equivalent) changed over the years?* - was asked.

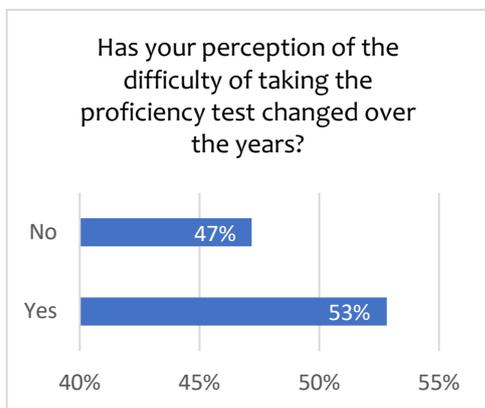


Figure 3-11

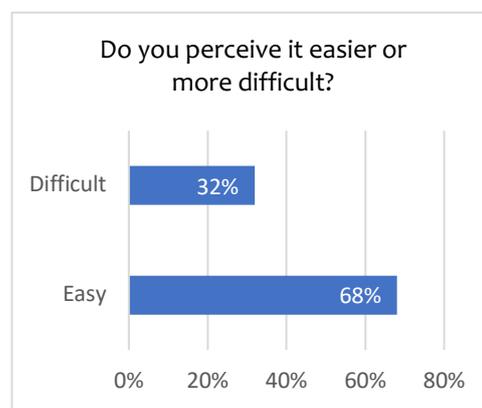


Figure 3-12

The first graph (Figure 3-11) shows that of 89 respondents 47 (53%) said that their perception of the difficulty of the proficiency test has changed over the years. The other 42 (47%) that the perception of the test has not varied over time.

Of those who answered yes to the first of these two questions, 32 out of 47 (68%) perceived the test as easier than in the past, whereas the other 15 respondents (32%) considered it more difficult than in the past (Figure 3-12). Not enough data was collected to give an exhaustive explanation to this different perception.

3.3.3 Mastery of English as a long-term objective

3.3.3.1 Language standardization

As far as language proficiency is concerned, pilots in the focus groups revealed frequent cases in which they experienced difficulties in communicating with other operators, both in flight and in the control tower. The fact that English is so important was investigated and pointed out in questions 19 and 20, which tried to understand what the possible consequences of lack or weak use of English language may be. Question 19 asked *Have you ever experienced a communication with a pilot or a*

controller who did not have an adequate level of English? Of the 85, 80 of the professional pilots surveyed declared that they experienced bad communication with another colleague pilot or with a controller (Figure 3-13).

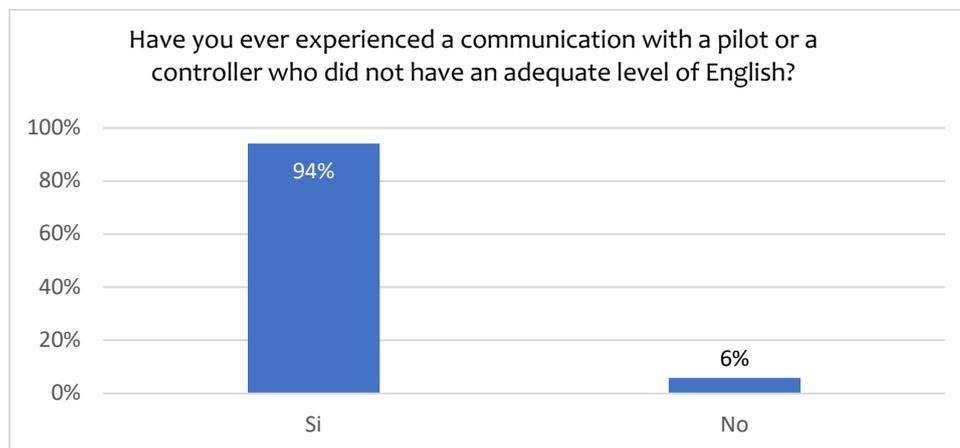


Figure 3-13

Considering that question 20 was an open-ended question, the answers were divided by typology and labeled, and resulted in 5 sub-themes (near-miss, miscommunication, delay, repetition, clarification) (Figure 3-14). Some respondents' sentences will be quoted in order to give example of the extent of the problem. However, in the majority of the cases the problem was resolved by asking for a repetition of the message (33%) or by asking for clarifications (18%). Some of the pilots said: *“si è dovuto ricorrere a chiarimenti su altra frequenza radio”;* *“un controllore a Bangkok con un inglese pessimo!”*³⁰ *“Requested to use different terms to try and understand”*³¹ Pilots also complained that bad communication with other operators caused long delays (19%), but the most dangerous complications like miscommunication (eg. misunderstandings leading to problematic and irreversible situations) were recorded as an 18%, and a 12% of near misses (eg. avoided collisions or accidents). As for near misses some pilots said: *“abbassamento del livello di*

³⁰ I had to ask for clarification on a different radio frequency. A controller in Bangkok has a really bad English!

³¹ Answer was given in English, it is kept as it was.

sicurezza delle operazioni”; *“terrain impact warning*”; *“il controllore non ha autorizzato il pilota ad entrare nello spazio aereo*”; *“situazione pericolosissima, runway incursion evitato”*³².

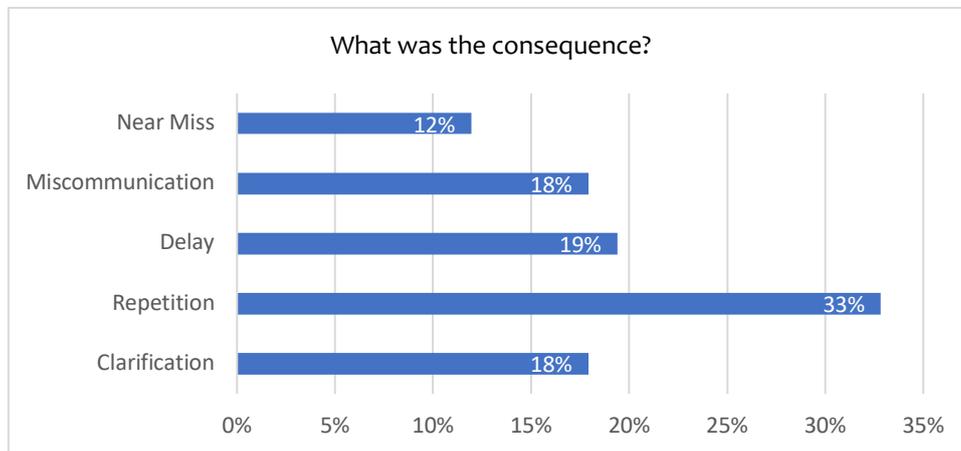


Figure 3-14

When asked if they think that such a high knowledge of English should be a prerequisite that pilots and controllers should have before starting a career in the aviation context (Figure 3-15), it is interesting to notice that 82 out of 85 professionals (92%) answered positively, and this result corresponded to the opinions expressed by the pilots in the focus groups:

³² Operations safety level dropped; terrain impact warning; the controller did not authorize the pilot to enter air space; very dangerous situation, runway incursion avoided.

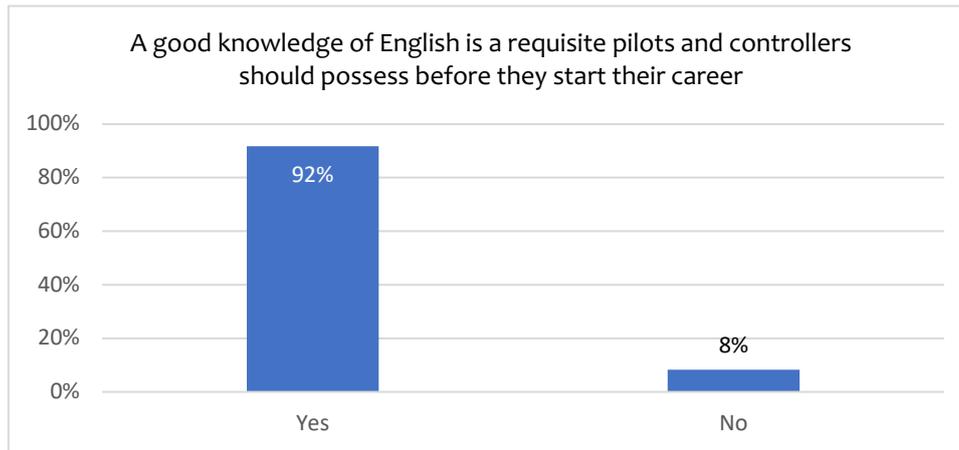


Figure 3-15

The findings from these questions suggest that the great majority of the respondents of this survey had a high awareness of the importance of the English language.

3.3.4 Routine as a language deteriorating element

Another problematic condition emerged in the focus groups and further investigated in the questionnaire is that routine communication and exchanges can become a language deteriorating element for pilots and controllers working the same routes most of their shifts. As already mentioned above, pilots and controllers have planned routes to follow and communication is limited to the standard exchange, plain language use may sometime be necessary to solve unusual conditions. This statement was well investigated in question 16 *Working routine may result in a decrease of the language level acquired. Do you agree with this statement?*

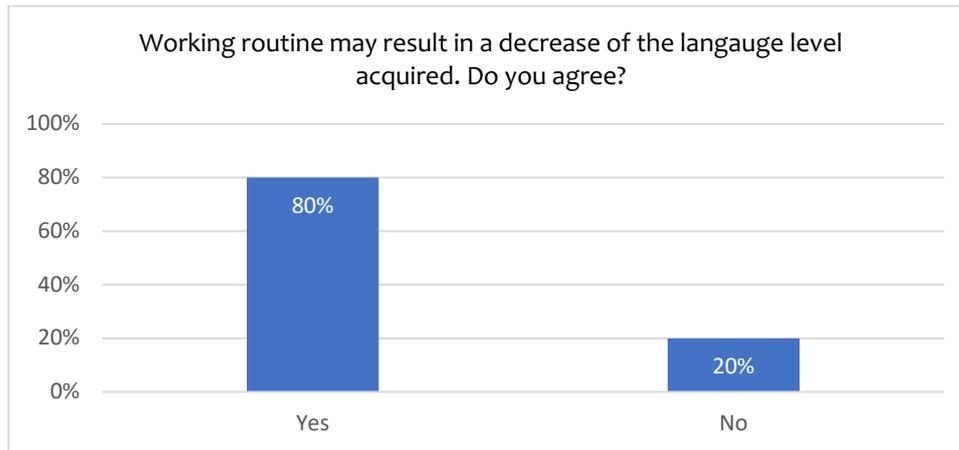


Figure 3-16

The graph above (Figure 3-16) shows that of the 85 professional pilots, 67 (80%) confirmed that the routine is a deteriorating element for the language. Although a good level of RTF phraseology is maintained and, perhaps, improved over the years, plain language is badly affected by repetitive standard communications.

