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A National English Curriculum for Helicopter
Aviators:
A Case of the Specialized Helicopter School at Ain
Arnat- Sétif

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Abstract

The present study aims at investigating the Academic and Professional English language communicative needs of aviation trainees and trainers. To that end, exploratory research was conducted in the shape of survey questionnaires and interviews. Two questionnaires and two interviews were constructed for two groups of aviation community and one questionnaire for the teacher of English. Data were analysed both quantitatively and qualitatively. Closed-ended items were analysed quantitatively by using Office 2016 and open-ended items of the interviews were analysed qualitatively by reviewing responses, grouping related responses and identifying common themes. A placement and International Civilian Aviation Organisation tests were also administered to assess the subjects' levels. The findings revealed that English was extensively used both in aviation studies and hands-on trainings or profession. English was considered highly important to carry out various activities in aviation. Based on the findings, a needs-oriented curriculum of English has been recommended for implementation in the Specialised Helicopter School (SHS). The results provided insights for designing curriculum guidelines that need to be integrated with a thick description of the four skills of English language with special emphasis on listening and speaking as compared to reading and writing. The study underscored the importance of espousing a specific methodology and ensuring the training of English language teachers in military aviation schools. The overall findings of the study revealed a pressing need for a course in Aviation English that should be adopted in the SHS.

Dedication

To the apple of my eye

Taha Kinen

Acknowledgements

LIST OF ACRONYMS AND ABRREVIATIONS

AC	Abstract Conceptualization
AcE	Active Experimentation
AE	Aviation English
ALCPT	American Language Course Placement Test
ALTC	Algerian Languages Training Centres
ANOVA	Analysis of Variance
ATC	Air Traffic Controller
CBI	Content-based Instruction
CE	Concrete Experience
CEF	Common European Framework
CELTA	Certificate of English Language Teaching to Adults
CNP	Communicative Needs Processor
EAP	English for Academic Purposes
EBE	English for Business and Economics
EFL	English as a Foreign language
EGP	English for General Purposes
ELT	English Language Teaching
ELP	English for Legal Purposes
EMP	English for Medical Purposes
EMP	English for Military Purposes
EOP	English for Occupational Purposes
ESL	English as a Second language
ESP	English for Specific Purposes
ESS	English for Social Sciences
EST	English for Science and Technology
EU	European Union
FGD	Focus Group Discussion
FLN	National Liberation Front
FLT	Foreign Language Teaching
ICAO	International Civil Aviation Organization
ICELT	In-service Certificate in English Language Teaching
IELTS	International English Language Testing Service

IMLE-	Institut Militaire des Langues Etrangères
LPRs	Language Proficiency Requirements
LSI	Learning Style Inventory
LSP	Languages for Specific Purposes
MELAB	Michigan English Language Assessment Battery
MND	Ministry of National Defence
MTT	Mother Tongue Teaching
NA	Needs Analysis
NATO	*North Atlantic Treaty Organization*
NCILT	National Centre for Industrial Language Training
PNA	Popular National Army
PSA	Present Situation Analysis
RO	Reflective Observation
SHS	Specialized Helicopter School
SLA	Second Language Acquisition
TESOL	Teaching English to Speakers of Other Languages
TKT	Teaching Knowledge Test
TOEFL	Test of English as a Foreign Language
TSA	Target Situation Analysis
UN	United nations

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INTRODUCTION

This study aims at learning about the needs of aviation trainees and trainers at the Specialized Helicopter School (SHS henceforth) - at Ain Arnat Setif- with respect to English language skills namely listening and speaking, reading and writing, and specialist vocabulary. The study is conducted at SHS in Ain Arnat of Sétif Algeria on aviation training students and teachers. It provides a preamble to the thesis by considering several important areas: purpose of the research, the research problem, the research questions, the research significance, means of research, the terminology adopted and the methodology followed.

1. Background of the Study

With the increase of the dominance of USA economically, technologically, and culturally, and with the strong power base English has progressed as the international language of communication.

Since the end of the Cold War, foreign language training especially in English, the *de facto* operational language, has become increasingly important, in different fields, and more particularly within military forces. In the case of Algeria, there is a growing number of partnership activities, international cooperation with regional and international military and civilian organizations (viz. African Community, African Union, United Nations, European Community, North Atlantic Treaty Organization, etc.) Furthermore, there is an international commitment towards the execution of joint military exercises, participation in symposiums and seminars, exchanges of delegations, negotiations with foreign partners and prospecting visits. The Algerian Ministry of National Defense (MND) took practical steps towards the creation of a National Military Languages Institute - (Institut Militaire des Langues Etrangères –IMLE-, in the French version)- to ensure the teaching of English, the development of national military curricula. Hence, a course in English for Specific

Purposes (ESP) is necessary to meet requirements needed for the development of ESP teaching and assessment practices in all Algerian Languages Training Centers (ALTC).

In addition to being the international language of technology and commerce, English has also become the language of the sea and air. Crystal (2003, pp.107-108) puts forward that the official use of English as the language of international air-craft control did not emerge until after the Second World War. Allied leaders organized a conference in Chicago in 1944 at which they laid the foundations for the post-war global civil aviation system, creating the International Civil Aviation Organization (ICAO). Seven years later they agreed that English should be the international language of aviation when pilots and controllers speak different languages.

As for the SHS in Ain Arnat, some pilot-trainees come from countries other than Algeria to undertake training and thus a lingua franca is necessary between Air Traffic Controllers (ATCs) and pilots. That is, terminology and phraseology need to be standardized to avoid confusion. As for civil aviation, several nations have adopted the recommendation the ICAO about English terminology. Yet, functionally, civil and military aviation are different although they may operate in the same airspace; military aviators also use the ICAO alphabets.

2. Statement of the Problem

According to ICAO law of June 27th, 2000, aviators are allowed to use local language or French in radiotelephony unless for training reasons. It is also required that when ATC addresses in English the pilot should respond in English as well. In case ATC and pilots do not speak the same language they hire an interpreter provided that he speaks phraseology. In a francophone country like Algeria, French is vastly used by most professionals, and military aviators are no exception. The research problem lies most when the French or the English phraseology does not suffice or may not be suitable in case pilots either trainers or trainees, especially in wartime, have to resort to plain English with other non-native

speakers such as pilots from the Africa like Nigeria, Mali and also Middle East countries such as Jordan, Lebanon, Iraq, Palestine and Gulf Countries like Kuwait and Saudi Arabia for whom English is the only means of communication through radiotelephony.

At peacetime, pilots at the SHS may foresee the situations where they are trained on. However, in case of crisis, unexpected situations may occur and they just cannot choose one appropriate phrase from the constrained list of phraseology. However, those aviators have to be proficient enough in English in order to improvise an expression that describes genuinely the situation. Further, during wartime, pilots are required to fly the helicopter for counterattacks. Non-routine events may occur such as taken hostage or blackout.

3. Research Questions

The purpose of the study is to conduct a research on military pilots of helicopters – both trainees and trainers needs- in order to come out with a curriculum specific to helicopter aviation, which prompts the following research questions:

1. Where do the perceptions of aviation trainees and trainers converge about English language needed for helicopter aviation?

2. What are the needs related to perceptions of SHS trainees and ESP teachers regarding the importance of the four language skills?

3. What are the needs related to perceptions of SHS trainers and ESP teachers regarding the importance of the four language skills?

4. Is restricted English phraseology enough for aviators in both peacetime and wartime?

5. Do military trainers and trainees meet the requirements of the international aviation?

4. Aims of the Study

Identifying and meeting the needs of SHS students to learn English by designing an English curriculum for Algerian helicopter pilots is the focal concern of this study. The present study is an attempt to provide SHS trainees and trainers with curriculum guidelines

which take into account pilots' needs and military aviation requirements in English. It takes into account:

1. The viewpoints of both aviation trainees and aviation trainers need to ensure successful realization of a military aviation needs-based curriculum of SHS.

2. The ability of both pilots and teacher' perceptions of the need of English in aviation and find out where they converge.

The results and findings of the study, we hope, contribute to:

1. Designing better needs-based military English programmes for SHS aviators for the coming years

2. Provide other schools specialized in helicopters like (Maneuver helicopters Airbase: Chlef) and (Combat helicopters Airbase: Biskra and Blida)with research findings about what military pilots of helicopters need English for.

3. Bring curricula, syllabi, course development and classroom practices into line with students' needs.

4. Provide an implemented learning procedure consistent enough to be applied by teachers within a comprehensive English program course.

5. Instrumentation

The domain of research dictates the methodology employed and consequently the researcher may employ quantitative or qualitative methods, as she may use both tools. However, according to Crotty (1998, p.216), 'the research method can be either qualitative, quantitative, or both; regardless of the type of research that is engaged in'.

The nature of this study is an exploratory case study which entails a blending of qualitative and quantitative data collection procedures as well as interviews i.e. triangulation. The present research has fallen within this spectrum. While the quantitative research methods focus on measurements and amounts of the characteristics displayed by the people and events (Thomas 2003, p.1), the qualitative methods elicit the opinions and the perceptions

of the subjects; they involve the researcher in describing kinds of characteristics of people and events without comparing events in terms of measurements (ibid.). Distinctive significance between qualitative and quantitative methods has begun to disappear as researchers make use of both of them. A large amount of data is necessary to inform our understanding of the phenomenon - as mentioned above- which will require, a mixture of quantitative and qualitative methods implying the use of some research tools like focus group, questionnaire, aviation discourse analysis, Present Situation Analysis (PSA) and interviews.

5.1. Questionnaires and Interviews

A questionnaire is used as the most important source and tool of information for the data gathering in this study due to the ease with which the opinions of a large number of respondents can be gathered. Basically, the first thing done was to administer an open questionnaire for the subjects asking them about what kind of English can be needed in addition to battlefield phraseology, and whether a General natural English used in the daily life is always required.Also, the teacher of English was asked about her perceptions of the importance of English in aviation, the level of the trainees and which skills are needed most in aviation field.

Three questionnaires were administered to trainers, trainees and the teacher respectively.The questionnaireswere followed by face-to-face interviews wherein each subject would comment and add something to initial responses. A major advantage of the interview is its adaptability. A skillful interviewer can follow up ideas, probe responses and investigate motives and feelings, which the questionnaire can never do. Questionnaire responses have to be taken at face value, but a response in an interview can be developed and clarified. One of the main difficulties that may be faced with interviews is that they are time-consuming; this is why a limited sample of participants (only07) were randomly selected to take part in the interview. During the interview, subjects' names were not

required. The purpose of this step was to examine to what extent military aviators are aware of their needs and wants for learning English, is it needed for any prevention of prospective accidents or for the sake of being good enough at the international language? Interviews and questionnaires may function as viable means of gleaning information of such kind.

5.2. Focus Group

The focus group consists of small group of people usually between eight to twelve in number, who are brought together by the researcher to explore attitudes and perceptions, feelings and ideas about a topic (Denscombe 1998, p.115). Likewise, De Vos (1998) puts forward that researcher uses the Focus Group Discussion (FGD) as a means to elicit information from participants.

The implementation of FGD in the present study is aimed at extracting information that may not be obtained via questionnaires and interviews from subjects. By so doing, deeper observation of subjects' interaction will be better achieved. Potential topics that were the focus of the discussion had to do with the following topics:

✓ What kind of English do those aviators need?

✓ What skills do those aviators need most?

✓ Do they consider the restricted phraseology enough to be acquainted with the modern technologies?

✓ Do those aviators confront any difficulties when they go on training abroad where English is spoken either as a native language or as a lingua franca?

✓ What teaching content and learning procedure should they follow to achieve the required proficiency in English?

Focus groups was taken into one session of ten subjects.

5.3. Research Population and Sampling

Research population are military aviators both trainees and trainers, who majored in aviation from the Higher School of Air, Tafraoui in Oran and then got specialised in Helicopters in the SHS. In Ain Arnat. SHS received some aviation trainees from over the world and therefore aviators cannot belong to the same cultural background and differ as far as native language is concerned. They have the same educational standards and the same age as well. Insofar as aviation trainers are concerned, they do not share age and ranks with trainees. In other words, perspectives of these different layers of population would hopefully help in attaining generalization. The selection of the subjects was random. All trainees (20) were taken, however a sample and 15 pilot- trainers were selected randomly and one English teacher. (See Chapter four for details).

5.4. Research Site

The major part of the research took place in the SHS when permission got and when conditions of the participants allowed; or either out of the school in case research subjects preferred so. Questionnaires were handed to subjects during the Open Doors on Helicopters at the SHS whereas interviews were conducted through phone and face to face at the SHS.

6. Organisation of the Thesis

The thesis consists of six Chapters. The first Chapter includes the review of related literature which investigates how studies related to ESP, adult learning, English for aviation, and language skills. The second Chapter presents a general framework for needs analysis. The third Chapter tackles several approaches to curriculum and syllabus development, curriculum models and syllabus types. Chapter four describes the research design and techniques implemented in the research, and contains the introduction of qualitative case study (exploratory stage, descriptive stage and interpretive stage), research questions, participant selection and data collection instruments and techniques. Chapter

five presents the data analysis and interpretations of the results. Finally, Chapter six suggests some guidelines for prospective Aviation English curriculum development to the SHS helicopter aviators.

Glossary

Aeronautical English: is English used in the field of aviation either civilian or military. It can also interchange with Aviation English.

Air defence: all defensive measures designed to destroy attacking enemy aircraft or missiles in the earth's envelope of atmosphere or to nullify or reduce the effectiveness of such an attack. (NATO)-- all measures designed to nullify or reduce the effectiveness of hostile air actions. (Army aviation does not perform counterair operations. However, Army aviation units do participate in the air defence effort by conducting air combat operations.)

Counterattack: An attack with a reserve or lightly committed forward element that is launched after the enemy begins its attack, after the commander has identified the enemy's effort, or when a resolute defence creates an assailable enemy flank.

Curriculum and Syllabus: They are interchanged very often in literature, yet distinction is sometimes made. In a broader sense, curriculum is different from syllabus for it is book-oriented and theoretic in nature. It also addresses 'what' and 'why' the teacher teaches questions, whereas syllabus addresses the 'how' teaching should take place. However, in the narrow sense when curriculum development is not concerned with a set of courses (4 or 5 academic years for example), it can be called syllabus. In this context, we tend to use curriculum and syllabus interchangeably from time to another.

Pilot-trainee: Will be also interchanged with pilot-officer or student-pilot.

Pilot- trainer: Will be interchanged with pilot-teacher or instructor.

Introduction

This chapter is divided into two main sections. The first reviews the emergence ofESP, its definition according to several researchers, considers its characteristics, outlines its types, and then goes on to discuss some important approaches to curriculum development in ESP and to identify the process of ESP curriculum development. The second section illustrates the difference between Aviation English (AE) and General English and then explains what aviation communication requires before tackling the aviation discourse at the SHS, which is followed by the radio-telephony comprehension requirements. Discourse and speech acts are discussed in the subsequent stage and linked to aviation field. The chapter is concluded by some examples of radio conversation exchanges improvised by the pilots in case of emergency situations.

1.1. Emergence of ESP

The status of English as an international language which is essential in almost every area of activity is deeply rooted in the history of the world starting at the end of the Second World War which brought with it an «... age of enormous and unprecedented expansion in scientific, technical and economic activity on an international scale; for various reasons, most notably the economic power of the United States in the post-war world, the role [of international language] fell to English" Hutchinson and Waters (1987, p.6). Another reason of this language expanded importance was the Oil Crisis of the early 1970s which resulted in Western money and technology flowing into the oil-rich countries. The language of this technology is English.

It is worth mentioning here that the most significant event that made a remarkable turning point is the *linguistics revolution*. In other words, while traditional linguistics put a great emphasis on the language structure, a revolution broke out to focus on the language used as a means of communication not as an end itself. The general effect of all this development was to exert pressure on the language teaching profession to deliver the

required goods. Whereas English had previously decided its own destiny, it now became subject to the wishes, needs and demands of people other than language teachers (ibid., p.7). In addition to the demands of a new world and a revolution in linguistics, the focus on the learners and their needs became paramount because General English courses no longer met learners' needs and wants. (ibid.)

Hutchinson and Waters (1987) point out that one significant discovery was in the ways that spoken and written English vary. In other words, given the particular context in which English is used, the variant of English will change. This idea was taken one step further; If language in different situations varies, then tailoring language instruction to meet the needs of learners in specific contexts is also possible. Therefore, in the late 1960s and the early 1970s there was a pressing need to introduce English for Specific Purposes (ESP).

ESP also comprises the largest representative of an international movement known as Languages for Specific Purposes (LSP) (Hinkel, 2005, p. 100). Robinson (1991) defined LSP as generally goal-oriented and based on needs analysis (NA), and it is frequently characterized by being constrained by time limits and designed for adult learners. Generally, NA is recognized to be a key feature of LSP (Davies & Elder, 2006)

The initial specific purposes were at that time directed to science and technology and English for Science and Technology (EST) deployed in language classrooms. Ewer and Latorre (1969), Swales (1971), Selinker and Trimble (1976)(as cited in Hutchinson & Waters, 1987) were identified as a few of the prominent descriptive EST pioneers. It has been often noted that Swales' *Episodes in ESP* (Swales, 1988), which surveys the field from 1962 to 1981, concentrates exclusively on EST.

However, Basturkmen (2006, p.17) upholds the contention that all language is Specific Purpose, as he points out 'basic language is what is present in all varieties of

English, where the varieties overlap. All languages are learned in some context or another'. In other words, languages learned are designed for particular purposes for the learners. Second or foreign language as a subject in schools has, usually, particular aims and goals such as how to make a telephone call, how to describe an object or a person, how to write paragraphs, how to answer questions after listening to a verbal conversation…etc, though there is no particular situation targeted in this kind of language learning.

In this respect, ESP was an area of controversy as to what exactly ESP was. Even at present, a constant debate as to how to specify what exactly ESP constitutes still takes place (McDonough 1984; Anthony, 1997; Belcher, 2004; Dudley-Evan & St. John, 1998). McDonough (ibid.) states that the swift development of ESP as a necessity to learners and sponsors confined by limited time would lead to the impression that ESP is a separate movement with its particular jargon. Ewer1981(as cited in McDonough, 1984, p.1) puts forward that:

> … the terminology of ESP is now getting into such a confused and contradictory state that in my experience it is impossible to carry on a discussion about the subject with practitioners outside one's own work-group for more than a few minutes without misunderstandings arising from this source.

Flowerdew (1990, p.327) contends that the reason for ESP problems in establishing itself in a clearly defined area within English Language Teaching (ELT) in general 'is that many of the ideas closely associated with ESP have been subsequently appropriated by the 'parent' discipline'. He refers to functional/notional syllabuses, for example, which have been adopted into the mainstream of language teaching. He also includes the example of NA which traditionally distinguished ESP courses from General English course design. McDonough (op.cit., p. 1) comments afterwards that it is not just ESP which is seen as a separate branch of ELT, he asseverates that the so-labelled English as a Foreign Language (EFL), English as a Second Language(ESL), Language for Specific Purposes(LSP), Foreign Language Teaching (FLT) and Mother Tongue Teaching (MTT) which are

assumed as branches of ELT would tend to take place in a vacuum. By this, he reaches the conclusion that ESP is still part and parcel of EFL.

1.2. Thorough Definition of ESP

Strevens (1988, pp. 1-2) attempts to define ESP by making a distinction between four absolute and two variable characteristics:

a- Absolute Characteristics

ESP consists of ELT which is:

- designed to meet specified needs of the learner;

- related in content (i.e., in its themes and topics) to particular disciplines, occupations and activities;

- centred on the language appropriate to those activities in syntax, lexis, discourse, semantics, etc., and analysis of this discourse;

- In contrast with General English.

b - Variable Characteristics

ESP may be, but is not necessarily:

- restricted to the language skills to be learned (e.g. reading only);

- Not taught according to any pre-ordained methodology.

A slight modification of ESP has been offered by Dudley-Evans (1997) at the Japan Conference on ESP. The definition has been extended by St. John (1998) in terms of absolute and variable characteristics. In terms of absolute characteristics, Dudley-Evans and St. John (1998, pp. 4-5) state that:

a- Absolute Characteristics

- ESP is defined to meet specific needs of the learner;

- ESP makes use of the underlying methodology and activities of the discipline it serves;

- ESP is centred on the language (grammar, lexis, and register), skills, discourse and genres appropriate to these activities.

b- Variable Characteristics

- ESP may be related to or designed for specific disciplines;

- ESP may use, in specific teaching situations, a different methodology from that of General English;

- ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work situation. It could, however, be for learners at secondary school level;

- ESP is generally designed for intermediate or advanced students;

- Most ESP courses assume some basic knowledge of the language system, but it can be used with beginners.

1.2.1. ESP Definition Revisited

In the revisited definition of ESP by Dudley-Evans and St. John (1998), the expression, *'ESP is in contrast with General English'* has been removed under absolute characteristics whereas another variable characteristics has been inserted. They state that ESP is not necessarily related to a specific discipline or field of study which adopts a teaching methodology different from that of General English teaching. They further add that ESP is assumedly used with adult learners although it could be used also with young adults in a secondary school setting.

In military aviation setting, the prospective ESP curriculum will be supposed to cover the absolute characteristics of ESP. However, pilots are expected to master English related to academic and occupational fields which is pertinent to aviation theory and English phraseology necessary during radiotelephony. Nonetheless, no communication either written or spoken relies solely on a restricted language for the simple reason that aviators cannot predict the new turn of events that may take place during wartime, the fact which may lead pilots to need General English to describe some emergency situations.

Widdowson,1983 (as cited in Dudley-Evan & St. John, 1998, p.1) also argues that 'methodology has generally been neglected in ESP'. What is an acknowledged fact is that

any ESP course should be needs-driven, and have an emphasis on practical outcomes? NA is 'the corner stone of ESP and leads to a very focused course.' (ibid., p.122). Methodology in ESP teaching, according to Dudley-Evans and St. John, refers to the nature of the interaction between the ESP teacher and the learners. They put forward:

"ESP methodology points out that all ESP teaching should reflect the methodology of the disciplines and professions it serves; and in more specific ESP teaching, the nature of the interaction between the teacher and learner may be very different from that in a General English class (ibid.). The present definition of ESP provided by Strevens and Dudley-Evans and St. John (1998) -influenced by Strevens'- would, in particular, be very helpful in gaining a deeper insight into what is and what is not ESP and would also resolve the debate, posed then, on its nature."

To Dudley-Evans, ESP would be associated with a specific discipline, although it is not too often the case, nor is it concerned with a certain age group's aims or ability range. Hence, ESP has to be seen simply as an 'approach' to teaching, or what Dudley-Evans (1998) describes as an "attitude of mind."

Dudley-Evans and St. John (1998) arrived at the same conclusion, regarding the nature of ESP, as did Hutchinson and Waters in (1987, p.19) who theorized that, "ESP is an approach to language teaching in which all decisions as to content and method are based on the learner's reason for learning." They add that, in theory ESP does not differ from a General English approach whereas in practice they differ a great deal.

At the time, General English teachers who assumed that their students had specific purposes for studying English would often carry no NA to meet those purposes and thus their so-called ESP courses turned out to be very far from what an ESP approach entailed. Yet, nowadays, teachers and course designers as well, have become more aware of the importance of NA procedure which will eventually lead to meeting learners' goals, and this would be very apparent at every stage of the course design. Probably, what led to this

evolution is the impact which the ESP approach introduction had on English teaching in general.

Notwithstanding this, the line between where General English courses stop and ESP courses start has become very fuzzy indeed. Anthony (1997), for example, notes that it still remains unclear where ESP courses begin and General English courses end. He adds that there has been a considerable on-going debate about what ESP means despite the fact that it is an approach rather than a product (Hutchinson & Waters 1987) which has been effectively put into practice over the last three decades.

