PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA
MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH

UNIVERSITY OF TLEMCEN
FACULTY OF LETTERS AND LANGUAGES
DEPARTMENT OF FOREIGN LANGUAGES
SECTION OF ENGLISH

English for Aviation in the Algerian context: The case of Pilots and Air Traffic Controllers in Zenata-Messalli El Hadj Airport.

Thesis Submitted to the Department of Foreing Languages as a partial fulfillment of the Magister" Degree in E S P

Presented by:
Ms. GHANIA MEKKAOUI

Supervised by:
Dr. HAFIDA HAMZAOUI

Jury Members:

Dr. BENMOUSSAT Smail	Professor	President	University of Tlemcen
Dr.HAMZAOUI Hafida	M.C "A"	Supervisor	University of Tlemcen
Dr. BENYELLES Radia	M.C "A"	Internal Examiner	University of Tlemcen
Dr. MARBOUH Zouaoui	M.C "A"	External Examiner	Universityof Sidi Bel Abbe
Dr. BAICHE Ali	M.C "A"	Internal Examiner	University of Tlemcen

Academic Year : 2012/2013

DEDICATION

to the one who always encouraged me my sister fatema.

may she rest in peace.

ACKNOWLEDGEMENTS

Completing this project was only possible because of the help, guidance, patience, and support from numerous people. First of all, my deepest gratitudes go to my supervisor Dr HAMZAOUI who is in everysense of the word, a devoted teacher caring mentor, and role model to all her students, and so much more her pleasant personality and the respect she has for her students has certainly made this journey enjoyable. I will always be indebted to her for everything .she helped me with her constant support, endless patience; she read every word of every draft of every chapter of this work. I thankfully acknowledge the efforts of the honourable members of the jury including: Professor Benmoussat Smail, Benyelless Radia, Marbouh Zouaoui, and Baiche Ali.

I'm grateful to Dr Benyeless for her full support of this research. I also wish to thank Dr Serrir, Dr Dendane, Dr Belmekki, and Mr Azzouz for their encouragement and suggestions. I'am also indebted to my beloved teacher Mrs Barbara for her valuable suggestions on my research. She guided me and gave me career advice, and helped me shape my dissertation. This dissertation owes as much to her as it owes to me. I also want to extand my thanks to Mr Gorbold who opened the doors for me to explore the world of testing and training in aviation industry in Algeria.

My eternal gratitudes go to my parents whose unconditional love and support helped me throughout the years of my studies. I am most grateful to all my sisters and to my brother Aissa for their endless support, prayers and love, a special appreciation goes to my beloved sister and twin Chahra, for her unconditional sacrifices, love, and care. Without her, it would have been just a dream for me to pursue a magister thesis. The completion of this work was an incredible journey.

I am thankful to Chahida Bensaid who played a very important role because she was the first one to believe in my project and to encourage me in so many ways to pursue it. I learned from her every day and I am proud to call her my model.

Special thanks go to Mr Meggenni, Mr Snaina; the head of controllers and the General Director of the NANAC who pave the way for me to pursuit this research, as well as controllers and pilots who contributed to this dissertation.Without them, my dissertation would not have been possible. Much appreciation goes to the English teachers of controllers who opened their classrooms.

Many thanks to Mrs Bensmaine, Ms Boukhatem, and Ms Benabedella, for their statistical help in the test analysis.

Finally my thanks to all those who made this journey joyful, meaningful, & memorable.

ABSTRACT

This study is a contribution to the field of ESP in aviation industry in an Algerian context. The current research was conducted in Zenta - Messali el Hadj Airport. It was a case study research that intended to explore the English language problems, Algerian pilots and air traffic controllers might face in their job. As well as identifying their needs, lacks, and wants. To suggest sollutions to overcome their difficulties, a needs identification and analysis was conducted, thanks to various instruments: interviews, a questionnaire, classroom observation, and a proficiency test.

The results indicated that all informants involved in the current research were aware of the importance of English in aviation, as low profeciency in this language might lead to misunderstanding, and dangerous situations. Both pilots and air traffic controllers revealed their need to develop their English language profeciency namely in speaking and listenining skills with special focus on vocabulary and grammar.

To conclude, the English language is important in aviation industry. A good mastery of this language helps avoid misunderstanding and keep aviation safety. Thus, Algerian pilots and air traffic controllers need to enhance their English language ability thanks to appropriate English courses and well trained ESP teachers.

TABLE OF CONTENTS

CHAPTER THREE: RESEARCH RESULTS ANALYSIS & INTERPRETATION

CHAPTER FOUR: SUGGESTIONS & RECOMMENDATIONS

APPENDICES

LIST OF ABBREVIATIONS

ESP : English for Specific Purposes

EAP : English for Academic Purposes

EOP : English for Occupational Purposes

ELT : English Language Teaching

ESS : English for Social Sciences

EST : English for Science and Technology

LSP : Language for Specific Purposes

ATC : Air Traffic Control

ICAO : International Communication Aviation Organization.

NANC : National Air Navigation Company

ELPR : English Language Proficiency Requirements

LIST OF TABLES

LIST OF FIGURES

LIST OF DIAGRAMS#

GENERAL INTRODUCTION

It is widely known that English has become the world language.The growth of business and increased occupational mobility has given this language more territories and spread. Consequently, it became a requirement for professional promotion and even employment; this is the case in aviation industry. A pilot or air traffic controller with a limited English ability will be completely excluded from international operations. Nowadays English proficiency becomes a necessity and even mandatory in aviation industry. Lack of proficiency in this language may not be a primary cause of aviation accident, but may cause aviation incidents. Knowing just the specialized jargon used in air traffic communication is not sufficient. It is true that pilots and air traffic controllers are well trained in specialized phraseology, well-organised communication between them as the structure is clearly defined, and the domain is narrowly constrained. However, in non-routine situations, misunderstanding and miscommunication may occur.

Two important concerns guide this study: to identify the needs and wants of pilots and Air Traffic controllers and to suggest adequate English course for these learners. The current research aims at answering the following questions:

- What English language difficulties do Algerian pilot and air traffic controllers face on the job?
- What are the English language needs, lacks, and wants of the Algerian pilots and air traffic controllers?
- What suggestions can be provided to help Algerian pilots and air traffic controllers overcome English language difficulties?

To investigate these questions, the researcher put forward the following hypotheses:

- Algerian pilots and air traffic controllers face communication difficulties with their English speaking counterparts.
- Algerian pilots and air traffic controllers need to develop their listening and speaking skills with special focus on vocabulary and grammar.
- Algerian pilots and Air Traffic controllers will better perform in their work place by providing them with adequate English course for aviation teaching.

For the sake of investigating the research hypotheses a set of instruments were devised: interviews, questionnaire, classroom observation, proficiency test under the design of a case study research.

To cross-check results, and use triangulation, the researcher not only implemented different data collection methods, but different sources as well: pilots, air traffic controllers, the two EnglishTeachers, the Station Manager of the airport, the General Director of the National Air Navigation Company.

The present research is devided into four chapters. The first chapter is a review of literature, which aims at giving detailed description and explanation of the problem under study showing the importance of the English language in the world of aviation, and how it could be a cause to misunderstanding.

The second chapter entails the procedures undertaken during data collection. It attempted to describe the place where the study took place, as well as the different companies that were involved in this research. The instruments that were used and the purpose of each selection.

The third chapter seeks to analyse the results, both quantitatively and qualitatively, attempting to answer the questions put forward in this investigation. Then giving a summary of the main findings to confirm or disconfirm the hypotheses put forward.

The fourth chapter outlines a set of recommendations as well as suggestions based on the main results in an attempt to find sollutions that may help these informants better cater their needs. It also provides some sample lessons and techniques to ESP teachers to have an idea about the way the course may be conducted.

CHAPTER ONE
English in Aviation Industry

CHAPTER ONE

ENGLISH IN AVIATION INDUSTRY

1.1Introduction

1.2. Definition of English for Specific Purposes (ESP)

1.3. English for Aviation as a Sub Division of ESP

1.4. Phraseology and Plain English as Subset of English for Aviation

1.5. The Need of English in Aviation Industry

1.6. The International Civil Aviation Organization (ICAO)

1.7. English for Aviation in Algeria

1.8. Air Traffic Communication

1.9. Air Traffic Communication Involving English

1.9.1. Expectations

1.9.2. Code Switching and L1 Interference

1.9.3. Lexical Ambiguity

1.9.4. Paralinguistic Factors

1.10. Conclusion

1.1. Introduction:

Nowadays, English is regarded as the means of international communication in business, economy, science and technology, its importance continue increasing as more and more people are being required to learn English. With the advancement of technology and change in the working environment, ESP has become mandatory.

Nobody operating in the international field succeeds in his profession without having a good command of English. A case in point, pilots, and air traffic controllers who operate internationaly and who are required to demonstrate a good mastery of English otherwise; they will be dismissed from international operations. As English has become a shared language in international aviation, an effort was initiated to improve the English language skills of pilots and controllers worldwide.

Language problem has become such a concern that all pilots and controllers must meet new standards for English proficiency. The following sections will clearly explain why English was chosen to be the language of international communication, how English is classified as a sub set of ESP. Why it is necessary to develop a minimum level of English. All these issues will be explained in detail.It is of paramount importance to define first what ESP is.

1.2. Definition of English for Specific Purposes (ESP):

ESP is defined differently; some describe it as “ESP consists of English language teaching which is a goal-oriented language teaching or a type of ELT (English language teaching).” Robinson (1991:2). Others; Mackay and Mountford (1978:4) mentioned:

> The only practical way in which we can understand the notion of special language is as a restricted repertoire of words and expressions selected from the whole language because that

restricted repertoire covers every requirement within a well-defined context, task, or vocation.

Many schoolars define ESP as an embrella term that encompasses different sub branches. Hutchinson and Watters (1987:17) see that ESP can be divided into three branches to suit different teaching situations: English for Science and Technology (EST). English for Business and Economy (EBE).English for Social Sciences (ESS). These branches can be either English for Academic Purposes or English for Occupational Purposes.

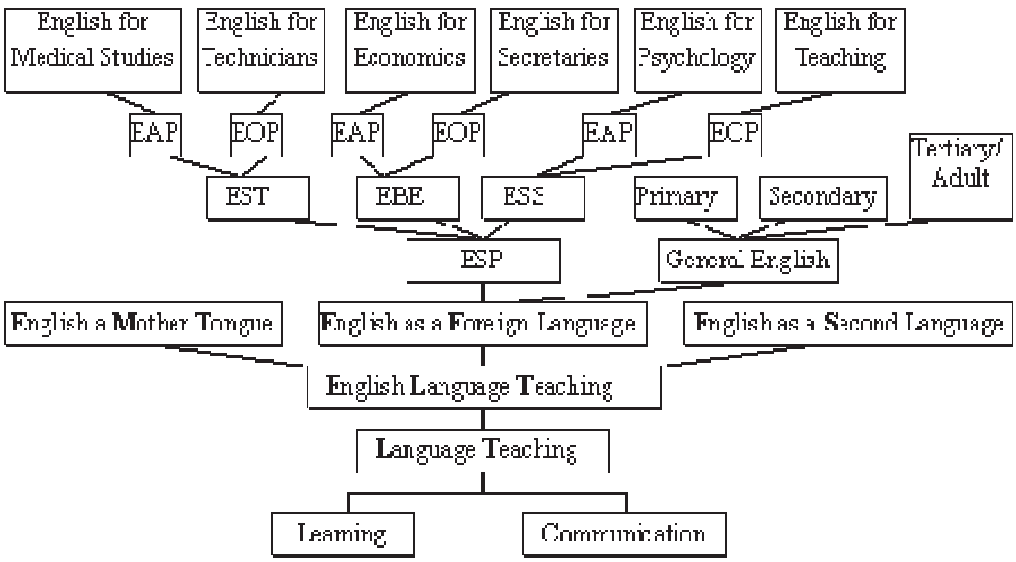


Figure (1.1): simplified tree of ELT. (Hutchinson&Waters, 1987:17)

The demand for English in both academic and occupational contexts has proved to be more challenging. According to Robinson (1991:3),"Major distinction of ESP is often drawn between English for Occupational Purposes (EOP), involving work-related needs and training, and English for Academic Purposes, involving academic setting."

The emergence of different subject and disciplines with different needs lead to the emergence of different programs; some have given other sub divisions of ESP,

when they classify language learners who need ESP into two categories (Knight, lomperis, van Naerseen andWester Field (2010:7)

1-learners who are in the process of developing expertise in their fields need English communication skills as tools in their training.

2-language learners who are already experts in their fields need English communication skills as tool in their process.

In this vein Lomperis (1998) divide ESP courses into two sub-categories: English in preparation for Employment (EPE), and English for Employment purposes (EEP). EPE is divided into three sub-categories:Pre-vocational English, vocational English as a second language (VESL), and English for Academic purposes (EAP).EEP is divided into English for occupational Purposes (EOP) and English for professional Purposes (EPP).

Dudley-Evans and Maggie (2002) suggested new classifications; new sub categories are to be found. For them EOP is divided into two sub-categories English for professional purposes(EPP)includes English for Medical Purposes(EMP),and English for Business Purposes, English for Vocational Purposes which is sub-categorized into smaller categories like Pre-Vocational English (PVE) and Vocational English (VE).This will be clearly explained in thefollowing diagram:

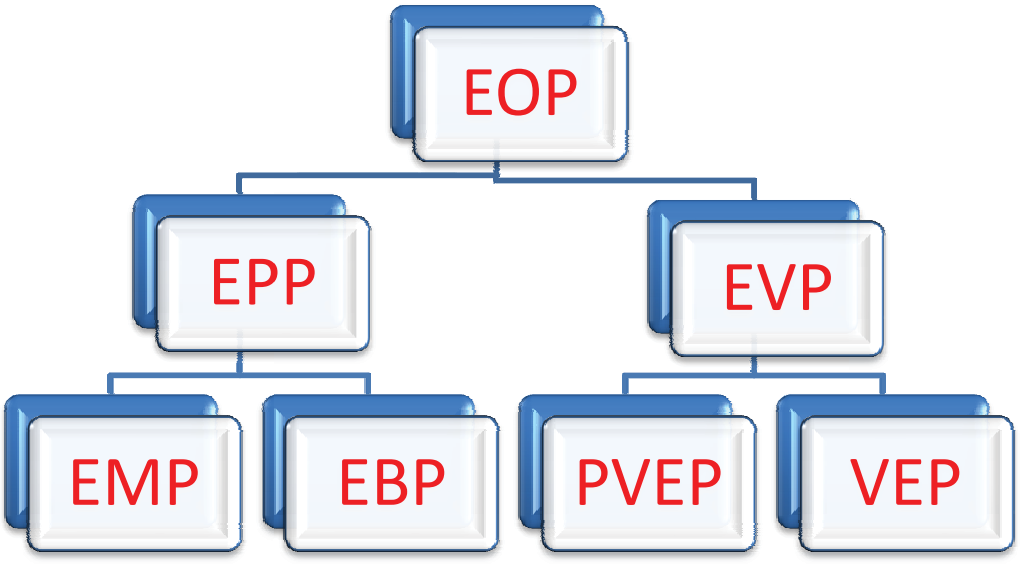


Diagram (1.2) (Dudley-Evans and Maggie's sub divisions of English for Occupational purposes (2002)

The folowing section will describe English for Aviation as a sub-set of ESP, why the ICAO Has initiated New English language Proficiency Requirement, then why English became mandatory, then finally, the teaching of English for Aviation in Algeria.

1.3. English for Aviationas a Sub-division of ESP:

The English of international aviation is not English for general purposes or English for international purposes. Aviation English is a language for specific purposes (Douglas, 2000).in this vein Wang (2008:254) Says :

> Accordingly, Aviation English can be a subdivision of ESP, in the same rank as English for business and economy, English for science and technology, English for social sciences.

The core of aviation communication is radiotelephony phraseology, but when this latter does not sufice pilots and controllers will use plain language, this will be clearly explained in the following section.

1.4. Phraseology and Plain English as Subset of English for Aviation:

It is agreed that phraseology represents only a very narrow, specialized, and rigid subset of the English language. That is why ICAO has recommended all pilots and air traffic controllers to meet the new English language proficiency requirement. In this vein stephany (2011) says that phraseology is used to cover the most common and routine situations encountered in air navigation in order to optimaze and ensure safety in communication. Basturkmenand Elder (2004) identify phraseology as follow:

> Phraseology is meant to cover all routine situations. It is an example of a language for specific purposes (LSP), in other words a language that is used in constrained and predictable ways for a limited range of communicative events.

Carver (1983) in his turn identifies three types of ESP: English as a Restricted Language, English for Academic and Occupational Purposes (EAOP), and English with Specific Topics. He considers the language used by pilots and air traffic controllers as a restricted one. In this sense, Mountford&Mackay (1978:4) say:

> … 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 airhostess. However, such restricted repertoires are not languages, just as a tourist phrase book is not grammar.

It is essential for reason of safety that air crew and controllers have to follow agreed procedures to ensure that every part of the message is understood. Air traffic communication involves the use of phraseology, plain language, and sometimes-adopted regional or local phraseology, which are used in a consice and comprehensible manner as standard phraseology. "Knowing a restricted language would not allow the speaker to communicate effectively in novel situations, or in context outside the vocational environment. (ibid)

Some scholars see that plain language could be used when phraseology does not suffice

> Plain language could be known as 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 Manual, 2004:14).

According to Morrow. 1994; Howard, 2008), when the communication becomes problematic, plain English tend to be favored by speakers and addressees to make sure that what they have understood and/or are understood correctly. It should be noted that plain English is used when phraseology could cover the situation, but it never replaces it. Plain English cannot replace phraseology.

Using plain English could provoke another problem, in this sense; Morrow et al., (1994:253–254) says"because of their tendency to use 'more complex syntax, vague or nonstandard terminology'Plain English, in other words, is not very plain."

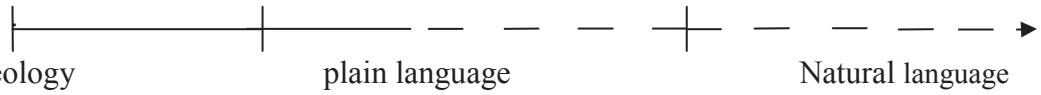


Diagram (1.3) Complex Relationship with Phraseology and Natural Language .Adapted from Stephany (2011:26)

It should be noted that plain language is less restricted than phraseology but not like natural English in every day speech. In this respect Stephany(ibid) says "plain English is less restricted than phraseology but not as natural as everyday speech"

English for aviation is not restricted only to phraseology and plain English that are used by pilots and air traffic controllers,there are other users of English in the aviation industry such as cabin crew ,enginner…….etc, as presented in the following diagram

Figure (1.2) English for Aviation

1.5. The Need for English in Aviation Industry:

Almost every field has its own "jargon" or its specialized words and phrases used in every day work fields, however the jargon used in aviation industry can be both much more complicated and complex as well as extremely important for clarity and sometimes-even safety. Consequently, the demand for ESP has grown considerably in recent year in aviation industry.

English becomes a requirement for professional promotion and even employment. English language proficiency becomes a necessity in the work place, as Phillipson (1992:6) points out,

> English has a dominant position in science, technology, medicine, and computers; in research, books, periodicals, and software; in transactional business, trade, shipping, and aviation; in diplomacy and international organizations; in mass media entertainment, news agencies, and journalism; in youth

> culture and sport; in education system, as the most widely learnt foreign language.

TheEnglish language is widely used in the field of aviation in which they use it as the primary medium in communication, especially in international operations.It is extensively used in the aviation industry. It plays an important role in communication between pilots and air traffic controllers since they had never been in face-to-face communication, as they communicate only via radiotelephony.As Smith (2000:52) claims: "English is often claimed to be the international language for aviation radio communication".

Nevertheless, English problems have played a role in various aviation disasters. It represents a strong barrier to effective communication. It was claimed that phraseology, which is appropriateto provide maximum clarity and brevity in communication, it is used only to exchange in routine situation; however, it is not sufficient in non-routine situation. Uplinger (1997:45) argues :

> The mastery of a specialized terminology is insufficient to avoid ambiguity. Developing functionality in a foreign language is a difficult task, she says. Moreover, a pilot or ATC who knows200-300 English air traffic controls terms may have little functional ability.

In the same vein, Wang (2008:265) also maintains:

> Safety experts and linguists are inclined to agree that phraseologies alone, no matter how extensive, are not sufficient to adequately cover all of the potential situations that can arise from human communication, particularly in aviation, for urgent or emergency situations.

1.6. The International Civil Aviation Organization (ICAO):

A new fundamental English language proficiency requirement for all pilots and air traffic controllers all over the world was initiated by the International Civil Aviation Organization. The latter seeks to promote the international aviation safety. One of the overarching objectives of ICAO, as contained in article43 of the convention is to foster the planning and development of international transport to meet the needs of the people for safe, regular, efficient, and economical air transport. In this sense (Ragan, 2007:54) defines ICAO as follow:

> The ICAO, a branch of the United Nations regulates aviation internationally, it establishes and reviews international standards for the licensing of personnel and aircraft operation, and develop principles and techniques of air navigation, including meteorology, radio communication, and rules of the air.

These new ICAO regulations came as a solution to miscommunication problems, which are results of insufficient English language proficiency of both pilots and air traffic controllers who are considered as key players in this scenario. As Nancy Graham (Director of ICAO Air Navigation Bureau states):

> In response to fatal accidents in which the luck of proficiency in English was identified as a contributing factor. ICAO adopted standards to strengthen language proficiency for pilots and Air Traffic Controllers in international operations.

English was chosen as the lingua franca of international aviation, ICAO recommends that both pilots and air traffic Controllers should demonstrate a minimum level; that is level 4.

The ICAO representatives saw that success depends on the standardization of aviation procedures throughout the world. One area to be standardized was communication. ICAO recommends that English is to be available at all control facilities serving international flight. The language suggested by ICAO would be a simplified form of English that would be easy for non-native speakers to master. The ICAO believes in improving communication between pilots and air traffic communication helps reduce accidents where a lack of English proficiency can contribute in some extent to such event.

Day (2002:24) notes that in the arena of international aviation, "English sheds all connection to political agendas, real or perceived, and becomes simply another tool for increased safety and efficiency of aviation operations*".*

ICAO had produced a set of holistic descriptors which outline the plain English requirements as follow

Proficient speaker shall:

- communicate effectively in voice-only (telephone/radiotelephone) and in face-to-face situations;
- communicate on common, concrete, and work-related topics with accuracy and clarity;
- use appropriate communicative strategies to exchange messages and to recognize and resolve misunderstandings (e.g. to check, confirm, or clarify information) in a general or work-related context;
- handle successfully and with relative ease the linguistic challenges presented by a complication or unexpected turn of events that occurs within the context of a routine work situation or communicative task with which they are otherwise familiar; and
- Use a dialect or accent, which is intelligible to the aeronautical community.

1.7. English for Aviation in Algeria:

The aviation industry in Algeria in its part has incorporated the LPRs into their activities. The Algerian ministry of transport in collaboration with theUniversity of Cambridge and Royal Melbourne University of Australia (RMIT University),opened the doors for all of aviation personal and oil companies through the establishement of a training center called Solution Language Algeria (SLA); it is the representative of RMIT in Algeria. It starts working with all sections of the aviation industry in Algeria from2008 and continues till today, providing English language training, and proficiency testing for pilots and air traffic Controllers with the approval of the Ministry of Transport.

LSA has a program of Aviation English course; 120 hours for each level focusing on listening and speaking skills to enhance and consolidate the trainee's radiotelephony and plain English communicative abilities, the material they use are supported with audio and visual aids, video and computer base training aids. They use published materials and their own supplementary activities.

LSA is well-known in the industry for offering training and testing. LSA can make a recommendation how many hours of training somebody would need to reach ICAO level 4. It has a team of aviation English instructors, ex-pilots, and ex-controllers to deliver the training at the center. LSAinstructors are facilitators who are trained to communicate effectively the functioning of language, to organize and provide lessons interesting and engaged accurately to assess the competence of each student. By engaging LSA to do placement tests to assess the starting level of personnel, and then according to the company, they arranged language training and RELTA tests with them, when possible and according to the means of each company.

LSA training program helps aviators' students to develop their English language skills with specific Aviation as specialized vocabulary, the language of navigation. Its main objective is to help pilots and air traffic controllers who need to

Know the standards of the English language required by the International Civil Aviation Organization.

At the end of each training all pilots and air traffic Controllers, take Relta test to certify their level. The result of this test is accepted by the DACM for licensing purposes.

1.8. Air Traffic Communication

Air traffic communication depends on mutual verification of information between pilots and air traffic controllers through hearback and readback process.The pilot reads back the controller instruction. He first introduces himself (the call sign, the tail number, the atitude, destination ….etc; this is what called the read back process.
To check inforamtion and to detect errors, the pilot must give clear and complete readback to give the controller an opporunity to confirm that the message has been correctly received. If not he corrects it To aknwoledge the pilot readback, the controller answer with a familiar word *"Roger*","*Welco*",or "copied" which means it's Ok, everything is clear and understood and they fully receive the information, if not they will ask the sender to repeat what they say, with a another familiar expression *"Say it again"*.For a better understanding, see figure (1.1)

DACM: Direction of Civil Aviation Meteorologie.