3.3.5 Company-paid language courses

Nearly all the participants in the focus groups (with the exception of PPLs) said that attending periodical company-paid language course would be the ideal solution to contrast the language loss caused by the working routine. The data shown above led to another consideration presented in question 17 that is connected to the previous questions: *If so, do you think pilots and controllers should attend periodical English courses in order to guarantee a high level of language for the job they perform?*

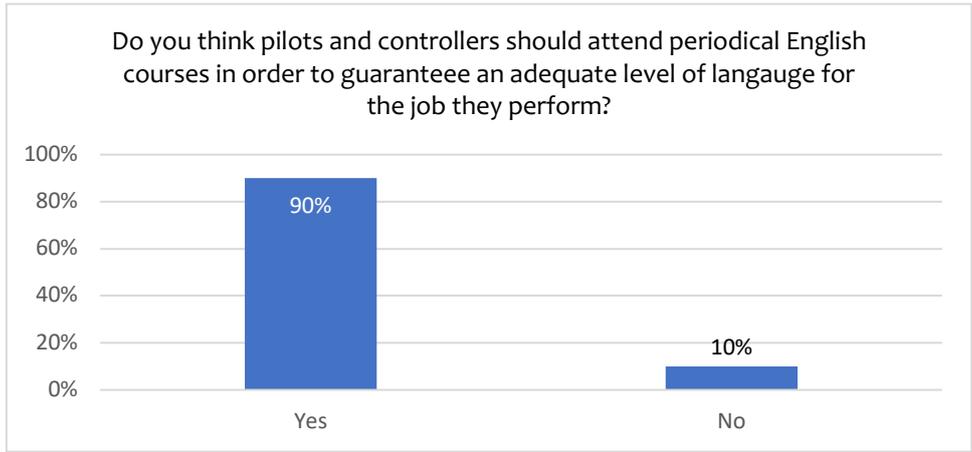


Figure 3-17

The answers to this question were in line with question 16: 60 (90%) of the 67 surveyed population reckoned that attending regular courses would help pilots and controllers maintain and enhance their level of English in order to be always ready to face possible misleading linguistic situations (Figure 3-17). Surprisingly, though, when asked about the courses of English they attended in the last year, the data emerged was very conflicting (Figure 3-18).

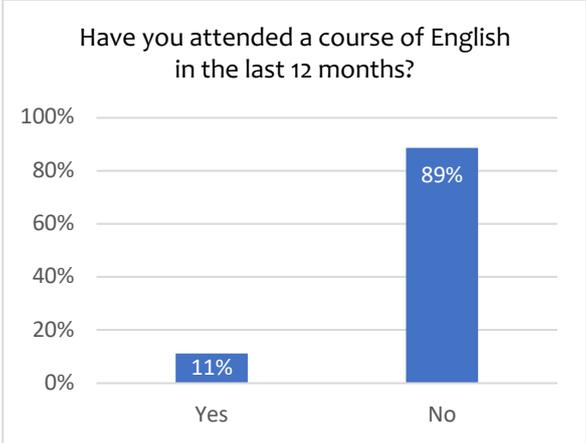


Figure 3-18

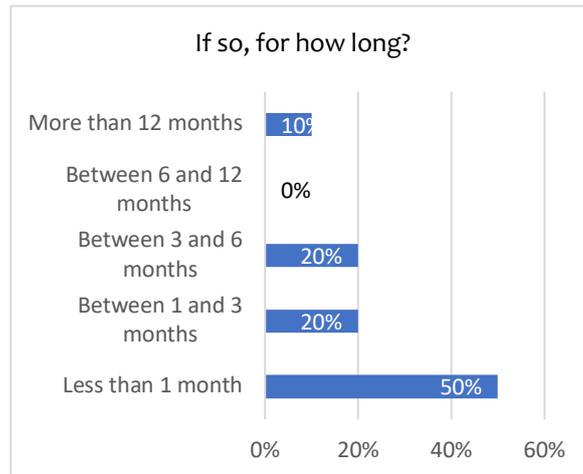


Figure 3-19

Although many pilots and controllers thought that a periodic English course is very necessary to have a good mastery of the language, only 10 of 89 (11%) attended a course in the last 12 months, whereas 79 (89%) did not. Moreover, the overall attendance to the courses was very limited in terms of duration (Figure 3-19).

Also, it is very surprising that of the 10 respondents who said that they attended a course of English, 50% of them have a level 4 and the other 50% have a level 5. For the 60% (6 out of 10) of them, the course was paid by the company they work for.

However very limited, these data appear to offer support for the idea that if offered financial support for language learning, more pilots and controllers would begin language classes than are currently taking them.

Further in-depth investigation, though, may suggest a different perspective. There is a consensus among pilots and controllers that ICAO level 4 is not completely adequate to guarantee safe communications in case of work-related emergencies. Nonetheless, of the 27 level-4 pilots only 3 (11%) said they attended a course of English, even if 14 (52%) were actually offered the chance to attend a company-paid course (Table 3-1).

Total number of level-4 pilots	27	100%
Number of courses offered	14	52%
Number of courses done	3	11%

Table 3-1

The results presented above are strictly entangled to the questions regarding company-paid course. When the participants were asked *Do you think English language courses should be paid by the company you work for?* in question 18, the majority of the respondents to this item – 56 professionals out of 85 (66%) - felt that it is responsibility of a company to pay for the English courses so that people can maintain an appropriate language level.

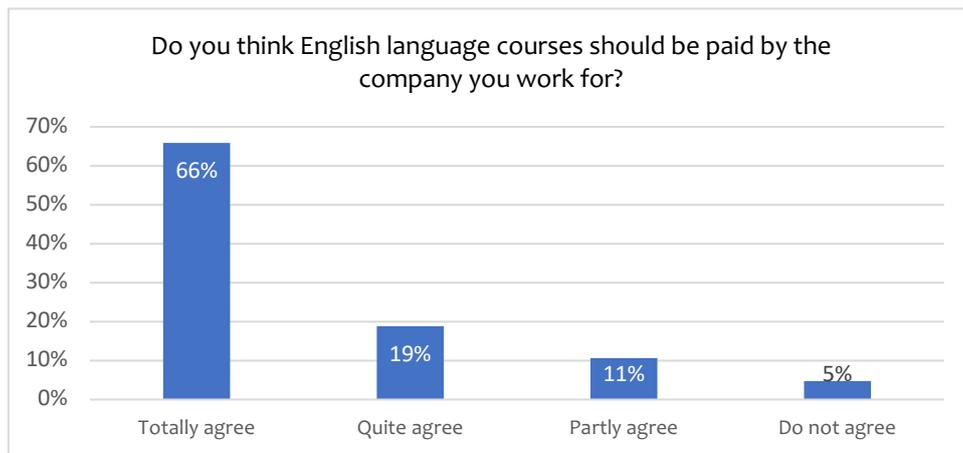


Figure 3-20

The central trend is that 30% quite or partly agree, and only 5% completely disagreed with the statement (Figure 3-20). Another striking observation to emerge from the data in question 18 compared to values in question 25 *Has the company you work for given you the chance to attend an English course?* is that for nearly two thirds of the respondents (59%) their company did not give them the chance to attend company-courses (Figure 3-21).

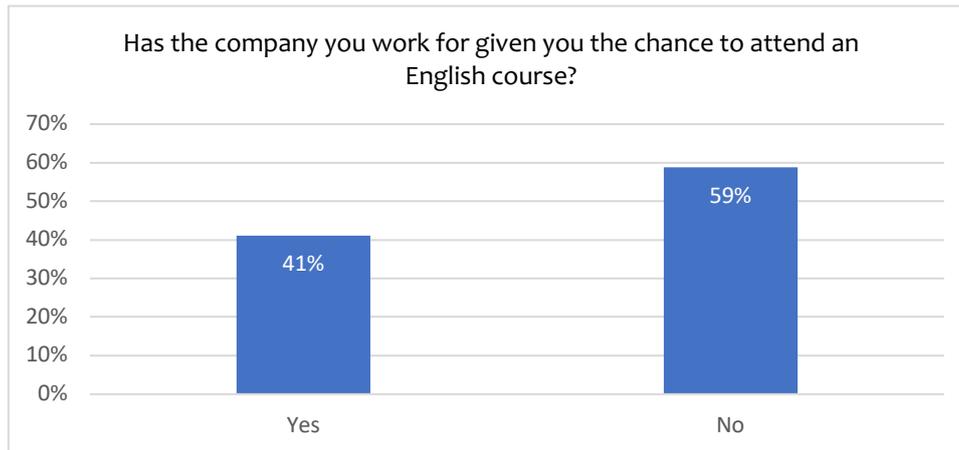


Figure 3-21

It is however positive that 41% of the surveyed population answered positively, showing that the importance of English is more and more considered among companies in the Italian aviation market.

3.3.6 Perception of the training provided in the aviation context

3.3.6.1 *Communicative approach and difficulties related to accents and comprehension*

As seen in chapter 1, aviation English is a mostly spoken, rarely read, almost never written. For this, it is very important to direct the course content to a communicative objective. It was interesting to note that this approach was highly supported by the pilots who took part in the focus groups. Actually, they believed that aviation English courses must enhance the communicative abilities of pilots and controllers, and particularly focus on aspects like pronunciation and prosody. Thus, this belief was further investigated in the final part of the questionnaire.

In this section, the results of questions 13 *How would you rate yourself in the 6 areas of proposed by ICAO*, and 28 *How difficult do you consider the interaction with the other pilots due to the following reasons: accent, speed of communication transmission, voice and tone modulation, inability to paraphrase words and complex phrases, use of words that do not belong to the aviation area, idiomatic expressions?*

As for question 13, a series of graphs will be presented (Figure 3-22 to 3-27), one for each ICAO area. The responses to this question indicated that the mastery of English language is very high. These data are in line with the results to the proficiency test surveyed in question 9. In all 6 ICAO areas the responses tended to be good, very good or excellent, with two exceptions, namely pronunciation and structure (Figures 3-22 and 3-23).