Additionally, ESP courses,in terms of broad and narrow focus, have also been another area of controversy (Dudley-Evans & St. John, 1998, Flowerdew, 1990). It has been a matter of dispute whether ESP courses should focus on subject area content exclusively and on certain target situations or skills (narrow focus), or embark on covering a range of skills and target events (broad focus), perhaps even beyond the immediate perceived needs of the learners.

Carver (1983) identified this type of ESP as a restricted English language, he considered English for Academic and Occupational Purposes (EOP) and English with specific topics as other two types of ESP.

1.2.1.1. English as a Restricted Language

First, Perren 1974 (as cited in Mackay &Mountford, 1978, p.4) noted that the terms "*special language*" and *"specialized aim"* are confused although they refer to totally different notions. We can understand that the notion of "special language" is 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 (ibid.). Whereas, a "specialized aim" refers to the purpose for which learners learn a language, not the nature of the language they learn. An example of restricted language which was cited by Gatehouse (2001) was ATCs', and hotel waiters' language. Mackay

and Mountford (1978, pp. 4-5) clearly illustrate the difference between restricted language

and language in this statement:

"The language of international air-traffic control could be regarded as special, in the sense that the repertoire required by the controller is strictly limited and can be accurately determined situationally, as might be the linguistic needs of a dining-room waiter or air-hostess. However, such restricted repertoires are not languages, just as tourist phrase book is not grammar. Knowing a restricted language would not allow the speaker to communicate effectively in novel situations, or in contexts outside the vocational environments."

The quotation above supports perfectly the problem of the present research as military

aviators studying English phraseology are not expected to communicate effectively in real

life and more importantly during counterattacks or missions in case of war. Yet, Kaur

(2007) found that students were very happy with a narrow focus as they felt no time was

wasted during their course. Now, the question that has to be addressed is: Do learners

really desire a restricted area of language? One likely response is the one provided by

Jasso-Aguilar (1999) who examined how perceived needs of hotel maids in a hotel in

Waikiki failed to meet the expectations of the learners' themselves. Likewise, Stapa and

Jais (2005) reported the failure of Malaysian University courses in Hotel Management and

Tourism to meet the wants and needs of the students with a lack of skills and genres

covered in their courses.

1.2.1.2. English for Academic and Occupational Purposes

The second type of ESP, according to Carver (1983), is English for Academic and

Occupational Purposes; he indicated that this English should be at the heart of ESP and

ought not to undergo any further development. Furthermore, Hutchinson and Waters

(1987) designed 'Tree of ELT' where ESP is broken down into three branches: a) English

for Science and Technology (EST), b) English for Business and Economics (EBE), and c)

English for Social Studies (ESS). Each of these subject areas is further divided into two

branches: English for Academic Purposes (EAP) and English for Occupational Purposes

(EOP). An example of EOP for the EST branch is 'English for Technicians', whereas an example of EAP for the EST branch is 'English for Medical Studies'.

In their classification, Hutchinson and Waters (1987) do mention that there exists a separating line between EAP and EOP. The fact that people can work and study simultaneously was not taken into consideration. In addition to that, the language learnt in a teaching setting for academic purposes can be useful and employed eventually by the learner in the occupational environment. This would help in elucidating why EAP and EOP have been categorized under the same type of ESP.

Kennedy and Bolitho (1984) made a distinction between EOP and EAP where, on the one hand, occupational English is an umbrella term of pre-experience, simultaneous and post-experience settings and, on the other hand, academic English is subdivided to school subject English as a) independent and b) integrated course besides discipline-based English that distinguishes between a) pre-study and b) in-study as shown in the following figure:

Figure 1.1. Types of ESP (Adapted from Strevens 1977 as cited in Kennedy & Bolitho, 1984, p.5)
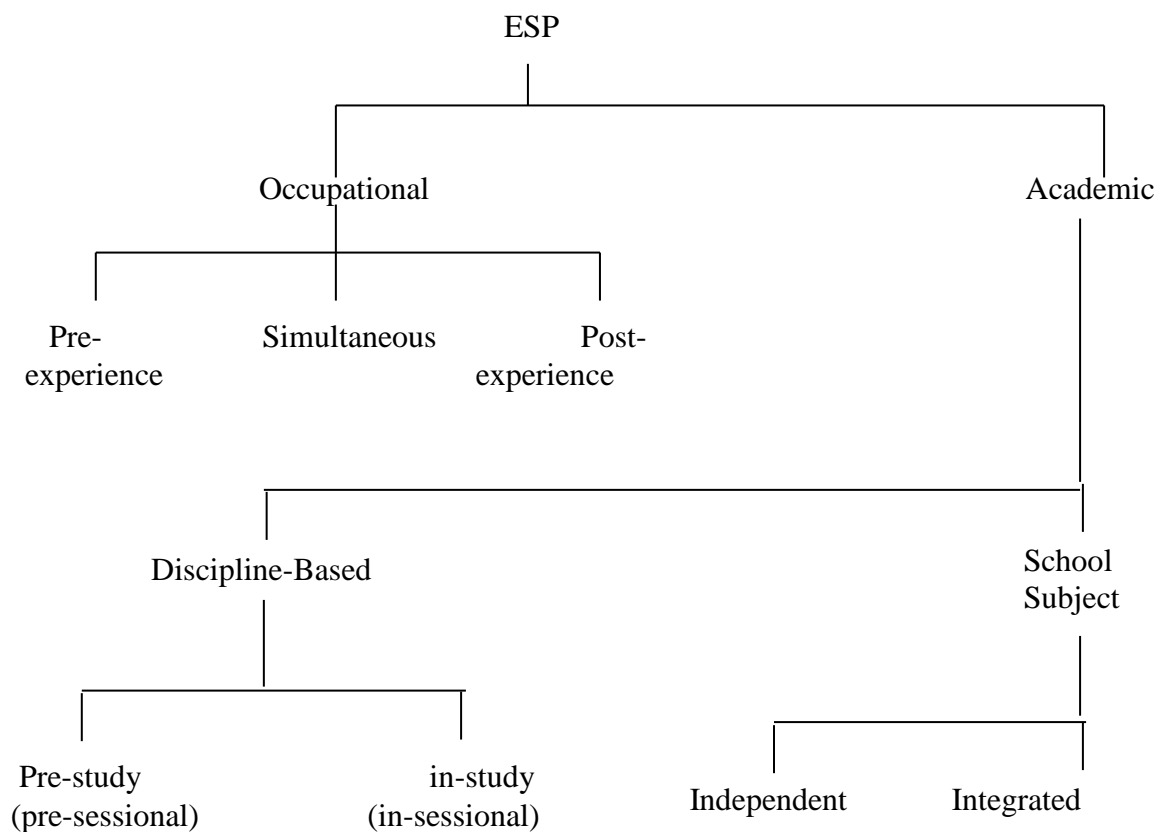
This classification would, indeed, underpin our aim behind the present research. That is, as far as occupational purpose is concerned, the officer pilots are classified under the category of simultaneous settings. Whereas pilot trainers are positioned in EOP. To put it differently, pilot trainees take aviation courses and AE simultaneously with practicing their hands-on trainings, and therefore they may bring the problems they experienced during these trainings to the classroom. Also, trainers who constantly resort to language schools to take General English courses for job purposes is a consequence of the difficulties encountered at the work place.

Yet, Dudley-Evans and St. John (1998) tend to make a distinction between types of EAP as regards teaching materials. They state that EAP has often been divided into different specialisms. The most important of these has been EST, but English for Medical Purposes (EMP), English for Legal Purposes (ELP) and English for Business and Economics (EBE) are all course types for which teaching materials have been prepared. EAP shares a sub-domain status with EOP, which includes English language used by both professionals (e.g., in medicine, business, law) and by nonprofessional workers (in vocational contexts) Hinkel (2005, p.85). Hence, our main concern here is both EAP and EOP contexts of Aviation which we will discuss at a subsequent stage.

1.2.1.3. English with Specific Topics

The third and final type of ESP identified is English with specific topics. Carver notes that it is only here that emphasis shifts from purpose to topic. This type of ESP is uniquely concerned with the anticipated future English needs of, for example, scientists requiring English for postgraduate reading studies, attending conferences or working in foreign institutions. This type is, by no means, a separate type of ESP. Rather it is an integral component of ESP courses or programs which focus on situational language. The interpretation of results from NA of authentic language would determine the situational

language within the workplace site. Carver's classification is better shown in Figure1.2. below:

Figure 1.2. Classification of ESP

ENGLISH LANGUAGE

EGP

ESP

English with Specific topics

English for Academic and Occupational purposes

English as a Restricted language
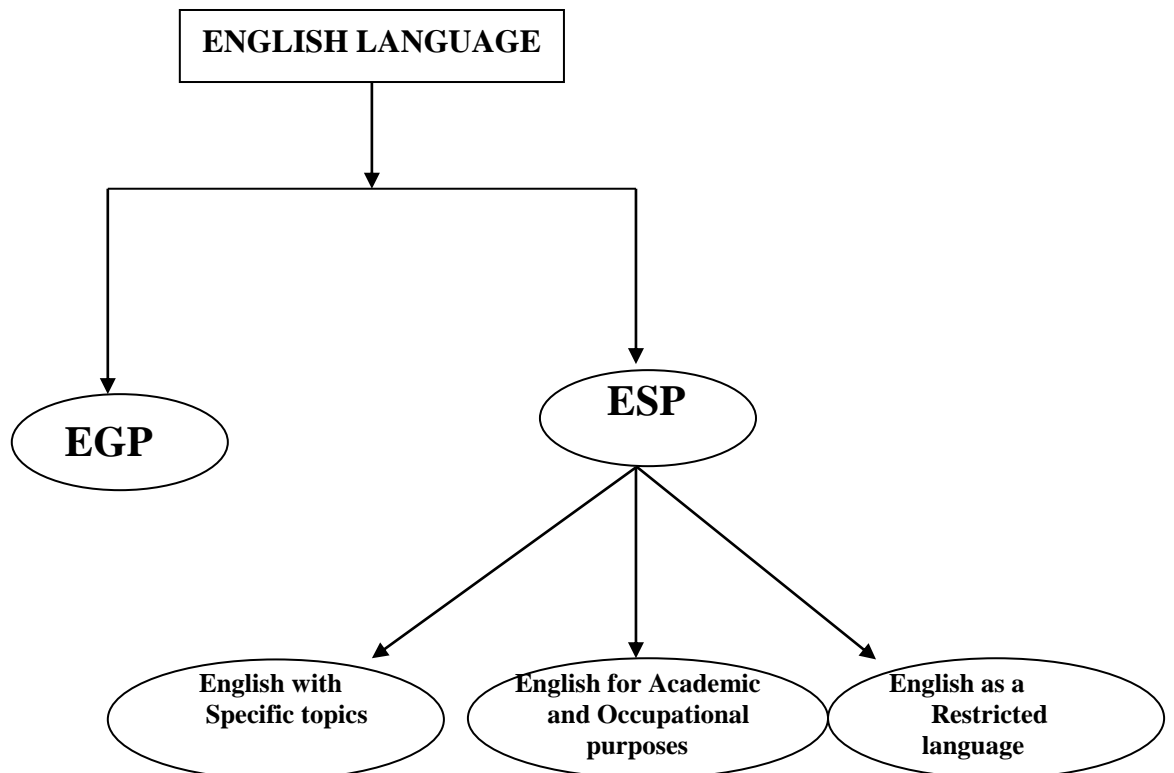
The rapid growth of AE during 1990s was on the same level as that of EST in 1970s (Howard & Brown 1997, p. 49). In Britain, occupational ESP is generally what people mean when they speak of ESP. The target situation is linked to the practice of an occupation, rather than to the acquisition of qualifications. AE courses are taught in academic settings in addition to one-to-one basis, in private language schools or in language centres in the universities (ibid.); occasionally, learners with a common need are taught in group. This would meet particularly the purpose of this current research. Pilots, with common needs, join the same classroom for learning English in order to best use it in the classroom as well as in their workplace during peace-time trainings with ATCsand other non-native pilots by using English as lingua franca.This is what Dowling, Festing

and Engle (2008, p.14) referred to as '*international English',* explaining that "English is more '*international English'* than that spoken by native speakers of English".

The following figure, (Inspired from Howard & Brown 1997), represents ESP's status in Algeria.

Academic — Undergraduate (Universities)

Postgraduate (Universities)

Private schools

ESP in Algeria — Vocational / Professional

Fee-paying National Institutes

Private schools

Sociocultural

Home-tutor
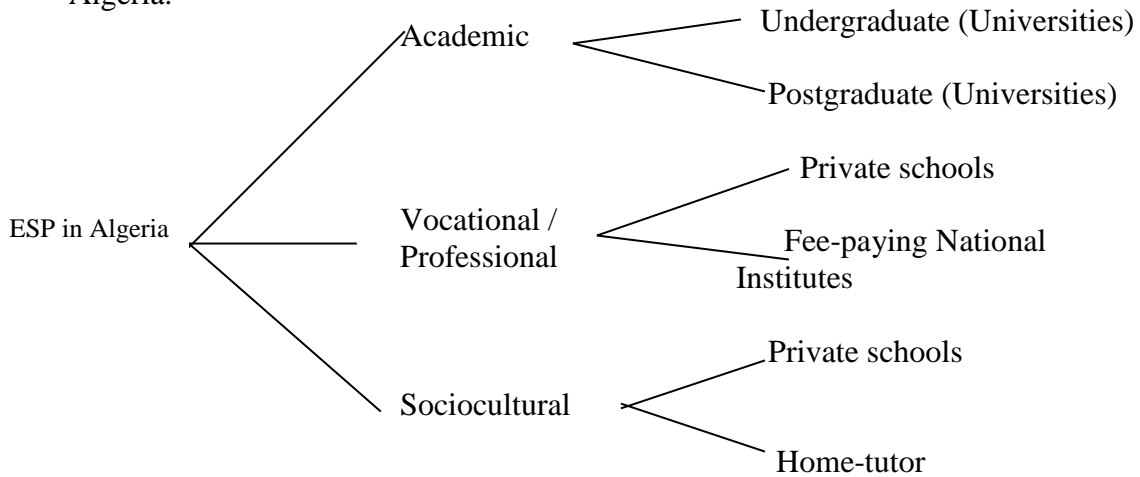
Figure 1.3. ESP in Algeria

1.3. Development of Teaching ESP

For more than forty years ESP has become, undoubtedly, a very active and feisty movement which has laid its own considerable influence over the field of Teaching English to Speakers of Other Languages (TESOL) and Applied Linguistics. It is worth pointing out that ESP has gained much attraction and interest although it was not widely welcomed in the beginning of its emergence owing to its unclear position within the field of ELT. Its foundation dates back to the simple question: What does the learner need to learn a second or a foreign language for?

NAis a key defining feature of ESP; its foremost guiding principle is: "Tell me what you need English for and I will tell you the English that you need" (Hutchinson & Waters 1987, p.8). It should also be pointed out, first and foremost, that ESP is an approach rather than a product which does not involve a particular kind of language teaching material or methodology. From its beginning, ESP has witnessed, however, five phases of development; the last is considered as the most significant.

1.3.1. Register Analysis

Register analysis was the point of departure of ESP. It was greatly recognized that English grammatical and lexical features used, by way of example, in medicine differ from those used in business. Courses such as Herbert's '*The Structure of Technical English*' (1965) and Ewer and Lattore's 'Course in Basic Scientific English' (1969), who first adopted a grammatical approach, concentrated largely on tenses such as simple present and present perfect that register analysis has shown to be important in scientific and technical English (Malmkjær 2002, p. 643). Therefore, this led to the pressing need for pedagogical courses that are of use to the learners' needs, that is to say, ESP course should thereby give much more importance to language forms that student may find relevant and less importance to forms that are seen less frequent. Among items which were viewed important then were, according to Ewer and Hughes- Davies 1971 (as cited in Jordan 1997, p. 229):

- Ingform replacing a relative;

- Words similar in form but with different meanings for the same function;

- Most prefixes and suffixes;

- Most structural and qualifying words and phrases;

- Compound nouns;

- The prepositional (two-part) verbs common in scientific English.

1.3.2. Rhetorical and Discourse Analysis

Moving a step further, from focusing on language at the sentence level, ESP has shifted attention to the level above the sentence (Hutchinson & Waters, 1987, p. 10). It was found out by mainly two prominent leaders, Allen and Widdownson, 1974 (as cited in Robinson, 1991, p. 24) that learners' difficulties stem, to a great extent, from their being unfamiliar

with English use and thus they -Allen and Widdowson- focused on the conceptual paragraph rather than on the sentence, and on writer's purpose rather than on form. In fact, Allen and Widdownson (1974 onwards), based largely on functions and, more particularly, Bates and Dudley-Evans' Nucleus Series (1976) based on scientific notions or concepts, have both been influential courses (Malmkjaer, 2002, p. 539).

Rhetorical or discourse analysis shed much light on how sentences combine together in order to convey meaning within a discourse. In other words, whereas register analysis dwelled on the grammar of sentences, this group attended to paragraphs (Benesch, 2001). Moreover, rhetorical patterns differ along with various specialist areas of use, i.e. the rhetorical structure of business texts is looked on as different from that of medicine which is, in turn, regarded as different from that of engineering texts.

1.3.3. Target Situation Analysis (TSA)

After the failure of register analysis to meet desired outcomes, the third station of ESP journey is, however, considered as an identification of the target situation in which learners may be involved. The best known framework for TSA type of NA is formulated by Munby (1978) who introduced the Communicative Needs Processor (CNP). Chambers (1980) stresses that while initial NA can be the first step in any ESP course, TSA has to follow for a more detailed analysis. Now, information about learners- in particular their level in English- have to be collected. Subsequently, the need of the learner has become the core of ESP course as it has been located on a crucial central position.

1.3.4. Skills-Centered Approach

Before the arrival of ESP to its last station, it had to pass by a fundamental stage which looked neither to the sentence level nor beyond the sentence surface. It is, therefore, much more interested in the underlying thinking process of language use. In other words, the aim of such kind of approach is to enhance the learners' reading skill (Nuttall, 1982; Alderson & Urquhart, 1984). Those learners are required to read specialist texts available only in

English. In fact, 'the principle idea behind the skills-centered approach is that underlying all language use there are common reasoning and interpreting processes which regardless to the surface forms, enable us to extract meaning from discourse'. (Hutchinson and Waters, 1987, p. 13)

1.3.5. Learning-Centered Approach

Finally, by looking at learning factors of how people learn, we should spotlight the area of language learning rather than language use, either of surface form or of underlying process. ESP was, at the outset, been guilty as regards language learning perspective. Over the years, there has been a considerable increase of focus on learning-centred approach; the interest of language use has been considered as an insufficient area of concern. Therefore, the understanding of the processes of language learning has become an up-to-date approach to ESP.

When it comes to AE curriculum, most of the abovementioned phases are of equal importance in every stage of the curriculum. Regarding register, aviation jargon is, by all means, imperative especially for pilot officers under academic settings. Also, English phraseology is considered as a limited English jargon for aviation field. TSA in this research differs, for trainees have got simultaneous purposes, i.e. EAP and EOP whereas trainers are supposed to develop their language skills under EOP context. Discourse is of paramount importance in the field of AE especially during the verbal communications between pilot-pilot and pilot-ATC and which forms the major part of the pilot duty. Additionally, communication does not take place face to face but through radio, the fact which requires more attention and proficiency to expect or predict what is said particularly in case of sensitive operations, if the problem is not technical.

It is clearly stated, though implicitly, that the ultimate aim of ESP development is communication. Yet, the aim of the present research is AE communication. We shall set out by defining communication which is the pivotal feature of the social and psychological

make-up of an individual. As a people, human progress greatly depends upon learning to understand each other. This can be accomplished by 'interacting with each other to develop new ideas and solve problems' (Gamble &Gamble, 1999, p.4). All people, irrespective of occupation and level of responsibility, regularly practice communication. In this respect of human interaction, communication is a prerequisite of any activity. In the SHS, pilots have target tasks to carry out under EAP and EOP. By so doing, communication skills do have a great impact on the whole working. That is, communication is no longer crucial but it has become more consequential. By way of consequence, the verbal radio communications during hand-on trainings require a higher degree of communication.

Smeltzer and Leonard (1994, p.3) stated that "management communication is both challenging and exciting. It is challenging because organizations are becoming more and more complex, and many new forces confront the manager". However, communication challenges provide opportunities to frame strategies for effective communication. Therefore, in prevailing circumstances management leaders have a greater opportunity than before to bring out a significant difference in the success of the organization and to improve the quality of work (ibid.). Table 1.1 below illustrates a summary of the stages of the development of ESP and ESP course.

Table 1.1.

Development of ESP

ROBINSON 1980	1. Register Analysis	2. Discourse Analysis And the Communicative Approach	3. Student Motivation and Analysis of Need		
HUTCHINSON & WATERS 1987	1. Register Analysis	2. Rhetorical/Discourse Analysis	3. TSA	4. Skills and Strategies	5. Learning-Centred Approach
WEST 1997	1. Authenticity: a) skills based b) skills and strategies	2.Register Analysis	3. Text: a) Discourse Analysis b) Genre Analysis	4. Need: a) TSA b) Pedagogic Needs Analysis: deficiency, strategy and	5. Learning-Centred Approach

				means analysis	
DUDLEY-EVANS &ST JOHN 1998	1. Register Analysis	2.Rhetorical/ Discourse Analysis	3. Analysis of Study Skills	4. Analysis of learning Needs	5. Learning-Centred Approach

1.4. Plane Versus Plain English

In addition to being the international language of technology and commerce, English has also become the language of the sea and air. Crystal (2003, pp.107-108) puts forward that the official use of English as the language of international air-craft control did not emerge until after the Second World War.

AE is commonly linked to English learnt by civilian aviation crew including pilots, flight attendants, ATCs...etc. However, English for military aviation has been always perceived as an area restricted solely to the military staff. Non-native learners' needs of English for military aviation purposes was and is not frequently investigated openly; it is usually regulated and confined to aviation professionals who are proficient in English or went for a training in English speaking countries. According to Moder (2013) English for Military Purposes(EMP) varies widely by country and context, it is the same language used in civilian and maritime purposes. The use of English as the international language is officially mandated by the ICAO. Cutting (2011) adds that the language used by flight attendants and other general aviation personnel, like many forms of ESP, uses conventional English pronunciation, structure, vocabulary, and interactional patterns, but adapts them to the purposes of the particular domain and context either civilian or military.

1.4.1. Aviation Communication Requirements

For civil aviation, pilots are required to have a minimum acceptable proficiency level corresponding to Operational Level 4 mandated by the ICAO. They have to demonstrate comprehensible pronunciation, intelligible fluency and delivery, and a vocabulary range sufficient to communicate on "common, concrete, and work - related topics" with the ability to paraphrase in unexpected circumstances (Moder, 2013). However, military

aviators are required to master ICAO phraseology and no conditions are linked to pilots'
recruitment though unexpected turns of events entail a full comprehension and an effective
response used plain linguistic structures different from restricted phraseology. Interaction
must include responses that are "usually immediate, appropriate and informative" and
personnel must initiate and maintain exchanges even in "an unexpected turn of events" and
must deal with "apparent misunderstandings by checking, confirming, or clarifying
ICAO2004 (as cited in Moder, ibid.).

   Beginning in March 2008, ICAO set out the requirement that all pilots flying
international routes and ATC serving international airports and routes must be Level 4 or
above and will be continually reassessed every three years. The criteria to achieve Level 4
are as follows:

- **Pronunciation**: A dialect and/or accent intelligible to aeronautical community.