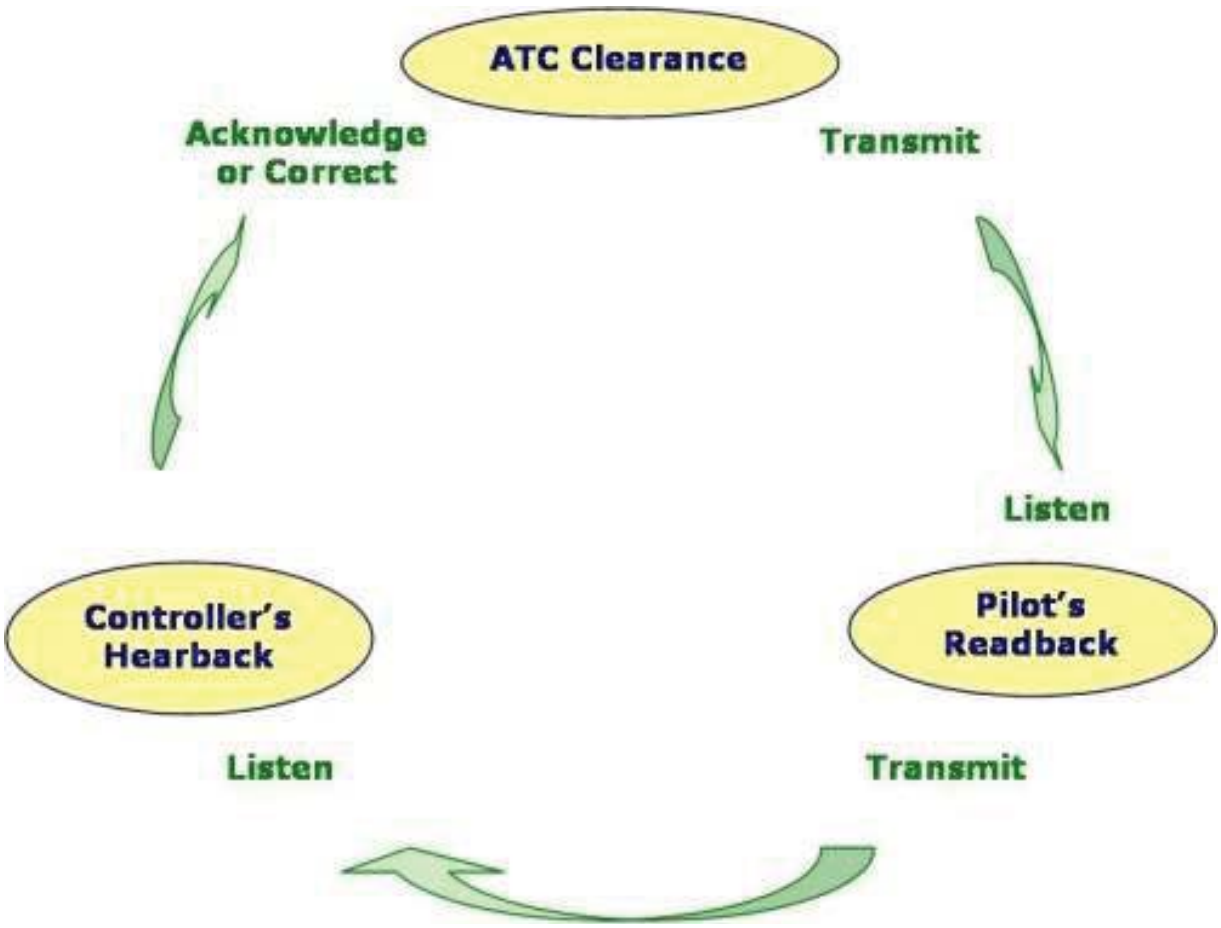


Figure (1.3) The Pilot-Controller Communication Loop (image embedded from (http://www.skybrary.aero)

Communication problems may frequently rise during hearback and readback process,when one of them fails to detect errors, sometimes they could not recover such errors; consequently, an incident may occur, and even an accident. controllers think that they deliver information in a smooth way that is understood by pilots. Nevertheless, they transfer it in a fast manner,or the transmission contains a lot of information,this may make the pilot loose words, be confused,and unable to receive the full message. He could neither comprehend nor write down the necessary information.

Generally speaking, the controller has to transfer the message in a correct way that will not make the pilot deviate from the correct instruction, thus controllers are required to check the pilot read back .To do so they have to compare it first with the initial information. In other words, the message should be understood and aknowledged in the first time.

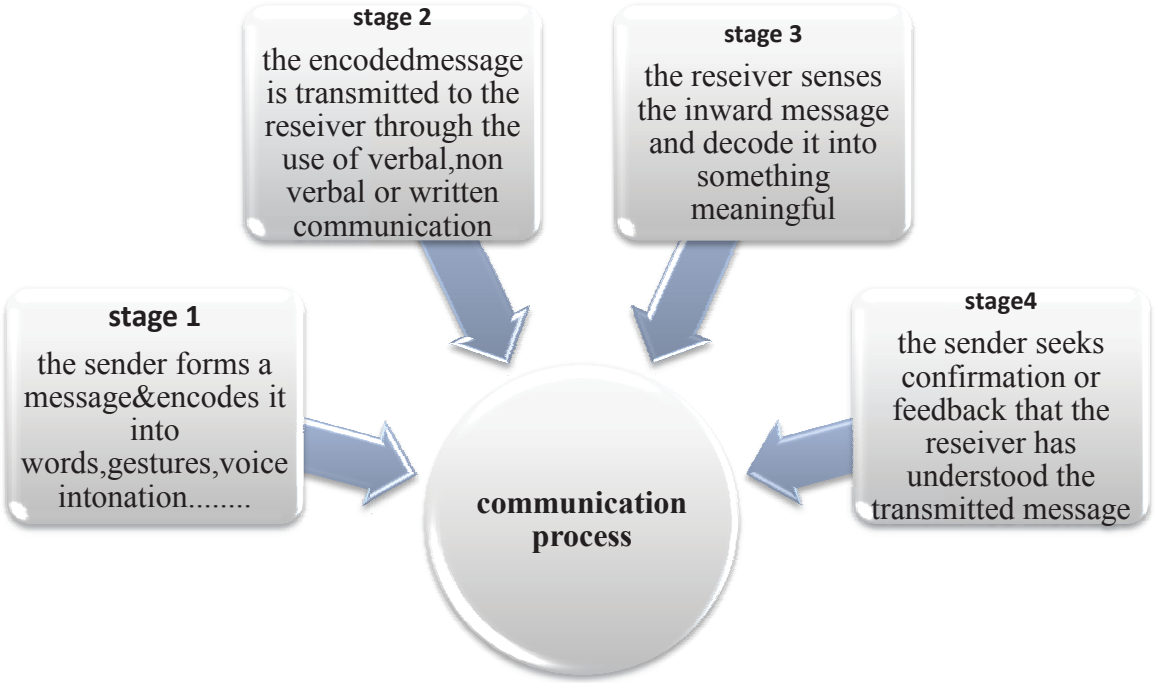
the primary consideration of both pilots and air traffic controllers is to guarantee a safe and orderly movement of aircraft, they are the decision makers of the life and death of thousands of passengers, the success or failure of the flight is largely in their hands at some extent, as Willis, Nordlund explain: (1998:35) "There are several key players in the scenario, but pilots, flight engineer, and ATC handling each segment of the flight are the ones who make the decision about the success of the flight"

1.9. Air traffic comunication involving English:

Effective communication in air traffic control system is based on precise and concise messages between pilots and air traffic controllers. that is a mutual understanding between the two ie;the intended meaning of the sender and the perceived meaning of the receiver are the same (McShane & Von Glinow) (2008: 324) state

> Communication refers to the process by which information is transmitted and understood between two or more people. We emphasize the word understood becausetransmitting the sender's intended meaning is the essence of goodcommunication.

Moreover, the process of communication can be divided into four key stages.This could be clearly identified in the following diagram:



McShane & Von Glinow's communication process (2008:324.)

Communication errors involving the use of the English language is another issue in today's globalized world.This may have a negative impact on aviation safety, and even lead to hazards.In this vein,Nagel (1988:284) says, "The results of communication errors in aviation can lead to serious impacts on margins of safety"

Communication in aviation involving the English language, as the only medium to communicate became sensitive.in this respect (Orasanu & Fischer, 1991; quoted in Cushing 1997) said"The role of language use in communication process has been neglected, and researchers have recognized the need for a deeper understanding of language, its basic characteristics, and how it works "

Palmer (1993:112) provides an excellent structure for the functions communication plays inaviation and aviation safety, especially as it affects crew performance:

- Communication provides information
- Communication establishes interpersonal relationships
- Communication establishes predictable behavior patterns

- Communication maintains attention to task and monitoring
- Communication is a management tool

Effective communication between pilots and controllers is essential and even crucial for safe skies.

> The safe and expeditious flow of air traffic depends on accurate and efficient Communications between pilots and ATC. This requirement becomes even more crucial as the amount and complexity of air traffic increases (Cardosi, Falzarano, &Han, 1998).

Miscommunications between pilots and controllers occur repeatedly, involving factors that have relation with radio equipement failure such as change in frequency.

Other factors such as psychological factors may cause miscommunication. For example, Absent-mindedness (a type of miscommunication that may occur with both pilots and controllers, for example a controller instead of giving a separate level of attitude to different aircraft he gives the same attitude.)

Yet in the current research, the foccus is on linguistic factors that affect comunication.The most recurrent linguistic factors that may affect pilots' and controllers' communication include expectations, code switching, and L1 interference, paralinguistic factors,Lexical ambiguity.

1.9.1. Expectations

In air traffic communication, most situations are associated to each other, and occurred repeatedly, hence pilots expect to receive a clearance and give another. Monan (1988quoted in Cushing) sumarizes the issue of expectation when he stated :

> Many instances of misunderstanding can be attributed to the expectationfactor, that is, the recipient (or listener) perceives

> that he heard what he expected to hear inthe message transmitted.
>
> He adds :
>
> Pilots and controllers alike tend to hear what they expect to hear.Deviations from routine are not noted and the read-back is heard as being the same as the transmitted message, whether correctly or incorrectly.

Pilots interpret situations and messages according to their familiarity and routine experience, that's why they do not intend to hear what their interlocutor said but to expect what they are saying ,this fact frequently occur due to fatigue ,or noises.it is one of the causal factors to misunderstanding.

According to Haglund (1994:151)

> Expectations, involve the use of indistinct or incomplete phraseologyin this sense he said the air traffic controller "expects, often as a result of indistinct or incomplete phraseology, that a pilot will act in a certain manner. The controller therefore neglects to take measures that would ensure the pilot to perform in the manner assumed by the controller.

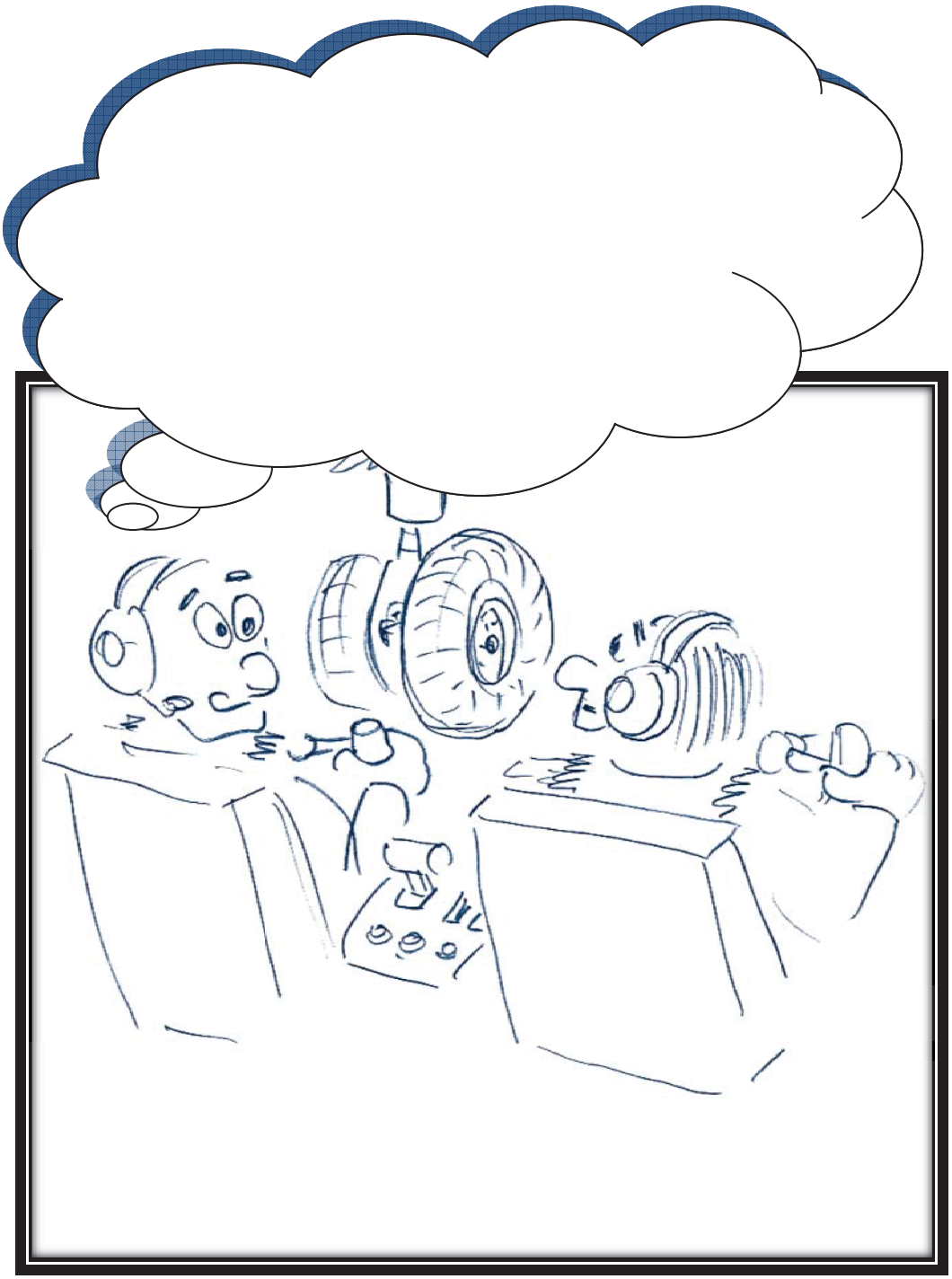


Figure: 1.4 Instance of expectation: Shifting a clearance or instruction from one parameter to another.source: (http://www.skybrary.aero/index.php/Read-back_or_Hear-back)

1.9.2. Code Switching and L1 Interference:

As already, mentioned pilots and controllers fly not only domestically but also internationally. As a result, different languages, dialects, and accents will be used in air traffic communication. Merritt (1996: 45) succinctly phrase the issue: *"*regardless of the country of origin, any international flight by its very definition is a multi-cultural experience."

The existence of different languages or dialects, can cause what we call code switching, i.e. pilots alternate two languages.Code switching can even occur among native speakers; this multilingual situation can also cause language interference,ie,they use an L1 word and pronounce it like L2 by adding for example a suffix

Alternatively, another example of code switching in flight communication involves the use of aviation jargon. In this respectParker (2006), Barkowand Rutenberg (2002), Darby (2006), and Krivonos (2005).

> "Jargon, the use of language in a profession, trade, or in a specialized situation (as inaviation), provides a shorthand means for communicating well—when everyoneunderstands the jargon. The aviation safety environment is loaded with jargon that oftenmakes communication more efficient and effective. However, when others don'tunderstand the jargon or use it incorrectly, theproblems of misunderstanding andmisinterpretation can easily occur."

It should be noted that words in general English is not the same as aviation jargon. In his analysis of aviation accidents.Cushing explains this issue by giving the example of the word"hold".In aviation jargon, "hold" always means to "stop what you are doing", but in ordinary English it means to continue on the same course. The controller agreed for the flight to "hold" intending for it to go around, but the flight continued with the landing and collided with the aircraft on the ground"(1997:11)

1.9.3. Lexical ambiguity:

Another frequent and serious problem that both pilots and controllers may know during their flight is Lexical ambiguity. Due to aircraft noise; there are words that sound same but have different spelling (homophones), good examples in this case "to" and "two" they sounds the same but have different meaning. "Right" and "write", "Missed" and "Mist."

In this respect, Cushing (1994) reports a case that nearly led to air collision that was caused by the phonological similarity of *two* and *to*: A pilot misunderstood the command *climb two five zero* as *climb to five zero*.

Another case of lexical ambiguity; may be words that have the same spelling but different meanings (homographs)for example refuse (disagree) / refuse (rubbish), Close (shut) / Close (near).

Alternatively, words with the same sound and speling but different in meaning (homonyms) examples:

Expression:	Meaning
Go ahead ⟶	urge speaking/forward motion
Stand by ⟶	wait / standing

Source: ICAO Manuel.(2004)

1.9.4. Paralinguistic factors:

According to Shames & Wigg (1990), paralinguistic factors can change the form and the meaning of sentences by acting across individual sounds or words of a sentence.

Paralinguistic factors include pauses, intonation, stress, rate of delivery.All these factors play an important and efficient role in the success of comunication. It has strong effect on the receiver.Excessive pausing during radio transmissions could be a severe obstacle to effective communication.

> When under stress or in complex situations, speech becomes more rapid and frequent and can make communications very difficult to understand. Under these stressful conditions, changes in voice pitch can cause "slips of the tongue" that can lead to misunderstandings and errors (Prinzo & Britton 1993, Timolin & Pikovski, 1974; Fegyveresi, 1997).

1.10. Conclusion:

This chapter is the theoretical part of the case under study. It tried to shed light on the key-concepts used in this work, and sought to introduce English for aviation as a sub devision of ESP and the different sub divisions it includes.

The chapter briefly introduced the International Civil Aviation Organization and the New English language Proficiency Requirement. And how the aviation industry in Algeria has incorporated the LPRs into their activities? The researcher also explained the need for English in Aviation. And how could this language could be a causal factor to misunderstanding.

Another concern of the current chapter was to shed light on the factors affecting communication. The researcher first tries to identify the concept communication in general, and then he moved to the factors that have effect on communication when using the English language. A special focus was on explaining the linguistic factors that has effect on the success of communication.

The following chapter tries to describe the target situation and the population involved stressing on the research tools used and the motive behind each selection.

CHAPTER TWO
Situation Analysis & Research Design

CHAPTER TWO

SITUATION ANALYSIS & RESEARCH DESIGN

2.1. Introduction

The present chapter presents a thorough description of the concerned situation and population; it also describes the research instruments used to obtain the data regarding the English language needs of Algerian aviation industry as perceived by pilots and air traffic controllers.

Two important concerns guide this study: to identify the English language needs and wants of pilots and air traffic controllers and to see to what extent lack of the English language ability might affect their work.

The present study was carried out at the Algerian ~~a~~irport of Zenata, currently called Messali El Hadj.

To describe the situation where the study took place, it is worth pausing to develop a general insight about the airport and the different companies it encompasses. It should be noted that though there are several supporting industries in the Airport such as police authority, customs service, Sonalgaz company, National Air Navigation company…the researcher will limit his broad definitions to the companies where the research took place.

2.2. Zenata Airport Messali EL Hadj

Zenata ~~A~~irport is an Algerian international civil airport situated in the town of Zenata 22 km northwest of Tlemcen. The aerodrome was closed in 2007 to be renovated with the aim of doubling the number of flights that it could handle. The airport was reopened in 2008. Presently, this airport plays an important role in the region.

Tlemcen was the capital of Islamic culture in 2011; consequently the airport welcomed and is still receiving many people from different countries around the world. This means that the airport itself is a major economic force in the region, both in terms of its operation and its impact on related industries including tourism. Because of the large number of foreign visitors entering our country through this

airport, people working in the airport and in the supporting industries need to know foreign languages, especially English.

The airport provides service to national and international destinations such as Algiers, Paris, Orly, and Marseilles under the direction of two different companies, a local one known Air Algerie, and an international one: Aigle Azur. A third Company which is a local one offers flight each Saturday to Hassi Remel known as Tassilli Airlines. All these companies work in collaboration with the National Air Navigation Company known as (ENNA[1]). The primary concern of each company is to ensure safety.

2.3. Navigation Companies in Zenata Airport

The company Air Algerie is a purely Algerian company; it serves both national and international destinations. It was established in 1947, its primary tasks are flight operations, commercial functions, and maintenance transport. It serves 39 destinations in 28 countries in Europe as well as domestic services in 32 airports. The general management office of the company is situated in Algiers and has its representatives in each Airport. There is a station manager who directs and operates all the flights be them domestic or international. This is the case in Zenata Airport, where the station manager is responsible for both flight operations and all concerns of the pilots.

The total number of flights in zenata Airport is 168 per year (72 Domestic and 96 international). These flights are insured by Air Algerie, Aigle Azur, and Tassili Air lines.

It is worth mentioning that the company Aigle Azur is a French company that operates only to international destinations such as Marseille, Paris, and Orly. This company flies the whole week except on Saturday. Another company known as Tassili

ENNA(1): Entreprise National de la Navigation International

Airlines, which doesn't belong to the airport comes each Saturday to Zenata to transport workers of sonalgaz to Hassi Rmel. The only company that works the whole week is Air Algeria.

Name of the company	Destination	Total number of flights per year	
		domestic	international
Air Algerie	Algiers Paris Marseille	72 flights	96 flights
Aigle Azure	Paris Lille Marseille		
Tassili Airlines	Hassi Rmel	28flights	

Table (2.1) Information on the working airlines companies in Zenata Airport.

It should be noted that all of Air Algerie, Aigle Azure, and Tassilli Airlines work in collaboration with the National Air Navigation Company which in its turn contributes to the flight operations and its main role is to ensure safe and efficient airspace design.

Air Algerie is the company responsible for all what concerns pilots. Whereas, Air Navigation Company is responsible for Air Traffic Controllers, the company directs them. In sum, safety is a shared responsibility between the two companies.

2.4. Pilots and Air Traffic Controllers' Responsibilities

The sample population of the present study is made of pilots and air traffic controllers. It is of paramount importance to shed light on the different tasks they perform to operate an aircraft just to have a better understanding of the nature of the team work they accomplish in collaboration. Safe operation requires the cooperation and interaction of both individuals.

Their first consideration is to transport passengers in safe and comfortable circumstances. To achieve such aim both are required to fulfill their responsibilities in the fullest. In this sense, Demik (2007:37)**,** states that "Safe and efficient flight operations depended on the truly and accurate exchanges of information between ATC and Pilots in the cockpit*."* They perform teamwork with an overlapping responsibility. Each compensates the other; the pilot may not successfully do his job without the assistance of air traffic controller. As Reeves and Rauf (2005:54) reports *"*Pilots, have no live lines to follow and no easy way to see; if another plane is about to cross their path….they rely on the guidance of ATC."

He adds "these professionals act as pilot's right hand assistant on the ground directing places and coordinating flight routes to assure safe and efficient air travel" *(*ibid). A cockpit is made up of two pilots, the most experienced one is called the captain, and the second one who assists the captain is called a co-pilot or first officer. The final responsibility and authority is in the hand of the pilot in command (the captain) as Paul (1999:01) reports *"*The pilot in command is directly responsible for and is the final authority for the safe operation of an aircraft**"**

Both pilots and Air Traffic Controllers shall have a pre-flight preparation that is based on a double check. Pilots must be well informed about the pre-flight procedures, a clear picture should be provided by air traffic controllers, as the weather conditions, if it will be any troubles that may cause any delay, airport location, takeoff and landing distance, etc. Both of them should be well informed to prevent any problem that may affect the flow of the aircraft. It should be noted that there are three levels of air traffic controllers.

In the air traffic control system, there are three levels of air traffic controllers, the tower controller, the terminal controller and the radar controller. They all alternate with pilots to flow the aircraft from destination A to destination B. For the movement of an aircraft in and around the airport it is the responsibility of the tower controller to control and monitor the movement of the aircraft, tower controller is also known as

local controller his location is in the airport. Generally, this latter controls the aircraft in3, 7 to 5, 2Km depending on the airport procedures.

When the aircraft is ready to take off and after gaining the approval of the tower controller in the sky the plane fly with an automatic pilots. Nevertheless a continuous check between pilots and two other controllers known as terminal and radar controllers. They both rely on radar to track the aircraft. Their purpose is to clear the air craft path as Reeves and Rauf **(**2005:38) explains:

> When a plane is ready to take off, airport tower controller coordinates the order of planes leaving the airport to make sure they don't collide with each other…….an enroute controllers take over, these controllers monitor aircraft between airport using radar and computer, they issue pilots in flight instructors, clearance, advice as planes pass through their juridiction..

2.5. Gaining Permission to Access the Airport

An initial stage before embarking in the task was to gain access and permission from the organization where the research is to be undertaken. A relevant and obligatory step in conducting such a research is to gain permission first from the officials working in the airport, this is necessary to have facilities to carry out the investigation, so the problem of access has required a greater preparation. *"*There is often difficulty for researchers in gaining entry to and acceptance in the organization*"* Bell, J. (1993:4)

The issue was first negotiated with the General Direction of the airport with an introductory letter (see appendix A), The researcher was sent to the National Air Navigation Company, where she was asked to mention (the period that best suits her to conduct his work, the project outlines, in addition to the support from the head of the department (see appendix A). The process took more than one week. Another step required reference to the police authority who asked the researcher to provide a file to

have a trainee card (see appendix A) to enter the airport without any disturbance or any interruption.

It should be noted that in Zenata Airport the researcher had more opportunities and facilities to undertake her research, after doing all the required steps; and being granted the final approval for data collection, by receiving an acceptance letter that was valid for one month (see appendix A)

In order to get in touch with pilots another procedure was taken with the company Air Algerie. The researcher limited herself to work with this company since it was a local one.

With the help of the National Air Navigation Company which facilitated contact with the company Air Algerie, the researcher was asked to have a police control before being into plane. For security purposes, there was no easy way to be on the plane. The following diagram will illustrate the different steps taken to gain permission.

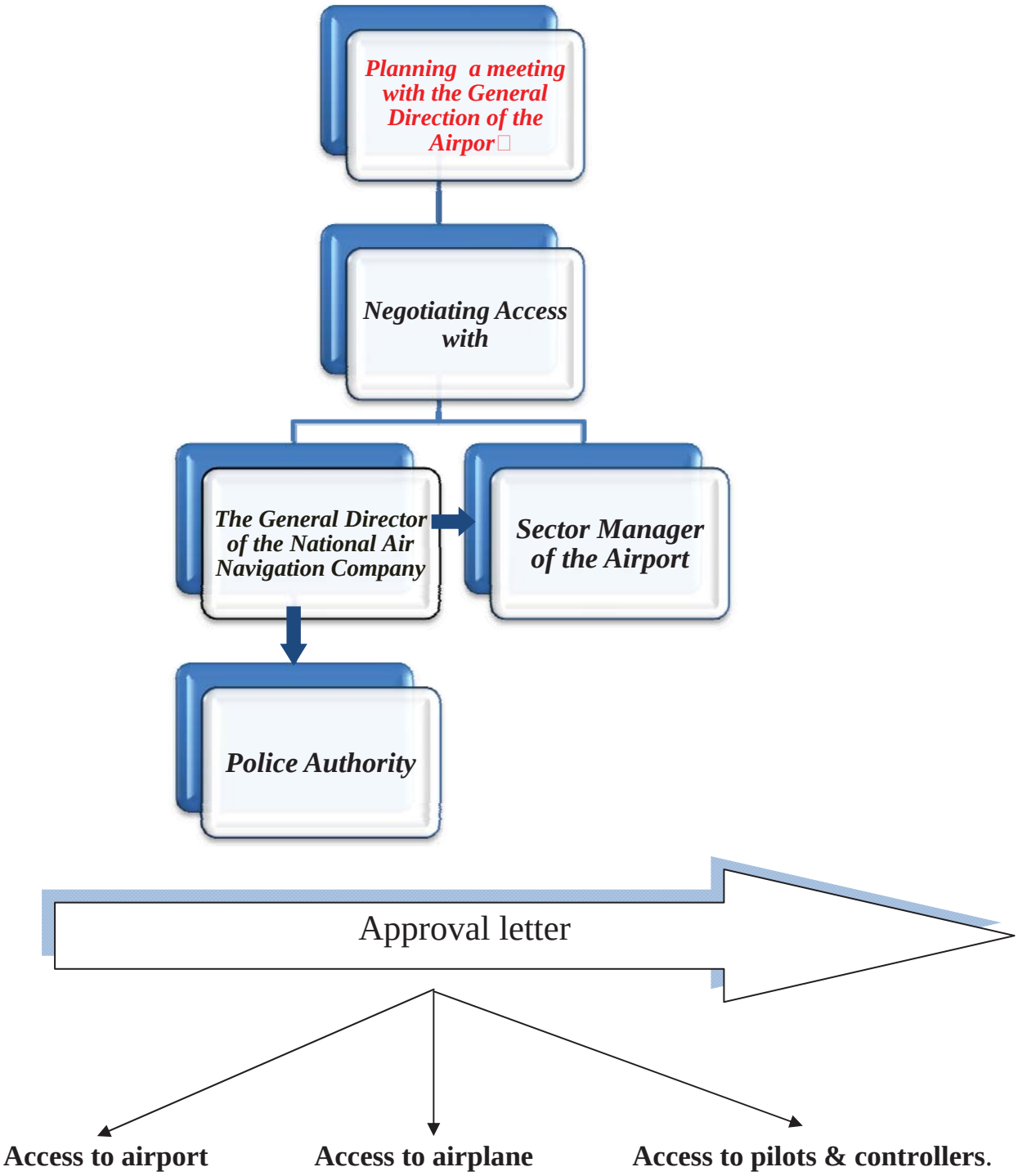


Diagram 2.1: The Different Steps Taken to Gain Access to the Field Of Study.