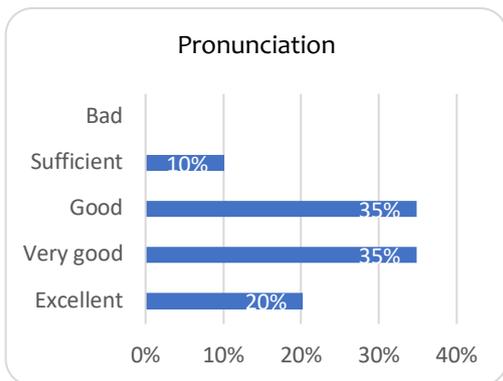


Figure 3-22

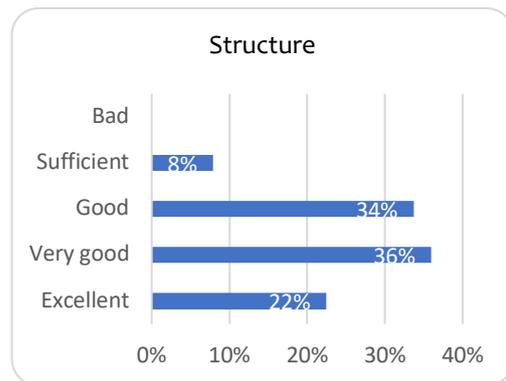


Figure 3-23

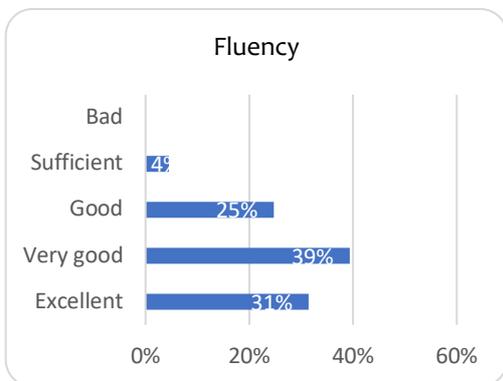


Figure 3-24

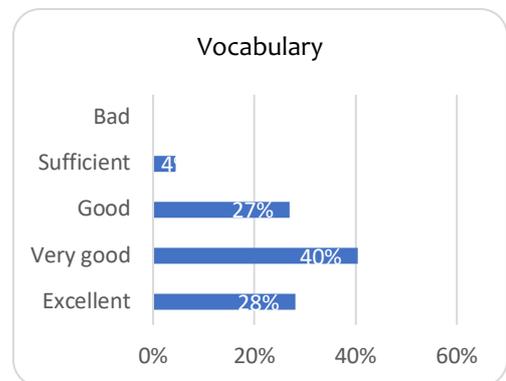


Figure 3-25

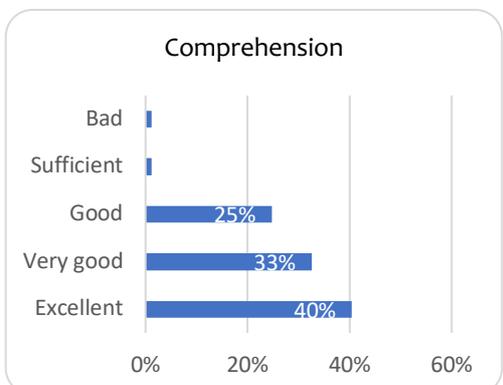


Figure 3-26

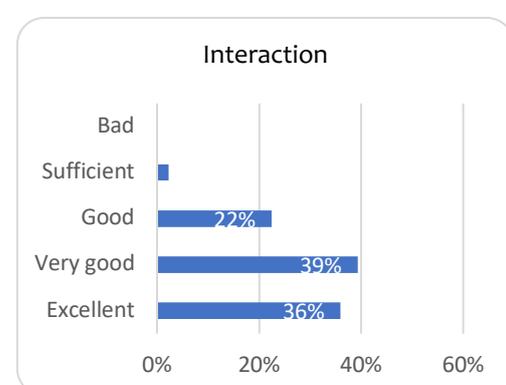


Figure 3-27

In order to get deeper results about linguistic difficulties pilots and controllers actually encounter during radio transmissions, question 28 was posed: *How difficult to you consider the interaction with other pilots and controllers due to the following reasons:*

Level of difficulty	Accent	Speed of transmission	Voice and tone modulation	Inability to paraphrase word and complex phrases	Use of word not belonging to aviation context	Idiomatic expressions
Very difficult	12%	8%	1%	9%	18%	31%
Quite difficult	78%	75%	77%	78%	65%	56%
Not difficult	11%	16%	22%	13%	18%	14%

Table 3-2

All six linguistic areas were considered very difficult or quite difficult (Table 3-2). This gives clear indications of what type of communicative exercises are more needed in course of English for aviation. Idiomatic expression in particular should not be a problem at all, considering that their use is not at all allowed for aviation radio transmissions. It is not rare, though, to find pilots who use nuanced expression to transmit work-related messages. It is also interesting to note that the most challenging aspects of aviation language for Italian pilots are accent, speed of transmission and prosody.

3.3.6.2 Course content and teaching methodology

The pilots interviewed in the focus groups said that they did not attend courses of aviation English, with the exception of only one pilot who did it because the airline company he worked for gave him the chance to, and the course he attended was an online course. Moreover, the difficulties about English language expressed in the focus group regarded principally the pronunciation of foreign pilots and the ability to

speak fluently in case the use of plain English is necessary. These results were confirmed by the data collected in the questionnaire.

When 41% of the participants (35 people) who answered question 25 positively - *Has the company you work for given you the chance to attend an English course?*, 62% of the interviewees said they attended on-line courses, whereas 35% said that they attended a course with a teacher in class. Only the 3% attended a blended course with both on-line and in-class lessons. 33 respondents answered question 27 *Was the course mainly focused on*. It was a multiple-choice question and respondents had the chance to select more than one choice. The frequency of the answers is presented in Table 3-3:

Speaking	Listening comprehension	Writing	Reading	Vocabulary (both technical and general)	Grammar	Pronunciation
22	30	16	17	23	23	20
67%	91%	48%	52%	70%	70%	60%

Table 3-3

Nearly all the respondents reported that the English course they attended was very focused on listening comprehension, that is the core of aviation. Also, a high frequency of grammar and vocabulary were indicated, although, according to ICAO's Manual of Language Proficiency (2010), grammar is considered as a minor aspect in the teaching of aviation English. On the contrary, speaking and, particularly, pronunciation that are considered the most problematic linguistic aspects had a frequency of 22 (67%) and 20 (60%) out of 33.

When asked about the importance of teaching prosody in question 29 – *A course of English should teach how to improve voice modulation, intonation and pauses in the speaking so that air-ground communications become clearer* – of the 89 respondents 45 (51%) agreed with the statement. 48 (48%) of the respondents quite or partly agreed, and only 1 (less than 1%) did not agree with the statement (Figure 3-28).

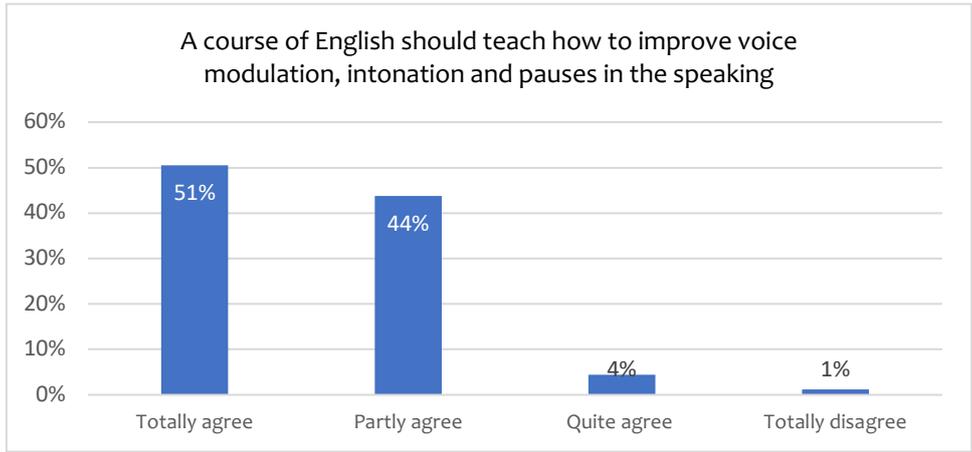


Figure 3-28

As for the content of an aviation English course, almost two-thirds of the respondents to question 30 *How would you rate the proportion of technical English should be presented in a course of English for aviation* confirmed that the proportion of general and technical English language should be 50% (Figure 3-29). This very thought was strongly expressed in the focus groups, as well. The data collected in the questionnaires are the following:

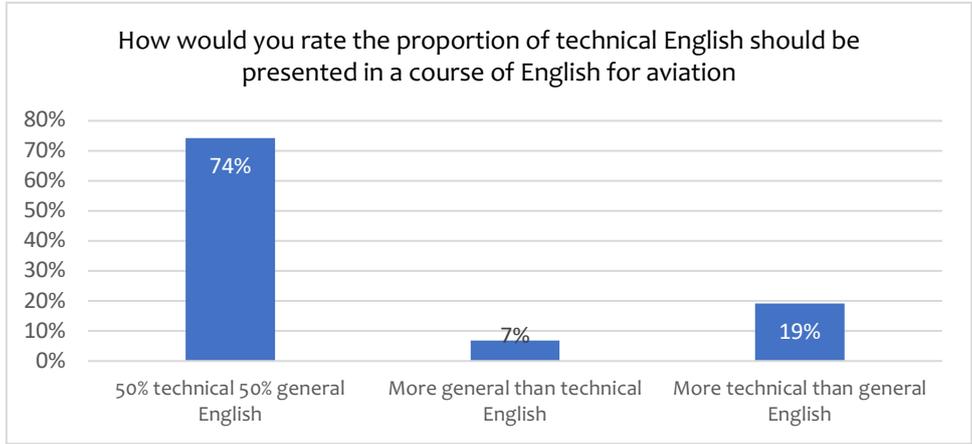


Figure 3-29

Only 7% of the surveyed population considered general English as more important than technical English, whereas 19% of the respondents said that technical English is more important than general English (Figure 3-29).

Question 30 *An English teacher should have a good knowledge of technical aspects related to aviation* a numerical rating scale was used to collect the data, using two extremes: 1 totally disagree, and 5 totally agree. In spite of the considerations expressed above, according to the respondents' answers, the ideal aviation English teacher should have a good understanding of technical aviation. 75% of the surveyed pilots and controllers reckoned that an aviation English teacher should have a sound knowledge of technical aspects of aviation (Figure 3-30).

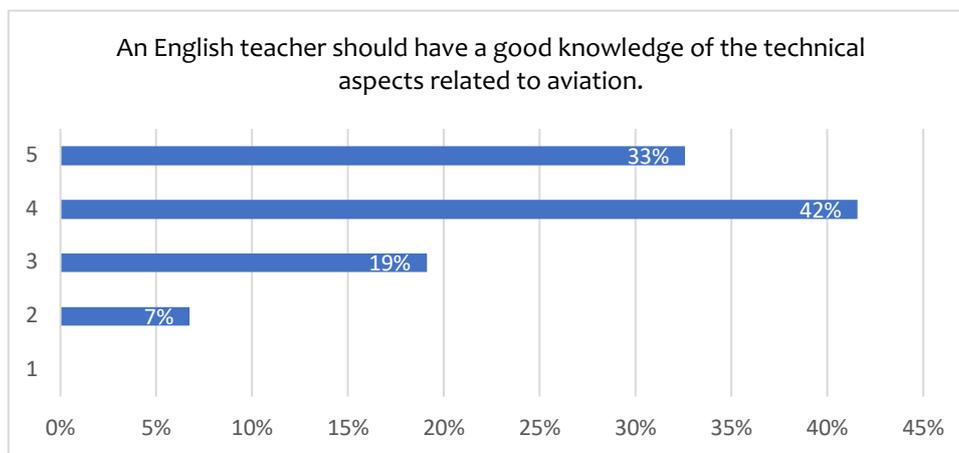


Figure 3-30

3.4 Qualitative data analysis: semi-structured interviews

In order to answer the fourth research question *What is the methodology used to teach English for aviation?*, data were collected through semi-structured interviews to four instructors teaching aviation English in four major Flight Training Organizations in Italy. Like in the case of the focus groups, the interviews to the language instructors were recorded, transcribed and 7 broad themes emerged from the analysis. They are the following:

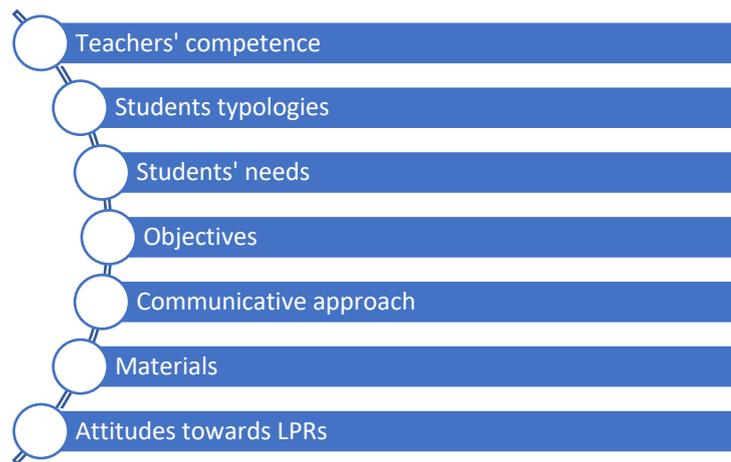


Figure 3-31

The themes presented in figure 3-31 are in some cases interrelated, thus it was sometimes difficult to organize data under a specific category and present them linearly. Furthermore, some quotations³³ extracted from the interviews will be used in order to better illustrate the different themes. It is worth highlighting the fact that, although teachers always referred to pilots in their answers, the interviews were meant to investigate both pilots' and air traffic controllers' behavior in relation to English language.