- **Structure**: Relevant grammatical structures and sentence patterns determined by language
  functions appropriate to the task.

- **Vocabulary**: Vocabulary range and accuracy used sufficiently to communicate effectively.

- **Fluency**: Produces stretches of language at an appropriate tempo.

- **Comprehension:** Comprehension accurate in common, concrete, and work-related topics
  and the accent used is sufficiently intelligible for the international community.

- **Interactions** : Responses are immediate, appropriate, and informative.ICAO (2008)

Aviation discourse which is demonstrated as radiotelephony between pilots- pilots poses
interesting insights for the organization of communication, giving and understanding
instructions, responding effectively in both routine and non-routine situations during both
peace and wartime. In the SHS context and since the access to ATC tower was not possible
for the information are highly classified, it was compulsory to adjust our research
objectives according to available data. One of the research ends is to figure out the type of
instructions pilots receive and how they may respond in routine situations and during

emergency situation more importantly. Also, one other objective is to investigate the role of phraseology in AE and whether it is sufficient even in an unexpected turn of events. More, the ability to understand non-aviation English through radio is one of the crucial points.

1.5. SHS Context

More than 1000 pilot officers and pilot engineers graduated during the last twenty-two (22) years. Every year in this school, a number of candidates graduate in different specialties such as helicopter aviators, maneuver helicopter mechanics and land technicians.

Pilot officers (trainees) are final year students who went through previous four academic stages. Once they pass their Baccalaureate theyenrol in the common core of the basic military programme in the Military Academy for Multiple Arms in Cherchel. From the second to the third year, student-pilots receive a course on the main aviation theory and flight in the aviation school of Tafrawi, Oran. After passing the fourth year, students are dispatched for one final year of applied studies according to their specialism: Chasing, Transportation or Helicopter.

Student pilots at the SHS undertake hands-on training on helicopters for support, troop, bombarding, and rescuing. The final academic year syllabus at the SHS includes the following units: Air Law, Air Frame and Systems, Electrics and Electronics, Power plant, Instrumentation, Flight Planning and Monitoring, Meteorology Navigation, Radio navigation, Operational Procedures, Principals of Flight, Communications, English and Computing. Sixty (60) hours/year are devoted to each unit including English. Trainees are required to sit for an end of the term exam for a pass or fail. Regarding practical trainings on the aircrafts, student pilots board the helicopters for one hundred (100) hours over ten (10) months (from September to June).

1.5.1. Radiotelephony Comprehension

Radio communication is only one small part of the work of flight crews in this socio-technical system. The ability of flight crews to understand and manage radio communication is directly related to the cognitive load imposed on them by other tasks. A linguistic feature often related to cognitive work load is code - switching. Under normal flight conditions, code - switching may be an intentional interactional strategy. Wyss - Bühlmann (2005) found that communication in and around Zurich airport reflected numerous instances of relationally motivated code -switching. Greetings, signoffs and expressions of gratitude were often given in the presumed language of the interlocutor ("gruezi," " schöne Abig, " " adieu, " " Danke schön "), establishing a friendly conversational tone (pp. 140 – 43).

Moder and Halleck (2012) describe the most frequent verb forms as including those typically associated with various stages of a flight: *hold,turn, maintain,contact,land,cleared,* and *going,* as well as verbs of possession *have,get,* and *got,* and the perception verb *see.* Also, a corpus results indicate that in radiotelephony, verbs most frequently occur in bare imperatives, with some verbs commonly occurring as bare - *ed* or - *ing* participles. The most common prepositions in the corpus were *to,of, at,* and *on,* prepositions typically associated with establishing locations, directions, or goals. All those above-mentioned terms are well used by either civilian or military pilots.

Researchers (Hinrich, 2008 & Moder, 2013) who take a discourse-based approach have suggested that the effectiveness of aviation communication should not be considered narrowly in terms of informational exchange alone, but more broadly in terms of the social aspects of the exchange.

1.5.2. Discourse

According to Cook (1989), two types of language are under study. The first deals with how rules of language work whereas the second type is interested in language practice

(communication). The latter kind is called *Discourse*. Widdowson (1979, p.108) adds that 'communication is called for when the language user recognizes a situation which requires the conveyance of information to establish a convergence of knowledge, so that this situation can be changed in some way'. This transaction requires the negotiation of meaning through interaction. 'I refer to this negotiation as discourse. Hence, discourse is a communicative process by means of interaction' (ibid.).

Canale and Swain 1980 (as cited in Nunan 1989) introduced the notion of four components of communicative competence, namely grammatical, discourse, sociolinguistic and strategic competence. In effect, the most significant element of the current research is discourse and text competence which Brown (1994, p.228) defines as the ability "to connect sentences in stretches of discourse and to form a meaningful whole out of a series of utterances". The situation that interests us, then, concerns the structure and function of language beyond the sentence level, i.e. the way in which people use either spoken language (typically referred to as discourse) or written language (typically referred to as texts) in a coherent and meaningful way. Widdowson (op. cit.) equally propounds that discourse may be overt and reciprocal, e.g. conversations, or covert and non-reciprocal, such as written language.

One might ask in what way does the study of the sentence differ from the study of discourse or texts? We shall try to provide a broad historical perspective on this question. During the late 1960s, a growing number of linguists challenged this formal, structural view of language. Many linguists (Widdowson, 1978, Nunan, 1988 & Cook, 1989) uphold the contention that language could not be explained solely in terms of grammatical rules. Besides, language as an instrument of communication occurs not in isolated sentences but in sequences of sentences embedded in a sociocultural and communicative context, as well as in a linguistic context. And so the boundaries of linguistic inquiry were widened to include real language- hence discourse/texts.

Brown and Yule (1983) argue that although discourse is not as tightly rule-governed as sentence structure, it is not an ad hoc collection of sentences strung together. The distinction between coherent and incoherent discourse implies that there is structure and organisation underlying discourse. Carter (2012) adds that people seem to be guided in the use of language by cognitive, linguistic and discourse principles and strategies, by norms of interaction and by general knowledge of how the world works. It is such matters, as reflected in the suprasentential (beyond a sentence) organisation of discourse, that discourse analysts seek to uncover and explain.

The disciplines within linguistics which tend to focus on the suprasentential aspects of language use are Discourse Analysis and Text Linguistics. Brown and Yule (op.cit., p.26) describe discourse analysis as being concerned with "what people using language are doing, and accounting for the linguistic features in the discourse as the means employed in what they are doing". Text linguistics can be seen as that branch of Discourse Analysis that delimits its enquiry to the properties of written discourse (i.e. texts) that contribute to the overall well-formedness or coherence of texts.

If the primary aim of formal linguistics has been to characterise well-formed versus deviant sentences, then one of the primary aims of discourse/text analysis is to characterise well-formed versus deviant discourse/texts. A central notion that has emerged in this regard is the rather complex and elusive one of discourse connectivity: what constitutes coherent (well-formed) discourse? Cook (1989, p. 38) replies that 'we are moving towards a position in which we shall be able to examine the structure of discourse both in terms of surface relations of form, and underlying relations of functions and acts. Now, the attention should be focused on speech act theory, which according to Cook (ibid.), provides us with a means of probing beneath the surface of discourse and establishing the function of what is being said.

The main concern of the research participants, either trainers or trainees is to understand and be understood with minimal amount of language. If time and space are under control during peace time, this is not the case if war breaks out. Pilots can neither see other pilots nor the ATCs and then the shortest language for describing the situation would be the best in these circumstances. Since radio communication is the main channel for exchange, words and phrases are preferred for conversation and which should hold meaningful message behind its surface. Examples of these exchanges are: BREAK, which stands for 'I hereby indicate the separation between portions of the message. (To be used where there is no clear distinction between the text and other portions of the message. MAINTAIN means 'continue in accordance with the condition(s) specified or in its literal sense, e.g. Maintain VFR'. OUT means 'this exchange of transmission is ended and no response is expected'. REPORT is said when pilots mean 'Pass me the following information'. WORDS TWICE stands for 'a) As a request: 'Communication is difficult. Please send every word, or group of words, twice'. b) 'As information: Since communication is difficult, every word, or group of words, in this message will be sent twice'.

Only aviation professionals would understand these pieces of exchanges, this kind of discourse is part of the aviation phraseology. If aviation personnel deviates from the ready-made list of phrases, this may lead to communication breakdown should one of the partners does not have a good command of General English.

1.6. Speech Acts

Speech Act Theory was introduced by Austin in lectures known as the 'William James Lectures' at Harvard University in 1955. It was published in his well-known book, *How to do things with Words* in 1962. Probably, the biggest contribution the speech act theory made to the study is the emphasis it places on language as communication. Communication between participants would signify in the speech act tradition the

intentions, attitudes and expectations of the participants, the background of the parties involved, as well as the rules the conventions that govern the use of language. Speech acts focus on the sender versus addressee relationship.

An utterance could be considered as a signal which has the intention of conveying a message between the sender and the receiver. According to Platt and Platt (1975, pp.16-20) we can distinguish between four types of participants:

a) the speaker or sender,

b) the addresser,

c) the hearer, receiver or audience, and

d) the addressee.

In most cases (a) and (b) are the same and so are (c) and (d). But there are situations, however, when both a sender and an addresser co-occur. According to the theory, the basic or minimal unit of linguistic communication is the speech act: 'to say something is to do something', to quote Austin's well-known phrase. Put otherwise, the making of an utterance is at the same time the performing of an action. Austin distinguished three different dimensions of the use of a sentence or the use of a signal.

a) **a locutionary act**: the utterance,

b) **an illocutionary act**: the sender's intention,

c) **a perlocutionary act**: the receiver's reaction.

Let us explain each of these acts briefly.

a) **The locutionary act** includes:

i. a phonetic act: the act of uttering certain types of noises,

ii. the phatic act: noises conforming to a certain grammar, and

iii. a rhetic act: the act of using the phatic act with a certain, more or less definite sense and reference.

b) The locutionary act happens simultaneously with the illocutionary act in the sense that the speaker's intention is contained in the utterance. An illocutionary act has therefore to do with the force or implication of the utterance, particularly in order to create a specific effect (for example asking a question, making a promise, greeting somebody, describing something,…etc).

c) The perlocutionary act refers to the possible effect an illocutionary act may have on the beliefs, attitudes and behaviour of the receiver. The two previous acts are the practical stimuli that operate on the receiver/ addressee and trigger off a certain response in that person. The perlocutionary act is therefore a type of action performed in reply to the given stimuli.

The illocutionary act seems to be the most important or the more necessary one because it includes the goal, the individual intent: the reason why communication should take place. We presume, without it, no communication can take place. Because of this prominence, numerous scholars have attempted a classification of illocutionary acts according to the kind of communication they convey. Searle's (1982) classification comprises the following:

1) Assertives:

'To commit the sender to the truth of a proposition', e.g. 'affirm', 'deny', 'report', 'describe', 'estimate'.

I am sick

I am tired

In Aviation, these verbs might be used as shown in the sentences below:

-I cannot comply with your request, instruction or clearance.

-I confirm no passengers on board.

- We hear a strange noise coming from the tail boom area.

2)Directives:

'to aim at getting a receptor to perform some action', e.g. 'order', 'request', 'ask', 'advise', 'dare', 'defy', 'protest', 'question'.

Give me the pen!

Close those windows!

In aviation exchanges, Directives are more common such as:

-Pass me the following information.

-Reduce your speed.

-Shut down the engines before landing.

-Cancel climbing and maintain 9000 feet squawk 7700.

-Maintain 6000 feet heading 165°

-Clear to re-join the (main, squadron, technical) apron.

Prins 1987 (as cited in Unisa, 2007) refers to the two sub-classes of Directives, binding and non-binding directives. When using binding directives the speaker 'binds' the hearer into reacting to avoid any counter action or sanctions the speaker may apply. Examples: command, order, beg, plead, etc.

Close the door!

Non-binding directives place no obligation on the hearer to execute a reaction; the hearer is left with a choice to react. Examples: request, advise, ask, suggest, invite, etc.

May I ask you to close the door?

3) Commissives:

'Commit, binding, contracting the sender to some future actions, e.g. 'promise', 'vow',' contract'

I will be finished right now!

I am coming.

4) Expressives:

To convey the psychological attitude of the sender to some state of affairs or situation, e.g. 'apologize', 'thank', 'sympathize', ' welcome', ' congratulate'.

Thank you!

Please forgive me!

In aviation discourse, Expressives are seldom used between pilot-pilot or pilot-ATC. One example was illustrated by Moder (2013):

A2130: **okay** we're leaving three - five - zero for three - nine - zero, Airline

two - one - three - zero, **thank you sir.**

CC: **You' re welcome sir.**

5) Declaratives:

To perform an action, e.g. 'appoint', 'announce', 'warn', 'illustrate', ' identify', 'call'.

It is the king.

I will hit you!

Some AE examples of Declaratives were provided by some research participants and are illustrated as follows:

-AG 19 helicopter (Ecuruil) 35 NM out of you radial 090° 4500 feet you have a fuel leakage.

- You're on the radar pass with tower on 119.7.

- End of dumping we shut down the right engine.

In aviation area, the major acts are directives and declaratives. In emergency situation, particularly, there is no room for Commisives and Expressive acts, however there might be some instances where Assertives may take place. In AE, verbs are usually used with bare infinitive like previously mentioned by Moder (2013). Examples of these verbs are report, maintain, request, roger, say again, slow down, verify, unable, read back…etc.

1.7. Co-operative Principles

Participants engaged in a conversation, in order to achieve the purpose of their talk, proceed according to a principle of cooperation. Paul Grice (1975) was the founding father of the co-operative principle. Grice 1975 (as cited in Wardhaugh, 2005, p. 308) explains the cooperative principle as ' make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged'. Grice explains that in a talk exchange, participants tend to follow certain procedures and there are elements which appear, like guidelines which one tends to apply intuitively. These elements are known as maxims. They are general principles that underlie the cooperative principle.

The following are the maxims that are used in conversations to support the cooperative principle:

1. **Quantity**: Make your contributions as informative as is required

2. **Quality**: Do not say what you believe to be false. Do not say that for which you lack adequate evidence.

3. **Relation**: Be relevant

4. **Manner**: Be brief. Be orderly. Avoid obscurity of expression. Be perspicuous.

Although Grice discusses these four, he believes that there could be many more. Brown and Yule (1983) claim that these maxims could be summed up by the maxim of relevance.

In a discourse, we depend on the cooperation of the speakers. In most cases, whatever is said has to be worked out first as it might have an indirect meaning. Should the interlocutor fail to work out what has been said and interpret what has been said literally, then there is bound to be a communication breakdown. This means that in order to understand a speaker, one has to make efforts. Chierchia and McConell-Ginet (1990, p.199) write: 'What is remarkable is how highly successful we seem to be in conveying to one another what we implicate'.

Under ESP and particularly EST, scientific or technical communication generally tend to be direct and explicit. People tend to say what they mean all the time so as to avoid misunderstanding or miscommunication. AE is no exception, pilots or ATCs are usually inclined to respect the four maxims of the Grice, particularly, manner and quantity. Quality and relation are a must. The following examples may back up what is previously said:

- **P**: Clear to hover check and take off at 12.

- P: At 12 request an area.

- ATC: Clear to turn left/right, report down wind.

1.7.1. Politeness Principle

Grice's maxims were considered as a basis on which the politeness principle was approached. Leech 1983 (as cited in Geyer, 2008, p.15) situates politeness within the broader framework of interpersonal rhetoric, which is tied to social goals (what social position the speaker assumes) rather than illocutionary goals (what a speaker tries to convey through a speech act). Leech lists six maxims associated with the politeness principle:

- tact maxim (minimize cost to hearer, maximize benefit to hearer),

- generosity maxim (minimize benefit to speaker, maximize cost to speaker)

- approbation maxim (minimize dispraise of hearer, maximize praise to hearer),

- modesty maxim (minimize praise of speaker, maximize dispraise of speaker "

- agreement maxim (minimize disagreement between speaker and hearer, maximize disagreement between self and other),

- sympathy maxim (minimize antipathy between speaker and hearer, maximize sympathy between speaker and hearer)

Lakoff 1973 (as cited in Cook, 1989, pp.32-33) briefly reduces the above maxims to three basic ones:

-Don't impose

- Give options

- Make your receiver feel good.

Whilst the speech act is the smallest unit of speaking, a larger socially recognized unit of speech activity is called a *speech event*. The term speech event will be restricted to activities or aspects of activities that are directly governed by rules or norms for the use of speech. An event may consist of a single speech act, but will often comprise several (Maybin, 1994, p.271).

Yule (2006) claims that there are some criteria which underlie the variation of what people say and do in different speech events such as debates, interviews, etc. such criteria are envisaged in the relationship between speaker and hearer (friends, strangers, members of the family, etc.) in addition to the topic of the conversation and where it takes place. Richards and Schmidt (1983) add that the event is rather carried by air, paper or wire can be categorized into a genre.

Military aviators, during daily hands-on trainings on several kinds of aircrafts might respect the three above-mentioned politeness maxims of Lakoff, e.g. '***Can you be*** *on the radar pass with tower on 177.2* ***good luck'*** and ***'Will you*** to shut down and leave the frequency, ***thank you'***. However, in case of danger it is believed that the aspects of politeness would be flouted for a number of reasons such as stress, seriousness of the situation, lack of time…etc. nonetheless, communication flow would go on, for both sender and receiver share the same world knowledge.

1.8. ICAO Requirements

As for civil aviation, several nations have adopted the recommendation of the ICAO about English terminology. Yet, functionally, civil and military aviation are different although they may operate in the same airspace; military aviators also use the ICAO alphabets. Also, pronunciation of letters and numbers follows the prescribed ICAO alphabet which is also

common to maritime and military contexts. Moder (2013) mentions some instances such as, "P" which is read as "Papa" and "N" as "November", the fact which was confirmed by our research subject. Additionally, all numbers are pronounced as single digits: the number "9" is pronounced "niner", the number "5" is pronounced "fife" and the number "3" is pronounced "tree". Moder (2013, p. 230). Here is a full list of how letters are pronounced in aviation (SHS, 2014).

Table 1.2.

Letters Pronunciation in Aviation

A	Alpha	M	Mike
B	Bravo	N	Novembe
C	Charli	O	Oscar
D	Delta	P	Papa
E	Echo	Q	Québec
F	Foxtrot	R	Roméo
G	Golf	S	Sierra
H	Hotel	T	Tango
I	India	U	Uniform
J	Juliett	V	Victor
K	Kilo	W	Whiskey
L	Lima	X	x-ray
Y	Yankee	Z	Zulu

Examples of callsigns; aircraft 9Y-TJN would be pronounced as: Niner-Yankee- Tango- Julliet-November, aircraft HJ-54855 would be pronounced as: Hotel- Julliet- Fife-four- Eight- Fife- Fife. Also, YV- 382M is: Yankee- Victor- Tree- Eight- Two- Mike. Military aircrafts unlike civilian aircraft use special callsigns and not the aircraft registration. Sometimes those callsigns are tailored for specific missions, and are top secret during

times of war. The JDF (Jamaica Defense Force) often uses the following callsigns for its

aircraft:

• SCORPION -for helicopters

• EAGLE -fixed wing

• PHOENIX -fixed wing

• TUTOR -fixed wing

• DIAMOND -fixed wing

Also, in AE 'Yes' is pronounced as 'Affirmative' and 'No' as 'Negative' for a better

listening comprehension;

1.9. Military Exchange Examples

The following exchanges are genuine conversations between pilot-pilot or pilot-ATC that

take place at the SHS: they describe the most frequent verb forms as including those

typically associated with various stages of a flight as depicted by Moder and Halleck

(2012) (See Section 1.5.1).

1.First radio communication exchange

P: Sétif twr, at12 on the (main, squadron, technical)apron request *start up*.

ATC: At 12, twr, *clear to startup* t° 15,QFE 998

P: Clear to start up t° 15, QFE998, xx

P: Twr at 12   start-up achieved, *requesttaxi*.

ATC: at 12, twr clear to taxi runway 27 *report holding point* (w1, square 5 …), QNH

1013,last wind 260/7.

P:Clear to taxi   runway 27, holding point (w1, square 5….), 1013 ,260/7, at 12.

P: Twr, at12 holding point (w1, square 5….), *request line up*.

ATC: At 12, twr clear to line up runway 27, wind 250/6,*report* ready hover.

P: Clear to line up 27 in use, 250/6, at 12.

P:ATC, at 12 ready to hover check and *take off*.

ATC: at 12,ATC clear to hover check and take off, wind 250/6.

P:Clear to hover check and take off at 12.

P:ATC, at 12 to *turn left / right* or P:ATC, at 12 request an area.

ATC:at 12,ATC clear to turn left/right,*report down wind*.

or ATC:at 12, ATC you are clear for area 4, sector report *to change frequency*.

P: Clear area 4, sector, at 12.

P:ATC, at12 down wind.or P:ATC, xx 1300 m, s point to change frequency.

ATC: at 12 , ATC report base leg.

or ATC: at 12, ATC clear to change frequency.

P:*Roger* at12.

2. Second radio communication exchange

P: ATC, at 12 base leg number x, *request an approach* axis to (an alpha, square 5, w1 ….)

P: ATC, at 12 base leg number x, to accomplish. or P: ATC, at 12 base leg number x, for crew change.

ATC: at 12, ATC *report* finale on approach axis to (alpha 6, square 5, w1 …)

P: roger at 12

P: ATC, at 12 finale to (square 5, w1, alpha 6 …)

ATC: at 12, ATC clear to land (square 5, w1, alpha 6), wind 280/4.

P: Clear to land (square 5, w1, alpha 6 ...) At 12, 280/4.

P: ATC, at 12 (square 5, w1, alpha 6...) Vacated *to rejoin* the apron.

ATC: at 12, ATC clear to rejoin the (main, squadron, technical) apron.

P: ATC at 12 to *shut down* and leave the frequency.

ATC: at 12, TWR clear to shut down and *leave the frequency*.

1.9.1. Emergency Communications

Below are also genuine and authentic examples of radio communication conversations articulated by research participants in a virtual setting concerning non-

routine turn of events. 11 unusual scenarios were suggested by the researcher. Yet, the aviators were able to describe only 5 emergency cases (See Appendix A). In the following two examples, pilots resorted to plain English in some instructions -written in bold-.

The Co-pilot Got a Heart Attack

-   Pilot:*PAN PAN; PAN PAN; PAN PAN* Constantine tower AT 28 (SOKOL) we've got a serious problem.

-   ATC 28 Constantine pass your message

-   Pilot: 28 The co-pilot has a pain in his chest and struggling to breathe.

-   ATC28 Const report position and level.

-   Pilot: 28, 25 NM (nautical mile) on radial 260° FL 70 (flight level)

-   ATC:28 Const report passengers on board.

-   Pilot: 28 I confirm no passengers on board.

-   ATC 28 Const descent immediately to 5000 feet QNH 1023 report crossing radial 159° at 15 NM.

-   Pilot: Const AT 28 the co-pilot is losing consciousness please **get the ambulance ready at landing**.

-   ATC 28 Const the medical assistance is ready; clear to land near the ambulance report in sight wind 350° /7kt (knot).

-   Pilot:733 Const report runway vacated we have an emergency on final runway 34.

-   ATC: Report runway vacated expediting 7TWG 33.

Tail Rotor Failure

-   P: Setif ATC ST 89 (MI 2) runway 27 request take-off.

-   P: 89 Sétif clear to take-off wind is calm.

-   ATC: Clear to take-off wind calm ST 89.

-   P: 89 we hear a strange noise coming from the tail boom area.

- ATC: 89 Sétif confirm if there is any vibration.

- P: 89 affirm there is an excessive vibration intensifying.

- ATC 89 Sétif abort take-off, clear to land at the end of the runway.