2.6. Research Design and Methodology

To have a thorough examination of a particular situation or phenomenon the Case study is appropriate. It is well suited because of its ability to answer the research questions mentioned earlier as Punch (1998:150) states "Case study method allows for a variety of research questions and purposes which allows the researcher to develop as full understanding of that case as possible"

A case study is considered by Benbasat (1987:370) to be reliable for three reasons:

- It is necessary to study the phenomenon in its natural setting.
- The researcher can ask how and why questions, so as
- To understand the nature and complexity of the process taking place

Moreover, Yin (1993:4.6) distinguishes three types of case studies "exploratory, explanatory, and descriptive" Isaac and Michael point out (1998:52) that case study is" exploratory in nature, and the outcome of a case study may provide information, and possible hypothesis to guide research." To understand and explore what English language difficulties do Algerian pilots and air traffic encounter when using the English language during their work and what are their English language needs, lacks, and wants, the researcher opted for the case study. According to Patton (1987: 19):

> One needs to understand some particular problem or situation in great depth, and where one can identify cases rich in information – rich in the sense that a great deal can be learned from a few examples of the phenomenon in question. For example, a great deal can often be learned about how to improve a program by studying selected dropouts, failures, or successes.

A case study is considered by Benbasat (1987, p.370) to be reliable for three reasons:

- It is necessary to study the phenomena in its natural setting.
- The researcher can ask how and why questions, so as
- To understand the nature and the complexity of the process taking place.

Nevertheless, some criticise case study and consider it as not being reliable because it doesn't address the issue of generalisation. This is the view of Isaac & Michael (1995:52) who say that: "Case study is a narrow focus on a few units limiting, the representativeness this doesn't allow valid generalisation to the population from which the units come".

In contrast Punch (2001:45) says that with: "case study method, understanding the case may be the major focus…it is not the intention of such study to generalise, but rather to understand this case in it''.

Yin (2003:10) also reports that

> Case studies are generalisable to theoretical propositions and not to populations or universe. In this sense, the case study [….] does not represent a "sample," and in doing a case study your goal will be to generalize theories (analytical generalization) and not to enumerate frequencies (statistical generalization)

It is worthy to mention that the present case study is the first exploratory research to tackle the field of English for Aviation .Indeed; it is a pioneering work in current ESP research in Tlemcen. According to Khan (2009:12):

> Exploratory research is preliminary study of an unfamiliar problem about which the researcher has little or no knowledge;

> it is similar to doctor's initial investigation of patient suffering from an in familiar malady for getting some clues for understanding it.

In fact , this exploratory research intends to make an in-depth description and exploration about the importance of English in the Algerian aviation industry, and how this language could be one of the factors leading to misunderstanding in aviation communication. Another concern of this study is to find out what are the English language needs, lacks and wants of pilots and air traffic controllers working in Zenata Airport.

The following sections will consider the different instruments implemented in this research.

2.7. Data Collection Instruments

An essential component in any research is to select appropriate tools that best serve the goals and objectives of the research in hand; in this respect O'Leary (2005:150) says:

> Collecting credible data is a tough task, and it is worth remembering that one method of data collection is not inherently better than another, therefore, which data collection to use would depend upon goals and the advantages of each method.

To cross-check findings triangulation was achieved through the implementation of different methods. The researcher used an interview, a questionnaire, classroom observation, and a proficiency test. Meriam (1998:32),) states that "Triangulation is a measure of validity through the use of multiple data collection methods, multiple sources, multiple investigation, and/or theoretical perspecti□□."

The current research involves 7 pilots, 6 air traffic controllers, 2English teachers, and the station manager of the airport and the General Director of the National Air Navigation Company.

2.7.1. Interviews

The purpose of the three interviews used in this study was not to produce a final inventory of target needs. But merely to obtain a better idea based on insider knowledge as Turckman (1972:45) suggests

> By providing access to what is inside a person's head, it makes it possible to measure what people know (knowledge or information) what a person likes or dislikes (values and performances) and what a person thinks (attitudes and belief).

The researcher sees that a reliable method to elicit participants' views and to know their attitudes would be through interviews. This gives the researcher the chance to be in direct contact with the participants and to enter their worlds which is impossible to be observed directly as Patton (2002:341) says : "We interview people to find out from them; those things we cannot directly observe, we have to ask people questions about those things".He adds :

> Interviews have a higher response rate than questionnaire because respondents become more involved and, hence motivated, they enable more to be said about the research than is usually mentioned in a covering letter to questionnaire and they are better than questionnaire for handling more difficult and open ended questions.

Moreover, there are different types of interviews which differ in terms of formality. Three types of interviews can be distinguished: structured, semi-structured and unstructured interviews. In this vein Nunan (1992:149) sees that "Interviews can be characterized in terms of their degree of formality, and most can be placed on a continuum ranging from structured trough semi-structured to structured"

In the current study, the researcher opted for a structured interview. The researcher developed a set of interviews; three interview versions the same version was used with pilots and air traffic controllers. a second interview version was addressed to the General Director of the National Air Navigation company and the Sector Manager of the airport, a third interview was done with the two English teachers enrolled in the training sessions. All the interview versions were written in English and translated to French for easy reference the interviews lasted for approximately30mn to 40mn. The following section describes the steps taken during each interview with each participant.

2.7.1.1. Pilots and Air Traffic Controllers' Interviews

The same interview version was conducted with both pilots and air traffic controllers (see appendix B) as they were, first, the key players in this particular research and second equally involved in the air traffic control system; i.e. they may encounter the same problems and difficulties while using the English language that is not their mother tongue but a foreign language. In addition both informants have the same language needs, because they are required to have a minimum level of English to perform successfully especially when operating at an international level.

In order to identify what are their needs, lacks, and wants and to explore what difficulties they face when using this foreign language a needs identification interview was conducted with both of them as Basturkmen (1998:2) says:

> Needs analysis have been identified as the identification of difficulties and standard situation through the adoption of two ways: observing students functioning in a target situation, conducting interview, and delivering questionnaire to different group of respondent's to find out these difficulties.

The researcher selected the interview as tool to elicit pilots and Air Traffic Controllers' opinions, suggestions and attitudes because:

- The group addressed has no time to complete written questionnaire, especially pilots who are busy flying and may encounter difficulties in completing written questionnaire
- It gives participants the opportunity to check what is meant by a question allowing for long and clearer responses,
- It provides a clear picture of what the participant posses and what he needs to accomplish.
- To have new insights and information from participants, according to Patton (2002:340-341 quoted in Meriam 2009)"we interview people to find out from those things we cannot directly observe."

To sum up the choice of the interview was motivated by Pattons' arguments (1990:278) who puts it clearly that:

> Interviews have a higher response rather than questionnaire because respondents become more involved and, hence motivated, they enable more to be said about the research than is usually mentioned in a covering letter to questionnaire, and they are better than questionnaire for handling more difficult and open ended questions.

Regarding the design of this interview, it was done in 30mn to 40mn. It consists of close and open questions, close questions are those which allow the respondent to select a number of possibilities offered to him or answer by "yes" or "no", open questions are those which require a personal answer. The interview covers 16 items and is divided into five sections.

Section One: The Participants' Profile

This part seeks general information about the respondents; it is composed of five items. It includes age, level of education, last English course, and the country where initial training was completed.

This part is essential to gather information about the participant at the same time it helps in the analysis of a number of response patterns.

Section Two: The Importance of the English Language

It includes 9 items and covers general information about the importance of the English language in work place, the frequency of using the English language, the language used during international flights, the most important skill to perform successfully and finally any accidents or incidents which occurred in their work due to a bad command of English.

Section Three: English Training Program

It Covers three items and seeks general information about any English training program, or further suggestions for any training.

Section Four: Suggestions to Overcome Difficulties;

It asks futher suggestions to help them overcome difficulties when using the English language.

Section Five: Participants' Opinion about the New ICAO Regulations:

This part seeks respondents' views about the new ICAO English Language Proficiency requirements.

To have a general idea about the context where research took place; it is essential to gain the opinion of different persons especially those who are directly concerned with the management of the area where research took place. In this respect,

another interview version was conducted with both the General Director of the National Air Navigation Company and the Station Manager of the airport. As .H.long (2005:36) states «Multiple sources should always be employed, both they add breadth and depth to analysis, and because triangulation of sources offers important means of validating findings"

2.7.1.2. The General Director and the Station Managers' Interview

A common shared responsibility and a tight correlation exist between pilots and air traffic controllers. They are equally involved in the air traffic control system. Nevertheless, they are under the direction of two different companies, as already mentioned air traffic controllers are under the responsibility of the National Air navigation Company, and pilots, on the other side are under the direction of the Algerian airlines company Air Algerie.

The same interview version was conducted with both heads the medium of the interview was French (appendix B), it lasted 20mn, and both interviews were done in the workplace. This interview is divided into four sections. The interview was made of four sections:

Section One: Number of Pilots And Air Traffic Controllers and Number of Flights.

This section seeks to know the number of pilots and Air Traffic Controllers working in Zenata Airport, the number of flights; domestic and international ones.

Section Two: The Importance of the English Language for pilots and air traffic controllers

It seeks to see if the English language receives any adequate importance in the airport or not, i.e. whether an English training program exists, if not is there any future planning for any training.

Section Three: New Regulations about the English Certificates for Pilots and Air Traffic Controllers

It seeks to inquire about the existence of any regulation that deprives any pilot or air traffic controller to be engaged in international aviation.

Section Four: Suggestions

It seeks to provide further suggestions to prevent English problems that may be one of the causes of aviation disaster.

During the researcher presence, the company has already initiated a work place English training program for air traffic controllers. This led the researcher to use additional instruments to provide worthwhile and comprehensive data; these instruments were a structured interview with the two English teachers enrolled to teach those informants, an unstructured classroom observation, and a post-observation questionnaire to air traffic controllers.

2.7.1.3. The Teachers' Interview

Before describing the teachers' interview, it is important to introduce the two English teachers engaged in the rolling of the English training program.

Teachers' Profile

The two English teachers involved in the present research are full time teachers at Mascara University. Who hold a magister degree in popular cultures. Both of them have been teaching English at university for more than 10 years. These two teachers worked in collaboration to teach those controllers. One of them (teacher A) was responsible for teaching them. At the end of each level (teacherB) comes as evaluator, according to him he helps teacher (A) to apply what has been taught during each level. He believes that he gave evaluative feedback. They called these coaching sessions. It should be noted that teacher (A) has an ESP teaching experience in different contexts he said, he taught both EAP and EOP. In 2001, he was a part time teacher of Business English at Sidi Bellabes University, he also taught translation in Tlemcen University, English for law, and English for agronomy. Whereas, the second teacher had no

experience in teaching ESP. His only experience in teaching ESP was teaching aviation English for controllers.

No one teacher had an ESP training .According to them such training is not available in our country, since ESP in Algeria is still in its first steps.

Regarding the design of this interview, it was structured. (See appendix "B"). It was addressed to two English teachers involved in the rolling of the training program for air traffic controllers. The main objective of this interview is to have the teachers' point of view about the adequate syllabus for these learners. as well as to see to what extent the English training program matches the needs of air traffic controllers interviews was divided into five sections.

Section One: Teachers' Qualification

General information about the teachers (their educational qualifications, any previous training in ESP in general and in English for Aviation in particular.

Section Two: Syllabus Design Procedures and Problems

It includes items about any difficulties they face while preparing the program ie; do they see closely to the needs of participants? The steps they followed when elaborating the program.

Section Three: General Information about the Course Content and Conduct in the Three First Levels of Instruction

This section seeks to have further information about the course conduct and content. In other words, it checks whether the teachers concentrated or not on what those informants needed and whether the program matches or mismatch their needs.

Section Four: Evaluation of Controllers' Level after the Training Program

This section asked about the teachers' evaluation of the controllers' level at the end of the training program in other words; it seeks to see if the controllers had progressed or not.

Section Five: Material Evaluation

It is about teachers' satisfaction or disatisfaction of the material used to teach in the training program.

Section six: Suggestions

It provides the researcher with further suggestions to help elaborate a suitable syllabus that helps those informants to satisfy their needs, wants, and lucks.

2.8.2. Air Traffic Controllers ‘Questionnaire

Saunders et al (2003:23) argue that “A reasonable and moderate high response rate (30%to50%) is guaranteed with self administered questionnaire, hard deliver, and collected questionnaire.” In order to ensure the total rate return and to help respondents with clarification when needed, a self-administered questionnaire (see appendix c) was delivered just after the end of air traffic controllers English training sessions. The whole program was made of four levels of instruction, and perchance the researcher has the opportunity to attend the fourth one

The questionnaire was developed for the sake of having satisfactory answers to a set of questions turning around the three-preceding levels:

- Were the teaching materials effective for improving the learners’ English ability?
- Does the teacher use any teaching aids that helps student to improve their English proficiency?
- Was the time allotted to English teaching sufficient to practice the required language skills?

The major goal of the questionnaire was to see how participants evaluate the program, ie; wether it is successful and how closely the materials match their needs? The idea of using the questionnaire as a tool has a set of advantages according to Richards (2001:60)

> Questionnaires are one of the most common instruments used, they are relatively easy to prepare, they can be used to with large numbers of subjects, and they obtain information that is relatively easy to tabulate and analyse. They can also be used to elicit information about many different kinds of issues, such

language use, communication difficulties, preferred learning styles, preferred classroom activities, and attitudes and beliefs.

Generally speaking , there are three types of questions: open questions, closed questions, graded questions.

2.7.3. Classroom Observation

In response to the (ICAO) the International Communication Aviation Organization, new English language proficiency requirements. The National Air Navigation Company initiated an English training program for air traffic controllers. More to the point the program was made of four levels of instruction by two teachers. The researcher attended the final level. The course was divided into morning and evening sessions. The researcher attended this level from the beginning till the end of it ,in addition to the achievement test ,it was13 sessions.as a matter of facts the researcher opted for an unstructured observation. Loftand (1971:32) describes observation as “The most penetrating of strategies, the most close and telling mode of gathering information». This is why the researcher concluded that observation is one of the required method to better explore the situation .Patton (1990:202, quoted in Cohen 2007) suggests that observationional data should “enable the researcher to enter and understand the situation that is being described”

Classroom observation may vary from structured to unstructured one .as explained by Dyer (1995 quoted in Kevin, 2008:4) the difference between structured and unstructured observation is as follows “structured observation can test hypotheses about specific behaviour while unstructured observation tend to describe all the behaviour in situation”

To have a clear idea about the course conduct and content. The researcher decided to proceed to an unstructured observation. In this sense Punch (1998:186 quoted in Bell 1991) says

> Researchers who decide to adopt an unstructured approach of observation; generally do so because though they may have a clear idea of the purpose of the observation, they may not be so clear about the detail, they are prepared to spend sufficient time on the field work, familiarization and accumulation of data from which they anticipate that focus and structure will emerge.

The decision to implement both the questionnaire, the observation was to see closely what was practised during all levels. An overall objective is: To investigate whether the program enjoyed sufficient and acceptable efficiency interns of students' needs, lacks and wants. In this respect Richards (2005:61) reports that *"*Observation of learner's behaviour in a target situation is another way of assessing their needs, for example, observing clerks performing their job in a bank will enable observer to arrive at certain conclusions about their language needs"

2.7.4. Tests

This research has also used tests to identify participants' language needs, but before embarking in the description of the test used it is important to explain: what a test is? And its different types.

According to Brown (1987: 219) a test is *"*a method of measuring a persons' ability or knowledge in a given area."

2.7.4. 1.Types of Tests

It should be noted that there are different tests for different purposes.There are four types of tests: proficiency test, diagnostic test, achievement test, placement test.

Proficiency Test

Intend to identify the language ability of an individual in a given context; it also intends to assess the capacity of an individual's control of the language skills as mentioned in Zidane thesis (2009:17)

> Proficiency tests are employed to measure the learner's capacity to utilize the language in a specific context in order to determine their readiness to perform well in future learning situation

Proficiency tests are employed to measure the learner's capacity to utilize the language in a specific context in order to determine their readiness to perform well in future learning situation.

Proficiency may be measured in terms of receptive and expressive language skills, syntax, vocabulary, semantics, and other areas.

Diagnostic Test

As its name suggests, designed to diagnose learners'strength and weakenesses,what is the present level of the learner ,i.e. what language knowledge he possess and at the same time what deficiencies may have; in other words such test help to decide what needs to be taught to test takers.

Placement Test

Also known as pre-course test, intended to provide information that will help to place test taker in the appropriate class or program.

Achievement Test

There are two types of such tests: progress test (during the course) and final test to measure the learner's mastery of what has been taught to them. According to Dyer (1984:456) "An achievement test is in effect a sample of all the kinds of tasks that a given course of study is strong to get students to master"

2.7.4.2. Description of the Test

In an attempt to discover more about English training and testing programs for Algerian pilots and air traffic controllers. The researcher sent an email of inquiry to Rimit University that forwarded the researcher's query to the project manager of its English training centre in Algiers the centre was engaged in training and testing Algerian pilots and air traffic controllers. Intensive contacts have provided the researcher with useful information about the training centre, its activities, the audio of the test, and the situation of the centre.

The test used in this study was a proficiency test designed to assess the participants' English proficiency level i.e.to see what gaps exist in their language ability, what they are able to do (strength) and what they are not able to do (weaknesses). The test consists of four sub-tests: Grammar, vocabulary, speaking production, and listening comprehension). In fact as it was mentioned, the test was adapted from a licensing just for the sake of authenticity, the initial one is composed of different parts, it assesses both the speaking and listening skills, each component is divided into three sections from each test the researcher took only the third section. It should be noted that grammar and vocabulary were tested separately and were included in the speaking production .Table 2.3 describes the format and content of the test.

SECTION	NUMBER OF ITEMS	TIMING
GRAMMAR: (to measure participants' ability to use appropriate grammar rules and use of them ie;control of grammatical structures) PART 1: multiple-choice questions. a)underline the correct verb tense) b) Choose the appropriate preposition. Part 2: paraphrasing (give sentences equivalent in meaning to the given one.	8 items	05minutes
VOCABULARY: (to measure students knowledge of meaning of words and the use of them part1:multiplechoice questions a)(underline the correct option) b) Give the correct adjective. c) Match the pictures with the appropriate description.	10items	05minutes
LISTENING COMPREHENSION: obtaining the gist of what is said, idea recognition and understanding of ideas	9 items.	05 minutes.
SPEAKING PRODUCTION: (Measures participants' pronunciation, accuracy, appropriate use of vocabulary, comprehensible sentence structure.) Part 1: Pictures' description: Describe the two pictures (see appendix) and then compare the two. pictures Read aloud:		05 minutes

Table2.3 Test Content and format

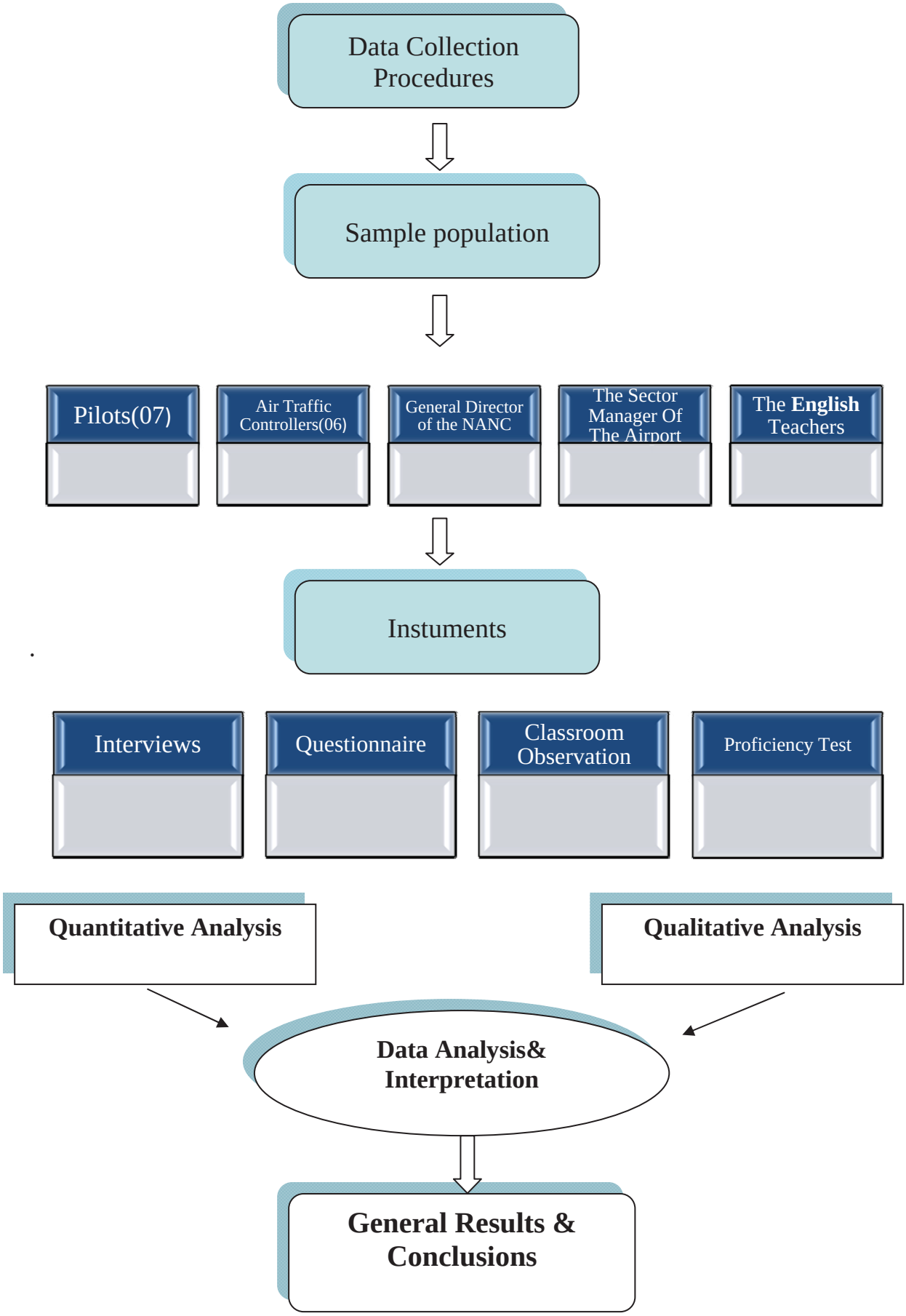


Diagram 2.2**:** Data Collection Procedures

2.8. CONCLUSION

In this chapter, the researcher has brought the procedures followed to collect the necessary data; it also described the methodology used to find out satisfactory answers to the research questions and thus confirm or disprove the hypotheses set at the onset of this investigation.

The procedures followed to collect the data were as follow, the first step was to negotiate access to entry to gain permission from all of the General Director of the National Air Navigation Company, and the sector manager of the airport.
After gaining final approval from the General Direction of the Company, the researcher embarked directly to do her task. She first conducted a set of interviews with the head of air traffic controllers and the head of pilots. Then, conducted all of the interviews with pilots and air traffic controllers in addition to the administration of the test.

During the researcher presence a training course of English was initiated. Therefore, two other instruments were implemented with Controllers: A questionnaire and a classroom observation.

The next chapter strives to analyze and interpret the data collected.

CHAPTER THREE

Research Results Analysis & Interpretation

CHAPTER THREE

RESEARCH RESULTS ANALYSIS & INTERPRETATION

1.3. INTRODUCTION:

It is widely known that the core stone of ESP is needs analysis. To gather information about pilots and air traffic controllers' needs, lacks and wants. Different procedures were undertaken to know:

- What the participants need to know to function effectively in the target situation and what English language skills are needed to do their job successfully (necessities).
- What are the participants' perceived needs i.e; what they wish to accomplish (wants)
- What the participants already know ie; the gap between what they know and what they don't (lacks/deficiency analysis)

To answer the first two questions: A set of interviews with all of Pilots, controllers the General Director of the National Air Navigation Company, and the station manager of the airport were done. These results were supplemented by a questionnaire, a teachers 'interview and a classroom observation of controllers who were enrolled in an English training program to enable triangulation.

Finally, to answer the third question the researcher administered a proficiency test to air traffic controllers and pilots to see what the participants can do and what they cannot do.

This chapter, attempts to analyze subsequently the collected data. In sum, it tries to provide answers to the questions that lie at the heart of the investigation.

3.2. Pilots' Interview

It should be noted that the total number of pilots working in Zenata Airport are 65 among whom 07 participants were selected randomly. To have a general overview of the pilots' educational background, language background, and the country where they completed their initial professional training, a set of items were implemented in the first part of the interview.

3.2.1 Part one

Pilots' Age and Experience

The age of interviewed pilots ranges between 35 and 60 years old, which means that the researcher interviewed both old and young generations. This fact was not done purposefully and gave the researcher an opportunity to make a comparison between the two.

More to the point the cockpit is made of two pilots: the first officer and the captain; the researcher interviewed only captains. Six of them were working for more than 20 years, one of them was still a novice captain, and this may have effect on their language ability.

While interviewing both young and old generations, the researcher noticed that older pilots were more motivated and wished to improve their English proficiency, while younger pilots said that it is too late to do so, some of them said that they had little or no exposure to English and this was a strong barrier for them

Pilots' Educational Background

Most participants 6 out of 7 have an exact science or biology degree except for one pilot who has an aeronautical engineering degree. English didn't receive an adequate importance in scientific streams, little or no importance, this could be a strong reason behind their English weaknesses. During the interview; participant mentioned that English was not so important in their studies as other modules, even in their aeronautical training, a little importance was given to English.

Exact Sciences	Biology	Aeronautical Engineering
4	2	1

Table 3.1: Participants' Educational Background

Language Background

While interviewing pilots, some of them revealed that they master the German language, in addition to French and English.