³³ The quotations from the interview will be copied in the original language and the translation in English will be provided in footnote.

3.4.1 Teachers' competence

As regards the competence of aviation English instructors should have, it is interesting to highlight that when they were asked about the importance of having a good knowledge of aviation terminology for teaching aviation English, they replied that it is a secondary competence for teachers of English in this context. All of them stressed the importance that having a good knowledge of English and know how to teach a language is more important than having a sound understanding of technicalisms. However, as one interviewee put it:

“Non importa se uno non ha una preparazione di inglese tecnico, spesso sono gli allievi stessi ad aiutarti e a spiegarti cosa significano certi termini o certi acronimi. Le cose poi sono sempre le stesse, e le impari velocemente”³⁴

3.4.2 Students typologies

As regards the type of students that enroll to English courses at the training organizations, all the interviewees said that they teach both expert pilots and AB Initio. Of course, the difference between them is that the first type of students has a deeper knowledge of RTF phraseology. This is the advantage of making the teaching of aviation English contents somehow easier, considering the plain language proposed in the courses mainly revolve around standard jargon.

“E' più facile avere a che fare con piloti esperti perché hanno già una chiara idea di quali siano le comunicazioni standard da usare in determinate situazioni. Di solito si parte da tali comunicazioni per poi proporre situazioni di emergenza su cui lavorare in classe. Al

³⁴ It doesn't matter if you don't have a good preparation in technical English, often the students are willing to help you and explain what some terms or acronyms mean. Things are more or less the same all the time, and you can learn them quickly.

contrario i ragazzi che iniziano i corsi per diventare piloti hanno maggiori difficoltà a gestire anche le comunicazioni standard... questo a volte rallenta il lavoro in classe”³⁵

When asked if the courses their students attend are company-paid or not, the instructors confirmed that in the totality of the cases the language courses are self-paid by the attenders. Also, the instructors confirmed that the majority of the attenders (more than two thirds on average) are PPL pilots. However, with such a small sample, data might be inconsistent in this respect. Nonetheless, it is important to highlight that the courses of English for aviation are not aimed at teaching standard phraseology for radiotelephony communications, but the fundamental objective is the plain language usage, defined by many students and instructors as general English, though it is not utterly general.

As regards the organization of the groups of learners, when the teachers were asked *How do you divide and organize the groups of aviation English students?* all four teachers confirmed their preference in dividing the groups per starting level. Thus, an oral test at the beginning of the training period is done in order to decide the students' entry level. To quote one of the interviewees:

“Fare un entry test per decidere il gruppo di appartenenza è la strategia migliore... anche per poter offrire il servizio migliore... e per permettere agli studenti di ottenere i risultati migliori... se un livello non è adeguato, lo studente non impara... si annoia perché troppo facile, o si trova in difficoltà perché troppo difficile”

This is in line with Krashen's (1988) theory of $i+1$. A student must be put in the condition of receiving an input that is just slightly above his or her level in order to make him or her feel comfortable. The attention paid to this aspect is very important

³⁵ It's easier to deal with expert pilots, they know exactly how to handle standard communication in certain situations. Usually, I start from that particular situation to create new emergency to situations to work upon in class. In contrast, young pilots [AB Initios] are not very capable of managing standard communications... this condition often slows down class activities.

also to create a motivating and engaging learning environment. To conclude, all of them agreed in reporting that the ideal number of students for a group is 6 to 8 students.

3.4.3 Students' needs

As seen in paragraph 1.9.1, students' needs are the core of teaching ESP, and aviation English is the case. In order to better understand the type of analysis instructors conduct in order to understand students' needs, the following question was asked: *Do you evaluate the real students' needs in order to develop a syllabus that perfectly meets them?* The overall responses to this question was not very positive. Three of the four interviewees said that they never evaluate students' needs as they are "clear", nor do evaluation tests during the course in order to measure students' progress. Only one of the teachers said that when he does the entry level test, students are given a questionnaire containing information about the reason for attending an English course, proficiency test level, target level, desired duration of the course, type of language needed and other linguistic priorities, learning preferences (listening, reading, etc). According to the teacher, the questionnaire is a good starting point to understand who the students he is going to meet are, to meet their learning preferences, to understand their goals, and it is "psychologically strategic" because the first time you meet them in class you already know "who you have to do with and what their objectives are".

3.4.4 Communicative approach

The students talking time is considered fundamental by all the interviewees (Harmer, 2013). When asked if their teaching approach is communicative like suggested by the ICAO Manual of Language Implementation, they all answered positively. The centrality of the communicative abilities pilots and controllers must develop is well recognized by all the instructors. They also said that the students in the group are given a lot of "space" for talking and practicing. Trying to quantify the time left to

students in comparison to the time the teacher uses to introduce new tasks, give explanations, etc, they all agreed that the relationship is more or less 80% to 20%. This is what one of the interviewees said:

“[...] É lo spazio dedicato agli studenti per parlare, utilizzando gli esercizi... partendo da esercizi nel libro o esercizi proposti dall’insegnante o da audio... loro devono parlare, anche tra di loro... ma devono esercitarsi. Gli insegnanti servono a dirigere la lezione e a dare spiegazioni quando alcuni aspetti linguistici sono meno chiari”³⁶

“A lot of the activities will run themselves once under way. The teacher should remain in the background to help... in case students need it... or observe”

This statement was significant and more or less resumed the thoughts of all the interviewed teachers. Three of the four interviewees also pointed out the importance of not correcting students’ errors too frequently, because it would make students hesitant when they should instead be practicing their oral communication. These responses pointed out the significance of having students talk as much as they can and keeping teachers’ talking time at the least.

When asked about the type of exercises and tasks used during the lesson to promote communication, the four instructors gave similar responses. As a great number of communicative activities were brainstormed during the interviews, they will be easily resumed in the following categories:

- Interviews
- Guessing games
- Jigsaw tasks

³⁶ It is the space dedicated to the students to talk, using exercises... starting from the exercises in the book or exercises proposed by the teacher or tracks... they must talk, in pairs or in groups... but they must practice. The teachers are there to direct the lesson and provide explanations to some linguistic aspects that are not very clear.

- Simulations of on-board communications
- Problem-solving
- Clarification techniques
- Pictures
- Listening-comprehension

Though it is not the purpose of this study, a definitely broader categorization of exercises to be used in aviation English classes could be created. However, the activities above are proposed in a technical context and are only partly focused on grammar. Certainly, their aim is the vocabulary expansion (eg. jigsaw, guessing game, pictures, etc.), the development of the ability of paraphrasing (eg. clarification techniques) and using the correct pronunciation and intonation (eg. simulation of real on-board communication).

Notwithstanding, only two of the four instructors said they have their students do activities focused on the tone, stress, rhythm, intonation and volume, such as listen, repeat and compare or reading exercises to improve prosody and pronunciation, being these aspects considered limitations in the understanding of message transmission.

The activities above are filtered and adapted to the students' level and the final objective. For some of the students the objective is the periodical proficiency test, for others it is a life-long learning objective.

As regards the proportion of technical (eg. the jargon RTF phraseology) and general (eg. plain) English, the four instructors said that they only use standard phraseology as a starting point to broaden other linguistic strategies, such as paraphrasing, asking for repetition, reporting facts, etc. As one of them put it:

“Io non sono un insegnante di fonologia... perché quel tipo di inglese [i piloti e i controllori] lo studiano per ottenere la licenza di volo ed è un requisito indispensabile per qualsiasi tipo di licenza di volo, dal PPL al CPL...”³⁷

“In un corso di aviation English l’inglese che viene insegnato è per certi versi un inglese general, solo che si affrontano argomenti che sono rilevanti per la professione dei piloti”³⁸

These affirmations inform about the different competences of a teacher of aviation English and a teacher of phraseology, although the first should always be informed by the seconds about language technicisms.

3.4.5 Materials

There are a number of textbooks on the market. Generally, the most used are English for aviation by Ellis and Gerightly edited by Oxford University Press, Aviation English by Kennedy edited by MacMillan and Flight Path by Shawcross edited by Cambridge University Press.

When asked about the type of materials they use in class, all four teachers answered that their starting point for nearly all topics is the book content and, not surprisingly, the above-mentioned books are used by the interviewed instructors. The information organization and the contents are approximately similar. Every chapter of the book offers a different topic relevant in aviation, like weather condition, dangerous situations, technology, security, health, and so on, and the exercises proposed are of different types, from listening to fill in the gaps. However, all the teachers agreed in saying that the books do not offer a wide-enough range of exercises to improve

³⁷ I am not a teacher of radiotelephony phraseology... because they [pilots and controllers] learn that type of English to obtain their license and it is an indispensable requisite to obtain any type of license, from PPL to CPL...

³⁸ In a course of aviation English, the type of English taught is somehow general, but the topics proposed must be relevant for the pilots’ profession.

communicative abilities. Extra materials must be prepared in order to work on listening comprehension aspects typical of emergency situations on board. They all said that extra tracks can be easily found and downloaded from specialized aviation websites or even from YouTube. This is also promoted by the ICAO in the Manual for Language Implementation (2010), specifying that relevant video and audio materials can be used for improving listening comprehension and vocabulary and must provide meaningful content reusable in student's professional environment. Talking about this issue one interviewee said:

“Gli ascolti che si trovano sul libro non sono sufficienti per lavorare bene sull’ascolto. Le tracce proposte nel libro, sebbene valide, devono essere integrate con altri video o ascolti che possono essere utilizzati per generare discussioni, conversazioni, lavoro a coppie, per estrapolare vocabolario che nel libro non si trova. Lo stesso vale anche per esercizi scritti, riguardanti il vocabolario. A volte worksheet scaricati da internet permettendo di lavorare meglio sul vocabolario, con esercizi che possano essere non solo utili ma anche più leggeri, meno formali”³⁹

Of course, a valid course in this domain must offer activities designed to cover all six language skills areas. An equally important area of assessment is grammar, although seen as secondary by the ICAO. When asked *Do you also teach grammar to lower level students?* three out of four teachers confirmed that they focus on grammar exercises, as well, when faced with lower level students. According to one of them:

³⁹ The audio tracks you can find in the book are not sufficient to work well on listening comprehension. The tracks proposed in the book, though very valid, must be integrated with more videos and tracks that can be used for generating discussions, conversations, in-pairs tasks, or to work on vocabulary than cannot be found in the book. The same is for the written exercises regarding the vocabulary. Sometime internet downloadable worksheets permit to work on vocabulary and are perceived as more useful and easier, less formal.