- P: *Mayday, Mayday* we lose control, a sharp left yaw and no response to pedals.

- ATC: 89 Reduce power to minimum and enter an autorotation at 70 kt speed.

- ATC: 89 shut down the engines before landing.

- P: Sétif ST 89 on ground we have some damages **we need help**.

- ATC: 89 Sétif maintenance truck is on the way; disable the batteries and **leave the helicopter.**

Conclusion

In this Chapter, we have reviewed literature in the area of ESP. After having an introductory discussion on ESP by taking into account its history of emergence, definitions, classification and development and also literature related to major areas of ESP have been also reviewed. However, the description of AE, ICAO requirements, aviation discourse in general and at the SHS, in particular, have been given a centered place therefore they establish a relationship with NA theory to validate grounds for this research. The Chapter has also highlighted that there has been a considerable development in this area since the emergence of ESP. By reviewing the literature, it has been figured out that the field of ESP incorporates a number of NA studies conducted in the context of ESP language programs in several different areas around the world. The findings of research in the field of Aviation have been valuable for pedagogical considerations, as curriculum developers can take insights from these findings. This Chapter is a starting point that has looked specifically at the English language needs of the aviation trainees and trainers in their academic and/or occupational settings respectively with a purpose to recommend some curriculum guidelines of AE in the SHS

Introduction

This chapter comprises two sections. The first part begins with the definition of the notion of a need and then explains the concepts of needs in language learning and its types and then it outlines what NA is, presents its approaches and classifications. It also provides an NA framework for the current study and reviews some research studies conducted within such a framework in the context of ESP. The second section addresses the difference between language and communication skills followed by illustrating the importance of the four skills in ESP.

2. What a Need is

Richterich 1983 (as cited in Brindley, 1989, p.65) comments on the definition of 'needs' as follows: "The very concept of language needs has never been clearly defined and remains at best ambiguous». It is therefore useful to borrow some insights from the field of adult education, in which needs are conventionally defined as being something like 'the gap between what is and what should be' (Brindley 1989, p. 95). Likewise, the term gap has been substituted by Ornstein and Hunkins (1998, p.74) by discrepancy as they define the need as a recognized and accepted discrepancy between a current state and a desired state. In the same vein, Altschuld and Witkin (1995, p.9) shares the same definition as they see 'need as a noun refers to the gap or discrepancy between a present state (what is) and a desired end state, future state or condition (what should be)'. Need as a verb would refer to what is required or desired to fill the discrepancy –solutions, means to an end. Reviere (1996, p.4) asserts, in another way, that needs are relative to life experiences of individuals as defined within the framework of a reference group- the group against which status and performance are measured.

Referring to our concern here which is learners and language learning, more practical definitions have been approached. Branden (2006, pp.17-18) states that most people learn second, third and fourth languages because these languages can be of particular use to

them, and because, if they fail to acquire them, they may not reach certain goals that they have in mind. The exploration of learners' language need is often circumvented. Even it is explicitly acknowledged that individuals may have proper learning needs in mind, an analysis of what has to be learnt in order to speak and understand the target language is what seems to be needed the most. In addition, other terms have been proposed for 'needs'. These include: necessities, demands, wants, likes, lacks, deficiencies, goals, aims, purposes and objectives (Jordan, 1997, p.22).

Yet, the notion of need has been also regarded on as what learners will need to do in the learning situation in order to learn. Hence, the need has become no longer restricted to learners' goals but extended to other areas. Clark,1999 (as cited in Hinkel, 2005, p.977) points out that the term has also been used for learner characteristics (e.g., age, motivation, preferred learning style). Hinkel (ibid.) gets to the point and states that three broad categories of need are distinguished lying in the degree of the communicative competence –as the aim of language learning is communication, *my own statement*- required to fulfil a need:

1. *Communicative needs*: One may want to be competent in a particular second language in order to be able to communicate effectively with speakers of that language.

2. *Language competence-related needs*: One may want to become familiar, for example, with the way of life, culture, and more specifically, the literature of another people with a differing language; competence in the second language in which that culture is embedded and in which literary texts are written, is not, strictly speaking, a prerequisite to fulfil this need.

3. *Needs distantly, or not at all, related to language competence*: One wants to acquire particular social and/or intellectual skills of a general nature, such as empathy and rational thinking; such general educational objectives may be pursued equally well, or possibly

better, through the learning and teaching of a variety of other school subjects than second language.

It is necessary to mention here, before we go forward, that needs in second language learning stated above are similar to those of Foreign Language Teaching (FLT), by assuming that both languages are additional to the native language. Yet, Briggs and Ackerman (1977) mention that educational need draws heavily on the concept of social need. One social scientist Bradshaw 1972 (as cited in Briggs & Ackerman, 1977, pp. 22-23) has enumerated four types of needs: a) *normative need* which has to do with what students need in order to achieve the standard desired in a particular school, b) *felt need* is synonymous to want need when people are asked about their needs or wants, c) *expressed need* or demand is a need of students who would like to enrol in a college where seats are less than their numbers, in this case the administration has to talk about the need for more sections, stuff and even housing, d) *comparative need* exists when one school students do not receive the same service as a similar school students, whereas e) *anticipated or future needs* is a need for future goals foreseen by experts. The identification of this need may help students to cope with their environment as it will be, rather than the way it is. Anticipated needs are a necessary component in both social and educational planning to avoid what Toffler (1971, p.24) has called "future shock".

The previously mentioned views about a need are presumed to carry the same central idea: A need is present when there is a discrepancy or gap between the way things "ought to be" and the way they "are"Briggs and Ackerman (op. cit.). Needs are gaps in results, consequences or accomplishments as Figure 2.5. shows.

Figure 2.1. Needs are Gaps in Results (Adapted from Kaufman et al. 1993, p.4)
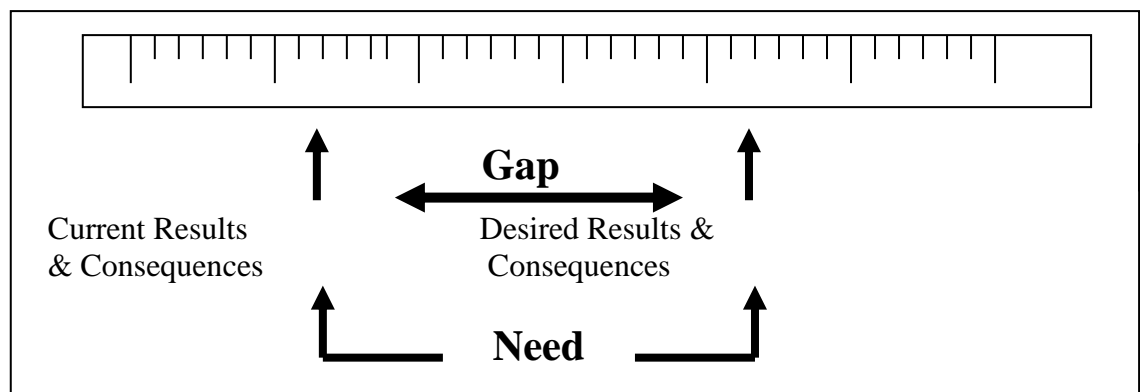
Berwick (1989, p.55) classifies needs in language learning only to two types: '1) felt needs and 2) perceived needs'. While the former are usually synonymous to expressed needs which learners have to describe the future desired state, the latter has to do with what certified experts perceive as needs in order to bridge the gap between the current state and the desired state. Perceived needs are also called normative needs or objective needs (Richterich &Chancerel, 1980). Later on, Richterich,1983 (as cited in Brindley, 1989, p.64) points out that objective needs which are initially language-related needs would be set up before learning-related needs come to light. Language related needs on the one hand; refer to collecting information necessary for broad goals of the language content, learning-related needs aims at gathering information about learners so as to guide the learning process. These two types of needs are afterwards named by Richterich (1980) *objective needs* and *subjective needs.* On the same vein, Brindley (1989, pp.64-67) approves the existence of objective and subjective needs as he defines them as follows:

- *Objective needs*: refers to needs which are derivable from different kinds of factual information about learners, their use of language in real-life communication situations as well as their current language proficiency and language difficulties.

- *Subjective needs*: refers to the cognitive and affective needs of the learner in the learning situation derivable from information about affective and cognitive factors such as

personality, confidence, attitudes, learners' wants and expectations with regard to the learning of English and their individual cognitive style and learning strategies.

Hutchinson and Waters (1987, p.54) provide as well two types of needs which they term *"target needs"* and *"learning needs"* (akin to objective and subjective needs). Target needs have something to do with what the learner needs to do in the target situation, whereas learning needs refer to what the learner needs to do in order to learn. Target needs, in turn, consist of important elements such as necessities, lacks and wants.

Brindley (1989, p.63) also distinguishes between the narrow (product-oriented) definition of needs whereby the learners' needs are seen solely in terms of the language they will have to use in a particular communication situation and the broad (process-oriented) meaning in terms of the needs of the learner as an individual in the learning situation.

It is widely agreed on that people interested in needs investigation are called needs analysts. Needs study conducted by experts is consequently termed NA. Let us get closer to what the notion of NA stands for in different available literature.

In the SHS context, though participants share neither the same rank nor the same setting, they have work place requirements as a common feature to take AE. Their needs converge at the occupational reasons. Yet, pilot trainees need English as well for a better achievement in the academic field.

2.1. What an NA is

As previously mentioned, the term need has not been confined to language learning solely but to other disciplines such as sociology, physiology, economy, politics…etc. therefore, NA is by definition, not solely constrained to language matters. Dudley-Evans and John (1998) affirm that NA is not exclusive to language teaching. In its broader sense, NA is a procedure of gathering information; its first appearance may date back to 1920 in India (West, 1994, p.1). NA has been also termed Needs Assessment by many experts and course designers. Berwick (1989, p.51) states that 'NA or assessment of language

programme planning owes its origin to the need of public aid to education in USA during the mid-1960s as a condition for offering a financial support'.

Reviere (1996, p.6) defines needs assessment as a systematic process of collection and analysis as inputs into resource allocation decisions with a view to discovering and identifying goods and services the community is lacking in relation to the generally accepted standards, and for which there exists some consensus as the community's responsibility for their provision. For McKillip (1998, pp.261-262), NA is a decision-aiding tool used for resource allocation, program planning, and program development in the fields of health, education, and human services.

In language learning contexts, NA is traced back to the 1970s when its procedure first appeared in language planning (Nunan, 1988). While such procedures have a long tradition in other areas of adult learning, their use in language teaching became widespread with their adoption and espousal by the Council of Europe's modern language project. In these Council of Europe documents,NA is used as the initial process for the specification of behavioural objectives (ibid, p.43). Munby (1978) stresses that the concern and the necessity to learners to acquire a communicative competence forms a platform for NA.

Based on the narrow (product-oriented) interpretation of needs whereby the learners' needs are seen solely in terms of the language they will have to use in a particular communication situation.NA therefore becomes a process of finding out as much as possible before learning begins about the learners' current and future language use (Brindley, 1989, p.63). However, based on the broad (process-oriented) interpretation of needs, NA means much more that the definition of target language behaviour: it means trying to identify and take into account a multiplicity of affective and cognitive variables which affect learning such as learners' attitudes, motivation, awareness, personality, wants, expectations and learning styles (ibid.).Witkin and Altschuld (1995, p. 4) define NA as "A systematic set of procedures undertaken for the purpose of setting priorities and making

decisions about program or organizational improvement and allocation of resources. The priorities are based on identified needs"

That is to say, NA is a systematic mechanism of data collection about target population for defining learning/teaching priorities based chiefly on investigated needs. Stufflebeam et al. (1985) state that NA assists in determining what needs exist and how they should be addressed as well as providing the degree to which intended needs are addressed effectively and efficiently through the program or resources available.

Nunan and Lamb (1996) view that collecting information, either formally or informally, about learners before the beginning of the course might include biographical information in addition to data about the communicative tasks learners desire to perform in the target language. Several types of data collection conducted through NA procedures. Richards (1990, pp. 1-2) states that needs analysis in language learning serves the purposes of:

1. Providing a mechanism for obtaining a wider range of input into the content, design, and implementation of a language program through involving such people as learners, teachers, administrators, and employers in the planning process

2. Identifying general or specific language needs that can be addressed in developing goals, objectives and content for a language program

3. Providing data that can serve as the basis for reviewing and evaluating an existing program.

In sum, NA forms a framework upon which experts embark on collecting data about learners and learning situations and purposes. Also, it helps in the betterment of the current learning program objectives that change according to the alternation of learners' and learning needs. What we can notice here is that NA is the nucleus platform in planning any language course. As Jordan (1997, p.22) stresses that NA should be the starting point for devising syllabuses, materials and the kind of teaching and learning that takes place.

Widdowson 1987 (as cited in Nunan, 1988, pp. 43-44) suggests that syllabuses based on specific needs and specific ends would result in restricted competence, whereas general-purposes syllabus is process oriented; educative in function and lead to general competence. This view seems to be pertaining to our research purpose here; for the traders who lack the General English competence would come to manifest, presumably at the course, a limited competence which we may term 'business communicative competence'. Nunan (1988, p.44) disapproves this idea and points out that Widdowson's (1987) criticisms are logico-deductive rather than empirical. Widdowson, 1983 and 1987 (as cited in Nunan, 1988, p.45) adds that needs-based courses will result in a formulaic 'phrase book' English and learners, therefore, will not be able to communicate language spontaneously. Nunan (1988) responds, however, that generation of language communication, to his knowledge, has a great deal to do with the methodology followed and has nothing to do with content selection. We share Nunan's opinion that methods applied to teaching are of importance to help learners to communicate fluently. Yet, it is also worth mentioning that language content based on particular needs would lead to language communication –the objective of the syllabus- but in a limited area which is the syllabus content. 'Needs analysis has, in fact, shifted accordingly with language teaching change from language-centred to learner-centred approaches' (Berwick, 1989, p.70).

At first, effective language communication, based on objective needs, was set as the main purpose in any teaching context. Language teaching tended to concentrate on the end *product*: the actual language which learners had to use. Afterwards, language teaching based on subjective needs have come to show an interest in learning content rather than going to a bother of considering affective and cognitive factors of learners. Now, the *learning content* of the course was identified with the *language content* derived from the teacher's diagnosis of objective communication needs (ibid., p. 72).

2.2. Evolution of Approaches to NA

It is worth mentioning that the difficulty in arriving to a workable definition to the notion 'need', would probably stem from the constant evolution of the concept of 'needs analysis' since 1970s and shifted the scope of analysis (West ,1997). Now, NA developed through several stages, these include: Target Situation Analysis (TSA), Present Situation Analysis (PSA), deficiency analysis, strategy analysis, means analysis, language audit and constraints (Jordan 1997, p.22) and later on learning centered-approach (Hutchinson & Waters, 1987)

- **TSA** has been first introduced by Munby, 1978 (as cited in Robinson,1991) and focuses on the needs of learners at the end of the language course). It was considered as the earliest form of NA encountered in the early work of the Council of Europe. TSA may operate at various levels of detail:

a. Establishing priorities in terms of various languages – English, German, etc. (ibid., p.71)

b. Establishing priorities in terms of skills in one language – speaking, reading, etc. (ibid.)

TSA has usually been combined with the collection of information about the communicative demands faced in the target situation (Davies & Elder, 2006). This includes information about language use in specific academic, professional, or vocational groups and the linguistic skills used most frequently in the target situation (ibid., p. 674). However, Robinson (1989, p.403) states that TSA is only half the story. As well as knowing one's destination one also needs to know one's starting point. Thus a PSA is also required (ibid.)

- **PSA** refers to English language information about the learners: what their current skills and language use are (Dudley-Evans &St. Johns, 1998, p.125). PSA involves finding out not only what students are like at the outset of their course, but also more about their teachers, teaching institution and, going further, the wider society around (Robinson, 1989, p.404).

- **Deficiency Analysis** focuses on information about what the learners lack. It came to light as a criticism to the abovementioned approaches of analysis. Learners' present language proficiency has to gain much attention. Now needs turn to be termed lacks, deficiencies and subjective needs. (Howard & Brown, 1997, p.71).

- **Strategy Analysis** represent a search for means of travel- the approaches to learning or teaching (ibid.). It, therefore, embarks upon gathering information about the preferred styles and strategies of the learners (Jordan, 1997.). In strategy analysis, the point of departure starts from learners themselves and how they perceive their own needs Allwright, 1982(as cited in Jordan, 1997, p.27). Based on this assumption, Allwright comes to distinguish between learners' a) *needs* which refer to skills pertinent to learners' aims, b) *wants* which learners perceive as highly important to determine within a fixed period of time and c) *lacks* which refer to the discrepancy between the learner's current state of competence and the desired future state.

- **Means Analysis** is considered as the reverse order of any approach as it starts by gathering data about constraints in local situations, e.g. cultural, attitudes, resources, materials, equipment, methods then involves study in this local situation which includes teachers, teaching methods, students, facilities…etc (ibid., p. 27). It included four main stages (West ,1997, pp.71-72):

a) "Classroom culture/ learner factors – what is or is not possible within particular educational culture or tradition

b) Staff profiles/ teacher profiles - what is or is not possible with the staff available, considering numbers, etc

c) Status of language teaching/ institutional profiles as far as timetable and resource allocations are concerned

d) Agents and management change that deals with an assessment of the innovations necessary for establishing more effective programme." West (1997, pp.71-72)

- **Language Audits** attempts to define language needs for companies, regions or countries (ibid.). It helps to decide how many hours of language tuition are needed to bridge the gap, or what should be prioritised where time is limited (Dudley-Evans & St.John, 1998, p.58). For how to collect data, Jordan (1997) cites fourteen methods; these include:

1. Advance documentation,
2. Language test at home,
3. Language test at entry,
4. Self-assessment,
5. Observation and monitoring,
6. Class progress tests,
7. Surveys,
8. Structured interviews,
9. Learner diaries,
10. Case studies,
11. Final tests,
12. Evaluation/feedback,
13. Follow-up investigation and
14. Previous research.

Robinson (1991) states fewer methods for data collection; however, they are perceived very all-inclusive and reflect several enquiries, these cover:

1. questionnaires,
2. interviews,
3. observation,
4. case studies,
5. tests,
6. authentic data collection and
7. participatory needs analysis.

Hutchinson and Waters (1987) add learning-centered as another approach to NA which has shifted attention towards the learner at every stage. Basically, it looks beyond the competence that enables someone to perform, because what is really sought is not the

competence itself but how someone acquires the competence. There has been a shift from language-centered approach to learning- centered approach. Hutchinson and Waters (ibid.) introduce a distinction between *target-needs* and *learning needs* which refer to what learners need to do in the target situation and what learners need in order to learn respectively. Three need appellations come under target-needs, they are:

1) *"Necessities*: refer to the demands of the target situation; i.e. what learners have to know so as to function effectively in the target situation.

2) *Lacks*: have to do with the gap between the target proficiency and what the learner needs.

3) *Wants*: represent the subjective needs in contrast to abovementioned objective needs. Now learners' perceptions are in conflict with other experts' perceptions. Wants become needs which course designers, sponsors and teachers recognize as crucial to learners". Hutchinson and Waters (1987, pp.55-56).These needs are illustrated and explained in the table below:

Table 2.1.
Necessities, Lacks and Wants (Adapted from Hutchinson & Waters, 1987, p.58)

	OBJECTIVE (i.e. as perceived by course designers)	SUBJECTIVE (i.e. as perceived by learners)
NECESSITIES	The English needed for success in business English course	To reluctantly cope with a target situation
LACKS	(presumably) areas of English needed for business English	Means of doing business course
WANTS	To succeed in business English course	To undertake business course

Data collection for target needs involves more than simply the linguistic features of the target situation (Hutchinson & Waters, 1987, p.58). Various ways followed to gather information about target situation (akin to Robinson's 1991); they comprise:

o Questionnaires;

o Interviews;

o Observation;

o Data collection e.g. gathering texts;

o Informal consultations with sponsors, learners and others.

TSA has been presented according to the following framework:

✓ Why is the language needed?

✓ How will the language be used?

✓ What will be the content areas be?

✓ Who will the learner use the language with?

✓ Where will the language be used?

✓ When will the language be used?

Insofar as learning needs are concerned, a crucial question underpins such an approach: How are we going to get from our starting point (lacks) to the destination (necessities or wants)? Now the focus turns to be on how learners acquire the communicative competence i.e. how the learning process takes place. Learning needs, therefore, are not concerned with knowing or doing but with learning (Hutchinson &Waters, 1987, p. 61). To analyse learning needs, we can use a similar checklist to that used for target situation analysis (ibid.):

✓ Why are the learners taking the course?

✓ How do the learners learn?

✓ What resources are available?

✓ Who are the learners?

✓ Where will the course take place?

✓ When will the course take place?

The figure 2.2. below summarises what have been previously stated concerning NA:

Figure 2.2. Summary of NA (Adapted from Jordan, 1997, p.29)

Researcher

Needs: target, future, objective, target-centred, goal-oriented, aims, necessities, TSA, language analysis	Purposes/needs, perceived needs, process oriented, PSA, strategy analysis, constraints	**Needs:** current, present, subjective, learning, learner-centered, wants/likes, lacks, Deficiency Analysis, PSA, process oriented,

Target Situation — Needs Analysis — Student
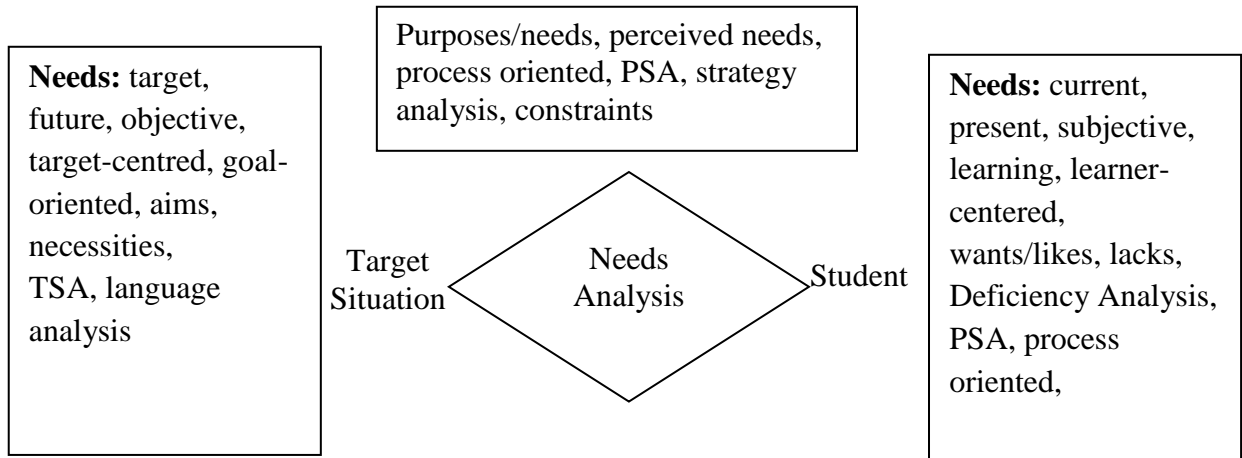
2.3. Conducting NA

Conducting NA requires careful planning. It takes places after several posed questions which entail the reason behind such analysis; who is concerned and the way the analysis is undertaken.

2.3.1. Why Conducting an NA?

The basic question arises about reasons behind conducting NA is for the sake of deriving information and perceptions of values as a guide to making policy and program decisions that will benefit specific groups of people Witkin and Altschuld (1995, p.5). Within the same scope Soriano (1995, p.15) points out that the main motives to conduct a needs analysis are justification for funding, regulations or laws that mandate needs analyses, resource allocation and decision-making – determining the best use of the limited resources and as part of program evaluations.