French	English	German
07	01	02

Table 3.2.: Language Background

All pilots confirm that they feel confident to use the French language and feel frustrated to use English; one of them said that he had no English background, during his secondary school, there were no English courses, but German.5 participants said they used both English and French. One participant claimed that he used the three languages.

We may conclude from this item that Algerian pilots do not feel confident to use the English language exept the one who has already mentioned that he got Relta test in Australia, The others explained that they used English only when being obliged to such as in situations where their interlocutors does not any other language than English.

Professional Training Background

Algeria	France	U k
04	02	01

Table 3.3. : Country Where They Completed Their Initial Training.

Most participants (4) received their professional training in Algeria. Two participants said that their professional training was in France, and one of them in the O.k. The latter was a novice pilot. It should be noted that novice pilots have more chance to be trained in an Anglo-Saxon country, which may help them to have a good mastery of English, unlike the old generation

Types of Difficulties Encountered When Operating In International Flights

Listening to basic expressions	Comprehending unknown vocabulary	Using Specialized vocabulary	Being unable to catch the meaning(when they speak too fast	Sentence structure
05	07	05	07	05

Table 3.4. Pilots' Difficulties

The results also revealed that 5out of 7 pilots have problems with listening comprehension, using specialized vocabulary and sentence structure.

3.2.2. Part two

The Importance of the English Language For Pilots

All Informants asserted their need to master the English language. They added that English is the world language and the currency of exchange especially in international operations; moreover, their manuals are in English.

Self-Evaluation of English Mastery

Five informants out of seven were not satisfied with their English proficiency. The 2 remaining pilots said that their English language knowledge was acceptable, but all of them said that they frequently experienced misunderstanding especially with native speakers

Importance of Language Skills

Language skills	Very important	important	moderate	Not important
Listening,	07			
speaking	07			
reading			02	05
writing				07
Grammar		07		
pronunciation		07		
technical vocabulary	01		02	04

Table 3.5: Importance of English language

All participants confirmed that both listening and speaking were important and needed improvement in these skills, in addition to a good command of Grammar and pronunciation rules.

The remaining skills as reading and writing were considered less important as they were less frequently used.

Regarding Technical vocabulary only one respondent who said that knowledge of technical vocabulary is important but the others said that they are more fluent in technical rather than general vocabulary.

ESP Training Course

National Training	International Training	Both of Them
03	00	04

Table 3.4: ESP training program.

Most participants (four out of seven) said that they had both national and international training to improve their English proficiency.The three pilots who had local training were older,this means that pilots today have more opportunity to do international training which would help them to develop their English competencies and at the same time to overcome language difficulties

Self-evaluation of some skills mastery

Language skills	good	moderate	Weak
Listening comprehension	02	03	02
speaking fluently	00	02	05
Grammar	02	01	01
pronunciation	02	01	04
Specialized vocabulary	5	02	00

Table 3.6: Self-evaluation of some skills mastery

From the table above we notice that all participants were not satisfied with their competencies in the cited skills they all said that their language competencies were inadequate and needed improvement.

Two respondents estimate their competency in listening comprehension as good; three of them as moderate, the remaining pilots consider it as weak. The latter are from the younger generation.

Regarding the speaking skill , no one respondent said that he was fluent, they all said that they had problems while speaking, and sometimes they couldn't express themselves in English just because they did not have enough vocabulary.

One respondent reported that he was good in writing. Finally, all -respondent reported that both their grammar and pronunciation were not good. Four out of seven reported that their grammar knowledge was not adequate. In addition they expressed their wish to develop these competencies.

Instance of Use of English***:***

Domestic flight	international	Both of them
00	05	02

Table 3.7: Instances of use of English.

Five out of seven respondents use English only in international flights when there is no other way to communicate but English.

Though two participants stated that English should be used in both national and international flights, most of the time French and sometimes Arabic are used in domestic flights. This means that pilots rarely use the English language, which may have a negative effect on their language ability.

TESTS:

TOEIC	IELTS	Relta	Other
		2	5

Table 3.8: Testing

we noticed that two pilots have already taken the Relta test, one of them took the test in Australia, at Rimit university, whereas the second one took the test in Algeria and both of them have level (5) implying a good proficiency.

It should be noted that the company Air Algerie has already started the implementation of the ICAO English proficiency requirement, by sending its pilots to the training centre in Algiers, nevertheless there are still some pilots who did not have the opportunity.

Misunderstanding

All informants stated that they had experienced instances of misunderstanding, to show the reasons of misunderstanding .this would be illustrated in the following table:

Usage of non standard phraseology	Poor level of English	Unclear pronunciation
05	07	07

Table .3.9. Misunderstanding.

They all agree that unclear pronunciation and the rapid speech of interlocutors are the main causal factors to misunderstanding. They also admitted that their limited vocabulary was a serious problem to grasp what the sender was saying to them, in addition to the rapid speech especially the Americans interlocutors with different accents.

Pilots' suggestions to overcome English language difficulties to understand

All participants expressed their desire to receive an ESP course. They all explained that they did not need a general English courses, but specialized courses related to what they wish to accomplish, ie, topics that are relevant to their work. They all expressed their wish to use authentic materials, and their wish to be taught by native speakers to learn from them the correct pronunciation; in addition, they all proposed the use of language laboratories to practise both the listening and speaking skills. Some of them have even suggested having virtual classes in which they will have the chance to be in contact with both pilots and Air Traffic Controllers from different countries just to have more practice on the most needed skills (listening and speaking).

Effect of a low English proficiency on aviation safety*:*

All participants asserted that a low proficiency in English is one of the causal factors of aviation accidents they added that they were all for the new ICAO English language requirements (see appendix H), they even cited some examples of world aviation accidents due to bad commend of English.

3.3 Controllers' Interview

The total number of controllers working in Zenata airport is10, 6 of them were selected because they were enrolled in the English training program, the remaining were about to retire that's why they weren't involved in the English course. the remaining controllers were about to retire.

3.3.1 Part one

Controllers' Age and Experience

The controllers' age ranges between 29 and 44 years old. it should be noted that one controller was still a novice one(9 months experience),another one was working for more than ten years and the four remaining controllers were working for more than five years. It was noticed that all participants seemed motivated and had a desire to develop their English language competency.

Controllers'Educational Background

All participants were from scientific streams. Their licence degrees vary: architecture, technology and information and civil engineering, only one respondent a literary baccalaureate

Controllers too, who had scientific educational background, reported that English received little importance in their educational background and in their professional training. This can has a negative impact on their English proficiency.

Controllers' Language Background

They all stated that the language they often use in their communication is the French language; English is used only when the sender does not understand any other language but English. Some controllers explainded that using English or French or any other language depends on the pilot because he is the first one to start the conversation.

Professional Training Background

Algeria	France	U k	Other
06	00	00	00

Table 3.10: Country where they completed their initial training.

All participants (06) received their professional training in Algeria. No one had the opportunity to have his professional trainig in an anglosaxon country.While pilots had the chance to do their training abroad, controllers did not have the chance to be trained abroad, and they all expressed their whish to have such an opportunity

Language Difficulties Encountered When Operating In International Flights

Understanding basic expressions	Comprehending generavocabulary	Comrehending Specialized vocabulary	Being unable to catch the meaningwhen they speak too fast	Sentence structure
04	06	05	06	06

Table 3.11. Language difficulties encounterd by Controllers

The respondents pointed at the same problems as pilots while using the English language. They reported that their limited knowledge of both general and specific vocabulary prevents them from interacting successfully in any communication; they also mentioned that they are able to understand only a limited number of words and simple expressions at slower normal speed; without basic competence of grammar.

Regarding understanding basic expressions, only two participants assert having problems in these expressions.

3.2.2. Part two

The Importance of English for controllers**:**

All participants asserted the necessity of the English language in their work. They expressed their strong wish to be fluent in that language and to be able to communicate successfully.

They also reported that the airport actually receives passengers from different nationalities who speak only English.

Self-Evaluation of English Mastery

Not all informants were satisfied with their English proficiency. They all expressed their negative attitudes towards their current proficiency, and said that they were still far from what they really wished to accomplish.

Importance of English Language Skills

Language skills	Very important	important	Not important
Listening comprehension	06		00
Speaking production	06		00
reading			00
writing			00
Grammar	06		00
pronunciation	06		
technical vocabulary	00	01	05

Table 3.12. Self-Evaluation of Skills Mastery

The table above reports the degree of importance given to each skill, all respondents said that both listening and speaking skills are very important to do their work, the only way to communicate is their voice ,consequently these two skills are so important with a good command of both grammar and pronunciation,

The remaining skills are not important for them. Regarding the technical vocabulary, it is less important according to them

ESP Training Course

No participant had the opportunity to get international ESP training. All their training was local ones. This means that pilots had more opportunities for international training

Self-Evaluation of Some Skill's Mastery

Language skills	good	moderate	Weak
Listening comprehension	02	03	01
speaking fluently	00	02	04
Grammar	02	03	01
pronunciation	02	01	04
Specialized vocabulary	05	01	00

Table 3.13.**:**Self-Evaluation Of Some Skills Mastery

Two controllers consider their competency in listening comprehension as good. While the remaining ones consider it as moderate though this is not what was noted during their interaction in the class (further details will be provided in the observation analysis).

Concerning their competency in speaking, only one controller reveals a moderate competency, all the others said that they speak with difficulty while using English .their speech is always incomplete, full of Grammar mistakes, and their pronunciation is frequently inccorect.Only two participants consider both their grammar and pronunciation good and acceptable.

Regarding the specialized vocabulary five controllers out of six said that they had no problem with specialized vocabulary, their problems lie in general vocabulary, but this is not what was noticed during the test, participants had a severe problem towards the use of specialized vocabulary, futher explanation will be provided in the test analysis.

Instance of use of English

All participants confirmed that they use English only in international operations. English is used when they are communicating with pilots who speak the English language only.

3.2.2.7. TESTS

TOEIC	IELTS	Relta	Other
00	00	00	03

Table 3.5.TESTS.

No participant sat for the Relta test though the centre (Language Solution Algeria) had already started the operation with many airports.

As already mentioned the company Air Algerie has already started the implementation of the ICAO new English language Proficiency Requirements by sending its pilots to the training centre in Algiers.

The National Air Navigation Company has not yet sent its controllers to the training centre. (Further explanation will be provided in the analysis of the interview with the General Director of the company

Misunderstanding

Use of nom standard phraseology	Poor level of English	Unclear pronunciation
00	06	06

Table 3.14: Causes of Misunderstanding.

For controllers misunderstanding is a natural phenomenon that frequently occurs in their work .all participants agreed on this point, and consider their poor proficiency and unclear pronunciation as the primary and the causal factor to misunderstanding.

Some had explained that the existence of different accents prevents them from understanding what their interlocutors say.

Suggestions to overcome English language difficulties

Controllers expressed their which to have a continuous training during the whole year, with more equipped and developed classrooms.i.e, language laboratories, in which they can practise the language once they are free.

they also suggested to have training abroad with native teachers and experts to help them overcome misunderstanding acquiring good pronunciation, they also expressed their wish to visit the training centre in Algiers and be involved in that training.

Effect of low English proficiency on aviation safety

All controllers were aware of the importance of the English language in the Aviation safety and all were for what ICAO has initiated and expressed their strong desire and wish to be involved in an English training that helps them overcome all English language difficulties.

3.4 The General Director of the National Air Navigation Company and the Station Manager of the airports interviews :

While interviewing both General Director of the National Air Navigation Company and the station manager of the airport, nearly both gave the same answers were obtained.

The number of pilots and controllers working in the airport

Concerning the number of pilots and controllers working in zenta airport, there is a total number of 65 pilots, and 10 controllers as reported by the General Director of The National Air Navigation Company and the sector manager of the airport.

Importance of English proficiency certificate in the recruiting pilots and controllers

Both informants reported that in the previous years, there were no English language proficiency requirements, they even accepted pilots and controllers with no English background, but nowadays, English is mandatory by the ICAO who has initiated new English language proficiency requirements.

The opinion of both heads' about the ICAO new English language proficiency for both pilots and controllers.

According to both heads, pilots and controllers are highly proficient in standard phraseology. They learn it through repetition and are not required to be fluent or to be able to use correctly grammar rules or pronunciation.

In fact, standard phraseology is quite enough in routine situations. However the contrary is not true for unusual situation that is why pilots and controllers are required demonstrating a minimum level.

Heads' opinion about the english language as a causal factor to aviation disaster

They explained that lack of English competency could be a causal factor to some extent, but this rarely occurs. In our airport. They added that some aviation incidents might have happened. We had never experienced aviation disaster that has relation with the English language knowledge.

Suggestion to overcome language difficulties

An ESP teaching program is advised for both pilots and controller. Both heads expressed their wish to be provided with language laboratories to help pilots and controllers to develop their language skills namely listening and speaking, which are required most of the time.

The station manager, expressed his strong wish that pilots and controllers be taught by native speakers and be in contact with pilots and controllers from different countries virtually, or be sent to foreign countries to improve their English language command and to communicate effectively.

Future Expectations

As already mentioned, controllers have already started an English training program with a private school. In addition, the General Director of the company declared that by the end of 2011 all controllers would be trained.

Though it was agreed and initiated by the ICAO that the deadline will be in May 2011, there are still pilots who had not yet been trained.

It should be noted that controllers have not the chance to be trained in the training centre (SLA)

3.5. Controllers' Questionnaire

As already pointed out, during the researchers' presence controllers were enrolled in an English training program. The later was made of four levels, the researcher had the chance to attend the last level (level four).

The researcher addressed a questionnaire and an unstructured observation. There were six controllers enrolled in this training program, and proceeded to an unstructured observation. The questionnaire was administered to the six controllers; this was done after the administration of their final test (achievement test).they all answered a set of items that are as follows:

3.5.1. Types of courses in the training program in the preceding levels of instruction

As revealed by controllers the type of courses given during the preceding levels was General English courses. No ESP course was implemented during the three preceding levels.

3.5.2. The degree of importance given in the 1st, 2nd, 3 rd levels of instruction

Levels	Skills	Very important	Less important	Not important
Level 1	Speaking	✓		
	Listening	✓		
	Reading		✓	
	Writing		✓	
	Grammar	✓		
	Vocabulary		✓	
Level 2	Speaking		✓	
	Listening		✓	
	Reading			✓
	Writing			✓
	Grammar	✓		
	Vocabulary		✓	
Level 3	Speaking		✓	
	Listening		✓	
	Reading			✓
	Writing			✓
	Grammar	✓		
	Vocabulary		✓	

Table 3.15. : Degree of Importance Given To Language Skills In The Three-Preceeding Levels.

From the table above we notice that the course concentrated on the speaking and listening skills, then grammar more than the remaining skills.

3.5.3. Evaluation of teaching material in the English training program

Yes, completely	Yes, partly	Not at all
00	01	05

Table: 3.16. Evaluation of teaching materials

From the table above we notice that no participant was satisfied with the material used during the training program. The following answers clarify these results.

The selected materials are not the ones we need, and did not help to improve our level.	Teachers do not vary in the teaching techniques.	Inadequately equipped classroom.
06	06	05

From the table above we notice that nearly all participants noted the same reasons for the inadequacy and inapropriacy of the materials selected during the three preceding levels, they also pointed out that teachers were demotivated since they did not vary in the teaching techniques. In addition to their negative impressions towards the teachers' attitude, controllers were also disappointed with the classroom equipment.

3.5.4. The efficiency of the English training program

All participants agreed that the programme will not help them to face non-routine situations, expressing their dissatisfaction with the quality of the training program.

In their answers, they explained that teachers did not present them with situations that may occur in their future job they taught them things that seemed irrelevant to what they really needed. This was noted during the observation .Further explanation will be given in the analysis of the observation.

3.5.5. Self Evaluation of Controllers 'Level after the English training program

Not enough	Just enough	More than enough
5	1	

Table 3.17: Controllers'self evaluation after the English training program

From table above, we notice that nearly no participants were satisfied with their English proficiency, except for one of them who evaluated his level as just enough; this also interprets their negative impression towards the training program.

3.5.6. Suggestions to make the program more successful

Participants expressed their strong desire to concentrate on content related to their field of work. They suggested more flexible and developed teaching aids such as language laboratories to have the opportunity to practise the speaking and listening skills. They expressed their wish to have more qualified ESP teachers, they also suggested listening as much as possible to native speakers and experts in aviation industry.

3.6. Classroom observation analysis

In response to the initiative of the ICAO New English Language Proficiency requirements, a work place English training program was initiated for controllers. A convention was signed between the National Air Navigation Company and a private school that is specialised to give English courses for different levels.

The issue of introducing an English training program for controllers was negotiated with several schools, which disagreed to give such courses at the level of the company. The only school which agreed to do so was the well known school "Chambre de Commerce et d'Industrie" Tlemcen.While negotiating the issue with the school a set of books was recommended

Textbook tittles	Author	Date of publication
Technical English 1	David Bonary	01/01/2008
Technical English 2	David Bonary	01/01/208
Aviation English	Henry Emery Roberts Andy	30/05/2008

Table: 3.18 The Mandated Book Titles

Overview of the class observed and the materials used in the four levels:

It should be noted that the researcher opted for an unstructured observation, in which no evaluation grid was used. In unstructured, observation the observer does not need to use any grid.

The researcher does not need to use any grid, the researcher takes every remark and then he selected what to be analysed, this will be seen in the analysis. For Dyer (1995, quoted inKevin2008:04) Unstructured classroom observation "no checklist used, but any and all data recorded"

The class the researcher observed involved nine participants (6 controllers and 3 mechanics) a pre-course test that was a general grammar based. The test was neither an appropriate nor a useful criteria variable.

All controllers were unsatisfied reporting that the courses should involve only controllers, Moreover, controllers' language competencies varied. Therefore, they should be divided into groups since some were beginner while others were intermediate.

Without looking closely to participants' needs, lacks and wants two different components were implemented; knowing that the program was made up of four levels of instruction. In the three preceding levels, a general standard EFL textbook namely "the New Cambridge English course1" and an ESP textbook namely « Aviation English », the following table will illustrate in detail the information about the book used:

Types of textbooks	Text books	Author	Date of publication	Level of instruction
General textbook	The Cambridge English Course 1	Michael Swan Catherine Walter	1977	Level 1 Level 2 Level 3
ESP textbook	Aviation English	Henry Emry Roberts Andy	2008	Level 4

Table 3.21 Textbooks Used In the Four Levels.

It is of paramount importance to give an idea about the general component used during the three preceding levels. It should be mentioned that the textbook « New Cambridge English course 1 » is designed for general practical purpose, it includes the practice of all aspects of language (grammar, vocabulary, pronunciation, skills notion and function) is devoted for beginners, the book is a four-level course from beginner to upper intermediate level. Nevertheless, the book itself (level one) was divided into 3

sub-levels; the following table will illustrate how the book was divided:

Level One	**Level Two**	**Level Three**
Unit Tittles	**Unit Tittles**	**Unit Tittles**
Unit 01: Hello	***Unit10: WANTING THINGS***	***Unit17: ordering and asking***
Unit 02:You	***Unit 11:people's pasts***	***Unit18: more about the past*** 1 7C: getting to know you
Unit 03:People c	**Unit 12: consolidation**	**Unit 19:** ***getting to know you***
Unit04: consolidation	***Unit13: differences***	**Unit 20:** ***consolidation***
Unit 5: where	***Unit 14: PERSONAL INFORMATION***	**Unit 21:** ***Knowing about thefuture***
Unit 6:habits	***Unit 15:Present& Future***	**Unit 22:** ***telling people todo things***
Unit07:counting &measuring	***Unit16CONSOLIDATION***	**Unit 23:** ***Predictions***
Unit 8/Consolidation		**Unit 24:** ***consolidation***
Unit 9:Appearances		

Table 3.22.: Book Division

Afterwards, much time was spent on General English courses that were irrelevant to what they really wished to accomplish, it should be revealed that there was a mismatch between what they need & the material used in the three preceding levels. This was clearly illustrated in the previous table; the researcher aim is to give an idea about the topics taught.

Levels	Number of hours	Total n of hours General English course	Total number of specific course
Level 1	28h	98 HOURS	14 HOURS
Level 2	24h		
Level 3	16		
Level 4	14		

Table 3.23: The Distribution of Hours in the Four Levels of Instruction.

A total of 98 hours were spent on teaching general English course, where no specific content was implemented either during the coaching sessions or during lectures whereas only 14 hours was spent on teaching content courses, which have strong emphasis on the needed topics they may face in their future work.

It may be true that this training program may be introduced with General English courses that help them to refresh their memories, but not spending a big amount of time on teaching only general English courses that were not favoured by participants.

It should be also mentioned that no one test was done at the end of each level, so how could they evaluate the participants' improvement? How would they know that their participant achieved any objective? A final examination was given at the end of the program. (See appendix E) The following point considers the teaching method during the observed period.

The teaching methods

It is important to note that the researcher spent most of his observation with the teacher involved in giving lectures; there was morning sessions and evening sessions. A total of thirteen sessions was attended (11 sessions with the teacher A) whereas in coaching she attended (2 sessions).

During the observation sessions, the researcher noticed some weaknesses in the teaching methods.

Regarding the coaching sessions, no ESP course was implemented; the course was that of General English. The activities were taken from the textbook used to teach them in the preceding levels. (See appendix F)

On the other hand teacher (b) engaged to give the daily course implemented an ESP textbook that is used to train English aviation for both native and nom native speakers.

Participants were provided with their own textbooks that were accompanied with a C.D, nevertheless neither the quality of the book nor the CD were appreciated by participants.

They all complained on the following session that the book was not coloured and the C.D couldn't be opened, this was noticed once they were asked to describe any picture they couldn't do so because pictures were unclear though the original version was clear and of full of colours .

Though the textbook is provided with detailed and comprehensive explanation of the way to use the book, in addition to useful websites that could be used to enlarge his knowledge in the domain, he neglected aspects that are necessary and helpful to participants to face any unusual situation.

The teacher rigidly follows the content of the textbook, he did not do all sections of the units, he even dropped unit.

for example each unit was introduced by reading passage full of useful vocabulary that prepare participants for discussion. An equal importance was given to grammar activities and pronunciation, Nevertheless, the teacher rarely draw participants' intention to correct grammar &pronunciation, he rarely did error correction. The most important thing for him was to push them to communicate even with errors and he even allow them to use any language.

It is true that correcting student every time may make them frustrated to speak, but it should be bear in mind that both pilot and controllers are required to speak at least with correct grammar and pronunciation.

Air traffic controllers 'proficiency level during observation:

Based on the observation notes, the researcher notices that participants demonstrated a low ability to communicate in English, their limited knowledge in both general and specific English was a serious barrier to express their ideas. They showed a full understanding of any situation nevertheless they could not successfully express themselves, this was also noticed in the proficiency test, their lack of vocabulary results in cutting the discussion.

Examples:

Eg1: Two dogs walking besides the runway... Um,, Um..,..ahhh ...I... have to inform the pilot that there are dogs besides the runway

Explanation:

The teacher asked participants to describe the situation, nevertheless, the participant could not express himself correctly and meaningfully, he did not find the suitable words to explain and describe the situation. This was clearly noticed in the repeated pause and fillers in the cited example.

Grammatically speaking his speech was incorrect instead of saying two dogs walking, he omitted the auxiliary verb to be. He also repeated the same words and the sentence structure was not correct. He could simply say «have to inform the pilot that there were two dogs besides the runway."

Eg2:"Pilots or controllers they said ok though they don't understand"

Explanation:

In this sentence, the teacher asked the controller to give his own reaction about a particular situation. The respondent wanted to say that both pilots and controllers expect what their interlocutor will say, so they simply said "ok."

Most of the time respondents speak haltingly, they frequently used short chunks that are most of the time ambiguous and incorrect, and this is what is seen in the second example.

Another criterion characterized the speech of participants; it was a mixture use of French and English? They most of the time say English words with a French pronunciation, or use a French word/verb and give it the English inflection.

Eg3:

"Cage..... was deranged by a sauvage animal, I think the problem, and there is a dangerous animal»

words	Meaning in English	pronunciation
cage	cage	Kadʒ
deranged	disturbed	dɪrændʒd
sauvage	wild	sævedʒ

Table 3.24. Instances of French interference.

In the sentence, below there is interference from French. In addition words are mispronounced, and even some words do not exist in English. All what was said is clearly illustrated in the table:

Eg4:

"I think in the communication, the pilot not understands the controller due to accent from pilot, and this is main factor in aviation disaster.

Explanation:

Firstly, the sentence is not well structured. Secondly, in terms of grammar, the respondent did not put the auxiliary, and he misplaced the prepositions.

To conclude, controllers have serious language problems .They produce incoherent speech, and their answers are imprecise, they lack descriptive terms to convey the wanted message. Though, they were expected to understand and communicate with good English? Nevertheless, they cannot use correct and appropriate English. They can express their taught neither adequately nor correctly.

3.7. Teachers' Interview

More to the point, the main objective to conduct the interview with the two teachers engaged in the rolling of the English training program: was to have clear idea about the steps followed during the elaboration of the program.

In addition, the researcher was eager to know what were the teachers 'opinion about the controllers needs, were they really aware of what those participants need?

A set of questions were implemented, the analysis of these questions are as follow:

Questions (1-2)Teachers' qualification & experience :Both English teachers teach at Mascara University for more than seven years, they are fulltime teachers, and holders of Magister in popular cultures .one of them has experience in teaching ESP in different context he teaches both EAP and EOP.

Question 3: ESP training:

No one teacher had an ESP training .According to them such training is not available in our country. Since ESP in Algeria is still something new, it is still in its infancy.

Question4: steps taken during the program elaboration:

Both teachers said that the program had been suggested by the National Air Navigation Company; they both said that they have tried to apply what ICAO has initiated,

Nevertheless, the contrary was seen during the classroom observation, no one of the suggested book has been used except one of these books that have been used in a way that wasn't totally appreciated by controllers.

Question5: Placement test:

Both teachers administered together a placement test that was grammar base, according to them, it was just to have an idea if those participants know something about English or not,

They both said that there was homogeneity on the group all participants have the same level and no need to split the group, though controllers were for the division of the group and they were against to be in the same class with mechanics.

Question (06, 07, and 08): course content and conduct:

Both teachers confirmed that they taught general English courses in the previous levels. And they concentrate more on grammar in the first two levels, then they start practicing listening skills. And all the course was general English, no ESP course has been implemented during the three levels.

Question 9: evaluation of controllers' level after training:

According to them, some of them have achieved a good level, the results of the achievement test were as follow, and this will be clearly illustrated in the following table:

Levels	Level1	Level 2	Level3	Level4
controllers	01	02	01	02

According to them, the test was a bit difficult, in comparison to what have been dealt during the four levels. That what was noticed by the researcher, though the course pace was very slow and annoying in most of the time but most of the questions of the test were based on the fourth level.