“Gli studenti che fanno un corso spesso devono superare il [proficiency test] e... anche la grammatica è valutata, quindi si fanno esercizi che mirino a migliorare anche la grammatica”⁴⁰

Only one of the teachers said that very low-level students (ICAO level 3 or less) are usually advised to attend other type of courses aiming at an improvement of more general, but at the same time basic linguistic aspects. The comment below shows it:

“The flight training organization is not a school of English, in a general sense. We provided aviation English course [...] the offer of other type of courses would not do”

To conclude, the materials used by the teachers in aviation teaching clearly defined the methodology they use, although clear directives are not provided by ICAO as for what specific method should be used to teach ESP in this context.

3.4.6 Objectives

As regards the objectives pilots and controllers have when enrolling an English course, the teachers answered the following questions: *In your opinion, do pilots and controllers attend a language course with the short-term objective of passing the proficiency test, or with a long-term objective of guaranteeing safety in their job?* The teachers had different opinions about this:

“la maggior parte dei nostri studenti sono giovani o meno giovani che stanno facendo i corsi per ottenere un brevetto... quindi gli stessi che fanno i corsi di volo si preparano anche per il [test]”⁴¹

⁴⁰ The attenders of a course of English often have to take the proficiency test and... grammar is also assessed, so we do exercises aimed at improving grammar as well

⁴¹ The majority of the students are young or adult people who are attending a course to obtain a license... so the same people who attend these courses, get a preparation to pass the [test]”

“[...] tra i giovani che hanno appena lasciato la scuola... e con i mezzi che ci sono a disposizione oggi ... per migliorare le conoscenze linguistiche.... Noto che il loro livello in generale è più alto rispetto a piloti più “anziani””⁴²

“I più giovani... quelli che stanno facendo il corso per diventare piloti... anche PPL... vedono il test come il primo scoglio da superare, a parte la fonia. Quelli che hanno un livello più basso... non si rendono conto che migliorare il loro livello di general English a lungo termine è la miglior cosa per volare in sicurezza”⁴³

As for the type of students, it is important to highlight the nature of the flight training organizations: they offer English courses to “internal” audience, who attend courses to obtain any kind of license, from PPL to ATPL. Thus, it is difficult to present a complete picture out of these data.

However, these findings demonstrated two things. First, all the teachers had the perception that younger pilots (and controllers, although interviewees generally refer to pilots) generally have a higher level of plain English, and this may be due to the school preparation, but also, as some of them inferred, it may be due to the great amount of language resources available nowadays. Second, they confirmed that younger pilots fear the proficiency test because they see it as first, “unknown” obstacle to overcome. Talking about the issue of long-term objective, an interviewee said:

⁴² [...] among the young people who have just left school... and with the means available today... to improve language abilities... generally speaking, I have noticed that their level of English is higher than “older” pilots.

⁴³ The younger... those who are attending the course to become pilots... also PPL pilots... see the proficiency test as a first obstacle to overcome, except phraseology. Those who have a lower level... they do not realize that improving their level of general English [plain] on the long-term is the best thing to do to fly safely.

“Ci sono piloti di linea che fanno il corso come mantenimento del livello di lingua... che magari fanno anche lezioni one-to-one con istruttore per mantenere le abilità di conversation... in linea di massima loro non hanno problemi con il test”⁴⁴

The comment above is taken as representative of the general trend expressed by all the instructors taking part in the interviewees. It shows that, by and large, pilots who have already taken the periodical test have changed the perception of its difficulty over time, and this was also demonstrated in the questionnaire. Also, it demonstrates that a number of professional pilots and controllers attend courses to practice their communicative abilities in English. Unfortunately, that population sample is very limited, so it is important to bear in mind a possible bias in these responses. A comparison of the results emerged from the interviews with those of the focus groups and questionnaire will be done in the next chapter.

3.4.7 Attitudes towards LPRs

As regards the attitudes the instructors have towards the ICAO LPRs and the reliability of level 4, when asked *In general, do you think level 4 is a good level to guarantee safety during flight operations?* the general consensus among the interviewees was that aviation English proficiency needs to improve. In the concise words of one of them “I think it’s kind of weak”. Importantly, two instructors called into question the reliability of the proficiency tests, where pilots are often given a level 4 on the ICAO rating scale but they cannot really communicate at this level. Two of them interestingly highlighted the fact that responsibility for the problem of language proficiency is often identified at a level beyond the personal responsibility. Particularly, one of the teachers refers to a lack of a *culture of English* in the airline companies. And a culture of language is intimately related with a culture of safety, in

⁴⁴ Some airline pilots attend the course to maintain a good level of language proficiency... And then they attend one-to-one lessons with a teacher in order to develop conversation abilities... normally, these pilots do not have any problems with the test.

this context. So, it is possible to point out that there is evidence in these interviews to support the assertion that there is a perceived problem with aviation English proficiency reliability in Italy. However, as remarked before, the data were collected from a small sample size, thus further research would be advisable to correctly establish what analyzed so far.

4 Discussion

4.1 Introduction

In the current chapter, the data analyzed in chapter 3 will be more closely discussed. In the first section (paragraph 4.2), the focus will be on the attitudes towards the language proficiency requirements and testing as a response to the first research question:

- what are the pilots' and controllers' attitudes towards the language proficiency requirements and the LPRs test?

In the second section (paragraph 4.3), the mastery of English language seen as a long-term objective will be discussed, in response to the second research question:

- is the mastery of English seen as a long-term or as a short-term objective?

In the third and final part (4.4), the teaching methodology in the field of aviation and the perceived students' needs will be analyzed, trying to respond the third and fourth research questions:

- what is the perception of the training provided in the aviation English context?
- what is the methodology used to teach English for aviation?

Because the data collected through the focus groups, the questionnaire survey and the teachers' personal interviews are interrelated, they will be compared to give a broader perspective of the language use, the students' needs perception and the teaching methodology in this area.

To this end, themes and sub-themes generated at the level of information codification will be replicated to organize data results discussion.

To conclude, in paragraph 4.5, some observations will be made about the limitations of the study.

4.2 First research questions: about the attitudes towards the LPRs and testing

The first question in this study sought to determine the attitudes of pilots and controllers towards the language proficiency requirements and proficiency testing. Very little was found in the literature on this issue.

4.2.1 Radiotelephony phraseology and plain English use

As seen in the first chapter (paragraphs 1.3.1 and 1.3.2) there are two different types of “languages” in the context of aviation English. One has an operational purpose and is defined by Breul (2013) as a semi-artificial sub-language. The other is referred to as plain language by the ICAO (2009 and 2010). The purpose of standard phraseology is to provide clear, concise, unambiguous language for communications of a routine nature.

As for radiotelephony phraseology, one study conducted by Mell (1992) revealed that 70% of all speech acts uttered by both NS and NNS, for which RTF phraseology is prescribed, are not compliant with the recognized standards. Contrarily, the data collected in this study through the questionnaire lead to completely opposite results. When asked *How would you rate your adherence to standard phraseology* the great majority of the respondents (94%) said that they are completely or very adherent to standard when they use RTF phraseology.

As regards the plain language use, academic studies in language processing (Cushing, 1994 quoted in RMIT, ND) have stressed the important role of language proficiency and use in aviation incidents and accidents reported and examined by the ICAO Accident/Incident Data Reporting System (ADREP). It has been vastly acknowledged by linguistic experts that standardized phraseology cannot fully describe all possible operational circumstances, particularly non-routine. In analyzing the attitudes pilots and controllers have towards the ICAO LPRs, the current study found that the totality of the pilots taking part in the focus groups agree with the fact that English is of paramount importance to guarantee a safe performance in their job or, in the case of

private pilots, in order to guarantee safety when flying internationally. This trend was confirmed by the data collected in the questionnaire survey, in which more than two thirds of the respondents confirmed the significance of plain English. Moreover, despite Moder and Halleck's (2012) argument according to which pilots with "a lower general English proficiency [...] support the requirement that all aviation professionals use phraseology, pilots in our sample with English level 4 confirmed the importance of general English. In the present research, when pilots with a level 4, when asked if they think that a good proficiency of English allows a better performance in flight, 69% of the surveyed operators said that they completely agreed with that statement.

4.2.2 Adequacy of ICAO level 4

Another important analysis was conducted on the opinions pilots, controllers and instructors have of the adequacy of ICAO level 4. Contrarily to expectations, participants in the focus groups and the questionnaire-surveyed pilots and controllers felt that ICAO level 4 is a barely sufficient level for their job on the international level. Many of the pilots interviewed in the focus groups agreed that a level 5 would be safer. So did the instructors, who confirmed the general perception of the linguistic inconsistency of level 4. Some of the interviewees said that, although some pilots and controllers are granted a level 4 in the exam, they cannot actually talk at that level. This is a formal but risky condition. These results match those observed in earlier studies conducted by Alderson (2010), Wegler (2015) Kim and Elder (2009) (paragraph 1.8.2). Of course, being the data collected for this study not sufficiently consistent about this specific topic, future studies are recommended.

Importantly, one of the questions posed in the questionnaire intended to investigate the possible consequences of an ambiguous, unclear communication between pilots or pilots and ATCOs. When respondents to the questionnaire were asked if they had ever experienced a communication with a pilot or a controller who did not have an adequate level of English, nearly all (94%) respondents answered positively. This result shows that bad communication in flight is not a rare circumstance. Fortunately,

in the majority of the cases experienced by these respondents a repetition or a clarification request was sufficient to solve the problem and the worst consequence for many of the respondents was a delayed departure. However, in some circumstances, consequences may have been worse when thinking that they involved cases of terrain impact warning, errors in repeating a clearance or pilots not authorized to enter the airport air space happened. These situations may be considered as the holes in the Swiss Cheese Model (Reason, 1990) through which the hazard passes and causes the incident.

4.2.3 Proficiency test

As regards the proficiency test ⁴⁵, the current study found that, by and large, the perception of the difficulty of the proficiency test has for many pilots changed over the years, since 2008. For the majority of the participants in the focus groups the test was merely “another test to take in order to have the license renewed”. Nonetheless, a smaller percentage of respondents confirmed this trend in the questionnaire survey: only 53% of the respondents had a different perception of the test difficulty, of these 68% (32 respondents out of 47) found it easier. Generally speaking, the striking qualitative data resulting from the focus groups was that the TEA exam is not a means to guarantee language level reliability. On the contrary, it should be seen as a starting point to enhance language awareness and responsibility growth among flight operators. These data were confirmed by the percentages of positive answers to the question *If the result of the proficiency test was 3 or lower, would you lose your job?* 33% of the professionals answered yes, whereas a total of 36% said it is likely or very likely. A possible optimistic explanation of this result may be that airline companies around the world are more and more attentive to the level of English proficiency of their personnel. In the case of air traffic controllers, ATC language is

⁴⁵ the TEA test is the more widely used in Italy, but other equivalent exams are used nationally and internationally

mandatory for their job. This tendency is the same worldwide (cfr Kim and Elder, 2015).