Jordan (1997), however, states several reasons behind conducting an NA such as determining the type of syllabus and content, materials and (most importantly to our concern) is teaching and learning. Likewise, Richards (2001, p.52) cites various reasons to conduct a NA in language teaching. They include:

1) What skills the learner needs most in order to perform a particular role such as sales manager, tour guide or university student.

2) An attempt to determine whether a particular course is pertinent to learners' needs.

 3) A specification of students from a group who are in need most to training in a particular language skill.

4) A potential shift in direction once learners perceive it significant

5) Identification of the discrepancies between learners' current ability in language learning and their desired ability needs. That is, what learners are able to do and what they need to be able to do.

6) A collection of prospective difficulties learners may encounter.

According to Hobbs 1987 (as cited in Reviere, 1996, p.83), no consideration is more important to the success of project than having a clear statement of its purpose and goals. That is to say, the project of NA in learning has, by all means, to specify reasons, purposes and aims in order to facilitate the procedure and arrive to optimum results aimed at, learning accomplishment.

2.3.2. Who Conduct anNA?

   Witkin and Altschuld (1995) state that organisations, agencies including governmental agencies, school systems, social service agencies, business corporations, cities, hospitals and universities can all conduct anNA. However, Richards (1990); would confine learners, teachers, administrators and employers as the very concerned with NA procedure. In McDonough (1984, p.38), it has been mentioned that the National Center for Industrial Language Training (NCILT) puts forward a triangle representing people concerned with NA. They are chiefly; teachers, learners and company as illustrated in Figure 2.3. The latter is open to interpretation. It may stand for employers, administrators, sponsors whose task is complementary to that of teachers and learners.

Figure 2.3.Stakeholders Concerned with NA

Teacher-perceived needs   Student-perceived needs

Company-perceived needs
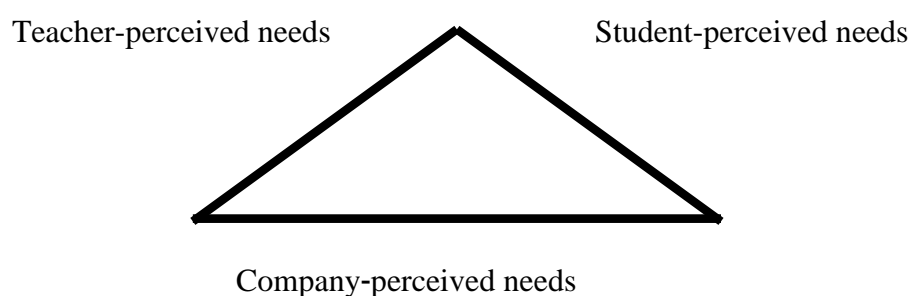
We can say that "a company" can also refer to researchers attempting to identify clients' needs (research population). It is interesting to note that NCILT report regards all these types of information as contributory rather than conflicting (McDonough, ibid). Jordan (1997) notes that teachers, sponsors, students, researchers or consultants are all involved in performing the needs analysis, whereas Mackay and Mountford (1978) limit just teachers and planners as concerned with NA procedures.

Smith (1982) emphasises that collecting information from as many potential data sources as feasible in an NA process so as to be able to obtain reliable and valid data that will ensure planning meaningful programs. In this respect, Smith (ibid) proposes two sources for data collection which he distinguishes as readily accessible resources such as school records, enrolment figures, grades, test scores and student information and additional resources like graduates and employers.

2.3.3. How to Undertake an NA?

NA can be carried out in a number of different ways which can be classified as either inductive (case studies, interviews, observation etc.) or deductive (questionnaires, surveys etc.). McDonough (1984, p.42) confirms that the analyser can employ various tools during the information collection procedure. The principal tools for NA are questionnaires and interviews. She also proposes that the analyser should be clear about two factors. One should consider what kind of information is required for each kind of person prior to deciding as to how data will be gathered. Secondly, there are no absolute reasons for selecting a particular instrument of information collection (ibid., p 45)

Some of the most common ones are West's (1994, pp.7-8)

1. "Pre-course placement /diagnostic tests which estimate the language level of the learners

2. Entry tests on arrival which can have a diagnostic value and identify learners' language weaknesses and lacks

3. Observation of classes which are of value mainly for deficiency analysis

4. Surveys based on questionnaires which have been established as the most common method and help researchers draw a profile of learners' needs/lacks/wants/ learning styles/ strategies etc. and at the same time make them aware of these needs/lacks etc.

5. Structured interview which consists of pre-planned questions. Answers can either be recorded or written down

6. Learner diaries which can be used as supplementary to end-of-course questionnaires offering retrospective, qualitative information.

7. Case studies which provide in-depth information about the needs and difficulties of individual learners or groups"

8. Final evaluation/ feedback usually in the form of questionnaires which provides information on the evaluation of the course and helps design/improve the next course". West (1994, pp.7-8)

   West (1997, p.73) added:

9. "Self placement/ self diagnostic tests, and

10. Previous research".

    It is clear that depending on the method of data collection, NA can be (West, 1994, p. 5)

a) "'off-line', which is conducted in advance of the course, so that there is plenty of time for syllabus design and materials preparation.

b) 'on-line' or 'first-day', which is carried out when learners start the course

c) 'On-going needs re-analysis' which reformulates objectives periodically as awareness of the demands of the target situation increases and the needs become more focused".

   Richterich and Chancerel,1978 (as cited in Richards, 2001, p.33) propose that learners, teachers, and employers could all be involved in determining learners' needs. Information could be collected about the resources of the teaching institution, objectives, the methods of assessment used, and NA should be an ongoing process throughout a course. Information would also be needed about the different kinds of activities the learner would

be using the language for (e.g., telephoning, interviewing), the language functions involved (e.g., explaining, requesting, complaining), the situations (e.g., face-to-face, in a work group), and which of the four language skills would be needed. Procedures suggested for conducting NA included questionnaires, surveys, and interviews.

Munby (1978) is a notable figure who first significantly contributed to designing a communicative syllabus for ESP learners by following a systematic approach to NA in ESP course design. The Munby model describes the kind of information needed to develop a profile of learner's communicative needs and is summarized by Schutz and Derwing,1981 (as cited in Richards,2001, p.34) as follows:

Profile of Communicative Needs

1. Personal	1. Culturally significant background about the individual, such as language background.
2. Purpose	2. Occupational or educational objective for which the target language is required
3. Setting	3. Physical and psychological setting in which the target language is required
4. Interactional variables	4. Such as the role relationships to be involved in the target language use
5. Medium, mode, and channel	5. Communicative means
6. Dialects	6. Information on dialects to be utilized
7. Target level	7. Level of competence required in the target language
8. Anticipated communicative events	8. Micro- and macro-activities
9. Key	9. The specific manner in which communication is actually carried out

The purpose of this thesis is, however, to conduct an analysis of needs to learn aeronautic English by both aviation professionals and officer pilots (trainees) at the SHS. Yet, it shows wisdom should we pick up what is pertinent to our research participants and our purpose. Actually, Munby's CNP was criticized for ignoring the 'wants' and perceptions of the learner (West, 1994; Nunan, 1988) and the model represents only a profile *about*

learners and not *from* them. Also, Munby's model came under a heavy criticism by McDonough (1984) and Hutchinson and Waters (1987) who categorized the model as "purist" or "idealist" in approach. The application of such model gives little or no interest of how learners achieve learning objectives.

Mackay and Mountford (1978) stated that all language teaching should be designed for the specific learning and specific purposes of identified groups of student". Thus a systematic analysis of these specific learning needs and language use purposes (communication needs) is a pre-requisite for making the content of a language program relevant to the learners' needs. NA is more crucial in ESP courses. ESP courses should be closely related to the field in which students are being trained. As the name speaks, ESPs are defined to include specific parts of language, which a specific group of learners needs to know in order to perform appropriately in the according context. This aspect of ESP courses is more noteworthy when these courses are offered at EAP or EOP regarding the particular domain of knowledge which the students are expected to master during their academic life. To attain the linguistic needs of the student there must be some familiarity with the end goals of the students inrelation to their academicand communicative life andthe researcher or syllabus design should try to assess their needs according to these purposes (Owolabi, 2012). The ideal condition seems to be preparing a single syllabus and ESP course for every single purpose. This is due to the specific needs of the students who differ according to the purpose they are studying and the course they are taking. Unfortunately, this is not what is common in today's universities and colleges: in some of them, no formal NA has been conducted. There are some researches on NA in ESP, Jasso-Aguilar (1999), who worked on the maids of Waikiki Hotel or Cowling's recent study of the needs of the workers in a Japanese company (Cowling, 2007).

Perhaps the reason behind the absence of the English curriculum for military aviators and for many other institutions is the reluctance of stakeholders to undertake or conduct NA. In

the Algerian context, NA research is probably looked to as tedious or unnecessary when designing courses or curricula. Awareness raising of the importance of NA is very crucial, because every single syllabus should be based on the needs of the learners regardless of their discipline. Most ESP in addition to General English courses end to be a total fiasco for the lack of a relevant NA.

2.4. Language Versus Communication Skills

Language is the basic element for communication between human beings. Though paralanguage is also useful in communication, it can, by no means, be verbal or written as it takes place only face-to face. Whereas language is a vital means for conveying a message either orally (face-to –face or distant via telephone) or written (via board, letters, emails, faxes, etc).

Smeltzer and Leonard's (1994) conception of communication skills includes the ability to encode, decode, receive feedback, and adjust to noise. It was found out, according to them, that the best communication takes place when both sender and receiver are skilled communicators. Ellis (1992, pp.81-82) moves a step further and elaborates the concept as follows:

> 'Communicator and listener skill depend on linguistic and cognitive resources. A person in the role of a speaker must make lexical and syntactic choices that assist with differentiation among possible meanings, and a listener must incorporate the language of the speaker into his or her knowledge and cognitive resources to make decisions about meaning'.

It is worth mentioning that communication skills mainly include language skills, but are not similar albeit the difference between them is almost always taken for granted. Smeltzer and Leonard (op. cit., pp. 39-43) point out that communication skill is the overall ability of an individual to communicate for understanding. In addition, they examine six factors which, according to them, create unique individual filters and affect communication. They are knowledge, culture, status, attitude, emotion, and communication skills.

During communication, linguistic and non- linguistic skills (memory, recalling and comprehension abilities (Ellis, 1992) gather to contribute to decoding as well as encoding of a message in the communication process. Ellis (ibid., p.146) notes that highly skilled communicators are able to make intelligent decisions about their messages and control the communicative code well enough for successful outcomes.

In aviation setting, communication is basically a required performance of both aviator trainees and trainers. Communication skills are not essentially innate but can be developed through language skills and communication faculties which are much related. When language skills are necessary for communicative skills, the latter can be acquired through approximate development of the former. "The acquisition of linguistic skills does not seem to guarantee the consequent acquisition of communication abilities in a language". (Widdowson, 1978, p. 67)

Basically, there are four language skills: speaking, listening, reading, and writing. speaking and listening relate to language expressed through aural medium. Reading and writing are concerned with the visual medium. Speaking and writing are active or productive skills, but reading and listening are receptive or passive language skills (ibid., p.57). All in all, the four language skills serve to some extent the development of communicative skills.

2.5. Listening Skill in ESP

In a recent review of materials for ESP, McDonough, 2010 (as cited in Goh, 2013) identified over 20 professional areas in which English was needed for effective communication. These included aviation, commerce, customer care, engineering, finance, human resources, information technology, law, law enforcement, maritime communication, media, medicine, nursing, telecommunications, and tourism where oral communication skills are crucial to an area of work (for example, aviation and maritime

communication) the focus tended to be on speaking and the correct pronunciation of technical words (Goh, 2013, p.55)

An important part of the communication process is listening (Guffey and Loewy, 2010, p.11). It is worth mentioning that listening differs from hearing. The latter takes place when sound waves strike our eardrums. When we don't remember what we have heard, it is probably because we did not listen (Acker, 1992, p.58). Goodall, et al. (2009, p.82) add that 'hearing is the passive and physical process of listening. We may hear a speaker's words, but we don't necessarily understand their meaning'.

One reason for the perceived differences between ESP and ESL listening is the assumption that learners who require ESP training already possess some level of proficiency in the language that enables them to communicate in English. Learning materials for these learners therefore tend to focus on developing the specific vocabulary of the field of work or study, a conclusion that McDonough (2010) drew from her survey of current ESP materials (Goh, op.cit., p.56)

Students enrolled in English - speaking universities are expected to have a level of mastery of English as indicated by scores on international standardized tests of English such as the Test of English as a Foreign Language (TOEFL), the IELTS (International English Language Testing Service) test, and the Michigan English Language Assessment Battery (MELAB). The purpose of academic listening instruction in tertiary institutions is typically to develop skills such as lecture comprehension that will help these students participate and succeed in academic or academic -related discourse. (Goh, 2013, p.56). Similarly, in the aviation industry, for example, pilots, air traffic controllers and ground crew are expected to use and recognize phrases specific to their area of work so that they can communicate effectively with speakers of English from different countries. In the context of this study, pilots are required to be good listeners during radiotelephony and comprehend instructions and thus respond effectively. However, other situations either

expected or not especially in wartime entail a good ability of listening for the general meaning and specific details in case of spying, being kidnapped or taken hostage; listening for gist means understanding the general meaning of a listening text without having to understand every detail. Situations like kidnapping, held hostage or spying require comprehension of the reason of hostage or kidnapping (understanding attitudes), the intention of the enemy to attack or withdraw, actions taken by the foe especially during the blackout and identification of the purpose of the conversation

However, listening for specific details (information) helps to focus on the detail of the text. This type of practice is necessary for accurate understanding of radio communication in the case of research study population. Discussing ESP listening, Dudley - Evans and St John (1998, p.95) proposed two macro- skills for EAP and EOP listening: "listening (to monologue)"and "listening and speaking," and each in turn consists of several micro - skills. I suggest that these macro - skills are in fact contexts in which listening takes place: one - way listening and interactive listening, for greater clarity on listening comprehension processes it is more helpful to consider the core comprehension skills that effective listeners use either singly or in combination in order to achieve their desired comprehension goals

For pilots, both interactive listening (radio communication) and one-way listening (mono-skill) are imperative. This was asserted by Goh(2002) and Vandergrift (2003); Active listening can occur in all types of listening contexts and is not restricted to situations where the individual is interacting with others. It is needed when one is talking to another person (interactive listening) or when listening to a talk or a lecture (one-way listening). In one-way listening, where the context does not allow them to do this, active listeners will make use of appropriate strategies to cope with difficulties and facilitate their comprehension by making predictions or drawing inferences, as well as monitoring and evaluating their understanding.

Vandergrift and Goh 2012 (as cited in Goh, 2013, p.61) put forward:

Listen for details understand and identify specific information

Listen for main ideas understand and summarize key points in a text

Listen for global understanding understand the gist of the message

Listen and infer fill in the gaps in one's understanding by using knowledge about the

language forms and use, and relevant prior knowledge

Listen and predict anticipate what one will hear

Listen selectively pay attention to specific parts of the message by ignoring other parts.

Johnson, 1997 (as cited in Acker, op.cit.) defines listening as 'the ability to understand and respond effectively to oral communication'. The listening process begins when you hear sounds and concentrate on them. Until you tune into sounds, they go unnoticed; the conscious act of listening doesn't begin until you select those you choose to hear. You choose to listen when (1) you think the message is important, (2) you are interested in the topic, or (3) you are in the mood to listen (Tofanelli, 2009, p.46)

The second function of listening is decoding or interpreting the messages that we receive. Once you have focused your attention on a sound and decided to listen, you begin to decode it. Interpretation is colored by your culture, education, and social frame of reference; the meanings you attach to the speaker's meaning may be quite different from what the speaker intended if your frame of reference is different. (ibid., p.46)

From the above mentioned sources, we can say that listening is no longer considered as a receptive skill, it is also considered as productive in a sense of the process that takes place when decoding and interpreting the message heard/listened to. Within this view, Beck et al. (2009, p.248) consider that people who use effective listening skills improve the communication process, as it allows them to:

- Build trust and respect

- Reduce misunderstanding and then reduce conflict

- Form better relationships

- Develop greater insight into people

- Broaden their knowledge

It is widely believed listening problems encountered by learners in both General English and ESP contexts are similar and are linked mainly to factors that influence fundamental cognitive processes, for example: accents, vocabulary, and the demands of interactive listening that require quick and appropriate responses, Goh (2013, p.58) To recognize the sounds they hear, and construct meaning from the spoken text, all second language listeners need three types of knowledge: knowledge about the language (phonology, syntax, and vocabulary), knowledge about language use (discourse and pragmatic), and knowledge about context, facts and experiences (prior or background knowledge, or " schema "). ESP listening is similarly dependent on knowledge about language forms and vocabulary that directly facilitates the perception and parsing of spoken input. Vocabulary remains a challenge for ESP listeners since each discipline has its body of technical and specialized terms that have to be additionally acquired Goh (ibid., p.59).

2.5.1. Listening in EAP and EOP Contexts

Under EAP contexts, learners are believed to add other new skills to their respective repertoire particularly in lecture comprehension, learners will need to learn to recognize specific types of discourse cues in extended discourse take notes and integrate incoming messages with information from other sources such as lecture notes and reference materials. These strategies necessitate effort and conscious behaviours, they play important roles in facilitating listening comprehension and overall listening development. These are used for manipulating and transforming the spoken input, managing and regulating cognitive processes, managing emotions and exploiting resources to assist comprehension (Chamot, 1995)

Listening in EAP contexts has captured the attention of researchers and ELT experts over the last three decades, with much of the research focussing on lecture comprehension. However, the same amount of research interest in listening is not evident for (most) other EOP contexts. For the present study, the focus is on both contexts and the main aim is to figure out that there will be differences between the EAP and EOP learning contexts for pilot trainees and trainers.

Of the over twenty professional areas that McDonough (2010) identified, ESP listening for non-academic purposes has yet to attract research in any substantial way. There is therefore still a lack of empirical evidence that could inform listening materials and instruction for specific purposes in the workplace. Belcher 2006 (as cited in Goh, 2013, p.63) has discussed this dearth of research in workplace listening competencies, observing that it is very much a reflection of the overall ESP reality.

A similar focus in ESP listening would help to elucidate internal and external factors (other than perceived problems which have been widely studied to date) that influence successful listening performance for academic and occupational purposes. In this regard, the following could be considered:

- The ESP learner's listening self - concept could be explored for its effects on listening comprehension, anxiety, motivation, and learning to listen for specific purposes.

- The ESP learner ' s metacognitive knowledge as it relates to both academic - learning and workplace - specific listening situations and beyond could be examined for its role in comprehension.

- The effects of knowledge about language and language use on listening performance could be investigated in different types of ESP listening.

- The way effective ESP listeners combine skills and strategies in one - way and interactive listening events could be described as this can provide valuable insights for teaching.

- More in - depth case and ethnographic studies of individual learners in different learning and cultural contexts could be carried out to provide rich data on how individual learners develop their listening in and outside the classroom.

- Metacognitive instruction in listening for academic and professional/ vocational purposes could be conducted and its effects on lecture comprehension and interactive listening examined.

- The relationship between general second language listening proficiency and ESP listening proficiency could be investigated to examine the interrelationships between the two types of listening.

- The relationship between listening performance in standardized language proficiency tests and listening achievement in ESP courses could help establish how well the former predicts the latter.

- ESP listeners' critical awareness of the way spoken language influences perceptions and understanding could be investigated to support a critical pedagogic approach to ESP listening. (Goh, 2013, pp.69-70)

2.6. Speaking Skill in ESP

Speaking is one of man's most complex skills. It is a skill which is unique to our species (Levelt, 1993, p.1). Widdowson (1978, p.58) describes speaking as 'an active or productive skill that makes use of the aural medium'. He assumes that clear and distinctive speaking refers to the manner in which the phonological system of the language is manifested.

Actually, ordinary people speak with a purpose either to get a response for a question, for instance, answering to a request, stating a fact, showing empathy and solidarity (condolences, encouragements), etc. Mackey1965(as cited in Bygate, 1995, p.5) summarized oral expression as: "Oral expression involves not only (..) the use of the right

sounds in the right patterns of rhythm of intonation, but also the choice of words and inflections in the right order to convey the right meaning".

In the above statement, Mackey (1965) refers, though implicitly, that speaking involves the right language usage in addition to language use. That is to say, if the spoken language illustrates the right language rules formation, this does not guarantee the correct meaning intended by the speaker. For example, the sentence ' then, he ate the mouse ' would be grammatically and phonologically correct but it seems odd semantically simply because human beings do not eat such disgusting animals. Yet, the same sentence would carry a meaning should it be put into a context where both speaker and listener have background knowledge that the speaker means the scene of the film 'the visitors'; the meaning which a third person would not get if s/he did not see the film. Levelt (1993) claims that speech is not just employing language rules but also knowing how to adjust those rules for an effective communication according to contexts. Hence, speaking is, moreover, one of our most complex cognitive, linguistic, and motor skills.

As corpora become more widely created and distributed, perspectives on learners, learner needs, and curriculum design are changing. Of significance here is the realization that most oral communication in English occurs among speakers who do not share a common first language. Indeed, English in these interactions is a lingua franca "far - removed from its native speakers' lingua-cultural norms and identities." Seidlhofer 2001 (as cited in Feak, 2013, p.35)

For an effective oral communication, Amrik (2003, pp.32-34) states some steps to follow; they are summarized as follows:

1) **Clear pronunciation**: words and utterance should be said clearly and correctly. The speaker, in order to get understood, has to adjust his speech speed, he neither be too fast not too slow.

2) **Brevity:** the speaker ought to make sure that the message is brief without losing its purpose. Too long speech may cause the loss of the message intent.

3) **Precision**: is one factor that makes communication very effective. Instead of saying 'total these invoices as early as possible', it is preferable to specify time and say 'could you kindly total these invoices and bring them back to me in half an hour's time'.

4) **Conviction**: the speaker has to establish conviction in what he says. The lack of conviction may result in a lack of confidence. Careful planning and thinking of the message before formulating it would create conviction.

5) **Logical sequence**: if the ideas of the speaker are well arranged and organized in a logical sequence, his message will be powerful.

6) **Appropriate word choice**: some words have different meanings, so the speaker has to be selective of the words that do not create any kind of confusion to the listener and it is preferable that the speaker uses words that are familiar to the listener.

7) **Avoiding hackneyed phrases and clichés**: hackneyed phrase such as ' I see', ' what I mean', and 'do you follow' may hamper the communication flow. They are used unconsciously but the speaker has to make an effort and exclude them from the speech.

8) **Natural voice:** deliberate affected style in speech may turn the speaker unnatural. A Natural voice is more effective. The most effective speech is that which is correct and at the same time natural and unaffected.

9) **Finding the right register**: registers of educated people differ from those of laymen and it is widely observed that words and expressions used between educated people are less than between uneducated. For this reason, the speaker has to bear in mind this fact and adjust his speech accordingly. An efficient oral communicator tunes in to the listener's wavelength by subtly and perhaps unconsciously, adjusting his vocabulary, loudness, speed of delivery and accent. The good oral communicator is almost multilingual, Amrik (2003, pp.32-34).

2.6.1. Speaking in Aviation

For AE, it is somehow different from daily life conversations that require exclusively a discourse task – oriented provided the correct forms have been learned; the limited flexibility in the communication format is thought to facilitate information exchange. A communication breakdown that led to disasters is not uncommon in aviation. To lessen the possibility of disaster due to communication breakdowns, the ICAO, which codifies practices, standards and requirements for international air navigation, in 2004 mandated that pilots and ATCs demonstrate an acceptable ability to communicate in AE Alderson, 2009(as cited in Feak, 2013). Although AE research and courses existed prior to the ICAO mandate, AE course development and valid assessments to measure proficiency have become important areas of ESP speaking inquiry. Further, calls have been made to create AE corpora but significant challenges exist in doing so. One challenge involves gaining access to actual communications between ATC and pilots. (ibid.)