Question 10: Teachers' Self Evaluation of Materials

Both teachers believe that the material used during the training sessions was more than enough?.According to them those participant do not need to be fluent, because even fluency can cause misunderstanding, they were convinced that they did theu job at full, though a set of weaknesses has been noticed during the classroom observation.

Question 11: Teachers' Suggestions

Though those teachers were conviced that their teaching method was good, but they suggest to work in collaboration with subject specialists, who may help them to enlarge their knowledge in such domain and be provided with equiped classrooms that help them develop their English comptencies, they were also for the use of language laboratory, which is in its turn help them have more practice,therby enhance both their listening and speaking skills.

3.7. **Test analysis:**

Both qualitatif and quantitatif analysis were used in the current research because it is believed that *"using both quantitative and qualitatif analysis provide more reliable research findings since the latter are not compressed into a single dimention of measurement*" (Hamzaoui, 2006:130).all of interviews,

questionnaire,classroom observation were analysed qualitatively ,while the test was analysed both qualitatively and quantitatively.the test main results will be sumarised as follows:

3.7.1. Qualitatif Analysis of the Test

As already mentioned, the test was composed of four components (see appendix): Grammar, vocabulary, listening comprehenssion, and speaking production. Let first consider grammar and vocabulary, these two components were assessed in the same way .They were first assessed through multiple choice questions, then as integrated components of a speaking task.the results of grammar trough multiple choice questions showed moderate achievement and even high achievement, especially pilots whose scores was 16/20.those who achieved such a score had already taken several English training and testing, either national or international ones. The contrary was seen in testing Grammar as integrated component of the speaking task.All informants were unable to have a good commend of grammar rules,this wil be explained while interpreting the speaking task main results.

More to the point, the same way was used to test grammar and vocabulary; nearly the same remarks has been noticed while testing vocabulary, informants showed moderate and even low achievement through multiple choice questions, nevetheless, a very low achievement has been noticed while testing vocabulary as an integrated component of speaking task, further explanation will be provided in the interpretation of the main results of the speaking production.

The listening comprehension component, took two forms:Comprehension questions,to see if the informants could define the gist of the conversation,and multiple –choice questions.though participants'scores ranged from good to moderate,this doesn't mean that they are good at listening.in the multiple choice questions all informants were able to find the right answer,but the contrary was not true in the first part (comprehenssion questions),where nearly all participants either gave wrong answers or neglected completely this part.

The speaking production in its turn, took a variety of forms.To test their fluency, five variables were included (silent pauses, repitition, repaire, French words

interfernce.To test accuracy: all of grammar, vocabulary, and pronunciation were inserted.

As already mentioned, a noticible differnce was seen while testing Grammar and vocabulary through multiple-choice questions, and as integrated component of speaking production.participants showed a low achievement, in grammar while it was tested as integrated component of speaking task. Two types of errors has been noticed, nearly all participants, were enable to show a good commend of grammar; even a moderate achievement couldn't be achieved. Two types of errors have been noticed: tenses and prepositions.informants were not able to make difference between the use of present, future and past.sometimes the three sentences are used in one sentence.

Another problem was the use of prepositions in their speech. They either misplaced a preposition, or misused it. Sometimes prepositions were needless, but they include them in their speech; for example one of the participant often repeated the. It is a coordinating conjunction and a tricky word to use. As if it replaced the conjunction "and," though it has no place in his speech. Both groups showed a low level of speaking production. Their level ranged from moderate to poor. Some participants showed very low achievement, especially those who had already mentioned that they had no English background.

Pronunciation was part of the assessment of their English accuracy. It was noticed that they had a problem with French pronunciation interference; they used French words and adjusted them to L2 phonology or morphology by adding L2 suffixes

It shoul be mentioned that both pilots and air traffic controllers were not able express their ideas in well-structured sentences. Most of their descriptions were meaningless. Sometimes they left the description unfinished or neglected the part of comparison. This was due to language difficulties. Their speech was characterised by frequent pauses and fillers. They often repeated the same words. Their vocabulary was very limited.

Their speech was too short; it did not exceed one minute. Their limited knowledge of English and their lack of appropriate and adequate vocabulary was a strong barrier. One thing that was noticed was that some participants created non-existing L2 words based on supposed. Rules, or translated from French to English.

To sum up, both pilots and air traffic controllers face a severe problem in speech production. The major difficulty of participants arises from the fact that they cannot use English correctly and appropriately.

3.7.2. Quantitative Analysis of the Test:

In this study, the quantitave method was used to analyse the test.As already mentioned, this later was undertaken with7 pilots, and 6 air traffic controllers. A preliminary question must be asked: is there any difference between participants level or not, is their level homogenous or heterogenous.In an attempt to compare the results obtained, the researcher used a t-test.whose equation is:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{S\sqrt{\frac{1}{N_1}+\frac{1}{N_2}}}$$

- $\bar{x}1$ = Mean for pilots

  $\bar{x}2$= Mean for air traffic controllers.

  S = Standard deviation

Grammar

$$S = \sqrt{\frac{A+B}{(N1-1)+(N2-1)}} = \sqrt{\frac{65{,}81632653+14.1388889}{6+5}} = 1.7226 \text{(see appendixK)}$$

$$SD_1 = \sqrt{\frac{\sum(s-\bar{x})^2}{N-1}} = \frac{A}{N-1} \quad , \quad SD_2 = \sqrt{\frac{\sum(s-\bar{x})^2}{N-1}} = \frac{B}{N-1}$$

S: individual scores,
$\bar{x}$: mean of the group

N: Number of the population.

- N_1 = Number of pilots
- N_2 = Number of air traffic controllers.

The first step was to suppose that the null hypothesis H_0 equals H_1, i.e., the means would be equal before and after training. Hence, the following steps will be put into practice:

- Test the two hypothesis:

  H_0: $\bar{x}_1 = \bar{x}_2$

$H_1: \bar{x}_1 \neq \bar{x}_2$

- The obtained results have been put with 5% error margin (i.e.,$\propto = 5\%$) (see appendix ‘’).
- The t-test also requires the degree of freedom (henceforth, df) for the test. In the t-test, the degree of freedom is the sum of the population involved minus 2.

At this level, the *t-test* will be calculated as follows:

$\bar{x}_{1=10.43}$

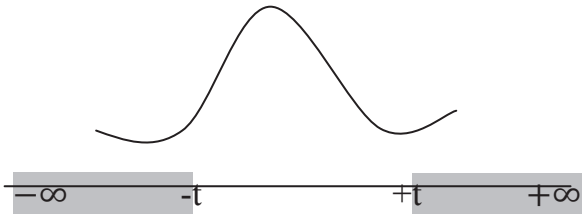
$\bar{x}_{2=10.16667}$

$SD_{=1.7226}$

$$t = \frac{10.43 - 10.166667}{1.7226\sqrt{\frac{1}{7}+\frac{1}{6}}}$$

$t = 0.1552040382$

Going back to the standard table of the t-Student(see appendix’,’), one needed to consider that results have been put with 5% error margin (i.e.,$\propto = 0.05$); hence, $t_{\propto} = 2.06$.



-2.06 +2.06

Having t = ***0.1552040382***, meaning that it is part of the critical area located between [-2.06, +2.06]. This denotes that the null hypothesis H_0: $\bar{x}_1 = \bar{x}_2$ was accepteded and H_1: $\bar{x}_1 \neq \bar{x}_2$ was rejected. A slight difference was noticed, so we may say that both pilots and air traffic controllers have the same level in grammar.

The same steps and calculation has been usedwith the remaining components of the test.

Vocabulary

$\bar{x}_{1=9.57128571}$

$\bar{x}_{2=9.166666667}$

SD=1.7658

$$t = \frac{9,571428571 - 9,16666667}{1.7658\sqrt{\frac{1}{7}+\frac{1}{6}}}$$

t=0.229222961

Having t = ***0.229222961***, meaning that it is part of the critical area located between [-2.06, +2.06]. This denotes that the null hypothesis H_0: $\bar{x}_1 = \bar{x}_2$ was accepteded and H_1: $\bar{x}_1 \neq \bar{x}_2$ was rejected. A slight difference was noticed, so we may say that both pilots and air traffic controllers have the same level in vocabulary.

Listening:

$\bar{x}_{1=10.92887143}$

$\bar{x}_{2=10.1666667}$

SD=2.393162338

$$t = \frac{10.92887143 - 10.166667}{2.393162338\sqrt{\frac{1}{7}+\frac{1}{6}}}$$

t=0.318367354

Having t = **t=0.318367354**, meaning that it is part of the critical area located between [-2.06, +2.06]. This denotes that the null hypothesis H_0: $\bar{x}_1 = \bar{x}_2$ was accepteded and H_1: $\bar{x}_1 \neq \bar{x}_2$ was rejected. A slight difference was noticed, so we may say that both pilots and air traffic controllers have the same level in listening

Speaking

$\bar{x}_{1=6.751428571}$

$\bar{x}_{2=5}$

SD=0.860805259

$$t = \frac{6.75142851 - 5}{1.82553319\sqrt{\frac{1}{7}+\frac{1}{6}}}$$

t=0.860805259

Having t = **0.860805259** meaning that it is part of the critical area located between [-2.06, +2.06]. This denotes that the null hypothesis H_0: $\bar{x}_1 = \bar{x}_2$ was accepteded and H_1: $\bar{x}_1 \neq \bar{x}_2$ was rejected. A slight difference was noticed, so we may say that both pilots and air traffic controllers have the same level in speaking.

3.8. Summary and Discussion of the Main Findings:

The study was grounded in three Research Questions:

1) What English language difficulties do Algerien pilot and air traffic controllers face on the job?

2) What are the English languge needs, lacks, and wants of the Algerian pilots and air traffic controllers?

3) What suggestions can be provided to help Algerien pilots and air traffic controllers overcome English language difficulties.

The investigation began with the hope of finding answers to these questions, to do so; the researcher put forward the following hypotheses:

1) Algerian pilots and air traffic controllers face communication difficulties with their English speaking counterparts.

2) Algerian pilots and air traffic controllers need to develop their listening and speaking skills with special focus on vocabulary and grammar

3) Algerian pilots and air traffic controllers will better perform in their workplace by providing them with adequate English cours for aviation teaching.

To test these hypotheses, i.e, to cofirm or disconfirm them, from different sources: pilots, air traffic controllers, the General Director of the National Air Navigation Company, the Sector Manager of the Airport, and the English teachers. The first hypothesis was confirmed, i.e; Algerian pilots and air traffic controllers face communication difficulties with their English speaking counterparts.

The results revealed that their limited knowledge of both general and specific vocabulary prevents them from interacting successfully in any communication; they also mention that they are able to understand only a limited number of words and simple expressions at slower normal speed; without basic competence of grammar. Speech is always incomplete, full of Grammar mistakes, and their pronunciation is frequently inccorect. All these was noticed in the proficiency test and during the

classroom observation. Most of them relates their difficulties to lack of exposure to this language.,besides it appears that pilots and air traffic controllers were aware of what skills they needed to improve they all reveal that both listening and speaking skills need improvement ,since their communication is voice only. The findings of the test also related their difficulties to the negative transfer resulting from their linguistic background(influence of french). They cannot use correct and appropriate English. They can express their taught neither adequately nor correctly.

Communicating with their foreing counterparts in the performance of their job may lead to safety risk.Indeed, pilots and controllers revealed their current low profeciency,and said that they were still far from what they really wished to accomplish.They also unveiled limited knowledge of both general and specific vocabulary prevents them from interacting successfully in any communication.They all asserted their need to master the English language as it is the world language and the currency of exchange especially in international operations; moreover,all their manuals are in Engluish . They concluded that lack of adequate mastery of English may cause safety problems.

Regarding the second hypothesis that is related to the English language needs, lacks, and wants; results confirmed this hypothesis, that is to say, Algerian pilots and air traffic contollers need to develop their listening and speaking skills with special focus on grammar and vocabulary.

The results revealed that both speaking and listening skills deemed important in their daily work, since communication is voice only, both pilots and air traffic controllers had sever problems in these skills, concerning the listening skill, the results revealed that most of the time both of them had the same deficiencies, they could neither grasp the gist of conversations, nor express their toughts freely, because of their lack of appropriate vocabulary,and their unfamiliarity with the different accents of their interlocutors. All these were noticed while testing their English proficiency level.Most of the time their speech is incomplete; their descriptions were meaningless, full of grammar mistakes, and uncorrect pronunciation.

Regarding the third hypothesis, that is; Algerian pilots and air traffic controllers will better perform in their workplace by providing them with adequate English for aviation teaching.

It is related to the suggestions that can be given to help Algerian pilots and air traffic controllers to overcome this difficulties.informants involved in this study saw that An ESP teaching program is advised for both pilots and controller. They all expressed their wish to be provided with language laboratories to help pilots and controllers to develop their language skills namely listening and speaking, which are required most of the time. They expressed their wish to have more qualified ESP teachers; they also suggested listening as much as possible to native speakers and experts in aviation industry.they also suggested that pilots and controllers should be taught by native speakers and be in contact with pilots and controllers from different countries virtually, or be sent to foreign countries to improve their English language command and to communicate effectively.besides they require a continuos training

3.9. Conclusion:

This chapter attempts to analyse and interpret the findinings gathered from the pilots and air traffic controllers interview, the General Director of the national Air Navigation Company and the Sector Manager of the airport interview ,the controllers' questionnires ,the classroom observation ,and finally the proficiency test. The results revealed that all informants were aware of the importance of the English language in aivation undustry ,and its necessity for the success of communication .They were all for the improvement of such language in general and speaking and listening in particular .

After the analysis and interpretation of the main results from the used instruments. Chapter four will attempt to outline a number of suggestions to cater for the varying needs of pilots and air traffic controllers.

CHAPTER FOUR

Suggestions & Recommendations

CHAPTER FOUR

SUGGESTIONS & RECOMMENDATIONS

4.1. INTRODUCTION

Teaching English for Aviation isof vital importance because of the increasing realisation that poor command of English causes serious problems for both pilots and air traffic controllers,such as communication breakdownand misunderstanding.In an attempt to put forward a number of proposals that lead to practice and progress, the present chapter takes a step toward creating a comprehensible outline of aviation sample lessons for enhancing the self-confidence of pilots and air traffic controllers to communicate effectively in any situation that they may encounter.

The need for qualified courses and teachers is of paramount importance to help pilots and air traffic controllers to develop important speaking and listening skills. For the sake of attaining an intelligible performance, it is necessary to define their explicit and implicit needs. Selected lessons have been chosen to raise the strategic and communicative competence of pilots and air traffic controllers.

As already mentioned, various instruments were used to collect data from both pilots and air traffic controllers. After analysing and interpreting data, a set of recommendations and suggestions will be introduced in the current chapter.

It should be noted that the researcher used the entire questionnaire and classroom observation to determine to what extent the English training program matches the needs of air traffic controllers. After the analysis and interpretation of the main results, the researcher sees that further recommendations and suggestions need to be taken into account.

Attending the English course with air traffic controllers doesn’t mean that the suggestions and recommendation provided in the current chapter are specific to controllers only, therfore,all what will be suggested and recommended concerns both pilots and air traffic controllers, since they have the same lacks,needs and wants.and they are the key players in this research.

4.2.Pre-Course Considerations

After proceeding in a classroom observation of controllers, the researcher sees that it was necessary to recommend further steps to be done before starting an ESP course

4.2.1. Needs Analysis

A corner stone of ESP is needs analysis. Therefore; it is necessary to complete a pre-course needs analysis that uses questionnaires, interviews, and tests to determine wants and needs of participants before starting any course. A placement test is necessary to determine placement of members of the group within their proper language competency levels. It is necessary that each student complete the placement test before starting the course in order to enable the teacher to evaluate individual standing. With this in mind, the researcher recommends that a placement test need to be introduced as an essential part of the suggested steps of the course.

An issue that had been completely neglected in the past is the importance of ongoing needs analysis. Participants need to partake an ongoing needs analysis before the beginning of each new course (level). This would help to measure the progress of individual participants and to determine what weaknesses still exist .Teachers could modify courses accordingly.

> Initially obtained data on needs analysis allow researchers to set course objectives and determine a scientific approach to teaching. Ongoing needs analysis allows revising objectives and modifying teaching techniques and materials. In ongoing needs analysis the conclusions drawn in the initial analysis have to be constantly checked and re-assessed (Dudley-Evans & Jo St John, 1998:140).

The NIA revealed that both a pre-course and an ongoing analysis need to be conducted in the English training program, both pre-course and ongoing needs analysis important for the success of any ESP course design. A benefit of implementing and conducting these two types of needs analyses is the enablement of the teacher to select

appropriate and relevant materials that help to satisfy the demands of the participants by providing for their specific needs.

4.2.2. Teacher Training:

Pre-service ESP training for a General English teacher is of paramount importance for the success of any ESP program. Most of the time, General English teachers are faced with the same problems: What to teach? What materials should be selected to suit the needs of their students? What content should be taught? As explained by Strevens (1988 quoted in Benyelles, 2009:42) an ESP teacher is "a teacher of general English who has unexpectedely found himself/herself required to teach students with special needs. General English teachers are confronted with understanding of scientific and technical texts that carry specific language. In this vein Donna (2000) explicitly mentions, they get by with some basic guidelines and with a little help which ultimately proves inappropriate.

While English language teachers are not expected to be specialists in subjects other than the language they teach, they are expected to meet the needs of their students. That is why ESP training is necessary to become familiar with various concepts of teaching a specialized audience. Hutchinson and Waters (1996) summarises all these points as follow. They argue that ESP teachers do not need specialized subject knowledge in order to teach content-based language courses: They require three things only:

- a positive attitude towards the ESP content;
- a knowledge of the fundamental principles of the subject area;
- An awareness of how much they probably already know.

Recognition of specialized needs through ESP training enables selection of the proper materials to teach the subject at hand.According to Schleppegrell (1991: 19) "Becoming an effective teacher of ESP requires more experience, additional training, and extra effort, a fresh commitment, compared with being a teacher of General English".

Taking into consideration the NIA outcomes, a key to success in teaching a specialized audience is consistency in relating the target language to the specialized context to being taught. Some teachers believe that students need to learn some basic rules in grammar and terminology, this was the case of the class observed, those teachers involved on teaching air traffic controllers, believe that those students do not need to be fluent, while ignoring the fact that the needs of their students are defined in terms of the context of the specialized terminology that they will have to use. In this case, the learners are adults who are professional pilots and air traffic controllers who are aware of what they need and of what is relevant or irrelevant to their specific needs. This is why it is necessary to relate the language that is being taught to the context in which it will be used. In this respect, Koh (1988: 76).Said "[...] language cannot be divorced from the thought it must express."

General English teachers need to have content training to help their students to acquire necessary skills to be prepared in the future to deal with any situation that they may encounter.

4.2.3. Using Relevant text and Well Designed Materials:

The selection of appropriate and relevant materials is another issue that should beaddressed.Ellis and Johnson (1994) see that the choice of materials has a major impact on what happens in the course. This impact is demonstrated on the following three levels:

1) It "determines what kind of language the learners will be exposed to and, as a consequence, the substance of what they will learn in terms of vocabulary, structures, and functions";
2) It "has implications for the methods and techniques by which the learners will learn";
3) Finally, "the subject of or content of the materials is an essential component of the package from the point of view of relevance and motivation".

It is of paramount importance to select materials that suit the needs of learners and help provide them with what they really wish to accomplish. In this vein, Ellis and Johnson (1994: 115) say:

> The selection of ESP materials should thus above all depend on the needs of the learners in relation to their future or present jobs: that is, materials should focus onthe appropriate topics and include tasks and activities that practise the target skillsareas.

A point that needs to be taken into account is that any ESP course is based on the specific needs of a group of learners. It is important that these needs should not be neglected. Nevertheless, some teachers use textbooks with content that is not based on the learners' needs analysis,or are of a general nature that does not address the specific needs of leartners. Based on the NIA outcomes of the current research,before proceeding with the course, teachers need t define what should be taught and learned and what will be tested at the end of each grade level.

Textbooks should be selected that help train learners to develop their linguistic and communicative competences, while enhancing decision-making capacity in all situations. Course curriculum should focus on task solving that represents situations that pilots or air traffic controllers may encounter in the line of duty. Use of authentic course materials whenever possible should pave the way for students to perform properly and successfully in their jobs. In this way, teachers can best accommodate the real needs of their students and better satisfy what their students desire to accomplish.

4.3.2. Course Content and Teaching Techniques

Planing and designing effective and appropriate courses that best suits the needs and wants of ESP learners, and which contributes in a positive learning to those learners is a tricky business. Especialy for new ESP teachers who luck know- how. Strevens (1977:145) suggested a set of principales that should be involved in the course preparation:

- Restriction to necessary skills

- Selection of vocabulary, grammar, and language functions
- Themes and topics
- Communicative needs**.**

As already mentioned the current research was taken in an occuptional context. In such a context ESP teachers are expected to set up courses that concentrate more on real roles, activities and topics so that they will be as close as possible to their every day work to be well trained and accustosmed with all situations. Hence, being able to find solution to problems using both their professional knowledge and at the same time exploiting their English knowledge. Consequently teachers can create succesful communication that requires a set of abilities. Gatehouse (2010:6) for example lists three necessary abilities for succesfull occupational communication: these include the ability to use:

- The particular jargon of an occupational position as well as of the occupation
- General academic skills like research and responding to a letter.
- Everyday language to communicate effeclively, regardeless of the occupational context, like informal and personal communication

The NIA revealed that those informants need to improve and promote both their listening and speaking skills which are the most useful skills in their work since their work is via radiotelephony communication and they are never in face to face communication. To do so those informants need more exposure to situations that may occur in their work, more practice is adviced, both the researcher and participants see that it is advisable to listen to pilots and air traffic controllers conversations just to be accustomed ,and to train themselves.

Providing appropriate and relevant language skills, selecting activities that provide students with the needed vocabulary, grammar, and language functions that best suits those learners to perform succesfully in their daily work. Picking themes and topics related to their field of work, enhancing their communicative needs. All these are key to success in an ESP course. Nevertheless, most of the time ESP teachers exploit their background knowledge as second language teachers and use to teach all language skills, include activities that don’t help those learners to improve their

competencies. Introducing topics and themes that most of the times are irrelevant and general and which has no value in helping those students foster their knowledge.

During the class observation, the researcher has noticed that both teachers used techniques that weren't good enough to help controllers improve their aural skills.There were shortcomings (refer to chapter three) in the class and students have difficulty in coping up with the techniques, as already mentioned the time alloted for general courses was more than used for specific practice. And the techniques used in teaching the most needed skills weren't appropriate and effective.The researcher suggests role play to make students more motivated, for example, the teacher suggests a case study; it is preferable to be a non routine situation, where students exchange roles. One play the role of pilot the other play the role of controller by this way, the teacher will measure their interaction, and at the same time correct them.

It is true that grammar, vocabulary activities contribute apart in fostering their ability to communicate effectively, but they should be implemented in a smart way using successful techniques that itself contribute in the success of the course. The researcher suggests that the teacher corrects students'grammar and vocabulary during their discussion, because ESP concentrates more on language context rather than teaching grammar and vocabulary. It differs from general English not only on learners needs but also on the aim of instruction. In general English courses teacher concentrates on teaching language skills equally, while in ESP it is needs analysis which determines which skills those learners should develop, which activities should be included ,what topics and themes should be implemented. In other words ESP courses are tailored to suit the specific needs of those learners. This is the matter of ESP teachers, they luck the know-how to incorporate those activities to make the course specific rather than being a genral one. As part of the researcher suggestions, the researcher sees that it is preferable to start the course with a reading task to help students aquire useful vocabulary that is related to the theme they will treat. For example, the teacher propose a reading passage full of needed vocabulary to express their thought, while they will be asked to descibe for example a situation or explain an incidents, in these way, the teacher will help learners acquire as much as possible useful vocabulary, at the same time those students will express themselves freely.

In sum a major interest in ESP is to create courses that help promote active engagement and participation of students in specific situation. ESP teacher need to take into consideration what competencies those students need to posses to perform succesfully in their field of work? And use effective techniques that help them aquire those competencies. In an ESP context teachers connect their courses with the real world work of those students. And vary in their techniques, because their challenge is to find the right techniqes to reach the students' needs.ie; they are required to develop their linguistic competency and not just the accuracy.

4.3.3. Teaching Aids:

Providing interactive learning environement for the sake to communicate well was one of the suggested solutions by all informants. They saw the use of language laboratory as an ideal teaching aid to help them improve their proficiency level and develop their aural skills. No one neglect that the traditional teaching methods with the rich teaching material content has an effective role in helping them foster their English language competencies. Nevertheless, language laboratory is advisabalespecialy in such context .because as Vanderplank (2009)sees that language laboratory

- Involves them to actively participate in language learning exercises and get more practice.
- helps remove their fears
- they can record their voices and play back their voices as a result theywill be more interactive with each other and with the teacher
- It helps students promote their speaking and listening skills.
- It helps them get experience with being intteractive with native speakers
- It is a self assessement

One important factor in the pilots' air traffic controllers' work is to ensure an effective communication which involves their ability to listen carefully to grasp the meaning and respond in turn with correct words and clarity of pronunciation.Thus thepursuit to develop their English language proficiency is an important consideration to be taken into account.

To provide both pilots and Air Traffic Controllers with more practice to develop their English language proficiency language laboratory is an ideal teaching aids that serves to give them more opportunity to have more practice in what they feel incompetent.

Through language laboratory both of them develop good listenining and speaking skills, because they will hear correct English patterns instead of imitating each other with errors. As a result they can communicate successfully because via language laboratory they reinforce their grammar, pronunciation, vocabulary. They will also have the opportunity to practice situations which they may encounter in their

work. Especially non routine ones because they will have exposure to authentic radio exchanges hence; they will not loose interest on the course since they will be faced with topics and materials that are relevant to their field of work. They will also listen to different accents of the same language which makes their ears accustomed with a variety of models of voices. In a nutshell they will have sufficient opportunity to practice and consolidate their language.

4.3.4. Colaboration between ESP Teacher and Subject Specialist

Teachers are required to possess relevant background; especialy in some subject fields like aviation .which is a difficult domain especialy for those teachers who had never been trained to teach in such context. To satisfy learners' needs and to achieve the course goals; a collaborative teaching between English teachers and subject specialists in aviation is advisable. Shao (1992) sees that the best way for an ESP program to succeed is the collaboration between science/engineering teachers and English teachers in the instruction.

A team teaching will motivate those learners because their language topics will be tied with what they will face in their daily work. As already mentioned language teachers will neither teach pilots how to fly an aircraft nor a controller how to manage it. But instead they will teach them accurate communication which plays an important role in the resolution of non routine situations. In other words; their role is to teach English for the profession, not the profession in English. Thus they are expected to have basic knowledge about content. To overcome the lack of content knowldge and

to be introduced in any ESP context, ESP teachers can ask assistance from subject specialists to effectively integrate both language and content instruction.