4.3 Second research question: about the mastery of English as a long-term objective

The second research question of this study focused on the importance of speaking a proficient level of English, considering this ability as a long-term objective for ensuring safety during flight operations and not merely as another compulsory test to be taken. The ICAO standard focuses specifically on pilots' and controllers' ability to speak and understand English in aviation, and this is a skill that must be maintained and enhanced all through an aviation operator's career. It means that the language users have enough language facility in a work-related context to respond quickly to particular situations when standard phraseology does not suffice. Briefly described, these abilities regard asking and answering questions, paraphrasing and clarifying information, and modifying one's speech so that the message is as clear as possible (Mitsutomi, ND). Moreover, both the qualitative and the quantitative data revealed no support for the central hypothesis of the study, that is English language in aviation is not seen as a priority competence for pilots and controllers.

4.3.1 Language standardization

Not surprisingly, the first and very crucial information that emerged from the focus groups commentary and the questionnaire about the importance of mastering English in aviation was that it should be learnt at an appropriate level before pilots and controllers start these professions. Thus, English should be given the same importance as any other subject necessary to become a pilot. Such a thought clearly emerged from the discussion in the focus groups, but also the great majority (92%) of the pilots and controllers who answered the questionnaire items confirmed this trend. This is a typical procedure of many Chinese and Korean companies (cfr. studies conducted by Seung-Hee Choi, 2014; Kim and Elder, 2009 and 2015; Wang, 2008), but

only in very recent years it has become a must for this profession, in Italy. Furthermore, nearly all pilots involved in the focus groups (with the exception of private pilots) maintained that a good level of English permits a better performance in their job and should have a long-term objective of fulfilling their working duties professionally and reliably. Similar results emerged from the questionnaire. Of the 85 professional who took part in the survey, more than two thirds said that a good knowledge of English language is crucial for a safer conduction of flight operations. Also, the instructors were asked if the pilots and the controllers they teach attend the courses with the objective to pass the periodical proficiency test or with the life-long objective of improving their language level to become more reliable and efficient in their job. Overall, the responses demonstrated that, when teaching many pilots-to-be, the first and most felt objective is the short-term proficiency test. Nonetheless, some of the interviewees affirmed that some airline expert pilots also attend one-to-one or group courses in order to maintain a good communicative level of plain English. Yet, given the small sample, it is important to bear in mind that future studies are necessary to demonstrate a broader tendency of these data.

4.3.2 Routine as a language deteriorating element

One of the deteriorating elements of speaking is the repetitive language use in aviation. In the great majority of the cases, in fact, because flights are accurately briefed, the repetitive technical language often revolves around RTF phraseology in most of the cases. Data gathered from the focus groups and the questionnaire show a similar tendency. All the pilots interviewed in the focus groups and 80% of the population surveyed in the questionnaire confirmed that routine may result in a decrease of the language level acquired.

If the routine working language is to be blamed for the plain English loss, resulting in gaps in the vocabulary, simplified grammar and greater cognitive effort (Emery, 2015), a possible solution put forward in the focus groups is the attendance of periodical English courses. Thus, pilots and controllers were asked if they should attend periodic English courses in order to guarantee an adequate level of language

for the job they perform. Nearly all the professionals (90%) filling in the questionnaire answered yes to this question, informing about the importance of attending regular courses in order to maintain and enhance their level of English and be always ready to deal with possible problematic linguistic situations. The very same opinions were expressed in the focus groups. Participants totally agreed in saying that a good level of English is not only a responsibility of pilots and controllers, but the company they work for should invest in their linguistic education. In spite of these results, when asked whether they attended a course of English in the last 12 months the results were very different from the data previously shown. Only 1 pilot out of the 10 interviewed in the focus groups and 12% of the pilots and controllers in the questionnaire said that they claimed to have attended a course in the last year. The only one pilot in the focus groups who attended a course of English only did it because the company he works for paid for the course. Moreover, those who attended a course did it for a very limited duration. These results are in stark contrast with the beliefs expressed by the pilots and controllers about the importance of attending language courses to contrast systematic use of a technical type of language.

4.3.3 Company-paid courses

Most of the respondents both in the focus groups and in the questionnaire felt that a course should be paid by the company they work for as an assumption of responsibility and a chance to have their personnel grow both personally and professionally. Three of the ten pilots in the focus groups and two thirds of the respondents in the questionnaire confirmed this belief.. Additionally, a quite optimistic result emerged from the questionnaire. When pilots and controllers were asked whether the airline company they work for ever offered them the chance to attend an English course, nearly half of the respondents answered positively. As specified in the questionnaire data analysis (paragraph 3.3.1), these results may be due to the fact that participants taking part in the survey, though being Italian speakers, may work for international companies (eg. EasyJet or RyanAir). Therefore,

it is possible that these companies expect English to be mastered at very high level, and appropriate selections are carried out to check it prior to hiring. Unfortunately, the instructors confirmed a completely different tendency: nearly all the aviation English courses they provide are self-paid by private participants. Although very disappointing, one of the issues that emerges from these findings is that there is still little *culture of English* in the airline companies. Again, the sample was very small and possible future work might be necessary to better investigate the relation between pilots' personal responsibility perceptions and airlines obligations.

To conclude, some of the issues emerging from these findings relate specifically to the responsibility that is too often identified at a level beyond the single individual. In the literature, at no point is the individual responsibility mentioned as a solution to aviation English proficiency, but it is always spoken in terms of an organizational, a cultural or an institutional factor. Although participants were able to offer a range of solutions to the perceived problem of aviation proficiency, again these solutions were always framed beyond the individual by making reference to aviation schools and ICAO itself.

4.4 Third and fourth research questions: about the perception of the training provided in the aviation context

In the present section, some concerns about the approach and the subsequent methodology adopted to teach aviation English will be examined and compared to the perceived needs expressed by pilots and controllers in the focus groups and in the last part of the questionnaire. As widely described in the first chapter, the communicative approach is at the heart of teaching aviation English, and central to the methodology is knowing what the learners need. The third and the fourth research questions will be answered analyzing the type of difficulties an aviation English should deal with, what characteristics an aviation instructor should have from the students' point of view and what type of contents an aviation English course

should offer. These data will then be compared with the data provided by the instructors in order to have a complete, two-sided perspective.

However, it should be kept in mind that only four instructors agreed to be interviewed, and thus the data reported in this section can only lead us to make hypotheses and not give fully fledged answers about the association between students' language needs and typology of courses offered.

4.4.1 Communicative approach and difficulties related to accents and comprehension

A communicative approach is at the heart of aviation English and, differently from other stricter, more formulaic approaches (Bullock, 2015: 7), it is not supported only by a strict and “conscious understanding of the rules” (Knight, 2001: 155 quoted in idem). This was well confirmed by the participants in the focus groups who said that the priority, when attending a course of English for aviation, is the improvement of the communicative abilities, leaving “secondary” aspects like grammar behind. This corresponds with what instructors said, affirming that the activities they propose in a technical context are only partly focused on grammar.

Also, the centrality of the communicative abilities pilots and controllers must enhance was widely recognized by all the instructors, as well. Such development can be guaranteed in at least two ways. First, the teacher talking time must be reduced in order to give students more time to speak (Harmer, 2013). Second, the students must be provided with meaningful materials in order to develop functional language (Uplinger, 1997) that can be re-used in the real-life context.

As regards some of the major issues about speaking, both the participants in the focus groups and in the questionnaire claimed that the most difficult aspects of communicating in the aviation exchanges are understanding other pilots and controllers' accents and messages transmission speed. Prosody is a difficult issue in aviation, considering that oral message exchanges only happen through voice without any visual clues. It is then important to have students of a course of aviation English become able to modulate their speech in order to be more intelligible.

These findings are consistent with those of Estival and Molesworth (2009: 24.5) and MacMillan (1998: 46) who found that speed of delivery and lack of pauses were a significant cause of errors and the rapid speed of information delivery was probably the most common miscommunication complaint received from pilots and controllers. Prinzo (2008, quoted in Estival and Molesworth, 2009) highlighted the difficulty of understanding radio communications if these are not broken into segments. Also, the use of expressions not belonging to the technical aviation language (RTF phraseology) may be a complication in the ATC communications, especially for lower level pilots and controllers. Similar results were presented by Kim and Elder (2013: 106) who conducted their studies in Korea, and Moder and Haller (2012: 141) who report that “more proficient pilots and controllers tolerated the use of plain language instead of the more direct standard phraseologies [...] those with lower general English proficiency [...] vehemently support the requirement that all aviation professionals use phraseology, except in highly unusual circumstances”. More than half of the participants taking part in the questionnaire survey also believed that improving voice modulation, intonation, rhythm and pauses in speech (prosody) is important to make air-ground communications clearer. As for these prosody aspects, two of the four interviewed instructors confirmed that they actually have students work on speech modulation, whereas the other two did not comment on this aspect.

4.4.2 Students’ needs

Being that of aviation English a course of language for specific purposes, it necessitates a more flexible approach essentially based on students’ objectives and needs, in order to provide meaningful learning and, subsequently, promote their intrinsic motivation (Hutchinson and Waters, 1987). In order to define the objectives, an analysis of students’ needs is the first step followed by considerations related to the context (Hedge, 2000 quoted in Bullock, 2015: 7).

The data collected for this study show that teachers have students do an entry test to assess their current level according to the ICAO scale. However, three of the four

instructors said that they rarely evaluate students' objectives and needs before and during the course, "taking them for granted". Only one of the four teachers scrupulously does it in order to find out not only their linguistic needs, but also other important information like desired duration of the course and learning preferences. This is crucial since teaching must be based on students' needs and levels of ability, and the instructor is in the ideal position of determining what they students should learn and how they should be taught (Mitsutomi, 2012: 3).

4.4.3 Teaching methodology

As explained in paragraph 1.9.3, language in aviation communication has many complex unnatural functions and forms, and for this reason defining a methodology to teach it must be well principled (Bullock, 2015: 7). Most importantly, because the students are professional pilots and controllers with a high intrinsic motivation, the type of learning proposed must be concrete and meaningful. Thus, teachers should look to prepare materials on topics that can help students reach their linguistic objectives and promote communication.

In order to support the best methodology to develop a communicative approach, it is crucial to carefully define effective techniques and materials. It is important to highlight the fact that all the instructors confirmed that they use a great number of communicative activities in class (see paragraph 3.4.4) that include both general English and radiotelephony aspects. Thus, the findings confirm that a type of CBLT is provided, according to the ICAO (2009) regulations. This accords with the pilots' and controllers' opinions emerged from both the focus groups and the questionnaires. The great majority of the respondents said that a fair proportion would be 50% technical and 50% general English in order to support how the plain language can be used and tested. The instructors also said that the activities they propose are aimed at improving listening comprehension, expanding vocabulary and developing the ability of paraphrasing. As for pronunciation and intonation (see paragraph 4.4.1), less attention is paid on these linguistic aspects.