In military aviation contexts and during trainings in peace-time, pilots are not exposed to stress, distraction or pressure of any kind though they act as if they were in war battle. However, the most important courses are those simulations which emphasize distraction and stress present during wartime. In this case deficit in plain English would lead to a kind of miscommunication or a misunderstanding between non-native speakers.

2.7. Reading Skill

Grabe and Stoller (2001, p.187) put forward that reading is recognized as the most significant academic language skill in the ESL context. Reading, like other skills, is a process through which meaning is comprehended via several stages depending upon the recognition of smaller units of the texts. Langan (1998, p.319) finds that comprehension is achieved gradually as the reader proceeds from "a general feeling" about the meaning to a "deeper level of understanding" of the text. The general feeling would represent the gist of the text whereas the deeper level provides details. Grellet (1987, p.6) accounts for reading

as a constant process of guessing. She further mentions that for efficient reading, the structure of longer units such as paragraphs or the whole text must be understood. It should not be a study of the text as a series of independent units

Swale (1985, p.167) argues that reading is an active process; it involves not only receiving the message, but also interpreting the passage. A reader interprets the passage by:

o Understanding the writer's implications

o Making inferences

o Realizing not only what information is given but also what information is not given

o Evaluating the passage.

Military aviators are required, more or less, to read. Officer pilots may tend to read different documents that trainers read. Trainees may read books, research articles and research questions for academic reasons. However, for job-related requirements, trainers and trainees may share the same interest like manuals, instructions, and latest documents on aircraft types which may range from general to technical and from simple to complex English. Then, reading is part of their activity and they are to adopt some reading strategies in order to comprehend what is written.

Grellet (1987, p.6) provides a compromise and proposes that the reader should start with global understanding and move towards the detailed understanding of the text to be read. By way of consequence, we come to a conclusion that there is a positive correlation between comprehension and time-efficiency. In other words, complete comprehension is time consuming whereas global understanding is time-efficient.

2.7.1. Reading Strategies

Reading skill is considered as a macro skill which in turn consists of other micro-skills such as:

2.7.1.1. Skimming

Skimming is the rapid reading; it is used to pick out the bulk of the text. Langan (1998, p.419) defines skimming as ' in skimming, you do not read every word; instead, you go quickly and selectively through a passage, looking for and making off important ideas but skipping secondary material. Cramer (1998, p.57) adds that skimming is skipping with skilled judgment. The ability to skim with skilled judgement requires near perfect and instantaneous recognition of main ideas transitional paragraphs, paragraphs describing key definitions or concepts, and summary paragraphs. In sum, while skimming, one has to be highly selective of the main ideas and messages in order to arrive to the final reading goal.

2.7.1.2. Scanning

Scanning is another type of swift reading. It is a technique which is used when the reader wants to locate a particular piece of information without necessarily understanding the rest of the text or passage. For example, the reader may read through a chapter of a book as rapidly as possible in order to find out information about a particular date, such as when someone was born. Scanning is limited in purpose and used for depicting particular units such as important words, sentences, numbers, dates, events, figures, etc.

2.7.1.3. Extensive and Intensive Reading

It is argued that extensive and intensive reading procedure is opposite to skimming and scanning strategy. The emphasis is now put on details and reading takes place without any selection of units. Extensive reading means a wide reading of an enormous number of books or articles. This kind of reading is aimed for knowledge or for pleasure. Intensive reading has to do with a thorough study of a text, line by line and word by word. In this kind of reading taking notes and highlighting essential points is very useful.

This strategy is considered as skill which is of utility to learners enrolled in academic fields rather than occupational purposes and thus the above mentioned micro-skill is not of a great importance to our research population.

2.7.2. Writing skill

Writing is considered as the most formal skill in communication for some reason mentioned above. In business domains, most written communications are more formal than verbal ones. Hence, Bovee and Thill (2000, pp.90-92) have proposed an audience-centered approach to writing which can be considered cornerstone of writing activities in any business communication. They have described three stages of writing: planning, organizing, and composing and revising.

Further, the writing activity at the work place is sensitive both to the sender and the receiver. Turk and Kirkman (1989, p.2) have discussed effective writing in technical and business communication and stress forming correct attitudes to writing to make it effective and suggest some fundamental steps. While writing, it is pertinent to recall our own experience as readers. They further emphasize that writing is a psychological situation and present "seven point plan' which includes analysing the aim, considering the audience, making a plan, discussing the synopsis, drafting the text, leaving the draft for some time, and finally revising and editing (ibid., pp.36-41). This approach, according to them, virtually, results in effective communication.

Smeltzer and Leonard (1994, pp.112-130) have discussed several dimensions with reference to organizational communication. They come up with twelve steps to guide the writer for a good selection of words and expressions, for clarity, comprehension and coherence. They are as follows:

One: Being precise in the choice of words, as they have denotative and connotative meanings.

Two: Using short rather than long words; simple words are also preferable for they are easy to comprehend and less confusing.

Three: Using concrete rather than abstract words. The former are more specific whereas the latter are much confusing

Four: Avoiding wordiness and using words with economy. Economy of words is a highly desirable feature of business messages.

Five: Eschewing clichés and gobbledygook. Such expressions affect badly the message of the writing.

Six: Using positive words. They create positive stimuli that encourage positive response.

Seven: Using a conversational style. Such style is greatly relevant in business writing. It creates a sense of concern and involvement.

Eight: Using short sentences; they are more understandable to the reader.

Nine: Keeping the active voice and avoiding the passive voice. Active sentences have normal order but passive sentences are reversed.

Ten: Developing effective paragraphs which should be well structured and ordered.

Eleven: Developing coherent paragraphs: coherence in writing is an effect of a well-organized and inter-related paragraph.

Twelve: editing and rewriting: these are two significant steps for a final shape. Editing requires examining what has been written and developing coherence. Rewriting has to do with rewording.

Writing may be the only skill in AE that is not shared fully by the research participants. It is presumed that only trainees are required to write in the academic setting. Trainers, being instructors and aviators at the same time, the biggest amount of time is usually spent on the aircraft which leaves no room to writing. However, writing for social purposes might be one of the objectives of the SHS trainers and trainees as well.

Conclusion

NA is considered as the corner stone of the development of any language curriculum, either ESP or General English. Conducting NA, usually stands for a set of stages that are involved in collecting information which serve as the basis for developing curricula that

meet the needs of a particular group of learners (aviation trainers and trainees in this research). In this chapter, it was attempted to present comprehensive concepts of NA that could be implementedin designing the data collection. The phases of NA include information about a) aviation students' and trainers' language competence, that is, what they know and what they do not know (PSA), b) The gap between the present knowledge (PSA) and the target situation requirements (TSA) and then sort out deficiencies, c) the different needs of aviation students' and trainers' which include subjective and objective needs.

The aim of this review was an awareness raising of the importance of needs and NA. The Chapter provides a theoretical grounding for the design of the NA and its collection procedure. Put it simply, this review has informed the researcher's choice of the NA procedure that underpins an appropriate AE curriculum in order to determine the immediate and delayed language needs of SHS students and teachers.

Introduction

In education, the most common question that is mainly posed is what is the most suitable curriculum to be implemented? Before attempting to answer this above question, curriculum designer, should first provide a response to some inquiries before making any decision about a course such as a the reason behind developing a particular curriculum and 'what for' learners should learn a particular subject (objectives, goals and aims); what 'elements of content' to be chosen as an inventory of a course; what pedagogical means and procedural sequences would be used to achieve the defined goals, aims and objectives, the sources of materials and means to present the content, and finally the population for whom the curriculum is designed; teachers and learners. Once the answers are apparent enough, the selection of curriculum type comes to light. In this chapter, we tend sometimes to use the term curriculum and syllabus interchangeably for literature provides no clear cut criteria that clearly differentiate curriculum from syllabus.

3.1. Curriculum Defined

In the first chapter, it was clarified that ESP is an approach to language teaching which aims to meet the special needs of particular learner (Hutchinson & Waters, 1987) This means that the ultimate goal of the work done either by ESP teachers or materials developers is concerned with designing appropriate curricula, syllabi or courses for those learners.

Second-language curriculum development has become increasingly complex since the advent of Communicative Language Teaching (CLT) during the 1980s. In various countries, school curricula increasingly take into account learners' present or predicted communication needs, the kinds of things they are likely to want to say, read, or write in the target language. An important feature of any design or process of development is that it be flexible enough to adapt to the situation it is intended for. This is essential that designers and people responsible for implementing a design should be aware of taking suggested

techniques and methods as law. They should rather look to the intent or aim of the design and be flexible in the way they achieve that. In effect this means that curriculum developers have to reflect on the different aspects that deal with curriculum development. The purpose of NA phase is to gather enough information so that designers can make informed and responsive decisions, first about whether an instructional intervention is needed, and, if so, what type of content should be learned, its sequence, media delivery, instructional strategies and tactics that would be appropriate for a particular audience in a given context (Seel & Dijkstra 2004, p.172). However, curriculum design is not simply a procedural or a technical response to problem solving. It is an act that is made *in situ,* that is, on the spot, by a practitioner employing deliberate thought (McKernan 2008, p.57).

For a genuinely comprehensive awareness about learners, learning needs, and course objectives, an NA will comprise three elements:

1. The range of communication and language required in the trainee's present and future professional roles.

2. The current ability of the trainee in terms of language and communication.

3. The actual objectives of the course.

Therefore, a formula (by using 1,2, and 3 of above sequences): 1-2=3, can be applied to find out the contents of the course but student's needs $(1 - 2)$ will not always be equal to 3 or the actual objectives (Brieger, 1997, p.88)

With the above development constraints in mind, this chapter purports to the review of literature with the theoretical background of the study related to curriculum models, frameworks, design and evaluation are presented.

Within this scope this chapter presents information on:

1. **Groundwork:** that part paves the way to a better understanding of major themes pertaining to the research subject:

- Syllabus,

- Curriculum and finally

- difference between curriculum and syllabus,

2. **Curriculum Theory:** Gives background information about curriculum models.

3. **Curriculum Practice:** Gives background information about curriculum development frameworks and criteria for ESP curriculum design and evaluation.

Before going on, one might find it plausible to make a distinction between a curriculum, course and a syllabus, though the term curriculum itself seems, to many people, rather confusing. However, Print (1993, p.3) contends that any institution that offers an educational program to learners employs a curriculum of some form. In most cases, "course" is commonly used interchangeably with "curriculum". The latter is considered as a course or set of courses. There is no reference to relevance, performance, effectiveness, or learning – just a set of courses. Nevertheless, the confusion usually lies between syllabus and curriculum.

Candlin 1984 (as cited in Nunan, 1988, p.3) states that curricula are concerned with making general statements about language learning, learning purpose and experience, evaluation and the role relationships of teachers and learners. According to Candlin (1984), they will also contain banks of learning items and suggestions about how these might be used in class. Syllabuses, on the other hand, are more localized and are based on accounts and records of what actually happens at the classroom level as teachers and learners apply a given curriculum to their own situation. These accounts can be used to make subsequent modifications to the curriculum, so that the developmental process is ongoing and cyclical.

Likewise, syllabus is normally a document which lists the subjects, and contents outline with broad time allocations. Functionally a 'syllabus' is generally unidimensional in the sense it merely presents the content or the subject matter to be studied. In the

syllabus there is no indication of implementation strategies. But the 'curriculum' is three dimensional because it takes into account the following factors:

1) The needs of the students; 2) the content; and 3) instructional methodology (Tejomurty, 1994, p.36). These factors will be illustrated in detail in Chapter six.

Chandra and Sharma (2004, p.78) add that the relationship between curriculum and syllabus is made very clear by the foregoing description of the aims of curriculum. Curriculum is not merely syllabus, because the former is only verbal, book-oriented and theoretical, while the latter is not. Yet, "in its narrowest sense, curriculum may be synonymous to syllabus" (Richards& Renandya, 2002, p.70)

In sum, what one might conclude is that curriculum covers the whole educational program with its content and methods deployed whereas syllabus is only concerned with units of the programs which put a focus on a part of the content. First and foremost, it is important for us to be clear what perception we have of curriculum. The most common perceptions of curriculum expanded substantially from the types suggested by Glatthorn 1987 (as cited in Print, 1993, p.4) may be described as:

- *"The ideal or recommended curriculum*: what is proposed by scholars as a solution to meet a need and consequently perceived as the most appropriate curriculum for learners.

- *The entitlement curriculum*: what society believes learners should expect to be exposed to as part of their learning to become effective members of that society.

- *The intended or written curriculum*: what organisations develop for the learners in their educational systems and what should be taught by the teachers in that system. This is often referred to as the syllabus by such organizations and systems.

- *The available or supported curriculum*: that curriculum which can be taught in schools through the provision of appropriate resources, both human and material.

- *The implemented curriculum*: what is actually taught by teachers in their classrooms as they and their students interact with the intended and available curricula.

- *The achieved curriculum*: what students actually learnt as a result of their interaction with the implemented curriculum?

- *The attained curriculum*: the measurement of student learning (usually through a testing process) which reveals those learnings acquired by students. Measurement is usually based upon the intended curriculum, particularly at systematic levels, though it may be based on the implemented curriculum at classroom level".

However, what is significant for us is the following:

a) - a formalized course of study designed for learners

b) - Conscious planning that attempts to determine learning outcomes

c) - Some form of structure to facilitate that learning. (ibid., p.4)

Traditionally, educational programmes are perceived as syllabuses. The latter received for a long time much interest in design and implementation. 'Later on, and when educational goals and objectives failed to be met, the call for larger view of educational planning was necessary and therefore curriculum development came to light' (Nagaraj, 1989, p.129). Additionally, it would be also reasonable enough, to understand what curriculum design entails, by having a look at the range of curriculum models deployed by curriculum developers. The latter would tend to use the concepts 'curriculum design, curriculum development and curriculum process interchangeably. Nunan (1988, p.37) seems to make a distinction between design, development and process as he considers that a curriculum process involves four phases:

1- Design phase

2- Development phase

3- Implementation phase

4- Evaluation phase

Curriculum models may be classified according to a continuum that ranges from rational to cyclical to dynamic approaches of curriculum development (Print, 1993, p.60). Curriculum developers and teachers do not often share the same preference of a particular model. Each has respective good reasons.

3.2. Curriculum Models

Curriculum models are believed to be classified according to a continuum which ranges from the rational to the communicative model. The subsequent sections present the development of models in a chronological order. The best known curriculum theory writers are illustrated with the development of their respective models.

3.2.1. Rational Model

The Tyler Model, developed by Ralph Tyler in the 1940's in his classical book 'Basic Principles of Curriculum and Instruction' in which he wrote originally his ideas for his students to give them an idea about principles for making curriculum. He did not intend for his contribution to curriculum to be a lockstep model for developmentIt is also termed objectives, classical and means-end model (Print, 1993). Around forty years ago, Tyler suggested that a rational curriculum is developed by first identifying goals and objectives, then by listing, organizing and grading the learning experiences, and finally, by finding means for determining whether the goals and objectives have been achieved, Tyler 1949 (as cited in Nunan, 1989). Rodgers (1989, p.27) also calls it the conventional view of curriculum, derived from governmental systems design. It has been perspective and rule-driven. It defines a linear sequence of events comprising formulation of objectives, selection of content, task analysis, design of learning activities, definition of behavioural outcomes and evaluative measures for determining the achievement or non-achievement of these outcomes (ibid.)

Like Bobbitt (1918; 1928), Tyler (1949) also placed an emphasis on the formulation of behavioural objectives. Since the real purpose of education is not to have the instructor

perform certain activities but to bring about significant changes in the students' pattern of behaviour, it becomes important to recognize that any statements of objectives of the school should be a statement of changes to take place in the students. (Tyler, ibid, as cited in McCaffery et al., 2007). Tyler's curriculum stages of development are summarized in Figure 3.1 below:

Figure 3.1. Tyler's Model of the Curriculum Process (Print, 1993, p.65)

Objectives	What educational purposes should the school seek to attain?
Selecting learning experiences	What educational experiences can be provided that are likely to attain these purposes?
Organizing learning experiences	How can these educational experiences be effectively organized?
Evaluation	How can we determine whether these purposes are being attained?

With "Basic Principles of Curriculum and Instruction," Tyler 1949 (as cited in Keating, 2006) assigned some learning to teachers. In addition to just teaching students, teachers had responsibility for achieving a set level of performance. The Tyler model proposed, at the first place, that every educational curriculum has to expand and change to accommodate learning styles and strategies of students, teaching methods of tutors and to reflect the latest development of information and technologies in certain academic fields. The Tyler model of curriculum for classroom instruction brought about new approaches to educational assessment, planning and evaluation. This model appeared as a criticism to the traditional education of lecturing and then assessing knowledge through a series of tests.

Also, this model suggested that instructors spend equal amounts of time assessing instructional plans and evaluating student learning. The four sections of the book, as previously mentioned, include sections on establishing objectives, focusing on learning experiences, planning and organizing short-term and long-term instruction tutorials and evaluating student and teacher progress.

3.2.2. Taba Model

In 1962, Taba wrote a book entitled « Curriculum Development: Theory and Practice » in which she refined Tyler's curriculum development model. Taba's model is considered as a grassroots approach, inductive and teacher approach. She stressed the fact that teachers are the first to determine the students' needs and then they are the one concerned to design a curriculum for them. In this model, the needs of the students are the foundation stone of this curriculum.

Adding three additional stages that involved diagnosing the needs of the learners as a first step and added the selection and organization of content as additional steps. According to Carl (2009), Taba's curriculum design process contained seven main steps:

1. Diagnosis of the learners' educational needs.

2. Formulating specific objectives.

3. Selection of content based on those objectives.

4. Organization of the content into appropriate levels and sequences.

5. Selection of learning experiences that help the students learn the content.

6. Organization of those learning experiences and,

7. Evaluation of whether the objectives are met.

Taba (1962) advocated the inductive approach to curricula development. By inductive, it is meant that curriculum designers start by the specific and move toward the general

approach to design, which is not the case with most traditional educational curricula which begin with the general perspectives and then work down to specific details.

Taba (ibid.) believed that thetheory evolvement of curriculum development and a method of thinking about it needs to ask what demands and requirements of culture and society are, both for the present and the future. Curriculum is a way of preparing young people to participate in the culture. It is worth mentioning that both Tyler and Taba models of curriculum are considered objective and rational and they are designed to provide a basis for decisions regarding the selection, structuring and sequencing of the educational experiences. Also, both Tyler and Taba models encapsulate objective and learner-centered approach which break from the traditional subject centered approach during which the subject matter is the center of the curriculum.

Taba (1962, p.12) translates the curriculum process order as follows:

Step1: Diagnosis of needs

Step 2: Formulation of objectives

Step 3: Selection of content

Step 4: Organisation of content

Step 5: Selection of learning experiences

Step 6: Organisation of learning experiences

Step 7: Determination of what to evaluate and ways and means of doing it.

The advantage of this curriculum approach in theory and practice is that it is systematic and has considerable organizing power. What is crucial in the approach is the formulation of behavioural objectives - providing a clear notion of outcome so that content and method may be organized and the results evaluated. Yet, this approach to curriculum design has received much criticism. Though its rationality and simplicity helped in gaining much power and success, at the same time it was criticized of having the following drawbacks (Neary, 2002, p.61):

- "At 'lower levels' behavioural objectives may become trite and unnecessary.

- It is difficult to write satisfactory behavioural objectives for 'higher levels' of learning (even in science and technology).

- The 'affective domain' cannot be assessed adequately.

- Behavioural objectives will discourage 'creativity' on the part of both teacher and learner.

- Behavioural objectives are 'undemocratic' in that they aim to make the result of learning predetermined by outside control.

- Use of behavioural objectives may imply a false division between 'cognitive', 'effective' and 'psychomotor' domains".

Lovat and Smith (1995, p.110) criticized the rational model as being static and undertaking no dynamic changing in the other domains, the fact which would lead other curriculum designers to constantly change in the content. They contend that "They are [rational models] primarily inaccurate because they assume that the curriculum and teaching/learning processes are static, rather than dynamic; linear and sequential, rather than complex and multidirectional)".

Stenhouse (1975, p.77), from another angle, criticized this approach to curriculum design as being a scathing attack to teachers by academics as he puts forward:

> I believe there is a tendency, recurrent enough to suggest that it may be endemic in the approach, for academics in education to use objectives model as a stick with which to beat teachers. 'What are your objectives?' is the more often asked in a tone challenge than one of interested and helpful inquiry. The demand for objectives is a demand for justification rather than a description of ends…it is not about curriculum design, but rather an expression of irritation in the problems of accountability in education.

By way of consequence, there was an urgent need for an alternative. The latter came to light by looking to curriculum as a process rather than as a product.

3.2.3. Wheeler Cyclical Model

This model came as a major criticism to Tyler model for it represents an ends-means view of education. Lawton 1973 (as cited in Nunan, 1988, p.12) suggests that:

> One objection to the whole curriculum model based on the four-stage progression from objectives to content to organisation to evaluation in that this is far too simple. For one reason, it is open to Bruner's suggestion that leaving evaluation until the final stage of the curriculum process is rather like doing military intelligence after the war is over: in other words, evaluation should take place at every stage. This would make the curriculum model a cyclical one rather than a linear model.

Print (1993) was one of the researchers who viewed that this type of models may have been undervalued by many scholars. Typically, it is Wheeler (1974) and Nicholls (1976) who are associated with this model. For this reason, Wheeler (1967) developed a more integrated cyclical model. The latter shares with Tyler model the same main principles such as aims, objectives and goals starting by selecting learning experiences and then going down to the selection of content, taking into account the organisation and integration of learning experiences and then specifies evaluation.

Print (ibid.) adds that cyclical models brought about major difference for that they view the curriculum process as a continuing activity, rather than the static process which the rational models tend to promote. This may be especially important given the dynamic nature of law. However, Wheeler's view of the model has been criticized as being too closely aligned with the rational models. Wheeler's upholds the contention that most curriculum theories which were into play did not work in practice, so he opted to develop his own which was based on logical development. It is most likely that Wheeler's model was criticized for the simple reason that it is based on this adherence to the logical process thus resulting in the view that Wheeler's model is really a rational approach.

Wheeler's so called cyclical model from 1974 consists of five logically sequenced phases, those being:

1. Selection of aims, goals and objectives.

2. Selection of learning experiences to help achieve these aims, goals and objectives.

3. Selection of content through which certain types of experiences may be offered.

4. Organization and integration of learning experiences and content with respect to the teaching-learning process.

5. Evaluation of each phase and the attainment of goals. (Wheeler, 1974, pp. 30-31)

According to Wheeler (ibid.), though each stage is independent of the other, there is a logical development from the preceding one to the next in the phase for "most commonly work in one phase cannot be attempted until some work has been done in a preceding phase".

Similar to the Cyclical model of Wheeler, Nicholls (1976) developed a model of curriculum that allows for a five-point plan of development. These five points consist of:

1. Situation analysis.

2. Selection of objectives.

3. Selection and organization of content.

4. Selection and organization of methods.

5. Evaluation.

It is believed that Nicholls' model is less complex and less complicated compared to the rational models. This belief was based on the fact that this model falls within the spectrum of the simplicity of design and practicality of ideas for the choice of the model of curriculum, or at least a slight variation of it.

3.2.4. Process Model

As its name suggests the process model focuses on:

- Teacher activities (and therefore the teacher's role)

- Student and learner activities (perhaps the most important feature)

- The conditions in which the learning takes place.