> … [subject-specific work] may involve specific collaboration so that there issome integration between specialist studies or activities and the language. This might involve relating the reading component of an EAP course to the actualcontent of a subject course by exploiting texts in English that present additionalrelevant material, in other words the subject teacher provides the‘carriercontent’ for the English course. (Dudley-Evans & St. John, 1998: 15-16)

To bridge the gap between language and content. It is advisable that language teachers and subject specialist work in collaboration. For example in the beginning of each level subject specialists plan courses that would provide those students with essential lexis and concepts. A close work will also help continuous improvement and make student feel at ease. Collaborative teaching helps foster eschange of knowledge, information, and experience and made problem solving easier.

4.4 Suggested Syllabus for Pilots and Air Traffic Controllers

After attending many English lessons for air traffic controllers at zenata airport, conducting the interviews, and administring the questionnaire, the researcher has noticed the striking weaknesses in terms of language skills. Therefore; the present syllabus is based on the conducted NIA and a discussion with experienced ESP teachers engaged in English for aviation especially. It is worth mentioning that the suggested syllabus is intended for level one. It covers the four language skills, but more time is alloted to the development of the listening and the speaking skills, which are of paramount importance for pilots and air traffic controller’s daily work as revealed by the study. The units content is driven from different sources: Philip Shawcross (2011), Sue Ellis &Terence Gerighty (2008),Jhon Kennedy (2008), Liz Mariner(2007), Liz Mariner (2008).

4.4.1. Objectives of the syllabus

In the suggested syllabus the researcher attempted to help pilots and air traffic controllers to have further practice and maximum exposure to day-to-day language skills necessary for not merely to meet a new standard, but to ensure safe flying everywhere. Through this syllabus, the researcher tries to offer deffinitions of the terms and technical information related to flying to develop informants' language aquisition skills

Most focus in each unit will be on helping them learn new vocabulary to communicate effectively in the field of work, i.e., it intends to help them to receive and process information given as oral description. The syllabus covers a wider range of topics related to an usual situations, In such a way students will be exposed to a variety of topics that they may face during their daily work. An overall aim of this syllabus is to develop pilots' and air traffic contrllers' language abilities, with special focus on listening and speking skills, by helping them to aquire appropriate vocabullary, correct grammar and pronunciation. Each unit has language exercises that develop pronunciation, oral fluency, vocabulary, and grammar. It is made of seven units.

Unit	Topic	Content
Unit 01	Airport Overview	-Airport description -Describing taking off and landing -stages of take off -stages of landing -mistakes on landing -interacting with other traffic
Unit 02	Pre-flight checks	-aircraft position and movement -checklist vocabulary. -Delays problem Weather related problems.
Unit 03	The Aircraft	-the aircraft parts -aircraft movement -Aircraft structure and system
Unit 04	Introduction to Air Communication	- Examples of miscommunication -Avoiding miscomunication. -operaional situations -non routine situation. -requesting clarification
Unit 05	weather	Describing the weather -wind -Clouds -visibility -icing
UNIT 6	Safety and emergency	-safety euipement -Emergency procedures
unit	**Topic**	**Content**
Unit 7	Descent,landing	-Preparation for landing -Checking the aircraft.

4.4.2. Sample unit 02

To illustrate how each unit works, unit 2 will be dealt with. Its plan is designed as an attempt to introduce a set of tasks to incorporate a number of suggestions that may help participants develop good mastery level of English.

4.4.3 Unit objectives

A shared responsibility between pilots and air traffic controllers is to communicate the aircraft in safeway, they need to be able to report the different phases and positions of their air craft in a safe way, this requires them to have good comend of English, and they need to learn words and phrases to communicate effectively. In this unit the researcher tried to maximase their exposure to useful and neede vocabulary to help them overcome difficulties to express their ideas. They will learn how to descibe aircraft movement and position as well as useful expressions used during flight checks and other checks. The researcher attempted through this unit to help participants to have practice grammar, vocabulary, fluency, and pronunciation and interaction with each others.

Position and Movement Vocabulary:

Word or phrase	Definition
attach	Join two objects toghether
hinge	Hold two parts together so that one part can move freely in either direction
raise	Put up,bringup,retract
lower	Put down extend.
rotate	turn
Move differently	Move in opposite direction

Task 1: Position and Movement Vocabulary: Complete the sentences using a word or phrase from the list above. Use the correct tense for each verb.

- The pilot often *attaches* a twobar to move the aircraft on the ground.

- Before landing, the landing gear must be…
- When one aileron goes, the other goes down, they….
- At a safe height after takeoff, the pilot….the flaps.
- The rudder is….the fin of the aircraft
- Two parts of the aircraft that ….are the wheels and propellers.

Task 2: checklist vocabulary: Unscramble the words in brackets to complete the description of a pre-flight check.

Before flying, the pilot carefully (khcecs) *checks* the aircraft.He looks at the external (causrfes)…….. For signs of damage, a plane may be damaged by a bird (ristke)….. (gnilghtin)…….strike or contact with any other (gorfein)…..object,or by service (sveichle)…..on the ground.Bent or distorted panels may be a visual indication of hidden(madgae)…to the airframe.

He then checks the nose (crundagerirae)…..for excessive (arew)….or cuts on the tyres.

He inspects the (deliang)…..edge of the wing for damage and checks the fastening on the (eeginn)….cowling.He examines the visible fan (sladeb)…on the engines.moving along the (slegeeafu)….to the tail he does the same visual checks over all surfaces before ensuring that all cargo(rodos)….and access (stacheh)…..are security fastened.

TASK 3: Match the sentence halves, and then match each sentence to a picture below.

- Certificates and other documents must a) equipement are safely stowed away
- Documentation for any unusual cargo or b) becaried on the flight.
- Instruction manuals may be needed for c) dangerous substances must be checked
- Oxygen bottles, medical kit, and other d) get missed from the routine procedures.

- Checklists ensure nothing occurs. e) trouble shooting if a fault
- A security search ensures no suspicious on broad f)items have been struggled

Task 4: Listening comprehension
A) Listen and answer the questions:

Part One:

- What is the situation with flight 276?
- What caused problems at the airport earlier in the day?
- When does 276 need to land?
- What's the reason for the landing time?
- What is the expected delay?

Part Two:

- How long does approach 276 will need to wait?
- What flight level change does 276 make?

Part Three:

- What does ATC instruct 276 to do?
- Why can't 276 land at wissex?

b) Structure: 1) Read the sentences from the exchange. Are they talking about when or how long? Write w for when and H for how long

1).....we had delays earlier today

2)....it took long time to clear it

3)....so how long can i expect to wait?

4)....Ineed to get down before 23:00, don't I?

5).....delays will be about half an hour at least.

6).....I'll get back to you shortly.

7).....climb immediatelly to 900000 feet.

2) Listen and check your answers: Use words from the questions above in the table above to complete sentences:

checking	**Asking for an alternative**
Are you sure? Can you confirm you want usto climb back to 120? Did you say flight level 90?	Do you mind if you have a level change instead? Can Iuse runway 9 rather than runway 18?

1).....you say you checked the QNH setting?

2).....you sure you don't want us to use taxiwayX?

3) Sorry, can we use runway23.....of runway28?

4).....you say you wanted medical assistance?

5) Can i change to FL350.....than 310?

6).....you confirm that you've reached FL150.

Task 6: listen to the anouncement, complete the sentences below

1) I....for the delay this evening.
2) I'm…. there are severe delays at Wessex due to air traffic.
3) Wessex has got a noise abatement curfew, so we……after 11pm.
4) We've been ……to esceter.
5) Please accept our sinccere…..for the unconvenience
6) We…….this will mess up a lot of your plans
7) The cabin crew will….to look after you untill we reach esceter.
8) Ground staf in esceter will be….to make sure you reach your final destination as soon as possible.

Task 6: fluency:

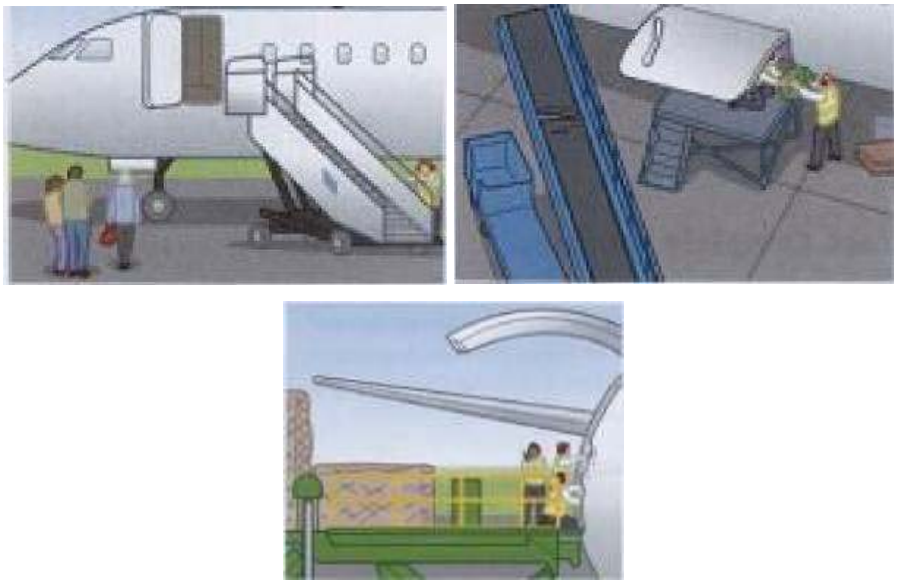
A) Use ago to say when each weather condition happened, use took and lasted to say the duration.

Example: it is now noon on Tuesday.

B) Describe each situation, by expecting what shall be done in eachsituation**.**Explain the problem then give solutions.

Task 7: Interaction: look at the pictures below by including the useful phrases Listed in the table below to ask air traffic controllers for a delay in start up:

Asking for more time	**Giving a reason**	**Saying what you are going to do**
Can we have more time? Can we delay untill five? We need 2minutes	We have a problem with the cargo door. There is something wrong with the conveyor belt.	We‘re going to try to fix it. We are going to unload the plane.



Task 8: Pronunciation.

Listen and unerline the words which are stressed.

1. Can I change the stand?
2. I have to be near maintenance area.
3. I have a flat tyre on the nose gear.
4. Hang on a minut
5. Did you get my message?

b) Put the words in the correct column according to the underlined sound: Service.change.instead.wish .check.sorry.say.sure.approach..

/s/	/ʃ/	tʃ

Task 9: Reading:

To avoid a large storm, the flight crew must make decisions while still 40 nautical miles away from it. Therefore, the flight crew should select appropriate ranges on the NDs (NavigationDisplays):

• Pilot non-flying (PNF) appropriate ranges to plan long-term weather avoidance coursechanges (in cruise, typically 160 nm and below)

• Pilot flying (PNF) appropriate ranges to tactically avoid adverse weather and monitor itsseverity (in cruise, typically 80 nm and below).

(Airbus Flight Operations Briefing Notes: *Adverse Weather Operations)*

Flight Path, Cambridge University Press by Philip Shawcross (2011

- Give an appropriate tittle to the text
- Why does the PNF have a longer range on his/her radar display?
- In what ways does a weather radar display differ from the display used by controllers?
- How can weather avoidance affect a controller's workload?
- What way are the consequences different in cruise and during approach?

- What is the difference between these two weather radar displays at the same moment in a flight?

4.6 conclusion:

Through this chapter the researcher tried to provide further recommendations and even suggestions to help pilots and air traffic controllers develop their English language competencies in relation to what they really need and wish to accomplish, It also provide ESP teachers involved in teaching English for aviation, It may help them be providing them with appropriate themes and topics for pilots and air traffic controllers

In addition to an appropriate choice of teaching materials. Pilots and air traffic controllers need to have qualified teachers, experienced ones, who will help participants enhance their English knowledge in subjects related to aviation domain. This chapter has also presented a sample unit for both teachers and participants to give an idea of what should be included in an English aviation course.

GENERAL CONCLUSION

English as a world language is gaining more ground in many fields. Air transportation is a case in point. It gives great importance to this language since it is the medium of communication in the aviation industry. All pilots and air traffic controllers, be them natives or non natives should operate in international flights using English, in other words, being communicatively competent while using the English language is as important for these people as technical proficiency to ensure aviation safety.

The present dissertation was a case study of English language needs of Algerian pilots and air traffic controllers in Zenata Airport. It aimes at identifying the English language problems that pilots and air traffic controllers may face in their work, by sheding light on their lacks, needs and wants, in other words; what these participants need to know to function effectivelly in their work place and what English language skills are needed to do their job successfully. The study was grounded on three research questions:

- What English language difficulties do Algerian pilots and air traffic controllers face in the job?
- What are the English languge needs, lacks, and wants of Algerian pilots and air traffic controllers?
- What suggestions can be provided to help Algerian pilots and air traffic controllers overcome English language difficulties?

Having asked these questions, the following hypotheses are put forward.

- Algerian pilots and air traffic controllers face communication difficulties with their English speaking counterparts.

- Algerian pilots & air traffic controllers need to develop their listening and speaking skills with special focus on general and specific vocabulary and grammar
- Algerian pilots and air traffic controllers will better perform in their workplace by providing them with adequate English course for aviation.

This thesis was devided into four chapters. The first one was a review of the related literature. The second chapter tried first to give a general presentation of the airport, where the research took place as well as the companies adressed by the researcher. It then described the data collection procedures, instruments, and population involved in this research. The third chapter strived to analyse the data obtained, both qualitatively and quantitatively. The fourth chapter gave a set of suggestions and recommendations concerning the English for aviation course proposed. Many considerations were revealed related either to the teacher or to the course content. This chapter closed with the presentation of a sample unit.

The data were collected from different sources using a variety of instruments: structured interviews with pilots, air traffic controllers, English language teachers, the General Director of the National Air Navigation Company, and the Sector Manager Of the airport; a questionnaire and a classroom observation with air traffic controllers, and a diagnostic test with pilots and air traffic controllers.

The findings revealed that, all informants were aware of the importance of the English language in aviation industry. Informants reported that the airport actually receives passengers from different countries, who most of the time speak only the English language, they all asserted the neccessity of the English language in their work, as they were aware of its impact on aviation safety. They all revealed that most of the time they experience communication difficulties with their foreing counterparts, because they lack proficiency in this language. They explained that lack of English competency may cause misunderstanding and even aviation disasters. They repotrted that their limited knowledge of both general and specific vocabulary prevents them from communicating effectively, they considered their poor proficiency and unclear pronunciation as the primary causal factors to misunderstanding, some of them

explained that the existence of different accents prevents them from understanding, what their interlocutors say. they speak with difficulty, their speech is always incomplete, full of grammar mistakes, and their pronunciation is frequently incorrect, they all expressed their negative attitude towards their current proficiency, and said they were still far from what they really wished to accomplish. They also reported that they were able to understand only a limited number of words and simple expressions at a slow normal speed, without basic competence in grammar. All this was prooved in the proficiency test. They also admitted that their limited vocabulary was a serious problem to grasp what the sender was saying. The results also revealed that Algerian pilots and air traffic controllers do not feel confident to use the English language exept for the ones who had the opportunity to be trained in Anglosaxon countries had acceptable English proficiency level. All participants agreed that unclear pronuncition and lack of undersatanding may be a strong barrier to effective communication. These results confirm the first hypothesis which stipulates that Algerian pilots and air traffic controllers face communication difficulties with their English speaking counterparts.

The results also revealed that pilots and air traffic controllers needed to develop their listening and speaking skills. This is so important to perform successefully in their work.the results revealed that pilots and controllers had the same deficiencies in both listening and speaking skills. In the listening skill, they could not define the topic of the convesation, this was noticed both during classroom observation, and while testing their English proficiency. It should be mentioned that both pilots and air traffic controllers were not able to express their ideas in well structured sentences. Most of their descriptions were meaningless, due to language difficulties, their speech was characterised by frequent pauses and fillers, and they often repeated the same words. Their vocabulary was very limited. Their speech was too short, because of their limited knowledge of English and their lack of appropriate and adequate vocabulary which was a strong barrier. Both pilots and air traffic controllers face a sever problem in speech production. Their major difficulty arises from the fact that they cannot use English correcctly and appropriatelly. These results confirmed the second hypothesis stating that Algerian pilots and air traffic controllers need to develop their listening and speaking skills with special focus on vocabulary and grammar

All informants expressed their desire and wish to develop their competencies in English, and to have constant training by both local and native teachers. Those teachers should work in collaboration with subject specialists to create a learning environement that is related to their field of work. Informants explained that all their manuals are in English, they also expressed their wish to learn ESP courses in which most focus will be on listening and speaking, with much enphasis on specific vocabulary, pronnuciation, as well as basic grammar to have a good commend of this language. In addition they suggested the use of language laboratory, they were convinced that the latter will help enhence their English language abilities, and they will help them to have more practice. They will also be in direct contact with foreingers to learn from them correct pronunciation, to be accostomed with different accents and be able to communicate fluently. They all expressed their strong desire to develop their English proficiency, so as to overcome difficulties to communicate successfully. These results confirmed the third hypothesis assuming that Algerian pilots and air traffic controllers will better perform in their workplace by providing them with adequate English course for aviation.

By exploring the problems faced by pilots and air traffic controllers, it may be possible to suggest adequate programs that may help the Algerian air men students not only to master the phraseology of English for aviation but more than that to understand and to respond in English even in difficult, unescpected, and stressing situations.

Furthermore, instead of spending large sums of money on English for aviation training in foreign countries, which is most of the time so costly, it’s high time to save money for other purposes and to ensure English for aviation in our country.Such an initiative will open doors for both ESP teachers and ESP students and it is a worthy investment for the country. This investment in aviation will reduce costs and save money for other purposes.

The current research was conducted in zenata airport due to data source accessibility, ie, the possibility of being in touch with pilots and air traffic controllers. It is, therefore, worth mentioninig that the current research was interested in identifying the English language needs, lacks, and wants of pilots and air traffic

controllers in zenata airport only, and not all pilots and air traffic controllers in different Algerian airports. It will be interesting to analyse data from different airports found in our country to have a wider population. Furthermore, future research can also involve the participation of cabin crew since they are also considered as key players in the flight, and also may experience misunderstanding as pilots and air traffic controllers.

BIBLIOGRAPHY

-Basturkmen, H. (2006). Ideas and options in English for specific purposes.London: Lawrence erlbaum associated publishers

-Bell, J. (1993) Doing your Research Project: A Guide for First Time Researchers in Education and Social Science: 2nd Edition, Buckingham, Open University Press

Benbasat, I., D. K Goldstein, and M. Mead. (1987). The Case Research Strategy in Studies of Information Systems,*MIS Quarterly*, (11:3), p. 369–386

-Benyelles, R. (2009).Teaching ESP at post graduate level.Unpublished doctorate thesis: University of Tlemcen.

Brown, D. (1987). Principales of language learning and teaching. New Jersey: Parentice.Language testing.

-Carver, D. (1983). Some propositions about ESP. The ESP Journal, pp.131-137

-Cardosi, K., Falzarano, P., & Han, S. (1998). Pilot-controller communicationerrors: An analysis of aviation safety reporting system (asrs) reports.Cambridge, MA: Federal Aviation Administration. http://www.skybrary.aero/bookshelf/books/442.pdf

-Cohen, L., and Manion, L. (2007). (Eds.). *Research Methods in Education*.(5th Ed.). London: Routledge Falmer

-Cushing, S. (2007) fatal words: communication clashes and Aircraft Crashes.The University of Chicago Press.

——— (1995) Pilot-air traffic control communications: it's not (only) what you say, it's how you say it. *Flight Safety Foundation,* Vol.14, No.7, July, pp 25-31.

Day, B. (2002). Safe radiotelephony demands good discipline from all pilots and controllers. ICAO Journal, 57, pp. 24-25, 33-34

Day, B. (2002). Proposed ICAO proficiency requirements in common English. Paper presented at the 8th International Aviation English Association Seminar, Warsaw, Poland

DeMik, R. J., & Welsh, B. W. (2007).Evaluating voice and data link air traffic control communications for general aviation. Collegiate Aviation Review*, 25*(2), 30-37: Indiana State University.Unpublished doctorate thesis

Domomguez, G. & P. Rokowski. 2002. Bridging the gap between English for Academic and Occupational Purposes. http://www.esp-world.info/ESP_list.htm

Donna, S. (2000): *Teach Business English* Cambridge: Cambridge University Press

Douglas, D. (2000). *Assessing Languages for Specific Purposes*. Cambridge, England: Cambridge University Press

Dudley-Evans, T., & St John, M. (1998).Developments in ESP: A multi-disciplinary approach. Cambridge: Cambridge University Press

Dudley-Evans, T. & J. Maggie (2002). *Development in ESP: A Multi-disciplinary Approach*. New York: Cambridge University Press.

Ellis, M. & C. Johnson, 1994. Teaching business English [M]. Oxford: Oxford University Press

Gillham, B (2000). The Research Interview. London: Continuum

Gray, D. E. (2004). *Doing Research in the Real World.*London: SAGE Publications

Hutchinson, T. and Waters, A. (1987) English for Specific Purposes: A learning – centred Approach. Cambridge: Cambridge University Press.
(1996) English for Specific Purposes: Cambridge University Press.

Hamzaoui, H. (2006). An Exploration into the Strategies Used for Essay Writing Across Three Languages. The case of EFL University Students (Unpublished Doctorate Thesis: University of Tlemcen.

Haglund, R. (1994) Presentation of a Swedish study program concerning recruitment, selection and training of student air traffic controllers: the MRU Project

Jack C. Richards (2001)Curriculum Development in Language Teaching.Cambridge: Cambridge University Press.

Johns, A., & Dudley-Evans, T. (1991). English for Specific Purposes: International in scope, specific in purpose. TESOL Quarterly**,** pp297-314

Jhon ,K. (2008) Aviation English for ICAO Compiliance.Teacher's book. Macmilan

————— (2008) Aviation English for ICAO Compiliance.student's book. Macmilan

Kvale, S. 1996. *Interviews*. London: Sage

Knight, K., Lomperis, A., van Naerssen, M. & Westerfield, K. (2010).English for Specific Purposes: An Overview for Practitioners and Clients (Academic and Corporate). PowerPoint presentation submitted to Alexandria, Virginia: TESOL Resource Center. Retrieved at http://www.tesol.org/s_tesol/trc/uploads/Other/119485/1564_Knight_ESPPPTforTRC.pdf

Koh, M. Y. (1988): The changing role of the ESLteacher and implications for ESP.In M. L.Tickoo, ed., *ESP: State of the Art.* Anthology Series 21. Singapore: SEAMEO RegionalEnglish Language Centre, 74-79

Liz, M. (2007) Cleared for Takeoff: English for Pilots Book 1 Cambridge: Cambridge University Press

———— Cleared for Takeoff: English for Pilots Book 2 Cambridge: Cambridge University Press

Michael.H.long (2005) Second Language Needs Analysis: The Cambridge Applied Linguistics Series

Mackay, R., & Mountford, A. (Eds.).(1978).English for Specific Purposes: A case study approach. London: Longman

Merriam, S.B. ((1998). Qualitative Research & case study Applications in Education. San Francisco, Jossey-Bass Publications.

(2009).Qualitative Research: A Guide to Design and Implementation.San Francisco, Jossey-Bass Publications

Mitsutomi, M. and O'Brien, K. (2001).Global aviation safety and English competence.Proceedings of the 2nd Annual American Society of Behavioral Sciences, Las Vegas, Nevada.

Morrow, Daniel; Rodvold, Michelle; Lee, Alfred (1994).Nonroutine transactions in controller-pilotcommunication. *Discourse Processes*, 17, 235–258.http://www.nla.gov.au/openpublish/index.php/aral/article/view/2034/2417

McShane, S. L., & Von Glinow, **M. A**. (2005). Organizational behavior (3rd ed.). New York: McGraw-Hill/Irwin.

Merritt, A. C. (1996). National culture and work attitudes in commercial aviation: A cross-cultural investigation. Unpublished doctoral dissertation, University of Texas at Austin

Nagel, D.C. (1988). Human error in aviation operations in E.L.*Human Factors in Aviation*(pp. 263-303). San Diego, CA: Academic Press

Nunan, D. (1992). Research Methods in language learning.Cambridge: Cambridge University Press.

Tuckman, B (1978**)**. Conducting educational research. 2nd ed. New York: Harcourt Brace Jonanovich Publishers

O'Leary, A. (2004). The Essential Guide to Doing Research. London: SAGE Publications

Schleppegrell, M. J. (1991): English for Speciflc Purposes: aprogram design model. *EnglishTeaching Forum* 29 (4): 18-22

Stephany, L (2012) Linguistic Analysis of English Phraseology and Plain Language in Air-Ground Communications.

Sue ,**E** &**Terence, G.** (2008) English for Pilots and Air Traffic Controllers. Oxford: Oxford University Press.

Robinson, P. (1991)ESP Today*: A Practioner's Guide*. New York: Prentice Hall. International Ltd.

Ragan, P. H. (2007). Cross-cultural communication in aviation. In K. Ahmad & M. Rogers (Eds.), Evidence-based LSP: Translation, text and terminology.
Selected papers from LSP2003, the 14th European Symposium on Language
for Special Purposes held at the University of Surrey.

Reeves, D. and D. Rauf (2005)"Find your future Air Traffic Controller" USA:Bright futuresPres

Patton, M.Q.(1987). How to use qualitative methods in evaluation. Newbury Park Ca: Sage Publications

Paul, C, (1999).Pilot in Command.Practical flying series.

Phillipson, R. (1992). Linguistic Imperialism [M]. Oxford: Oxford University Press

Philip, S. (2011) Flight Path**.**Cambridge: Cambridge University Press

Vanderplank, R. (2009) A decade of research on language laboratories, television and video in language learning.Cambridge University Press

Willis J. Nordlund (1998) Silent Skies: the air traffic controllers' strike.London Press

Wang .Aiguo, (2008) Find a proper position for aviation English: A new course of English for specific purposes.Unpublished Magister thesis.Civil Aviation University in China.

Yin, R.K. (1993).*Application of case-study research*. Newbury Park Ca: Sage Publications.

Yin, R. K. (1984).*Case study research: Design and methods*. Newbury Park, CA: Sage

Zidane, R. (2010) Validating holistic scoring for the assessement of EFL learners'writing performance: case of fourth year graduate students at abou bakr belkaid. Unpublished doctorate thesis: University of Tlemcen.

.

✈ **Application Letter:** explaining the research objectives

Tlemcen le ;02-03-2011

M elle :Mekkaoui Ghania.

07cité Birouana-Tlemcen.

A Monsieur le Directeur General

D'aérodrome de Zenata aéroport.

Object : Demande D'autorisation d'élaboration d'un entretien au seint de votre établissement.

Monsieur,

J'ai l'honneur de solliciter de votre haute bienveillance de bien vouloir me permettre d'effectuer la partie pratique de ma recherche au seint de votre établissement pour une période qui dure un mois .

Je tiens à vous faire savoir Monsieur le directeur que mon domaine de recherche est purement scientifique dans le but de préparer une thèse de magistère et je procède ainsi :

1- Un entretien avec un ensemble des pilots et des contrôleurs.
2- Un entretien avec votre honneur dans la mesure de disponibilité et possibilité.
3- Un control d'évaluation en matière linguistique qui s'adresse a l'ensemble des pilotes et contrôleurs.