4.4.4 Teachers' competence

Considering the focus of the course of aviation English, developed specifically to meet the needs students encounter in the aviation context, technical English (that is radiotelephony phraseology and technical phraseology and vocabulary related to the aviation domain) should be ideally taught during licensing phase. On the contrary, the plain English necessary to face unexpected circumstance should be taught in specifically designed aviation English courses. For the first type of training an instructor must be very prepared for the teaching of the subject, and usually the competence is different from the preparation of a certificated English teacher. An RTF instructor is not necessarily prepared to teach plain English, and the condition may be as well reversed.

The literature ascertains the need for English teacher to become acquainted with the subject domain (Wang, 2007; Douglas, 2014). Also, according to Long (2015) they need to work in close contact with subject matter experts in order to assure a proper content selection. In discussing this perception with the groups of pilots and teachers, the resulting opinions about this topic were slightly different.

The instructors in our study are almost never experts in the field. Only two of the four instructors who took part in the interviews had a certification for teaching English as a foreign language, but all had a sound experience as teachers of English in other training organizations. Only one of the four instructors was also a private pilot and could then be considered as an expert having the competence and the understanding of the jargon for the radiotelephone communications. When the instructors were asked if they reckoned of having a good knowledge of the aviation technicalities, they replied that, although very important, it is not a primary competence. These results differ with much of the literature on the subject of teaching aviation English, that suggest that instructors in this context should be teachers of English for aviation and that their activities should be prepared with the support of subject matter experts in order to create real-like task-based learning material (Douglas, 2014; Bullock, 2015; Long, 2015). This was also the students' expectation, who think that a teacher of aviation English should have a good knowledge of the technical aviation

aspects. Future research should investigate whether these results are generalizable to the wider population of instructors of aviation English in Italy.

4.5 Limitations of the study

The current study presents two main limitations. Firstly, it was conducted during a pandemic and the opportunity to personally meet the participants of the focus groups and the instructors vanished due to the long lockdown period. The original research project included in-person focus groups in a dedicated space kindly offered by a major flight training company near Treviso. Thus, the only possible way to carry out the interviews was through Skype.

Secondly, the number of instructors giving their availability for an interview was very limited. Also, the ability to reach a greater number of instructors was challenged by the forceful closure of all schools and training centers in Italy. Such a limited sample has not permitted to elaborate realistic, reliable data. For this reason, further work regarding the teaching methodology actually applied in the context of aviation should be conducted in order to obtain more detailed information.

Conclusion

This research started from the author's interest in aviation and foreign language education. Particularly, the experience as an examiner of English for aviation led her to the decision to investigate the real attitudes pilots and controllers have towards the proficiency requirements and testing, considering the importance of such topic in guaranteeing safety during flight, a fact that was too often taken for granted or underestimated in the past, causing a great number of incidents and in some cases deadly accidents.

In this thesis the attitudes Italian pilots and controllers have towards the reliability of ICAO language proficiency requirements and testing were examined using a mixed methods design.

Interestingly, what emerges from the surveys conducted is that the great majority of the pilots and all the air traffic controllers feel that the use of English is crucial in their job, especially to solve problematic communicative situations. Therefore, the objective for them is to develop linguistic abilities that permit safe and reliable job performance and job security. This finding goes against the central hypothesis of the study, that is most of the flight operators consider the mastery of English as a secondary competence. Moreover, the general perception of the participants in the study is that the ICAO level 4 (B1 on the CEFR) is that it is a barely sufficient to guarantee full safety during flight in case of unexpected turn of events, and this in line with other studies conducted in the field. In fact, it is unclear whether the assessment procedures proposed actually meet the international professional standards for high stakes language tests (Alderson, 2009). By and large, the general perception among the pilots and controllers is that the periodical proficiency test should be seen as a starting point to make pilots and controllers aware of the importance of speaking English in their job, and the mastery of English should go beyond it. Clearly, further research is needed in order to investigate the adequacy of this level, and the issues related to aviation language testing summarized in chapter 4 can be used as a range of topics for future research work.

Furthermore, the use of speaking and listening skills must be the goal for all the professionals working in this field. This implies that effective English language instruction is highly necessary in order to perform their job effectively and therefore plays a fundamental role in the careers of aviation professionals. Nonetheless, from the data collected in the study, proficiency does not seem to be an issue for most of the professional pilots and air traffic controllers in Italy. This finding, while preliminary, suggests that this level of proficiency may be due to the strengthened ICAO policy activated in the last twelve years.

As regards the courses of aviation English, the present study also provided perceived aviation students' needs in ESP courses. As seen in paragraph 1.9.1, there is a shortage of empirical studies on the subject of aviation English teaching and much is still to be investigated. The data gathered for this study show that the courses of aviation English should be paid by the company pilots and controllers work for. Should this happen, it would be a great investment by part of the companies in terms of reliability and safety. Moreover, findings showed that what the students expect from a course of aviation English is to be provided with accommodation strategies necessary for successful interaction in a more and more internationalized context. The content of the course of English for aviation should provide a good balance of standard phraseology and general English, and should be focused on learners' future working environment, rather than on their immediate need of passing a proficiency test. Moreover, this thesis set out to quickly look at the teaching skills in an aviation language course. It was widely demonstrated that for teaching English for aviation, a communicative approach is recommended, reflecting the task- and language-specific events and domains (Bullock, 2015) of the communication between pilots and air traffic controllers. Further analysis on the communicative approach in order to understand and develop methodology, techniques and materials – still very limited – is necessary. Particularly, as regards the development of methodology, techniques and materials, it is important that teachers conduct thorough a needs analysis of the goals and objectives to make the learning meaningful and focused.

On the whole, we hope that the findings of this study will raise awareness of the important needs of the pilots so as to improve both their learning and the syllabus designing in the sector of aviation English.

Una volta che avrete imparato a volare, camminerete sulla terra guardando il cielo perché è là che siete stati ed è là che vorrete tornare.

Leonardo Da Vinci

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Appendix A

	Level 6 Expert	Level 5 Extended	Level 4 Operational	Level 3 Pre-operational	Level 2 Elementary
Pronunciation (Assumes a dialect and/or accent intelligible to the aeronautical community.)	Pronunciation, stress, rhythm, and intonation, though possibly influenced by the first language or regional variation, almost never interfere with ease of understanding.	Pronunciation, stress, rhythm, and intonation, though influenced by the first language or regional variation, rarely interfere with ease of understanding.	Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding.	Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation and frequently interfere with ease of understanding.	Pronunciation, stress, rhythm, and intonation are heavily influenced by the first language or regional variation and usually interfere with ease of understanding.
	Level 6	Level 5	Level 4	Level 3	Level 2
Structure (Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task.)	Both basic and complex grammatical structures and sentence patterns are consistently well controlled.	Basic grammatical structures and sentence patterns are consistently well controlled. Complex structures are attempted but with errors which sometimes interfere with meaning.	Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected circumstances, but rarely interfere with meaning.	Basic grammatical structures and sentence patterns associated with predictable situations are not always well controlled. Errors frequently interfere with meaning.	Shows only limited control of a few simple memorized grammatical structures and sentence patterns.
	Level 6	Level 5	Level 4	Level 3	Level 2
Vocabulary	Vocabulary range and accuracy are sufficient to communicate effectively on a wide variety of familiar and unfamiliar topics. Vocabulary is idiomatic, nuanced, and sensitive to register.	Vocabulary range and accuracy are sufficient to communicate effectively on common, concrete, and work related topics. Paraphrases consistently and successfully. Vocabulary is sometimes idiomatic.	Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete, and work related topics. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.	Vocabulary range and accuracy are often sufficient to communicate on common, concrete, or work related topics but range is limited and the word choice often inappropriate. Is often unable to paraphrase successfully when lacking vocabulary.	Limited vocabulary range consisting only of isolated words and memorized phrases.

	Level 6 Expert	Level 5 Extended	Level 4 Operational	Level 3 Pre-operational	Level 2 Elementary
Fluency	Able to speak at length with a natural, effortless flow. Varies speech flow for stylistic effect, e.g. to emphasize a point. Uses appropriate discourse markers and connectors spontaneously.	Able to speak at length with relative ease on familiar topics, but may not vary speech flow as a stylistic device. Can make use of appropriate discourse markers or connectors.	Produces stretches of language at an appropriate tempo. There may be occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting.	Produces stretches of language, but phrasing and pausing are often inappropriate. Hesitations or slowness in language processing may prevent effective communication. Fillers are sometimes distracting.	Can produce very short, isolated, memorized utterances with frequent pausing and a distracting use of fillers to search for expressions and to articulate less familiar words.
	Level 6	Level 5	Level 4	Level 3	Level 2
Comprehension	Comprehension is consistently accurate in nearly all contexts and includes comprehension of linguistic and cultural subtleties.	Comprehension is accurate on common, concrete, and work related topics and mostly accurate when the speaker is confronted with a linguistic or situational complication or an unexpected turn of events. Is able to comprehend a range of speech varieties (dialect and/or accent) or registers.	Comprehension is mostly accurate on common, concrete, and work related topics when the accent or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.	Comprehension is often accurate on common, concrete, and work related topics when the accent or variety used is sufficiently intelligible for an international community of users. May fail to understand a linguistic or situational complication or an unexpected turn of events.	Comprehension is limited to isolated, memorized phrases when they are carefully and slowly articulated.

	Level 6 Expert	Level 5 Extended	Level 4 Operational	Level 3 Pre-operational	Level 2 Elementary
Interactions	Interacts with ease in nearly all situations. Is sensitive to verbal and non-verbal cues, and responds to them appropriately.	Responses are immediate, appropriate, and informative. Manages the speaker/listener relationship effectively.	Responses are usually immediate, appropriate, and informative. Initiates and maintains exchanges even when dealing with an unexpected turn of events. Deals adequately with apparent misunderstandings by checking, confirming, or clarifying.	Responses are sometimes immediate, appropriate, and informative. Can initiate and maintain exchanges with reasonable ease on familiar topics and in predictable situations. Generally inadequate when dealing with an unexpected turn of events.	Response time is slow, and often inappropriate. Interaction is limited to simple routine exchange

Appendix B

Focus group questions

Domande di apertura:

Presentazione (nome, lavoro, etc). Consenso al trattamento dei dati.

Quali corsi di inglese avete seguito per migliorare il vostro livello di inglese?
Raccontate le vostre esperienze.

Domande Introduttive:

Il corso che avete seguito vi è servito per raggiungere i vostri obiettivi (potete anche specificare quali erano i vostri obiettivi (professionali, di studio, etc)?

Avete avuto altre opportunità per migliorare ed approfondire il vostro livello di inglese (viaggi o opportunità di lavoro all'estero, etc)?

Immagini



Come descrivereste la necessità di parlare fluentemente la lingua inglese nelle due situazioni rappresentate nelle immagini?

Quali sono i diversi **obiettivi linguistici**?

Domande centrali:

Quali sono gli **aspetti linguistici** che ritenete più necessari al superamento del language proficiency test?

Invece, quali sono quelli più necessari a raggiungere un livello di affidabilità a livello professionale, ai comandi di un aereo o nella gestione del traffico dalla torre?

Avete seguito dei corsi che vi preparassero al test?

Che cosa vi è stato insegnato?

In che modo?

Ritenete che un corso sia utile al solo superamento del test di inglese, o che debba avere anche uno scopo a più lungo termine?