In sum, this model of curriculum is what actually happens in the classroom and what people do to prepare and evaluate. What we have in this model is a number of elements in constant interaction. It was Stenhouse (1975, pp.4-5) who first introduced one of the best-known explorations of a process model of curriculum. He attempted a cautious definition of process curriculum as follows as suggests that a curriculum is rather like a recipe in cookery:

> A curriculum is an attempt to communicate the essential principles and features of an educational proposal in such a form that it is open to critical scrutiny and capable of effective translation into practice'. It can be criticized on nutritional or gastronomic grounds - does it nourish the students and does it taste good? - and it can be criticized on the grounds of practicality - we can't get hold of six dozen larks' tongues and the grocer can't find any ground unicorn horn! A curriculum, like the recipe for a dish, is first imagined as a possibility, then the subject of experiment. The recipe offered publicly is in a sense a report on the experiment.

We, to some extent, share Stenhouse the same opinion that a curriculum can vary according to taste. Yet, we would contend that satisfying all tastes is a task has ever been far from complete.

3.2.5. Dynamic Model

Most of the curriculum models represent the most commonly used curriculum modes used by teachers. The previously-mentioned rational-objective curriculum models were based on the objectives of the educational programme by the end of the course either set by governments, teachers, sponsors or any other stakeholders, and it is generally top-down approach in nature. Whereas the process model emerges from the child's interests and needs, the dynamic model encompasses the stakeholders' collaborative and interactive deliberation over the curriculum (John et.al, 2012, p.131)

Like the rest of the curriculum designers, scholars tend to look for a model of curriculum which is less complex or at least less convoluted than rational models. One of the main advocates of this model is Walker (1971). Walker's 1971 model consists of the following three phases:

1. The platform

2. The deliberation phase

3. The curriculum design phase (pp. 51-65)

According to Print (1993, p.74), the dynamic model seeks to condemn all other models on the basis that they do not reflect the reality of the development of curriculum in the unique environment of educational establishments. Print (ibid.) as proponents of the model further argues that curriculum development does not and never follow a sequential pattern, so a more malleable approach is not just alluring but unconditionally fundamental.

Further, Print (ibid., p.78) has put forward that this model gives room to curriculum designers to shift attention from solely objectives towards more creative aspects. But by being so creative, it is possible that the developers could mistake or distort what it was that they were originally trying to achieve. In this case, it is apparent that dynamic and rational approaches to curriculum design often conflict for the simple reason that proponents of the dynamic model would argue that the rational model can never really be effective because of its inflexibility.

Despite the fact that Walker's model was accounted simple and general to curriculum design; it was severely criticized of being not the best example to adopt. In other words, subsequent scholars like Skilbeck(1984), though an advocate of this model, proposed some changes which expanded its scope. Skilbeck (ibid.) devised a slightly new and more complex model than that of Walker's but it keeps the same discipline and essence.

For Skilbeck's way of thinking, one of the main problems for the development of curriculum theory lies in the excessive use of the term 'objective'. Indeed, he clearly states that: "The very word '*objectives'* invites controversy, in curriculum planning development and evaluation." (p.210) However having stated this he does not shy away from the controversy as objectives figure heavily in his model. The five stages of his model are:

1. Analyze the situation

2. Define objectives

3. Design the teaching-learning program

4. Interpret and implement the program

5. Assess and evaluate Skilbeck (ibid., p.231)

At first sight, the above-mentioned steps in this model seem to be very similar to the cyclical model proposed by Nicholls. Yet, whereas the cyclical model is based on the same core, it is likely to begin with any of the stages according to the educational setting and objectives, however, the dynamic model tends to have a static and a pre-specified point of departure and arrival.

3.2.6. Brown's Curriculum Model

Most of language curriculum models development previously mentioned seem to differ regarding emphasis and main components; they have a common aspect which is the fact that curriculum development process is an ongoing cycle.

One example of language curricula that accounts for time and resources constraints is Brown's (1989, 1995a) because of its simplicity and flexibility. Brown's language curriculum development includes at least six components: a) analyzing needs, b) developing goals and objectives, c) putting appropriate norm-referenced and criterion-referenced tests into place, d) adopting, adapting or creating materials, e) supporting teachers in their efforts and f) regularly evaluating all the other five components in a formative manner (and occasionally in a summative matter), Brown, 1989 and 1995a (as cited in Hudson & Brown, 2002)

Figure 3.2. Components of Language Curriculum Development (Adapted from Brown, 1995a)
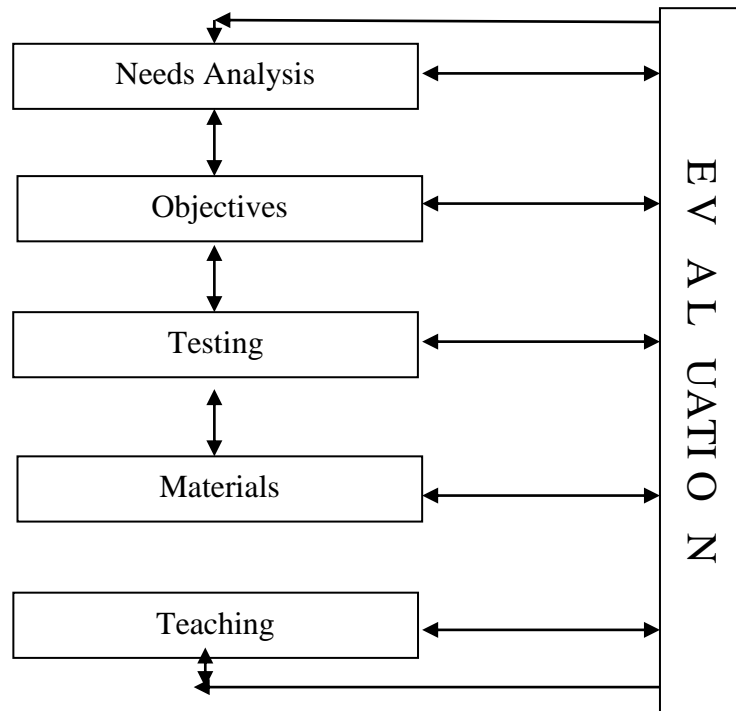
According to Brown (1989, 1995), this curriculum model is a systematic approach to designing and maintaining a language curriculum. It is worth noting that evaluation is integrally interrelated with the other five curriculum components. If one of the components has undergone a series of changes, this will certainly affect the rest of the components and the process as a whole without negatively influencing the process flexibility. The figure above also shows that curriculum evaluation is involved in all phases of development. Starting by NA, Brown (1995, p.36) defined it as "the systematic collection and analysis of all subjective and objective information necessary to define and validate defensible curriculum purposes that satisfy the language learning requirements of students within the context of particular institutions that influence the learning and teaching situations".

Brown (1995a) lists several procedures for gathering information in NA, namely the four broad categories of tests: proficiency, diagnostic, achievement and placement. The latter has been assigned to our population subjects in this study. These tests help in informing NA in several ways.

Regarding materials and testing, Brown (ibid) put forward the most essential curriculum-related questions posed which are:

1. Do the students need to learn the language material or skills outlined in the course objectives?

2. How are the students doing in learning the language material or skills outlined in the course objectives?

3. How much of the language material or skills outlined in the course objectives did the students learn?

3.2.6. Communicative Curriculum

An idealized communicative curriculum draws from three major areas: 'the view of the nature of language as seen by the field of sociolinguistics, a cognitively based view of language learning and a humanistic approach in education', (Dubin&Olshtain, 1986, p.68) The major difference between a traditional curriculum (based on classical humanism) and a learner-centered curriculum (based on progressivism) is that the latter involves the learners and the teachers in the decision-making process of 'what', 'why' and 'how' to teach. A learner-centered curriculum bases itself on the methodology and the principles of learning-teaching process which are clearly designated to bring about a classroom where an enquiry, activity, discussion, reflection and open-ended personal interpretations feature rather than predetermined objectives, content and mastery level; (Fazili, 2007, p.39)

Figure 3.3. Learner-Centered Curriculum
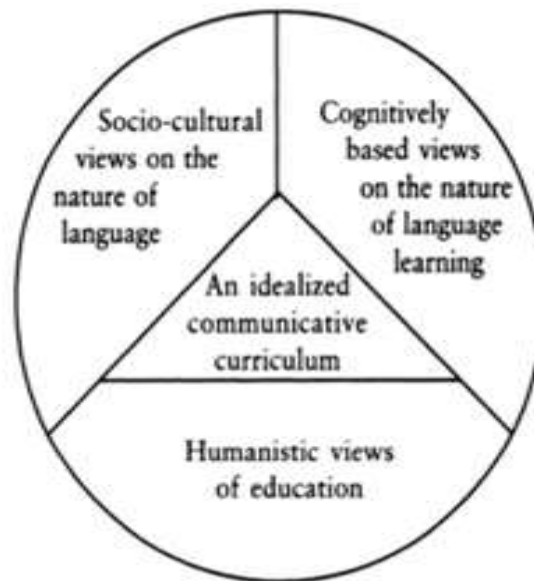
The outlook of sociolinguistics provides the theoretical perspective on language for communicative curriculum design. Sociolinguistics views language as inseparable from its socio-cultural context (Dubin& Olshtain, op. cit, p. 69). Of consequence to the language teaching profession is the fact that sociolinguistics deals with languages in ways that have far-reaching significance for their teaching and learning, particularly the question: what language do we teach? In terms of our discussion, sociolinguistics plays a vital role in influencing the specification of language content in communicative syllabus (Dubin& Olshtain, 1986, p. 69)

The communicative curriculum defines language learning as learning how to communicate as a member of a particular socio-cultural group. In any communicative event, individual participants bring with them prior knowledge of meaning and prior knowledge of how such meaning can be realized through the conventions of language form and behaviour. The ideas or concepts which are communicated about contain different

potential meanings and such potential meanings are expressed though and derived from the formal system of text during the process of communication. Hall et.al (2013, p.10)

Communicative curricula do not look exclusively to a selected target repertoire as specified of curriculum content, for a number of reasons. First, the emphasis on the process of bringing certain basic abilities to bear on the dynamic conventions of communication precludes any specification of content in terms of static inventory language items – grammatical or functional- to be learned in some prescribed ways. Second, the central concern for the development and refinement of underlying competence as a basis for a selected target repertoire requires a distinction between that target and any content which could be used as a potential means towards it. Third, the importance of the curriculum as a means for the activation and refinement of the process competences of different learners presupposes differentiations, ongoing change, and only short-term predictability in what may be appropriate content. (Hall et.al, ibid., p.20)

In the communicative curriculum, we are dealing with an interdependence of the curriculum components of purposes, methodology and evaluation. It follows that any evaluation within the curriculum also involves the evaluation of the curriculum itself.

According to Pratt (1980) NA has served three following purposes in a language curriculum development. It has:

1. provided mechanism for obtaining wider range of input into the content, design and implementation of language program through involving such people as learners, teachers, administrators, and employers in the planning process,

2. identified general and specific language needs that can be addressed in developing goals, objectives and content for a language program,

3. provided data that can serve as the basis for reviewing and evaluating an existing program.

Richards (2001, p.20) has given the following five dimensions of language curriculum development:

1. Needs analysis

2. Goals and objectives

3. Syllabus design

4. Methodology

5. Testing and evaluation

Besides being useful in gathering input into the content, design and implementation; a NA can be used in developing goals, objectives and content and hence can "provide data for reviewing and evaluating an existing programme" (Richards, 1990, p. 2). All these elements interact with each other therefore are essential to the process of curriculum development (Brown, 1995, p. 19). All decisions related to language teaching and learning are to be made after an NA is conducted. Only then the language courses can be adjusted to the needs of the learners, and thus, motivate them (Stern, 1992, p. 43).

3.3. Approaches to Syllabus Design

According to Hutchinson and Waters (1995), three types of syllabus design are mainly approached. First is language-centered approach which is seen as an undemanding and common to English teachers. It starts its procedures by the learner, identifies the target situation, provides the suitable language and material used, and then evaluates the syllabus items. Being systematic and logic, a language-centered approach is not, however, devoid of a set of shortcomings. Learners are typically a means of identifying the target situation; they play no more roles during the process and subsequently learners are to perceive only a restricted area of language.

Additionally, critiques of the language-centered process, shed light on its being still and inflexible. Once the initial analysis of the target situation is done, the course designer is locked into relentless process (Hutchinson & Waters, 1987, p.67). Moreover, being

logical and systematic can never be helpful in enabling the learner to internally generate a system. Similarly, again, data taken from learners' needs are to be appropriately interpreted i.e. it is assumed that focusing on language is, however, not helpful in determining whether the texts of each specialism are interesting or not. Nevertheless, it is too often the case that specialist texts based, exclusively, on language might be boring.

Further, a language-centered process is considered as an analytical procedure of the surface level. Competence is, by no means, taken into consideration during such procedures. For many ESP course designers, it is evident that this syllabus type is still powerful, though, an unacceptable model (Robinson, 1991, p.36)

The second type of process is more interested in developing learners' skills. Theoretically speaking, it looks at the competence that underlies the performance, whilst pragmatically speaking, it aims at making learners achieve what they can within some given constraints. Skills-based course is, in effect, aiming at assisting learners to develop skills and strategies within and after the course itself. Skills-centered approach plays a crucial role in both discovering the competence and helping course designers in discovering knowledge and abilities used in classroom by the learners. Hence, from the above mentioned ideas we synthesize that learners are more involved in the process, and we may arrive to conclude that learners within both language and skills centered types are still language users than language learners. This fact was a pressing demand for moving a step further to a more adequate approach. (ibid.)

A Learning- centered approach to course design, in contrast to previously mentioned types, primarily emphasized the being of the learner at every stage of the course design process. Actually, it looks beyond the competence that enables someone to perform, because what is the target is not the competence itself but how someone acquires that competence process (Hutchinson & Waters, 1987, p.73). The involvement of the learner in each phase would suggest that 'a) the course design is a negotiated process; its components

may affect as they may be affected by others. In addition to that, any distinctive nature of syllabus is warranted by the total influence of both learning and target situation and b) the course design is a dynamic process in contrast to language-centered approach'. Needs and resources are not, however, static and fixed; they may, now, undergo a change. Such kind of course design is literally ready to respond to any eventuality of development.

From the foregoing mentioned approaches to syllabus design and how data about learners' needs can be interpreted in favour of designing a comprehensive ESP course, it is apparent that both language and skills-based courses make the course less dynamic and interactive, which is not often the case with a learning-based approach. The latter is regarded as an interwoven procedure, as it is, after all, based on a recognition of the complexity of the learning process (Hutchinson & Waters, 1995, p.77). Now, 'the approach to course design is materialized in the form of syllabus. The syllabus determines what is to be learnt. The main purpose of a syllabus is to break down vastly stretched knowledge into manageable units' (ibid., p. 85)

For creating a successful ESP course, one should not rely on only one approach. It shows wisdom if one relies on a mixed approach. The latter either incorporates various approaches together or selects and combines partial elements according to the situation and the learners. The best approach, we presume, is that which is effective and relevant to learners and learning situation.For a syllabus to be efficient, it ought to meet the learners' needs and succeeds to cover the most prominent learning areas. Efficiency of syllabus is evaluated on the basis of the learners' output. Syllabus, though designed for learners, they are produced for teachers in the first place who execute this syllabus within classroom walls.

Syllabuses vary in terms of the content and the details they contain. The reason is that different syllabuses are conceived and designed to suit different purposes. Like approaches to language teaching and learning, syllabus design is inevitably related to, and hence

oriented by, philosophical, psychological and methodological constraints (Ennadji & Sadiqi, 1994, pp.135-136). Since there are approaches to teaching methods and curriculum design, there are three main approaches to syllabus design which yielded at least three types of syllabus.

3.3.1. Structural/Grammatical Syllabus

In the 1960´s the structuralistic approach underlined ELT, so that language learning was totally led by the grammatical domain. The overall knowledge of language rules, structures and patterns became widely known as linguistic competence. Linguistic performance of learners is, thus, conceived as a level at which learners are capable of handling those formal structures and patterns of language. In a description of such a trend to syllabus design, Wilkins (1976, p.2) says: ' in planning the syllabus for such teaching, the global language has been broken down into an inventory of grammatical structures and into a limited list of lexical items'. He, of course, specifies that syllabus designers selected their inventory from these lists according to the following criteria:

1-Simplicity, regularity, frequency and contrastive difficulty for the grammar inventory, and;

2- Frequency, range, availability, familiarity and coverage for the lexical inventory.

3.3.2. Notional/ Functional Syllabus

In the 1970s, the criteria of the structural/ grammatical syllabus started to be questioned; there was a clarion call towards a shift from structure to meaning. Wilkins (1976) was the pioneer of such change to syllabus approaches. Function and notion are terms generally coined with Wilkins. According to him, a meaning-based syllabus 'takes the communicative facts of language into account from the beginning without losing sight of grammatical and situational factors. It is potentially superior to the grammatical syllabus

because it will produce a communicative competence' (Wilkins 1976, p.19). He distinguished three types of meaning as: ideational, modal and functional meaning.

- Meaning that is expressed through grammatical systems in different languages: ideational, cognitive, or propositional meaning;
- Meaning that expresses the speaker's or the writer's attitude: modal meaning; and
- Meaning that is conveyed by the function of an utterance: functional meaning.

He identified also three components of meaning: semantic-grammatical (time, quantity, space), modal (degree of certainty, degree of commitment), and communicative functions (judgement and valuation, suasion, argument, rational enquiry). All these components are, in practice, considered by the notional syllabus whereas the functional syllabus would consider only the communicative functions alone. This is, indeed, one of the shortcomings of Wilkins' approach which he himself admitted and said ' if there is an approximate agreement among scholars on an inventory of semantico-grammatical and modal meaning categories, there is no such solution for the functional ones. The latter represents the meaning that arises from the fundamental distinction, very important for language teaching, between what we *do* through language and what we report by means of language' (Wilkins, 1976, p.41). He put forward that notional syllabus can place more weight on semantic criteria in selecting forms to include in the syllabus rather than on criteria of difficulty or order of natural acquisition. He suggests that this kind of syllabus would be suitable in, for instance, ESP courses whereas functional syllabus would be effective in designing the general courses intended for beginners to aiming to proceed towards general and fairly high proficiency in the language (ibid., p.58).

Widdowson,1987 (as cited in Nunan, 1988, p.37) pointed out that as long ago as 1979 that inventories of functions and notions do not necessarily reflect the way languages are learned any more than do inventories of grammatical points and lexical items. He also

claims that dividing language into discrete units of whatever type misrepresents the nature of language as communication.

3.3.3. Communicative Syllabus

The notional/functional syllabus wassoon criticized by some British linguists by merely replacing a set of grammatical items by a list of notions and functions (Richards & Rodgers, 2001).Nunan (1989, p.12) points out that 'among other things, it has been accepted that language is more than simply a system of rules. Language is now generally seen as a dynamic resource for the creation of meaning'. In terms of learning, it is generally accepted that we need to distinguish between 'learning that' and 'knowing how'. In other words, we need to distinguish between various grammatical rules and being able to use the rules effectively and appropriately when communicating. This would bring to mind akin analogy of someone who knows well the ingredients of a recipe but does not know how to prepare the dish. And thus, being abreast of recipes does never guarantee being a good cook.

During the1970s, communicative views of language teaching began to be incorporated into syllabus design. The central question for proponents of this new view was, 'what does the learner want/need to do with the target language?' rather than, 'what are the linguistic elements which the learner needs to master? Nunan (1988, p.11). The term *communicative syllabus* is a familiar one to most language teachers. Typically, a communicative syllabus will set out a variety of communicative abilities that the learner should be able to demonstrate at the end of a prescribed course or period of learning (McCarthy & Carter, 2001, p.55).

Whereas notional/functional syllabuses put a focus on learners' needs and perspectives, the communicative syllabus has come to more elaborate emphasis. Munby (1978) was one of the leading figures who introduced the communicative approach to syllabus design. His book provides a model for specifying the syllabus content relevant to the differing needs of ESP learners. He claims that "a specific category of second language participant has

specific communicative objectives which are achieved by controlling particular communicative behaviours." (Munby, 1978, p.29). Munby's approach focuses on the students' needs at the end of language course and target-level performance. The core of this model is CNP in which account is taken of 'the variables that affect communication needs by organizing them as parameters in a dynamic relationship to each other'. (Jordan, 1997, pp.23-24).He further proposes a processing model of terminal communicative competence which takes into consideration the participant's/learner's identity, the CNP and profile of needs, the language skill selector, the meaning processor, and the linguistic encoder.

Piepho,1981 (as cited in Richards & Rodgers, 2001, p.162) discusses the following levels of objective in a communicative approach:

1. an integrative and content level (language as a means of expression)

2. a linguistic and instrumental level (language as a semiotic system and an object of learning)

3. an affective level of interpersonal relationships and conduct (language as a means of expressing values and judgments about oneself and others)

4. a level of individual learning needs (remedial learning based on error analysis)

5. a general educational level of extra-linguistic goals (language learning within the school curriculum).

3.4. Types of Syllabus

We can distinguish mainly, according to Nunan (1988), between two types of syllabus: product-oriented and process-oriented

3.4.1. Product Oriented Syllabus

A product oriented syllabus focuses on the skills and knowledge the learner has to get, in order to communicate in the language. In other words, the focus is on the product (Nagaraj, 2002, p.158). This kind of syllabus is much more interested in content selection and end-product which encapsulates the skills intended to be developed. Product oriented syllabus is widely opted by language-centered adherents. Generally held views agree upon

the fact that grammatical syllabuses are product oriented syllabuses in nature. They look at language in terms of linguistic units, or building blocks, decide how many of these units should be mastered within a period of time and in what order, and what 'rules' of combining these blocks should be taught, so that learners master them. The content and methodology focus on product (ibid., p,158)

The outcomes of the said syllabus can be, broadly, defined into knowledge-oriented or skill-oriented types. When syllabus planners focus on the former type, they have to list elements and content that learners are expected to master at the end of the course (Dubin & Olshtain, 1986).

Basically, a content/knowledge- oriented statement of outcomes will answer the question: *what* are learners expected to *know* by the end of the course? Focus on knowledge has been associated with emphasis on accuracy in language courses since learners are expected to become proficient in linguistic forms. (ibid., pp.49-50). Yet, if designers choose to focus on skills, specification must be based on a careful survey and evaluation of the learners' needs. If students need to be proficient readers of the target language, then the course outcome should put a focus on reading skills. However, should learners need to be effective communicators of the foreign/second language with native speakers; designers are to emphasize speaking (oral) skill as the ultimate course end (ibid.).

Consequently, the distinction between the above orientations of the product syllabus would be of utility as far as language teaching in concerned. While knowledge/ content syllabus is approached without particular analysis needs of learners, it is quite suitable for General English language teaching programmes. Nevertheless, skills orientation to syllabus planning is much more appropriate to teaching ESP.

3.4.2. Process Oriented Syllabus

In recent years, some applied linguists have shifted focus from the outcomes of instruction, i.e. knowledge and skills to be gained by the learner, to the process through

which knowledge and skills might be gained (Nunan, 1988). Now, process syllabuses focus on the learning experiences themselves (Kudchedkar, 2002, p.159). Dubin and Olshtain (1986, p.46) ascribe the following points to process happening:

1. The organization of the language content which brings about certain activities.

2. The role that teachers and learners take during the learning process.

3. The types of activities and tasks in which learners.

At this stage, the notion of *what* learners are expected to know is no more an option, now the shift is towards *how* learners can be able to know what they are expected to know. The focus on the experiential 'process' aspect is presented thoroughly in Breen's ELT Curriculum cited in Nagaraj (2002, p.160). The framework consists of several levels and is summarized as follows:

- Level 1: decisions for classroom language learning: it encompasses participation, procedure and subject-matter; who does what, with whom, on what content, with what resources, when, how and why?