J'insiste de dire Monsieur le directeur que l'objectif des entretiens est de définir les problèmes linguistiques des pilotes et des contrôleurs Algériens.

Dans l'attente d'une suite favorable, veuillez agréer Monsieur le Directeur l'expression de mes sentiments les plus distinguée.

Signature ;

M.GH

Support Letter from the Head of the English Departement

REPUBLIQUE ALGERIENNE DEMOCRATIQUE POPULAIRE

UNIVERSITE ABOUBAKRE BELKAID TLEMCEN

FACULTE DES LETRRES ET LANGUES ETRANGERS

SECTION ANGLAIS

TLEMCEN LE :02-04-2011

A Monsieur le Directeur General D'aérodrome de Zenata Aéroport.

Je vous prie de bien vouloir permettre à l'étudiante

M^elle^Mekkaoui Ghania

Inscrite en deuscieme année magistère Anglais de Spécialité(ESP)

Au département d'Anglais de l'université de Tlemcen,de mener son enquête de recherche au sein de votre Organisme.

Je vous fais savoir, Monsieur, que ce travail est important dans la mesure ou il s'inscrit dans le cadre de la réalisation d'une recherche portant sur l'usagée de la langue anglaise dans le domaine de l'aviation.

Je vous prie d'agréer, Monsieur, l'expression de mes sentiments les plus distinguée.

- **Trainee Card :**

REPUBLIQUE ALGERIENNE DEMOCRATIQUE ET POPULAIRE
MINISTERE DE L'INTERIEUR
DIRECTION GENERALE DE LA SURETE NATIONALE
DIRECTION DE LA POLICE DES FRONTIERES
SERVICE REGIONAL DE LA POLICE DES
FRONTIERES MAGHNIA
B.P.F.A DU AEROPORT MESSALI EL HADJ ZENATA

LAISSEZ PASSER PROVISOIRE

VALABLE DU 23/05/11 AU 22/06/11

DI L/P N° 2381

NOM : MEKKAOUI
PRENOM : GHANIA
DATE ET LIEU DE NAISSANCE : NE LE 08.10.1981 A TLEMCEN
FILLE DE : YOUCEF ET DE : MEHAMDI FATMA
NATIONALITE : ALGERIENNE FONCTION : STAGIAIRE
ENTREPRISE : ENNA

LE CHEF SRJ

Approval Letter:

المؤسسة الوطنية للملاحة الجوية
ETABLISSEMENT NATIONAL DE NAVIGATION AERIENNE

AERODROME DE TLEMCEN ZENATA –MESSALI EL HADJ
DECRET N° 91 –149 DU 18 MAI 1991

Tel : (043).24.62.45
Fax : (043).24.61.17

N/Réf : 446 - ON/YD -

AUTORISATION D'ACCUEIL

L'organisme d'accueil (raison sociale) : Etablissement National de la Navigation Aérienne (ENNA).....
Adresse : Aérodrome de Tlemcen – Zenata – MESSALI El Hadj- .....
Tél : 043.24.62.45.....Fax : 043.24.61.17.....Email :.....
Autorise l'accueil pour effectuer un stage de l'étudiante :.....
Nom : MEKKAOUI.....
Prénom : Ghania.....
Date et lieu de naissance : 08.10.1981...à Tlemcen.....
Pour une durée de : 01 mois, allant du 22.05.2011 au 22.06.2011

Fait à Tlemcen le 22.05.2011

Visa de l'organisme d'accueil

Le Directeur de l'Aéroport
M. N. BOUDAOUD

ENNA

Pilots/Air Traffic Controllers' Interview

Needs Identification Interview

This interview is developed as part of my Magister research. It intends to identify English language needs of Pilots & Air Traffic Controllers in Algeria taking the case of Zenta-Messali al Hadj airoport. It also seeks the extent to which English language proficiency affects communication and contributes to misuderstanding.

You have been selected as best source of information to contribute to this study by responding to the following interview.

First Part:

1) Would you please let me know how old are you?

2) How many years have you been working as a pilot/air traffic controller?

3) What was your education stream before being a pilot**?**

- Scientific stream
- Literary stream

4) Which foreign language you feel confident to use?

- French
- English
- Both of them

5) Where did you receive your professional training?

- Algeria
- France
- UK.

Second Part

1) Is the knowledge of English necessary for your profession?

- Yes
- It is important, but not necessary.
- No

2) Do you think that your English knowledge is sufficient to communicate effectively?

- Yes
- No

3) How much each of the following English language skills deem important in your work: Listening, speaking, reading, writing, grammar.technical vocabulary

- Very important
- Less important
- Moderate
- Not important

4) What type of difficulties you encouter when operating internationaly is it:

- Listening to basic expressions
- Comprehending unkown vocabulary
- Using Specialized vocabulary
- Being unable to catch the meaning(when they speak too fast
- Sentence structure

5) Do you use English In?

- Domestic flight
- International flight
- Both of them

6) Did you receive any local or international training to improve your level in English?

- National
- International
- Both of them

7) Have you ever taken one of the following tests?

- TOEIC
- IELTS
- Relta
- Other

8) Have you experienced any misunderstanding?

- Yes
- No

-If yes was it due to:

- Usage on nom standard phraseology
- Poor level of English
- Unclear pronunciation

9) As future ESP teachers, what do you expect to help you overcome difficulties in using the English language? What kind of activities or units should we include in our training program?

10) Aviation analyst report that one of the causal factors to aviation accident may be the pilots /air traffic controllers' bad command of the English language

- Yes
- No

The General Director and the Station

Managers' Interview: (The English Version)

1) Would you please let me know what the working number of pilots and air traffic controllers is in Zenata airport?

2) What is the number of international and domestic flights?

3) What qualities should a successful pilots and air traffic controllers possess?

- Technical proficiency
- English language proficiency
- Both of them

4) What English language proficiency obligations do pilots and air traffic controllers have to fly internationally?

- Excellent level (Proficient).
- Good level (Intermediate).
- Satisfactory level (Beginner/lower intermediate).

5) Is a specific competency required, or is a general competency sufficient, or both of them?

- General competency is sufficient.
- Specific competency is required.
- Both of them are required.

6) Till March 2011, an applicant for a license or a license holder shall demonstrate compliance with the ICAO holistic discriptors and with the ICAO operational level4 of the rating scale:

When do you expect to have all your air traffic controllers/pilots be tested?

- All have been tested.
- End of 2011.
- I don’t know.

The General Director and the Station

Managers' Interview: French Version

1) En premier lieu Monsieur le directeur puis-je savoir quel est le nombre de pilotes/contrôleurs de la circulation aérienne travaillent dans Zenta aéroport ?

2) Quel est le nombre de vols internationaux et domestiques ?

3) Quelles sont les qualités pour un pilote ou un contrôleur aérien qualifié?

□ Compétence technique

□ compétence en langue anglaise

□ Les deux compétences

4) Quelle est le niveau linguistique exigé pour les pilotes des vols internationaux?

□ Excellent niveau (Professionnel).

□ Bon niveau (intermédiaire).

□ Niveau satisfaisant (débutant).

5) Est-ce que une compétence spécifique requise, ou une compétence générale suffisante, ou les deux?

□ Compétence générale est suffisante.

□ Compétences spécifiques sont nécessaires.

□ Les deux sont nécessaires.

6) Jusqu'au mois de Mars 2011, le demandeur d'une licence ou un titulaire de permis doit démontrer conformité avec l'OACI et niveau 4 de l'échelle de notation avec coopérateur globale et opérationnelle:

Quand prévoyez-vous d'avoir tous vos contrôleurs / pilotes de tester?

□ Tous ont été testés.

□ Fin 2011.

□ Je ne sais pas

Teachers' Interview

1) What is your degree :

- Liscence
- Magister
- Doctorate.

2) What is your experience in teaching ESP?

3) Did you have any training to teach ESP in general and English for Aviation in particular.

- Yes
- No

4) What steps and procedures did you taken to elaborte such program?

5) What problems did you face when elaborating the program?

6) Before starting with them did you conducted any needs identification interview, questionnaire or a test?

- If yes what was the purpose?

7) In the previous levels, did you use

- General English
- English more specifically related to aviation

8) What are the skills you concentrated more in the previos levels, what was the purpose?

- Technical vocabulary
- Listening comprehension
- speaking
- Grammar

9) How would you evaluate the current controller's level regarding their mastery of English?

10) Do you think that the materials used were relevant to their needs?

- Yes
- No

11) In your opinion what makes this program more developed and effective to help informants match their needs?

Air Traffic Controllers' Questionnaire

1) What did your teacher concentrate on teaching you in the previous levels: please put a tick at the appropriate answer?

- □ General English courses.
- □ ESP courses.

2) Indicate the degree of importance given by your teachers in the previous levels: (speaking, listening, reading, writing, grammar.)

- □ Very important
- □ Less important
- □ Not important

Levels	Skills	Very important	Less important	Not important
Level 1	Speaking			
	Listening			
	Reading			
	Writing			
	Grammar			
	Vocabulary			
Level 2	Speaking			
	Listening			
	Reading			
	Writing			
	Grammar			
	Vocabulary			
Level 3	Speaking			
	Listening			
	Reading			
	Writing			
	Grammar			
	Vocabulary			

3) Does the material used by your teacher satisfy your needs?

- □ Yes, completely.

- Yes, partly.
- Not at all.

- If your answer is yes, partly or not at all, indicate if the following statements are true or not, by putting a cross in the right suggestion.

- The selected materials are not the one we need, and didn't help to improve our levels.
- Teachers do not vary in the teaching techniques.
- Inadequately equipped classroom.

4) Do you think that this English training program is sufficient to face any situation, especially a nom routine one?

- Yes
- No

5) After this training program how would you evaluate your level?

- Not enough
- Just enough
- More than enough

6) Do you have any other suggestions for making the program more qualified and successful? Please write them here

……
……
……..

Proficiency Test

1-.Grammar (10pts)

A) Underline the correct answers of the verbs between brackets :(/3)

1) The GEN-H4 (is/was) the smallest co-axial one-man helicopter in the world

2) I first (see/saw) the GEN-H4 flying at the new ham Air Show.

3) Training (is not/was not) a lengthy process, but you (need) several sets of spare rotor blades.

B) Choose the appropriate preposition (/3)

1) We are ….. stands C65.

a. in

b. for

c. to

d. on

2) Can we delay departure…….2000 utc?

3) There are two planes in….of you.

a .next

b .front

c .above

d .behind

c) Rewrite the sentences keeping the same meaning (/4)

1. Controllers direct pilot to begin turn to head north to go around the storm.

Pilot…….....

2. We are executing a missed approach.

A missed approach ……..

3. The aircraft encountered turbulence.

Turbulence……..

2-Vocabulary (10pts)

A) Underline the correct option

- A pilot is able to steer a plane by means of/ by flight control.
- Controllers are able to observe the progress of a flight through/with the use of radar.
- Pilots keep unwanted passengers out of the cockpit by/with the use of locking the door

B)Choose the correct adjective for each noun.

1) Thick / heavy / severe smoke

2) Bright / scattered / hard clouds

3) Overcast / low / heavy rains

C.Match the environmental phenomena to the pictures. (/4)

Bird strike, crosswind, cumulonimbus, fog, ice build-up, lightening strike,

Rain, standing water, volcanic ash, wake turbulenc

(A)

(B)

(C)

(D)

3-Listening comprehension (10pts))

You will hear a conversation between a flight crew and other people including a supervisor.

1) Listen to the conversation and try to answer the following questions :(4pts)

- What happened to the helicopter after it left the circuit area?

……
……

- What was the overall effect of the incident on Oceanic 221?

……
……

2) Listen again to the conversation and underline the correct information (4pts)

- What had Oceanic Air way first believed was the cause of the go around?

-A transair777 had difficulty vacating a runway/-Atransair777 had entered a runway without approval

- **What was the cause of the time pressures at the airport that morning**?

-Congestions and delays on runway24/-repairs on runway 24.

- **Why Linda call Peter**?

-To advice that there was an aircraft1200feet fromrunway36/To advice that there was an aircraft 1 mile from runway 36

- **How close did the helicopter get to bantex122**?

- Less than3miles, flying away frombantex122/within 1200feet but flying

away from bantex122

3) Listen again to the conversation and tickthe correct answer (2pts)

1) Why did peter instruct Oceanic221 to go around?

2) How close did oceanic 221 come to bantex 122??

A /

- Because Oceanic 221 could not see the helicopter.
- Because transair001 was on the runway.
- Because the helicopter was on the runway

B/

- They were more than 4 miles apart
- They were 3 miles apart
- They came within 1mile of each other.

4-Speaking Production :

DESCRIPTION :

Describe the two pictures,then try to give a comparaison between the two(what is common in these 2 pictures)

Read Aloud :

Read the text loudly, and then say what the general idea of the text is

The flight crew had the sensation of being pushed down and sideways as the co-pilot began flaring the aircraft for landing at Australia's Sydney Airport. The co-pilot increased pitch attitude and thrust, but the high sink rate continued until the Boeing 747-400 touched down hard on the runway.

Source: Flight Path: Cambridge University Press (2011) Philip Shawcross.

Copy of the Achievement Test for Controllers

Etablissement National de Navigation Aérienne

Chambre de Commerce et d'Industrie Tafna

FINAL EXAMINATION

IN ENGLISH

Student's Name : .....

Part One : ...../ 35

Part Two : ...../ 35

Written Examination Mark: ..... / 20

Listening Comprehension Mark: ..... / 10

Oral Expression Mark: ..... / 10

Final Mark: ...../ 40

Part One

Exercise One: *Fill in with more words in these lists ?* *(6pts)*

1	Tall	nice			
2	Eye	foot			
3	Scarf	gloves			
4	Bank	hotel			

Exercise Two: *Complete with* **at , on , in , for , to , or no preposition.** *(3pts)*

1. We're leaving _____ Monday. We're going _____ Australia _____ three months.
2. I'm busy now. We'll meet _____ a couple of hours if you want.
3. Your appointment with Dr Rask is _____ this afternoon.
4. I'm leaving _____ some minutes. I won't have time to eat.

Exercise Three: *Write the correct form of the verbs.* *(11pts)*

1. We ..... in London for eight years. (*to live*)
2. I ..... her only since yesterday. (*to know*)
3. My grandmother ..... three years ago. (*to die*)
4. I ..... working since four o'clock this morning. (*to be*)
5. I first ..... to Africa about seven years ago. (*to go*)
6. Mary ..... her friend for weeks. (*not to see*)
7. We ..... to Canada on holiday every summer. (*to go*)
8. But next summer, we ..... Scotland. (*to visit*)
9. Your horoscope says that this ..... a difficult week for you. You ..... a tall dark stranger; he ..... all your money. (*to be / to meet / to take*)

Exercise Four: *Find the questions* *(8pts)*

1. .....? _ Oh , I'm sorry. I need them .
2. .....? _ Yes. Here you are, dear.
3. .....? _ I'm sorry. I've got only one.
4. .....? _ Of course, here it is. It helped me very much. Thank you .
5. .....? _ Sorry. I never lend it.
6. .....? _ Certainly. How much ?
7. .....? _ Yes. Speaking.
8. .....? _ No, not at all. Help yourself.

Exercise Five: *Complete these sentences.* *(7pts)*

1. Tomorrow, if I am happy, ...
2. If life is difficult, ...
3. If I have no money, ...
4. If I am tired, ...
5. If I want to sing, ...
6. If the weather is bad, ...
7. If I were the boss here, ...

Part Two

Exercise Six: *Define the following terms :* *(7pts)*

1. Hotspot:.....
2. Taxiway:.....
3. Arrow:.....
4. Signage:.....
5. Terminal:.....
6. Intersection:.....

Exercise Seven: *Complete the following sentences:* *(8pts)*

1. Spoken messages sent over the radio are:	1.....
2. A situation when too many people are using a system is :	2.....
3. The wave length that is used for radio communication is:	3.....
4. A place that uses a particular type of system is:	4.....
5. Official permission to do something is :	5.....
6. The correct order is :	6.....
7. The maximum that a person or a system can deal with:	7.....
8. Time spent reading or writing is:	8.....

Exercise Eight: *Rearrange the letters to find the synonyms of the following words :* *(10pts)*

1. eikesrt	to hit	1.....
2. deijnru	hurt	2.....
3. acellops	to fall	3.....
4. raelt	to warn	4.....
5. ehlo	crack	5.....
6. beknor	out of order	6.....
7. aaddegm	broken	7.....
8. egiinnost	intake	8.....
9. accdehrst	scrapped	9.....
10. rtbsu	punctured	10.....

Exercise Nine: *Complete the following description(1-10)s with words from the box, then match each description to an object (A-J)* *(10pts)*

're made – 's used – made of – something for – something that – the thing – used for – used to – are used – use to

1. It's _____ a strong synthetic fibre and foam
2. It's _____ steering the plane. ___
3. It's _____ record flight data. ___
4. It's _____ helps controllers detect and track objects. ___
5. They _____ of glass.___
6. It's _____ detecting a possible fire.___
7. It's _____ that cabin crew use to serve food and drinks. ___
8. It's _____ to store luggage. ___
9. It's what we _____ communicate with air traffic controllers. _
10. They _____ to help pilots and controllers to hear and speak easily.___

A- Control column
B- Flight strip
C- headsets
D- Lifejacket
E-Overhead locker.
F- Radar
G- Radio
H-Smoke alarm.
I- Trolley
J- Windshield.

Listening Comprehension Test

A- Listen to intra-cockpit and radio telephony communications from a B747 in the cruise phase of flight.
Tick ( ) the things that the crew do. *(6pts)*

1. Put their oxygen masks. ☐
2. Inform air traffic control about the problem. ☐
3. Investigate the cause of the fire. ☐
4. Try to extinguish the fire. ☐
5. Make an announcement to passengers. ☐
6. Initiate an emergency descent. ☐

B- Listen again and answer the questions *(4pts)*

1- How do the crew first realise there is a problem?

.....

2- Where is the smell coming from?

.....

3- What equipment does the cabin crew manager put before investigating again?

.....

Read aloud

Hungry – tired – ill – happy – cold – dirty – unhappy – thirsty – bored – large – other – another – anything – really – afraid – watch – nothing – round – changed – hated – listened – played – started – stopped – watched – studied – pronounced – village – poor – can – can't – piano – tennis – drive – violin – type – cheaper – slimmer – more interesting – most difficult – economical – comfortable – height – high – width – wide – length – long – third – fifth – twelfth – hundredth – talking – reading – playing – answer – dancing – mountain

1. I'm very hungry
2. I'm quite tired
3. I'm a bit a clod
4. I'm not very happy
5. I'm not at all thirsty
6. Can I help you ?
7. I'm looking for a sweater
8. Would you like to try these?
9. Can I look round?
10. She liked school.
11. He worked as a bank manager
12. Jane said she went to a restaurant.
13. It's 67482
14. It's 96600
15. I can play tennis, but I can't drive.
16. Who's the best singer in the world?
17. Who's the most intelligent politician?
18. What's the most boring place that you know ?
19. I'm as tall as the president.
20. You're not as busy as me.
21. My mother is 1m 65.
22. The Everest is more than 8,000 m high.

Operator: Hello. This is the emergency 911 operator.
Taxi Driver: Help. Help. Please help me!
Operator: Yes sir. Please calm down and explain exactly what is happening.
Taxi Driver: Calm down! My car is stalled on the freeway, I have a lady passenger, and she's going into labor.
Operator: Now relax sir. Explain exactly where you are.
Taxi Driver: I'm . . . I'm in the southbound lane of the Lincoln Expressway, about 15 miles from the Washington Tunnel, and this lady isn't going to wait.
Operator: Okay. What's your name sir and your passenger's?
Taxi Driver: It's ... it's Bob, and I have no idea about the woman. She's in no condition to tell me.
Operator: Okay, now what's the nearest landmark to your location? Pay careful attention.
Taxi Driver: Umm, I see golden arches . . . McDonalds.
Operator: Okay, is there anyone else with you?
Taxi Driver: No, and I've tried to get someone else to stop. [*The sound of a bottle breaking.*]
Operator: Hey, what was that? [Ahhhh!]
Taxi Driver: Ah, someone threw a bottle at me. How soon can someone get here?
Operator: I've just dispatched an ambulance to your location. They should be there any second.
Taxi Driver: Hey, is there anything I can do while we wait for the ambulance?
Operator: Yes, uh, keep her calm and warm.
Taxi Driver: Okay. Please hurry. Oh, they're too late. It's a boy!

911

Operator: Hello. This is the emergency 911 operator.

Taxi Driver: Help. Help. Please help me!

Operator: Yes sir. Please _____ and explain exactly what is happening.

Taxi Driver: Calm down! My car is _____ on _____, I have a lady passenger, and she's going _____.

Operator: Now relax sir. Explain exactly where you are.

Taxi Driver: I'm . . . I'm in the southbound _____ of the Lincoln _____, about 15 miles from the _____, and this lady isn't _____

Operator: Okay. What's your name sir and your passenger's?

Taxi Driver: It's ... it's Bob, and I have no idea about the woman. She's in _____ to tell me.

Operator: Okay, now what's _____ to your location? Pay careful attention.

Taxi Driver: Umm, I see golden arches . . . _____.

Operator: Okay, is there anyone else with you?

Taxi Driver: No, and I've tried to get someone else to stop. [*The sound of a bottle breaking.*]

Operator: Hey, what was that? [Ahhhh!]

Taxi Driver: Ah, someone _____ a bottle at me. How _____ get here?

Operator: I've just _____ to your location. They should be there any second.

Taxi Driver: Hey, is there _____ the ambulance?

Operator: Yes, uh, keep her calm and warm.

Taxi Driver: Okay. Please hurry. Oh, they're too late. It's a boy!

Calculating the Scores

1. Test of Homogenity of Variances Samples Compared:

Performing the Test:

H0: var1 = var2 Population variances are homogeneous compared for two variances:

H_1:var1>var2 the vriance 1 is greater then variance2

H2:var1<var2 the variance 2 is greater than the variance1

1) Grammar Test :(/20)

A) Pilots

N^{0}of pilots(p)	SCORES (x_1)	(x_1 - $\overline{x}$)	($x_1 - \overline{x1}$)^2
01	16	5.57	31,04081633
02	13	2.571428571	6,612244898
03	12	1. 571428571	2,469387755
04	10	-0.43	0,183673469
05	06	-4.4283571429	19,6122449
06	08	-2. 4283571429	5,897959184
07	08	-2. 4283571429	5,897959184
Total A	73		65,81632653

$\overline{x1}$=10, 43

B) Air Traffic Controllers

N^{0}of pilots(p)	SCORES (x)	(x - $\overline{x}$)	(x - $\overline{x}$)^2
01	11	0,83333333	0,69444444
02	13	2,83333333	8,02777778
03	11	0,83333333	0,69444444
04	10	0,16666667	0,02777778
05	08	-2,16666667	4,69444444
06	08	0,83333333	0,69444444
Total : B	61		14,1388889

$\overline{x2}$=10, 1666667

2) Vocabulary Test :(/20)

A) Pilots

N^{0}of pilots(p)	SCORES(x)	(x - $\overline{x}$)	(x - $\overline{x}$)^2
01	12	2,428571429	5,897959184
02	11	1,428571429	2,040816327
03	13	3,428571429	11,75510204
04	10	0,428571429	0,183673469
05	9	-0,571428571	0,326530612
06	5	-4,571428571	20,89795918
07	7	-2,571428571	6,612244898
Total : A	67		47,71428571

$\overline{x}$=9,5714285

B) Air Traffic Controllers

N^{0}o pilots(p)	SCORES (x)	(x - $\overline{x}$)	(x - $\overline{x}$)^2
01	11	1,83333333	3,36111111
02	13	3,83333333	14,6944444
03	11	0,83333333	0,69444444
04	10	-0,16666667	0,02777778
05	08	-3,16666667	10,0277778
06	08	-3,16666667	10,0277778
Total B	61		38,8333333

$\overline{x}$=9,16666667

2) Listening Test :(/20)

A) Pilots

$N^0$of pilots(p)	SCORES(x)	$(x - \bar{x})$	$(x - \bar{x})^2$
01	17,5	6,571428571	43,18367347
02	15	4,071428571	16,57653061
03	13	2,071428571	4,290816327
04	12	1,071428571	1,147959184
05	8	-2,928571429	8,576530612
06	4	-6,928571429	48,00510204
07	7	-3,928571429	15,43367347
Total A	76,5		137,2142857

$\bar{x}$=10,92857143

B) Air Traffic Controllers

Nof pilots(p)	SCORES(x)	$(x - \bar{x})$	$(x - \bar{x})^2$
01	11	4,83333333	23,3611111
02	13	2,83333333	8,02777778
03	11	1,83333333	3,36111111
04	10	-0,16666667	0,02777778
05	08	-5,16666667	26,6944444
06	08	-4,16666667	17,3611111
Total B	61		78,8333333

$\bar{x}$=10,1666667

2) Speaking Test :(/20)

A) Pilots

$N^0$of pilots(p)	SCORES (x)	$(x - \bar{x})$	$(x - \bar{x})^2$
01	11	4,428571429	19,6122449
02	12	5,428571429	29,46938776
03	9	2,428571429	5,897959184
04	5	-1,571428571	2,469387755
05	2	-4,571428571	20,89795918
06	3	-3,571428571	12,75510204
07	4	-2,571428571	6,612244898
Total : 07	46		97,71428571

$\bar{x}$=6,571428571

B) Air Traffic Controllers

$N^0$of pilots(p)	SCORES(x)	$(x - \bar{x})$	$(x - \bar{x})^2$
01	9	4	16
02	6	1	1
03	5	0	0
04	4	-1	1
05	4	-1	1
06	2	-3	9
Total B	30		28