Immaginate di rivolgervi al vostro insegnante/ad un insegnante di aviation English: che cosa gli proporreste di insegnare durante i corsi?

Le compagnie aeree per cui lavorate vi hanno dato la possibilità di frequentare dei corsi finanziati dall'azienda per migliorare il vostro livello linguistico?

Ritenete che sarebbe utile?

Se invece lo avete fatto, come valutereste l'esperienza?

Quale percentuale di un corso di aviation English deve essere focalizzata sull'insegnamento di "general English" e quale invece sulla fraseologia e gli aspetti tecnici?

Summary:

Ditemi 2 aspetti che vorreste approfondire in un corso di inglese mirato al miglioramento, non solo in vista del test, ma anche di una maggiore affidabilità in caso di emergenze a bordo.

Domande conclusive:

Con questa discussione di Gruppo ho voluto conoscere la vostra esperienza e la vostra opinione riguardo alla necessità della conoscenza e dell'insegnamento della lingua inglese nell'ambito dell'aeronautica civile. Di tutto ciò che ci siamo detti, ci sono altre idee o considerazioni che vorreste aggiungere?

Appendix C

Questionnaire items

Analisi dei bisogni nella preparazione e valutazione della lingua inglese nel mondo aeronautico

Di seguito troverai alcune domande inerenti all'utilizzo della lingua inglese nel tuo ambito

lavorativo. Le risposte alle domande del questionario saranno usate a scopo di ricerca, e richiedono pochi minuti per essere compilate. I dati raccolti saranno trattati in maniera anonima e non saranno comunicati a terzi.

Se possibile, chiedo gentilmente di aiutarmi nella diffusione del questionario attraverso la condivisione con colleghi di questo ambito (piloti commerciali, piloti privati, controllori di volo).

Ringrazio per la collaborazione.

***Campo obbligatorio**

1.Dati personali

1. Età *

2. Che tipo di licenza possiedi? *
Seleziona tutte le voci applicabili.
 - ATPL
 - PPL
 - CPL
 - ATCO
 - Altro: _____

3. Quando hai ottenuto la tua licenza (anno)? _____

4. L'inglese è stato uno dei requisiti indispensabili per ottenere il tuo lavoro?
Contrassegna solo un ovale.
 - Si
 - No

5. Quando hai svolto le selezioni per il tuo lavoro, sei stato sottoposto ad un test per valutare il tuo livello di inglese?

Contrassegna solo un ovale.

- Si
- No

2.Utilizzo della fraseologia standard

6. Come valuteresti lo studio della fraseologia standard in ambito aeronautico?

** Contrassegna solo un ovale.*

- Molto difficile
- Difficile
- Facile
- Molto Facile

7. Come valuti l'aderenza della tua fraseologia allo standard?

** Contrassegna solo un ovale.*

- Completamente aderente allo standard
- Molto aderente allo standard
- Poco aderente allo standard
- Per niente aderente allo standard

3.Test per la valutazione del livello di inglese (TEA Test o altro equivalente)

8. Quando hai sostenuto l'esame per la valutazione del livello di lingua inglese (TEA o altro equivalente)? (anno) * _____

9. Che valutazione hai ottenuto?

**Contrassegna solo un ovale.*

- Livello 6
- Livello 5
- Livello 4
- Livello 3
- Livello 2

10. Se dovessi sostenere l'esame oggi stesso, pensi che supereresti l'esame per la valutazione del livello d'inglese (TEA o altro equivalente) con il livello 4 o più alto?

**Contrassegna solo un ovale.*

- Sì
- Più sì che no
- Più no che sì
- No

11. Se l'esito finale di un esame per la valutazione del livello di lingua inglese (TEA o altro equivalente) fosse 3 o inferiore, rischieresti il tuo posto di lavoro?

Contrassegna solo un ovale.

- No
- Per nulla probabile
- Probabile
- Molto probabile
- Sì

12. Il livello 4 previsto dall'ICAO è un livello adeguato a garantire la sicurezza durante le operazioni di volo.

**Contrassegna solo un ovale.*

- Completamente d'accordo
- Abbastanza d'accordo
- Parzialmente d'accordo
- Per nulla d'accordo

13. Come ti valuteresti nei sei ambiti previsti dall'ICAO

**Contrassegna solo un ovale per riga.*

Ottimo, Molto buono, Buono, Sufficiente, Scarso

- Vocabolario
- Grammatica
- Fluenza
- Interazione
- Pronuncia
- Comprensione

14. La tua percezione della difficoltà del test per la valutazione della lingua inglese (TEA o altro equivalente) è cambiata nel tempo?

**Contrassegna solo un ovale.*

- Sì
- No

15. Se sì, lo trovi più facile o più difficile?

Contrassegna solo un ovale.

- Facile
- Difficile

4. Conoscenza dell'inglese come garanzia di sicurezza durante il volo

16. La routine lavorativa può contribuire alla perdita del livello linguistico acquisito. Sei d'accordo con questa affermazione?

Contrassegna solo un ovale.

- Sì
- No

17. Se sì, ritieni che piloti e controllori debbano frequentare dei corsi d'inglese periodici così da garantire sempre un livello di lingua adeguato al lavoro che svolgono?

Contrassegna solo un ovale.

- Sì
- No

18. Ritieni che i corsi di lingua inglese debbano essere finanziati dall'azienda per cui lavori?

Contrassegna solo un ovale.

- Completamente d'accordo
- Abbastanza d'accordo
- Parzialmente d'accordo
- Per nulla d'accordo

19. Ti è mai capitata una comunicazione radio con un pilota o un controllore di volo che non avesse un livello di inglese adeguato?

**Contrassegna solo un ovale.*

- Sì
- No

20. Qual è stata la conseguenza? _____

21. Ritieni che la buona conoscenza di lingua inglese non tecnico, definita plain English dall'ICAO, permetta delle migliori prestazioni nel tuo lavoro?

Contrassegna solo un ovale.

- Completamente d'accordo
- Abbastanza d'accordo
- Parzialmente d'accordo
- Per nulla d'accordo

22. Una buona conoscenza della lingua inglese è un requisito che piloti e controllori dovrebbero possedere prima di intraprendere questa carriera?

Contrassegna solo un ovale.

- Sì
- No

5. Corso di inglese per l'aviazione

23. Hai frequentato un corso di lingua inglese nell'ultimo anno?

**Contrassegna solo un ovale.*

- Sì
- No

24. Se sì, per quanto tempo?

Contrassegna solo un ovale.

- Meno di un mese
- Tra 1 e 3 mesi
- Tra 3 e 6 mesi
- Tra 6 e 12 mesi
- Più di 12 mesi

25. L'azienda per cui lavori ti ha dato la possibilità di frequentare un corso di inglese?

Contrassegna solo un ovale.

- Sì
- No

26. Che tipo di corso era?

Contrassegna solo un ovale.

- Corso on-line
- Corso in presenza con insegnante
- Corso misto on-line e insegnante
- Altro: _____

27. Il corso si è per lo più focalizzato su:

Seleziona tutte le voci applicabili.

- Parlato
- Ascolto e comprensione
- Scrittura
- Lettura
- Vocabolario, sia tecnico che generale Grammatica
- Pronuncia
- Altro: _____

28. Quanto reputi difficile l'interazione con gli altri piloti e controllori a causa delle seguenti ragioni:

**Contrassegna solo un ovale per riga.*

Molto difficile, Piuttosto difficile, Abbastanza difficile, Per niente difficile

- Accento
- Velocità nella trasmissione della comunicazione
- Modulazione della voce e tono
- Incapacità di parafrasare parole o frasi complesse
- Utilizzo di parole che non rientrano nell'ambito aeronautico
- Utilizzo di frasi idiomatiche (modi di dire)

29. Un corso di inglese dovrebbe insegnare come migliorare la modulazione della voce, l'intonazione e le pause nel linguaggio parlato in modo da rendere più chiare le comunicazioni terra-bordo.

**Contrassegna solo un ovale.*

- Molto d'accordo
- Abbastanza d'accordo
- Poco d'accordo
- Per nulla d'accordo

30. Valuta in quale proporzione l'inglese relativo ad aspetti tecnici dell'aviazione dovrebbe essere presente in un corso rivolto a piloti e controllori

**Contrassegna solo un ovale.*

- 50% tecnico e 50% general English
- Più tecnico che general English
- Più general English che tecnico

31. Un insegnante di lingua inglese dovrebbe avere una buona conoscenza degli aspetti tecnici inerenti all'aviazione?

**Contrassegna solo un ovale*

Per nulla d'accordo ○ ○ ○ ○ ○ Completamente d'accordo

Appendix D

Interview questions

- Sei un insegnante qualificato? Che tipo di qualifica possiedi?
- Hai avuto altre esperienze di insegnamento prima di questa?
- Sei anche un pilota/controllore? Hai una buona conoscenza dell'inglese tecnico? Se sì, ritieni che sia un fattore importante per l'insegnamento dell'inglese dell'aviazione?
- Insegni a piloti/controlori a cui il corso viene pagato dall'azienda o si iscrivono privatamente?
- Gli studenti a cui insegni sono per lo più giovani studenti aspiranti piloti o anche piloti con esperienza?
- Come organizzi/suddividi i gruppi di studenti a cui insegni AE? Fai un entrance test e dividi i gruppi per livelli?
- Fai una valutazione delle reali esigenze degli studenti e sviluppi un syllabo che sia aderente alle loro esigenze? (ESP)
- Tieni in considerazione il tipo di studenti che hai in classe e i loro stili di apprendimento?
- Il tipo di approccio all'insegnamento è di tipo comunicativo, come stabilito dall'ICAO?
- Potendolo quantificare, indicativamente, qual'è il TTT (teacher talking time) vs lo STT (student talking time)? - Quali tipo di esercizi che favoriscano lo STT proponi?
- La capacità di parafrasare è una condizione importante per riuscire ad esprimere ciò che si intende dire specialmente quando lo scambio di informazioni diventa poco chiaro. Questo aspetto linguistico viene praticato/insegnato durante le tue lezioni?
- Usi un libro di testo? Quale? Ritieni sia completo? Se no, come integri i materiali? Dove li trovi?
- Quali tipi di risorse usi per sviluppare la comprensione?
- Per gli studenti con un livello di inglese più basso, ti focalizzi anche sugli aspetti grammaticali?

- Come valuti la conoscenza della lingua inglese general tra i piloti che seguono il tuo corso? Secondo te, frequentano il corso con l'obiettivo di superare l'esame di valutazione periodico o con un obiettivo a lungo termine, che è quello di lavorare in modo sicuro? Questo discorso vale anche per i piloti che sono in possesso di una licenza di volo privato (PPL)?
- Uno degli aspetti importanti nelle comunicazioni terra-bordo è la capacità di modulare il tono di voce, l'intonazione e le pause nel linguaggio parlato (prosodia). Nei tuoi corsi, insegni questo aspetto del linguaggio parlato ai tuoi studenti?
- Qual è la proporzione di inglese relativo ad aspetti tecnici rispetto all'inglese general o plain che insegni nei tuoi corsi?
- In generale, ritieni che il livello 4 proposto dall'ICAO sia un livello che garantisce un buon livello di sicurezza durante le operazioni di volo?