$\bar{x}$=5

	Seuil de risque *alpha* (bilatéral)													
	0,9	0,8	0,7	0,6	0,5	0,4	0,3	0,2	0,1	0,05	0,02	0,01	0,005	0,001
DDL														
1	0,1584	0,3249	0,5095	0,7265	1	1,3764	1,9626	3,0777	6,3137	12,706	31,821	63,656	127,32	636,58
2	0,1421	0,2887	0,4447	0,6172	0,8165	1,0607	1,3862	1,8856	2,92	4,3027	6,9645	9,925	14,089	31,6
3	0,1366	0,2767	0,4242	0,5844	0,7649	0,9785	1,2498	1,6377	2,3534	3,1824	4,5407	5,8408	7,4532	12,924
4	0,1338	0,2707	0,4142	0,5686	0,7407	0,941	1,1896	1,5332	2,1318	2,7765	3,7469	4,6041	5,5975	8,6101
5	0,1322	0,2672	0,4082	0,5594	0,7267	0,9195	1,1558	1,4759	2,015	2,5706	3,3649	4,0321	4,7733	6,8685
6	0,1311	0,2648	0,4043	0,5534	0,7176	0,9057	1,1342	1,4398	1,9432	2,4469	3,1427	3,7074	4,3168	5,9587
7	0,1303	0,2632	0,4015	0,5491	0,7111	0,896	1,1192	1,4149	1,8946	2,3646	2,9979	3,4995	4,0294	5,4081
8	0,1297	0,2619	0,3995	0,5459	0,7064	0,8889	1,1081	1,3968	1,8595	2,306	2,8965	3,3554	3,8325	5,0414
9	0,1293	0,261	0,3979	0,5435	0,7027	0,8834	1,0997	1,383	1,8331	2,2622	2,8214	3,2498	3,6896	4,7809
10	0,1289	0,2602	0,3966	0,5415	0,6998	0,8791	1,0931	1,3722	1,8125	2,2281	2,7638	3,1693	3,5814	4,5868
11	0,1286	0,2596	0,3956	0,5399	0,6974	0,8755	1,0877	1,3634	1,7959	2,201	2,7181	3,1058	3,4966	4,4369
12	0,1283	0,259	0,3947	0,5386	0,6955	0,8726	1,0832	1,3562	1,7823	2,1788	2,681	3,0545	3,4284	4,3178
13	0,1281	0,2586	0,394	0,5375	0,6938	0,8702	1,0795	1,3502	1,7709	2,1604	2,6503	3,0123	3,3725	4,2209
14	0,128	0,2582	0,3933	0,5366	0,6924	0,8681	1,0763	1,345	1,7613	2,1448	2,6245	2,9768	3,3257	4,1403
15	0,1278	0,2579	0,3928	0,5357	0,6912	0,8662	1,0735	1,3406	1,7531	2,1315	2,6025	2,9467	3,286	4,0728
16	0,1277	0,2576	0,3923	0,535	0,6901	0,8647	1,0711	1,3368	1,7459	2,1199	2,5835	2,9208	3,252	4,0149
17	0,1276	0,2573	0,3919	0,5344	0,6892	0,8633	1,069	1,3334	1,7396	2,1098	2,5669	2,8982	3,2224	3,9651
18	0,1274	0,2571	0,3915	0,5338	0,6884	0,862	1,0672	1,3304	1,7341	2,1009	2,5524	2,8784	3,1966	3,9217
19	0,1274	0,2569	0,3912	0,5333	0,6876	0,861	1,0655	1,3277	1,7291	2,093	2,5395	2,8609	3,1737	3,8833
20	0,1273	0,2567	0,3909	0,5329	0,687	0,86	1,064	1,3253	1,7247	2,086	2,528	2,8453	3,1534	3,8496
21	0,1272	0,2566	0,3906	0,5325	0,6864	0,8591	1,0627	1,3232	1,7207	2,0796	2,5176	2,8314	3,1352	3,8193
22	0,1271	0,2564	0,3904	0,5321	0,6858	0,8583	1,0614	1,3212	1,7171	2,0739	2,5083	2,8188	3,1188	3,7922
23	0,1271	0,2563	0,3902	0,5317	0,6853	0,8575	1,0603	1,3195	1,7139	2,0687	2,4999	2,8073	3,104	3,7676
24	0,127	0,2562	0,39	0,5314	0,6848	0,8569	1,0593	1,3178	1,7109	2,0639	2,4922	2,797	3,0905	3,7454
25	0,1269	0,2561	0,3898	0,5312	0,6844	0,8562	1,0584	1,3163	1,7081	2,0595	2,4851	2,7874	3,0782	3,7251
26	0,1269	0,256	0,3896	0,5309	0,684	0,8557	1,0575	1,315	1,7056	2,0555	2,4786	2,7787	3,0669	3,7067
27	0,1268	0,2559	0,3894	0,5306	0,6837	0,8551	1,0567	1,3137	1,7033	2,0518	2,4727	2,7707	3,0565	3,6895
28	0,1268	0,2558	0,3893	0,5304	0,6834	0,8546	1,056	1,3125	1,7011	2,0484	2,4671	2,7633	3,047	3,6739
29	0,1268	0,2557	0,3892	0,5302	0,683	0,8542	1,0553	1,3114	1,6991	2,0452	2,462	2,7564	3,038	3,6595
30	0,1267	0,2556	0,389	0,53	0,6828	0,8538	1,0547	1,3104	1,6973	2,0423	2,4573	2,75	3,0298	3,646
31	0,1267	0,2555	0,3889	0,5298	0,6825	0,8534	1,0541	1,3095	1,6955	2,0395	2,4528	2,744	3,0221	3,6335
32	0,1267	0,2555	0,3888	0,5297	0,6822	0,853	1,0535	1,3086	1,6939	2,0369	2,4487	2,7385	3,0149	3,6218
33	0,1266	0,2554	0,3887	0,5295	0,682	0,8526	1,053	1,3077	1,6924	2,0345	2,4448	2,7333	3,0082	3,6109
34	0,1266	0,2553	0,3886	0,5294	0,6818	0,8523	1,0525	1,307	1,6909	2,0322	2,4411	2,7284	3,002	3,6007
35	0,1266	0,2553	0,3885	0,5292	0,6816	0,852	1,052	1,3062	1,6896	2,0301	2,4377	2,7238	2,9961	3,5911
36	0,1266	0,2552	0,3884	0,5291	0,6814	0,8517	1,0516	1,3055	1,6883	2,0281	2,4345	2,7195	2,9905	3,5821
37	0,1265	0,2552	0,3883	0,5289	0,6812	0,8514	1,0512	1,3049	1,6871	2,0262	2,4314	2,7154	2,9853	3,5737
38	0,1265	0,2551	0,3882	0,5288	0,681	0,8512	1,0508	1,3042	1,686	2,0244	2,4286	2,7116	2,9803	3,5657
39	0,1265	0,2551	0,3882	0,5287	0,6808	0,8509	1,0504	1,3036	1,6849	2,0227	2,4258	2,7079	2,9756	3,5581
40	0,1265	0,255	0,3881	0,5286	0,6807	0,8507	1,05	1,3031	1,6839	2,0211	2,4233	2,7045	2,9712	3,551
41	0,1264	0,255	0,388	0,5285	0,6805	0,8505	1,0497	1,3025	1,6829	2,0195	2,4208	2,7012	2,967	3,5443
42	0,1264	0,255	0,388	0,5284	0,6804	0,8503	1,0494	1,302	1,682	2,0181	2,4185	2,6981	2,963	3,5377
43	0,1264	0,2549	0,3879	0,5283	0,6802	0,8501	1,0491	1,3016	1,6811	2,0167	2,4163	2,6951	2,9592	3,5316
44	0,1264	0,2549	0,3878	0,5282	0,6801	0,8499	1,0488	1,3011	1,6802	2,0154	2,4141	2,6923	2,9555	3,5258
45	0,1264	0,2549	0,3878	0,5281	0,68	0,8497	1,0485	1,3007	1,6794	2,0141	2,4121	2,6896	2,9521	3,5203
46	0,1264	0,2548	0,3877	0,5281	0,6799	0,8495	1,0482	1,3002	1,6787	2,0129	2,4102	2,687	2,9488	3,5149
47	0,1263	0,2548	0,3877	0,528	0,6797	0,8493	1,048	1,2998	1,6779	2,0117	2,4083	2,6846	2,9456	3,5099
48	0,1263	0,2548	0,3876	0,5279	0,6796	0,8492	1,0478	1,2994	1,6772	2,0106	2,4066	2,6822	2,9426	3,505
49	0,1263	0,2547	0,3876	0,5278	0,6795	0,849	1,0475	1,2991	1,6766	2,0096	2,4049	2,68	2,9397	3,5005
50	0,1263	0,2547	0,3875	0,5278	0,6794	0,8489	1,0473	1,2987	1,6759	2,0086	2,4033	2,6778	2,937	3,496
60	0,1262	0,2545	0,3872	0,5272	0,6786	0,8477	1,0455	1,2958	1,6706	2,0003	2,3901	2,6603	2,9146	3,4602
70	0,1261	0,2543	0,3869	0,5268	0,678	0,8468	1,0442	1,2938	1,6669	1,9944	2,3808	2,6479	2,8987	3,435
80	0,1261	0,2542	0,3867	0,5265	0,6776	0,8461	1,0432	1,2922	1,6641	1,9901	2,3739	2,6387	2,887	3,4164
90	0,126	0,2541	0,3866	0,5263	0,6772	0,8456	1,0424	1,291	1,662	1,9867	2,3685	2,6316	2,8779	3,4019
100	0,126	0,254	0,3864	0,5261	0,677	0,8452	1,0418	1,2901	1,6602	1,984	2,3642	2,6259	2,8707	3,3905
110	0,126	0,254	0,3863	0,5259	0,6767	0,8449	1,0413	1,2893	1,6588	1,9818	2,3607	2,6213	2,8648	3,3811
120	0,1259	0,2539	0,3862	0,5258	0,6765	0,8446	1,0409	1,2886	1,6576	1,9799	2,3578	2,6174	2,8599	3,3734
130	0,1259	0,2539	0,3862	0,5257	0,6764	0,8444	1,0406	1,2881	1,6567	1,9784	2,3554	2,6142	2,8557	3,367
140	0,1259	0,2538	0,3861	0,5256	0,6762	0,8442	1,0403	1,2876	1,6558	1,9771	2,3533	2,6114	2,8522	3,3613
infini	0,1257	0,2533	0,3853	0,5244	0,6744	0,8416	1,0364	1,2816	1,6449	1,96	2,3264	2,5759	2,8072	3,2908

LEVEL	PRONUNCIATION *Assumes a dialect and/or accent intelligible to the aeronautical community.*	STRUCTURE *Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task.*	VOCABULARY	FLUENCY	COMPREHENSION	INTERACTIONS
Expert 6	Pronunciation, stress, rhythm, and intonation, though possibly influenced by the first language or regional variation, almost never interfere with ease of understanding.	Both basic and complex grammatical structures and sentence patterns are consistently well controlled.	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.	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.	Comprehension is consistently accurate in nearly all contexts and includes comprehension of linguistic and cutural subtleties.	Interacts with ease in nearly all situations. Is sensitive to verbal and non-verbal cues and responds to them appropriately.
Extended 5	Pronunciation, stress, rhythm, and intonation, though influenced by the first language or regional variation, rarely interfere with ease of understanding.	Basic grammatical structures and sentence patterns are consistently well controlled. Complex structures are attempted but with errors which sometimes interfere with meaning.	Vocabulary range and accuracy are sufficient to communicate effectively on common, concrete, and work-related topics. Paraphases consistently and successfully. Vocabulary is sometimes idiomatic.	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.	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.	Responses are immediate, appropriate, and informative. Manages the speaker/listener relationship effectively.
Operational 4	Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding.	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.	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 occassional 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 or 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 misunderstandings by checking, confirming, or clarifying.
Pre-operational 3	Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation and frequently interfere with ease of understanding.	Basic grammatical structures and sentence patterns associated with predictable situations are not always well controlled. Errors frequently interfere with meaning.	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.	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.	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.	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.
Elementary 2	Pronunciation, stress, rhythm, and intonation are heavily influenced by the first language or regional variation and usually interfere with ease of understanding.	Shows only limited control of a few simple memorized grammatical structures and sentence patterns.	Limited vocabulary range consisting only of isolated words and memorized phrases.	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.	Comprehension is limited to isolated, memorized phrases when they are carefully and slowly articulated.	Response time is slow and often inappropriate. Interaction is limited to simple routine exchanges.
Pre-elementary 1	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.

Source: "Manual on the Implementation of ICAO Language Proficiency Requirements", International Civil Aviation Organization (2004).

RESUME OF THE THESIS

Introduction:

It is widely known that English has become the world language.The growth of business and increased occupational mobility has given this language more territories and spread. Consequently, it became a requirement for professional promotion and even employment; this is the case in aviation industry. A pilot or air traffic controller with a limited English ability will be completely excluded from international operations. Nowadays English proficiency becomes a necessity and even mandatory in aviation industry. Lack of proficiency in this language may not be a primary cause of aviation accident, but may cause aviation incidents. Knowing just the specialized jargon used in air traffic communication is not sufficient. It is true that pilots and air traffic controllers are well trained in specialized phraseology, well-organised communication between them as the structure is clearly defined, and the domain is narrowly constrained. However, in non-routine situations, misunderstanding and miscommunication may occur.

Two important concerns guide this study: to identify the needs and wants of pilots and Air Traffic controllers and to suggest adequate English course for these learners. The current research aims at answering the following questions:

- What English language difficulties do pilot and air traffic controllers face on the job?
- What are the English language needs, lacks, and wants of the Algerian pilots and air traffic controllers?
- What suggestions can be provided to help pilots and air traffic controllers overcome English language difficulties?

To investigate these questions, the researcher put forward the following hypotheses:

- Algerian pilots and air traffic controllers face communication difficulties with their English speaking counterparts.
- Algerian pilots and air traffic controllers need to develop their listening and speaking skills with special focus on vocabulary and grammar.
- Algerian pilots and Air Traffic controllers will better perform in their work place by providing them with adequate English for aviation teaching.

For the sake of investigating the research hypotheses a set of instruments were devised: interviews, questionnaire, classroom observation, proficiency test under the design of a case study research.

To cross-check results, and use triangulation, the researcher not only implemented different data collection methods, but different sources as well: pilots, air traffic controllers, the two EnglishTeachers, the Station Manager of the airport, the General Director of the National Air Navigation Company.

The present research is devided into four chapters. The first chapter is a review of literature, which aims at giving detailed description and explanation of the problem under study showing the importance of the English language in the world of aviation, and how it could be a cause of misunderstanding.

The second chapter entails the procedures undertaken during data collection. It attempted to describe the place where the study took place, as well as the different companies that were involved in this research. The instruments that were used and the purpose of each selection.

The third chapter seeks to analyse the results, both quantitatively and qualitatively, attempting to answer the questions put forward in this investigation. Then giving a summary of the main findings to confirm or disconfirm the hypotheses put forward.

The fourth chapter outlines a set of recommendations as well as suggestions based on the main results in an attempt to find sollutions that may help these informants better cater their needs. It also provides some sample lessons and techniques to ESP teachers to have an idea about the way the course may be conducted.

Instruments used to collect data:

To cross-check findings triangulation was achieved through the implementation of different methods. The researcher used an interview, a questionnaire, classroom observation, and a proficiency test. Meriam (1998:32),) states that "Triangulation is a measure of validity through the use of multiple data collection methods, multiple sources, multiple investigation, and/or theoretical perspecti*ves."*

The current research involves 7 pilots, 6 air traffic controllers, 2English teachers, and the station manager of the airport and the General Director of the National Air Navigation Company.

Three interviews were used in this study; the later were used to obtain a better idea based on insider knowledge.

The researcher sees that a reliable method to elicit participants' views and to know their attitudes would be through interviews. This gives the researcher the chance to be in direct contact with the participants and to enter their worlds which is impossible to be observed directly as Patton (2002:341) says: *"*We interview people to find out from them; those things we cannot directly observe, we have to ask people questions about those things

In the event that there was an English training program for controllers, the researcher used additional instruments to provide worthwhile and comprehensive data; these instruments were a structured interview with the two English teachers enrolled to teach those informants, an unstructured classroom observation, and a post-observation questionnaire to air traffic controllers.

The questionnaire was developed for the sake of having satisfactory answers to a set of questions turning around the three-preceding levels:

- Were the teaching materials effective for improving the learners' English ability?
- Does the teacher use any teaching aids that helps student to improve their English proficiency?
- Was the time allotted to English teaching sufficient to practice the required language skills?

The major goal of the questionnaire was to see how participants evaluate the program,

To have a clear idea about the course conduct and content. The researcher decided to proceed to an unstructured observation. In this sense Punch (1998:186 quoted in Bell 1991) says

To have a clear idea about the course conduct and content. The researcher decided to proceed to an unstructured observation.

This research has also used tests to identify participants' language needs. The decision to implement both the questionnaire, the observation was to see closely what was practised during all levels. An overall objective is: To investigate whether the program enjoyed sufficient and acceptable efficiency interns of students' needs, lacks and wants. In this respect Richards (2005:61) reports that *"*Observation of learner's behaviour in a target situation is another way of assessing their needs, for example, observing clerks performing their job in a bank will enable observer to arrive at certain conclusions about their language needs

The test used in this study was a proficiency test designed to assess the participants' English proficiency level i.e.to see what gaps exist in their language ability, what they are able to do (strength) and what they are not able to do (weaknesses).

The Main Results:

The results revealed that their limited knowledge of both general and specific vocabulary prevents them from interacting successfully in any communication; they also mention that they are able to understand only a limited number of words and simple expressions at slower normal speed; without basic competence of grammar. Speech is always incomplete, full of Grammar mistakes, and their pronunciation is frequently inccorect. All these was noticed in the proficiency test and during the classroom observation.most of them relates their difficulties to lack of exposure to this language.,besides it appears that pilots and air traffic controllers were aware of what skills they needed to improve they all reveal that both listening and speaking skills need improvement ,since their communication is voice only.the findings of the test also related their difficulties to the negative transfer resulting from their linguistic background(influence of french). They cannot use correct and appropriate English. They can express their taught neither adequately nor correctly.

Communicating with their foreing counterparts in the performance of their job may lead to safety risk.Indeed, pilots and controllers revealed their current low profeciency,and said that they were still far away from what they really wished to accomplish.They also unveiled limited knowledge of both general and specific vocabulary prevents them from interacting successfully in any communication.They all asserted their need to master the English language as it is the world language and the currency of exchange especially in international operations; moreover,all their manuals are in Engluish . They concluded that lack of adequate mastery of English may cause safety problems.

Regarding the second hypothesis that is related to the English language needs, lacks, and wants; results confirmed this hypothesis, that is to say, Algerian pilots and air traffic contollers need to develop their listening and speaking skills with special focus on grammar and vocabulary.

The results revealed that both speaking and listening skills deemed important in their daily work, since communication is voice only, both pilots and air traffic controllers had sever problems in these skills, concerning the listening skill, the results revealed that most of the time both of them had the same deficiencies, they could neither grasp

the gist of conversations, nor express their toughts freely, because of their lack of appropriate vocabulary,and their unfamiliarity with the different accents of their interlocutors. All these were noticed while testing their English proficiency level.Most of the time their speech is incomplete; their descriptions were meangless, full of grammar mistakes, and uncorrect pronunciation.

Regarding the third hypothesis, that is; Algerian pilots and air traffic controllers will better perform in their workplace by providing them with adequate English for aviation teaching.

It is related to the suggestions that can be given to help Algerian pilots and air traffic controllers to overcome this difficulties.informants involved in this study saw that An ESP teaching program is advised for both pilots and controller. They all expressed their wish to be provided with language laboratories to help pilots and controllers to develop their language skills namely listening and speaking, which are required most of the time. They expressed their wish to have more qualified ESP teachers; they also suggested listening as much as possible to native speakers and experts in aviation industry.they also suggested that pilots and controllers should be taught by native speakers and be in contact with pilots and controllers from different countries virtually, or be sent to foreign countries to improve their English language command and to communicate effectively.besides they require a continuos training

No one ignore the importance of English language in every sector of life.Air transportation in its turn had given a great importance to this language ,since it is considered as a causal factor to misunderstanding,language problems has became such a concern,that no one pilots or air traffic controller ,be them native or non native ones,could operate in international flights without a good English mastery level of this language,in other words,being communicatively competent while using the English language is as important as technical proficiency to ensure aviation safety.

This thesis was devided into four chapters. The first one was a review of the related literature. The second chapter tried first to give a general presentation of the airport, where the research took place as well as the companies adressed by the researcher. It then described the data collection procedures, instruments, and

population involved in this research. The third chapter strived to analyse the data obtained, both qualitatively and quantitatively. The fourth chapter gave a set of suggestions and recommendations concerning the English for aviation course proposed. Many considerations were revealed related either to the teacher or to the course content. This chapter closed with the presentation of a sample unit.

The data were collected from different sources using a variety of instruments: structured interviews with pilots, air traffic controllers, English language teachers, the General Director of the National Air Navigation Company, and the Sector Manager Of the airport; a questionnaire and a classroom observation with air traffic controllers, and a diagnostic test with pilots and air traffic controllers.

The findings revealed that, all informants were aware of the importance of the English language in aviation industry. Informants reported that the airport actually receives passengers from different countries, who most of the time speak only the English language, they all asserted the neccessity of the English language in their work, as they were aware of its impact on aviation safety. They all revealed that most of the time they experience communication difficulties with their foreing counterparts, because they lack proficiency in this language. They explained that lack of English competency may cause misunderstanding and even aviation disasters. They repotrted that their limited knowledge of both general and specific vocabulary prevents them from communicating effectively, they considered their poor proficiency and unclear pronunciation as the primary causal factors to misunderstanding, some of them explained that the existence of different accents prevents them from understanding, what their interlocutors say. they speak with difficulty, their speech is always incomplete, full of grammar mistakes, and their pronunciation is frequently incorrect, they all expressed their negative attitude towards their current proficiency, and said they were still far from what they really wished to accomplish. They also reported that they were able to understand only a limited number of words and simple expressions at a slow normal speed, without basic competence in grammar. All this was prooved in the proficiency test. They also admitted that their limited vocabulary was a serious problem to grasp what the sender was saying. The results also revealed that Algerian pilots and air traffic controllers do not feel confident to use the English language exept

for the ones who had the opportunity to be trained in Anglosaxon countries had acceptable English proficiency level. All participants agreed that unclear pronuncition and lack of undersatanding may be a strong barrier to effective communication. These results confirm the first hypothesis which stipulates that Algerian pilots and air traffic controllers face communication difficulties with their English speaking counterparts.

The results also revealed that pilots and air traffic controllers needed to develop their listening and speaking skills. This is so important to perform successefully in their work.the results revealed that pilots and controllers had the same deficiencies in both listening and speaking skills. In the listening skill, they could not define the topic of the convesation, this was noticed both during classroom observation, and while testing their English proficiency. It should be mentioned that both pilots and air traffic controllers were not able to express their ideas in well structured sentences. Most of their descriptions were meaningless, due to language difficulties, their speech was characterised by frequent pauses and fillers, and they often repeated the same words. Their vocabulary was very limited. Their speech was too short, because of their limited knowledge of English and their lack of appropriate and adequate vocabulary which was a strong barrier. Both pilots and air traffic controllers face a sever problem in speech production. Their major difficulty arises from the fact that they cannot use English correcctly and appropriatelly. These results confirmed the second hypothesis stating that Algerian pilots and air traffic controllers need to develop their listening and speaking skills with special focus on vocabulary and grammar

All informants expressed their desire and wish to develop their competencies in English, and to have constant training by both local and native teachers. Those teachers should work in collaboration with subject specialists to create a learning environement that is related to their field of work. Informants explained that all their manuals are in English, they also expressed their wish to learn ESP courses in which most focus will be on listening and speaking, with much enphasis on specific vocabulary, pronnuciation, as well as basic grammar to have a good commend of this language. In addition they suggested the use of language laboratory, they were convinced that the latter will help enhence their English language abilities, and they will help them to have more practice. They will also be in direct contact with

foreingers to learn from them correct pronunciation, to be accostomed with different accents and be able to communicate fluently. They all expressed their strong desire to develop their English proficiency, so as to overcome difficulties to communicate successfully. These results confirmed the third hypothesis assuming that Algerian pilots and air traffic controllers will better perform in their workplace by providing them with adequate English course for aviation.

By exploring the problems faced by pilots and air traffic controllers, it may be possible to suggest adequate programs that may help the Algerian air men students not only to master the phraseology of English for aviation but more than that to understand and to respond in English even in difficult, unescpected, and stressing situations.

Furthermore, instead of spending large sums of money on English for aviation training in foreign countries, which is most of the time so costly, it's high time to save money for other purposes and to ensure English for aviation in our country.Such an initiative will open doors for both ESP teachers and ESP students and it is a worthy investment for the country. This investment in aviation will reduce costs and save money for other purposes.

The current research was conducted in zenata airport due to data source accessibility, ie, the possibility of being in touch with pilots and air traffic controllers. It is, therefore, worth mentioninig that the current research was interested in identifying the English language needs, lacks, and wants of pilots and air traffic controllers in zenata airport only, and not all pilots and air traffic controllers in different Algerian airports. It will be interesting to analyse data from different airports found in our country to have a wider population. Furthermore, future research can also involve the participation of cabin crew since they are also considered as key players in the flight, and also may experience misunderstanding as pilots and air traffic controllers.

ملخص:

يصب اهتمام هدا البحث حول تحديد حاجات اللغة الانجليزية لكل من الطيار و المراقب الجوي الجزائرى بمطار تلمسان الدولي زناته – مصالي الحاج وتسليط الضوء على المشاكل اللغوية التي يعانون منها عند استعمال هده اللغة اثناء العمل. استخدمت كلا من المقابلات، استبيان الملاحظة الصفية، و اختبار الكفاءة لاستخلاص المعلومات . بعد تحليل المعلومات تم اقتراح بعض الطرق و المراحل التي يجب اتباعها قبل و اثناء الدرس للحصول على نتائج افضل كما تم اقتراح برنامج يضم المهارات الرئيسية المطلوبة و العناصر اللغوية الهامة. و الموا ضيع المطلوبة والطريقة المناسبة للتدريس صممت وحدات لبرنامج اللغة الانجليزية لأغراض خاصة لطلاب الطيران كما تم وضع عينة من هذه الوحدات يمكن الاستفادة منها

الكلمات المفتاحية : اللغة الإنجليزية لأغراض التخصص ، الكفاءة اللغوية، الطيار، المراقب الجوي، الإنجليزية لأغراض الطيران.

Résumé :

L'intérêt de cette recherche est d'identifiez les besoin de la langue anglaise des pilotes et des contrôleurs algériens a l'aéroport de Tlemcen Zenata –Messali el Hadj, et mettre en évidence les problèmes dont ils souffrent quand cette langue est utilisée dans leur travaille. Les entretiens, questionnaire, observation en classe, et un test de compétence ont été utilisés pour recueillir les données. Après l'analyse des données, des procédures, des techniques, et des méthodes sont proposées pour la conception d'un cours destinés aux pilotes et contrôleurs Algériens. Il développe les compétences requises, contient les éléments linguistiques utilisés dans le domaine

Mots Clés : Anglaise Spécifique, Maîtrise de langue anglaise, Pilot, Contrôleur, Anglaise pour Aviation.

Summary :

This research identifies the English language needs, lacks, and wants of Algerian pilots and air traffic controllers In Zenata –Mesali Al Hadj airport in Tlemcen. It sheds light on defining the language problems they may face when using this language in their work. Interviews, questionnaire, classroom observation, and a proficiency test were used to collect data. After analysis and interpretation of data, a set of procedures, techniques, and methods are suggested to desing the course for Algerian pilots and air traffic controllers. It includes language skills and sub-skills needed, important linguistic elements,and aprropriate topics and themes .

Key-words: ESP, English language Proficiency, pilot, air traffic controller, English for Aviation.