- Level 2 : alternative procedures: are chosen from and agreed upon as a basis for working contract of the classroom

- Level 3: alternative activities: are selected from, on the basis of appropriateness to decisions at level 1

- Level 4: alternative tasks: are selected and undertaken within activities.

At the final level, activities, tasks and procedures are evaluated in accordance to decision made initially.

3.4.3. Content – Based Syllabus

Using content from other disciplines in language courses in not a new idea. For years, specialized language courses have included content relevant to a particular profession or academic discipline. So, for example, the content of a language course for airline pilots is different from one for computer scientists (Freeman, 2000, p.137). Nunan (1988, p.49)

gives an example of Australian ESL education and illustrates that much of the teaching in adult ESL classes in content-oriented. Syllabuses take their point of departure the skills and knowledge which syllabuses planners and teachers feel is important for new arrivals. Units of work thus appear with labels such as 'health', 'education' and 'social services'.

For this reason, the question of what content to teach to different learners group led to devising a syllabus that incorporates the intended content. The terms content-based instruction (CBI) and content-based syllabus were initially used interchangeably. Content-based syllabus is the one organized around themes, topics and other units of content. Content, rather than grammar, functions or situations is the starting point in the syllabus (Richards, 2001).

Eskey 1997 (as cited in Master, 2000, p.93) labels CBI a syllabus and says:

> "The content-based syllabus is best viewed as a still newer attempt to extend and develop our conception of what a syllabus for a second-language course should comprise, including a concern with language form and language function, as well as a crucial third dimension-- the factual and conceptual content of such courses"

3.4.3.1. Content- Based Instruction

Initially, CBI was implemented to English speakers in England during 1970s in order to motivate 'language across the curriculum' to integrate the teaching of reading and writing into all other subject areas (Freeman, 2000, p.137), then the instruction was deployed in immersion programs in Canada and USA which were considered as the most successful programs to better learners' language proficiency. Later on, the application of CBI was on LSP programs.

Brinton, Snow and Wesche,2003 (as cited in Klee & Barnes-Karol, 2006, p.24) point out that these programmes were developed in response to the perceived failure of traditional language teaching methods to produce competent users of the second language. They define the primary rationale for a CBI curriculum as providing learners with "the

necessary conditions for second language learning by exposing them to meaningful language in use".

3.4.3.2. Models of CBI

According to Brinton, Snow and Wesche (1989), the most common models for CBI are theme-based, sheltered, and adjunct courses. The theme-based course is usually an ESL course with a content orientation (rather than focus) whose goal is L2 competence within specific topic areas such as family, society, environments, etc. In the theme-based course, language and content are the responsibility of the instructor and the learners are basically evaluated on their skills in L2.

The sheltered course is a content course whose goal is mastery of content material with only incidental language learning. The instructor is responsible for teaching the subject matter and language skills. Sheltered classes are designed to meet the needs of intermediate to high intermediate ESL students (Reppy & Adames, 2000, p.89)

The adjunct-model is a linked content and ESL course with two separate instructors. Its goal is both mastery of content material and the introduction to academic discourse with the aim of developing transferable skills. Freeman (2000, p.141) puts forward that the language teacher's focus is on helping students process the language in order to understand the academic content presented by the subject teacher. The language teacher also helps students to complete academic tasks such as writing term papers, improving their note-taking abilities, and reading academic textbooks assigned by the content teacher.

3.5. Task-Based Syllabus

Task based syllabus came to light as a shift from emphasis on product to process; now learning is viewed as a process which grows out of the interaction of learners inside of the classroom about prospective real life situations. With task based syllabus, the real world is imported to the classroom. It seems necessary, first, to define the term 'task' and examine

its implications in the design of courses and the implementation of courses with learning materials and activities.

3.5.1. Task

One would first embark on highlighting what task exactly means in language teaching/learning before launching to how syllabuses are designed according to tasks selections. In a broader view, Long 1985 (as cited in Nunan, 1988, p.45) provides a definition of tasks – far from language teaching- that entail language and those which are carried out without using language. He contends that a task is:

> …a piece of work undertaken for oneself or for others, freely or for some reward. Thus, examples of tasks include painting a fence, dressing a child, filling out a form, buying a pair of shoes, making an airline reservation…in other words, by "task" is meant hundred and one things people do everyday life.

Nunan (ibid., p.45) makes a similar assumption but differently as he considers literature guilty as far as the distinction between tasks is concerned. He upholds the contention that real-life tasks (i.e. those tasks that the learner might be called upon to perform in real life) and pedagogical tasks (those tasks the learner is required to carry out in the classroom) are not always distinguished.

More narrowly, one of the workable and comprehensive definitions of task is provided by Richards, Platt and Platt (1992, p.373) as they put forward that a task in teaching is an activity which is designed to help achieve a particular learning goal. A number of dimensions of tasks influence their use in language teaching. These include:

Goals - the kind of goals teachers and learners identify for a task.

Procedures - the operations or procedures learners use to complete a task.

Order - the location of a task within a sequence of other tasks.

Product – the outcome or outcomes students produce, such as a set of questions, an essay, or a summary as the outcome of a reading task.

Learning strategy – the kind of strategy a student uses when completing a task.

Assessment - how success on the task will be determined.

Participation – whether the task is completed individually, with a partner, or with a group of other learners.

Resources – the materials and other resources used with a task.

Language – the language learners use in completing a task (e.g. the mother tongue or English, or the particular vocabulary, structures or functions the task requires the learners to use).

3.5.2. Task –Based Instruction

Task-based syllabus comprises a list of tasks (for example, giving instructions or following directions) that the students will perform. It is argued that tasks provide a purpose for using language meaningfully and that through struggling to use language to complete the task, the students acquire language (Basturkmen, 2006, p.24)

Prahbu 1987 (as cited in White, 1988, p.104) explains:

> Task-based teaching operates with the concept that, while the conscious mind is working out some of the meaning content, a subconscious part of the mind perceives, abstracts or acquires (or recreates, as a cognitive structure) some of the linguistic structuring embodied in those entities, as a step in the development of an internal system of rules.

The performance of meaningful tasks takes place through interaction and meaning negotiation. Ellis (2003, p.3) made a distinction between tasks and exercises. While the former are related to pragmatic meaning, the latter are concerned with semantic meaning. He adds that exercise is 'form-focused' whereas a task is 'meaning focused'.

Hence such kind of task was labelled by Nunan (1989) a communicative task. He clarifies that during such task learners are comprehending, manipulating, producing or interacting in the target language. As a whole process of understanding, using and producing information, this seems to be processing the information contained in the data by using a number of strategies. 'Focus on meaning' and 'completeness' are aspects which Nunan's (1989) definition shares with Skehan's 1996 (as cited in Mishan, 2005, p.68) '...

an activity in which meaning is primary; there is some relationship to the real world; task completion has some priority; and the assessment of task performance is in terms of task outcome.'

Prabhu 1987 (as cited in Freeman, 2000, pp.148-149) identified three types of tasks which are:

o *Information - gap activity*: involves the exchange of information among participants in order to complete a task, e.g. an information – gap activity might involve a student describing a picture for another student to draw or students drawing each other's family trees after sharing information

o *Opinion- gap activity*: in this activity, students give their personal preferences, feelings, or attitudes in order to complete a task. Students may be given a topic for discussion such as unemployment and are asked to come up with some possible solutions. Another task might be to compose a letter of advice to friend falling into trouble.

o *Reasoning- gap activity*: requires students to drive some new information by referring it from information they have been given, e.g. students might be given a railroad timetable and asked to work out the best route to get from one particular city to another or they might be asked to solve a riddle.

What is noticed from what is illustrated above is that those activities are designed for advanced learners; beginners and even intermediate learners are presumed to be assigned much simpler tasks. Also, in Prahbu's approach, it is up to the teacher to decide which task to be undertaken by learners. Yet, another held view is for conducting NA of real-world tasks learners need to perform before beginning to design the pedagogical tasks. This will lead us, then, to discuss the syllabus design procedures.

Nunan (1993a, pp.62-63) provides a rationale for the selection of real world and pedagogic tasks by relying on either NA and/or Second Language Acquisition (SLA)theory research respectively. For him, real world tasks provide for rehearsal and are

determined by learners' needs analysis; and –pedagogic tasks which provide for psycholinguistic models of learning based on second language research findings.

It is widely agreed upon the fact that when designing a curriculum for ESP students in the field of EOP that learning tasks and activities have '*a high surrender value'*, meaning that the students would be able to immediately use what they learned to perform their jobs more effectively (Edwards, 2000, p.292). Designing the course based around this belief increases the students' intrinsic motivation which should aid their learning.

Nunan (1993a, pp.55-57) admits that the term 'task' became so comprehensive that it overlaps with both syllabus design and methodology. He claims that if syllabus design is concerned with selection, justification and sequencing of linguistic and experiential data, methodology is concerned with selection, justification and sequencing of learning tasks and activities. He explains that the changing nature of syllabus design expanded the issues of "What" and "Why" to include "How" and "When" to learn, all of which represent tasks pedagogical commitment. (Hamada, 2007, p.129).

3.6. Analytic and Synthetic Syllabus

Wilkins (1976) described two basic kinds of syllabus: synthetic and analytic, and claimed that all syllabi lay somewhere between these two poles. Initially people tended to equate synthetic approaches with grammatical syllabuses. However, some applied linguists feel that the term 'synthetic' need not necessarily be restricted to grammatical syllabuses, but may be applied to any syllabus in which the content is product-oriented (Nunan, 1988, p.28). Wilkins (1976, p.2) contends that in the synthetic syllabus: "The learner's task is to re-synthesize the language that has been broken down into a large number of small pieces".

The analytic syllabuses, in which learners are exposed to language which has not been linguistically graded, are more likely to result from the use of experiential rather than linguistic content as the starting point for syllabus design. Such content might be defined in terms of situations, topics, themes (Nunan, 1988, p.38)

Components of language are not seen as building blocks which have to be progressively accumulated. Much greater variety of linguistic structure is permitted from the beginning and the learner's task is to approximate his own linguistic behavior more and more closely to the global language. Significant linguistic forms can be isolated from the structurally heterogeneous context in which they occur, so that learning can be focused on important aspects of the language structure. It is this process which is referred to as analytic.

Here, we may conclude that a syllabus addresses the question of what to teach, whereas method answers the enquiry of in which way or how to teach what have been already selected. Nunan (1988, p.52) realizes the fact that with the development of process, task-based and content syllabuses, the distinction between syllabus design (specifying the *what*) and methodology (specifying the *how*) has become blurred.Figure 3.4. below sums up the procedure of designing a syllabus:

Figure 3.4. Syllabus Design Procedure
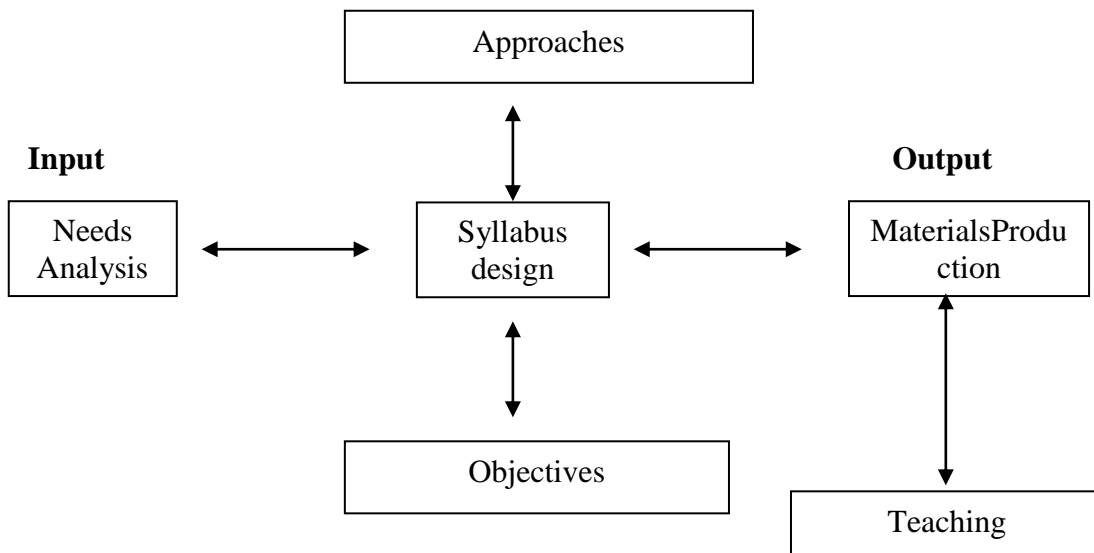
The information collected by the learners, teachers and administrators enable the curriculum designers to refine goals and objectives according to learners' needs and tailor

such specific courses of English that can effectively cater to their problem areas and needs (Brown, 2001, pp. 46-47).

3.7. Syllabus and Teaching Methods

Syllabus and teaching method are generally perceived synonymous; however, syllabus designers are not too often methodologists. While syllabus determines what to teach, method is virtually concerned with how to teach. 'Syllabus has been used to refer to the form in which linguistic content is specified in a course or a method' (Richards & Rodgers 1986, p.25).

3.7.1. Teaching Methods

Many methods have come and gone in the last 100 years in pursuit of the "best method", as the following chronology illustrates, with dates suggesting periods of great dominance:

Grammar Translation Method (1800- 1900)

Direrct Method (1890- 1930)

Structural Method (1930-1960)

Reading Method (1920-1950)

Audiolingual Method (1950-1970)

Situational Method (1950- 1970)

Communicative Approach (1970- present) (Richards, 2001, p.3)

Despite the fact that the above mentioned methods enjoyed popularity, at the time, they also suffered from some drawbacks which hamper the learning process. None of the methods is perfect, but this does never mean to abandon making use of these methods. It would be advisable that teachers deploy one method or two as long as they can do well with them. It should be borne in mind that while the method might be held in high esteem, and reflects current theories of language learning and teaching, it does not necessarily

mean that it can be implemented successfully across all learning contexts. The teachers' own subjective understanding of their local learning-teaching situations and their understanding of an attitude to a particular method play a crucial role in its implantation.

3.7.2. Which Method is the Best?

Prahbu (1990) has come to show that the existence of the best method is virtually a myth. According to him, in order to hold a fruitful teaching tight and proceeding against the influence of routinazation inside the classroom, any sensible teacher would be well advised to eschew the embracing of one particular method which is believed to freeze the teacher's sense of plausibility and consequently teacher's followed methods have to seesaw according to a particular teaching context. That is to say, the avoidance of the overroutinazation of teaching which adopts the same method, the same techniques and the same strategies would, to a large extent, lead to the increase of what is termed 'the teacher's sense of plausibility'. It is when the teacher's sense of plausibility is engaged in the teaching operation that the teacher can be said to be involved, and teaching not to be mechanical. Further, when a sense of plausibility is engaged, the activity of teaching is productive (Prahbu 1990, p.172).

A recurrent change between teaching methods is, somewhat, of worth and weight so as to fit a repeated change of the contextual settings. However, it has been greatly observed that espousing one sole method- even though believed the best- in different teaching milieus would not, in effect, lead to a better learning. Now what matters is not what method we employ; the question now is how we get involved in the teaching situation and thus get learners involved. What actually menaces our task is not the method itself, but it is the icy boring atmosphere created in the classroom.

3.8. ESP Curriculum

Dudley-Evans and St. John (1998, p.145) discuss criteria for ESP curricula design and put forward useful steps for ESP teachers and materials designers to consider. They list these concerns surrounding this issue in the form of the following questions:

- Should the course be intensive or extensive?

- Should the learners' performance be assessed or non-assessed?

- Should the course deal with immediate needs or with delayed needs?

- Should the role of the teacher be that of the provider of knowledge and activities, or should it be as facilitator of activities arising from learners' expressed wants?

- Should the course have a broad focus or narrow focus?

- Should the course be pre-study or pre-experience or run parallel with the study or experience?

- Should the materials be common-core or specific to learners' study or work?

- Should the group taking the course be homogenous or should it be heterogeneous?

- Should the course design be worked out by the language teacher after consultation with the learners and the institution, or should it be subject to a process of negotiation with the learners?

By asking these questions prior to planning curriculum development, the materials designers and ESP teachers can be better prepared, more so if they have to balance out some of these parameters which are linked to institutional and learner expectations (Dudley-Evans & St. John, ibid.). In this respect, these parameters of curriculum design should be considered and adhered to by the curriculum or course designers.

3.8.1. ESP Course Evaluation

Hutchinson and Waters (1996) stated that evaluation is basically a matching process whereby needs are matched to available solutions. They advised if this matching is

to be done as objectively as possible. It is best to look at the needs and solutions separately because in the final analysis any choice will be made on subjective grounds and they exemplify this interestingly:

If you were choosing a car, for example, you might just as easily choose it because you like its design or because it can reach 100 mph in 10seconds. It depends on what you consider to be important. The danger is that, if subjective factors are allowed to influence judgment too soon, it may blind you to possibly useful alternatives. You might not look at cars from a particular country, because you have a prejudice against that country, while in fact those cars may suit your needs best. (ibid., p.97)

ESP materials have to suit the needs of a number of parties:

- Policymakers,

- Institution,

- ESP teachers and

- Students

So, it is important that the subjective factors, which will admittedly play a part, should not be allowed to obscure objectivity in the early stages of the analysis and development of the materials.

Evaluation can be divided into four major steps:

1. Defining criteria,

2. Subjective analysis,

3. Objective analysis, and

4. Matching.

3.9. Materials

In his model for materials development cited in Tomlinson (2013), Troncoso's (2010) note the importance of principled criteria to guide material writing. he employed a modified version of Hutchinson and Waters' (1998) list of questions in materials development where

there is a need to consider the social, cultural and educational variables of the materials to be designed. The social and cultural refer to the who, where, what for, and why of the socio-cultural context where the material is used. The educational variables comprise the language perspective and methodology adopted for materials development. The language perspective addresses the views of language used (structural/functional/interactional) while the methodology relates to the perspectives of language learning assumed. Paramasivam (2013, p.99)

Troncoso used Hutchinson and Waters' (1998) list of questions to expand his model or materials development. The questions for each component (sociocultural context, language perspective, and methodology) are listed below:

1. Who, where, what for and why (Sociocultural context)

 Who are the learners/who is the material intended for?

- What is the material used for?

- Where is the material used?

- When is the material used?

- Why is the material used?

2. What (Language perspective/Views of language)

- What kind of language description is presented in the material? (form, function, meaning)

- What language points should be covered?

- What social aspects should be covered? What types of social interactions   are considered in the material?

- What text-types should be included?

- What theory/theories of learning should the material be based on?

- What kinds of exercises/tasks are needed?

- What teaching-learning techniques/strategies are to be used?

- What subject matter area(s) is/are required?

- What skills are promoted?

3. How (Methodology/Perspectives of language learning)

- How does the material aid language acquisition?

- How should the content be organised within the material?

- How should the content be sequenced within the material?

- How does the material help learners develop their communicative skills?

- How flexible does the material need to be?

For several years, much research was done on teachers, teachings and learners; little has been written on textbooks and materials. As far as EAP is concerned, a considerable attention was received by this field (Tomlinson, 1998, Richards, 2001), however, at the professional level; materials development was given little interest. There had been concerted activity around course and material design since the 1960s, particularly relating to EST.

3.9.1. Material Development

If the existing materials fail to fit the bill, we will have to develop our own materials. Team writing is probably the best solution to the magnitude of the task and the shortage of time. However, before an ideal team can be established, we must meet a number of requirements. These include:

- Trust among individuals,

- Member specialization, and

- The selection of an organizer and an agreed procedure (Jordan, 1997).

Materials evaluation and development are complementary. We can get ideas and techniques for our writing from evaluating existing materials. Similarly, writing materials

makes us aware of what to look for in the published materials (Hutchinson & Waters, 1987).

3.9.1.1. Evaluation

The question of how to define the domain of AE for testing purposes is taken up in detail in Moder and Halleck 2009 (as cited in Starfield & Paltridge, 2012). The study investigates how and to what extent phraseology and plain English should be evaluated in AE tests. Based on the performance of controllers on a variety of language test tasks, Moder and Halleck (ibid.) argue that it is essential to include both routine and unexpected radiotelephony tasks in AE tests, making use of representative authentic combinations of phraseology and plain language. The ESP practitioner is usually material developer and evaluator in case of rarity of materials of a highly specialized course. Course evaluation has developed over the years, and ESP courses can be shown to yield a high degree of satisfaction but this is not definitive proof that ESP is the necessary or any alternative for students in any particular case Byram(2004, p.196)

Inspired from the above mentioned steps, Hutchinson and Waters (1996, p.62) presented a checklist of criteria that can be used a basis for objective and subjective development and analysis of any ESP materials. They are displayed in the table below:

Table 3.1.

Learners' Evaluation Checklist (Adapted from Hutchinson and Waters, 1996, p.62)

SUBJECTIVE ANALYSIS (i.e. analysis of your course, in terms of materials requirements)	OBJECTIVE ANALYSIS (i.e. analysis of materials being evaluated)
AUDIENCE	
1. A.Who are the learners? **E.g.** • Ages; • Sex; • Nationality/ies; • Study or work specialism(s); • Status/role with respect to specialism;	1. B. Who is the material intended for?

• Knowledge of (i) English (ii) Specialism (iii) Other (e.g. knowledge of the world…etc.) • Educational backgrounds; • Interests (etc.)	
AIMS	
2. A. What are the aims of your course	**2. B. What are the aims of the materials?** (*Note:* check that aims are actually what they are said to be, and that by looking carefully at the material itself.)
CONTENT	
3.A. What kind of language description do you require? Should it be structural, notional, functional, discourse-based, some other kind, a combination of one or more of these?	**3.B** What type(s) of linguistic description is/are used in the materials?
4.A. What language points should be covered? (i.e. What particular structures, functions, vocabulary areas…etc?)	**4.B. What language points do the materials cover?**
5.A. What proportion of work on each macro-skill (e. g. reading) **is desired? Should there be skills-integrated work?**	**5.B. What proportion of work on each macro-skill? Is there skills-integrated work?**
6. A. What micro-skills do you need? (**e. g.** deducing the meanings of unfamiliar words) See Munby (1978), pages 116-132	**6.B. What micro-skills are covered in the material?**
7.A. What text-types should de included? E.g. Manuals? Letters? Dialogues? Experimental reports? Visual texts (pictures, diagrams? carts, raps, cartoons…etc)? Listening texts? Any other kind?	**7.B. What kinds of texts are there in the materials?**
8.A. What subject-matter area(s) is/are required? • What level of knowledge should be assumed (e. g. middle-school/	**8.A. What is/are the subject-matter area(s), assumed level of knowledge, and types of topics in the materials?**

secondary/university…etc.)? • What types of topics are needed? What treatment should the topics be given (e. g. factual/human interest/ angle/humorous/controversy…etc.?	What treatment are the topics given?
9.A. How should the content be organized throughout the course Around language points? By subject matter? By some other means (e. g. study skills)? By a combination of means?	**9.B. How is the content organized throughout the materials?**

Table 3.1: *Follow up*

10.A. How should the content be organized within the course units? By a set pattern of components? By a variety of patterns? To allow a clear focus on e. g. certain skills areas, a communication task…etc?	**10.B. How is the content organized within the units?**
11.A. How should the content be sequenced throughout the course? **e.g.** Form easier to more difficult? To create variety? To provide recycling? By other criteria? Should there be no obvious sequence?	**11.B. How is the content sequenced throughout the book?**
12.A. How should the content be sequenced within a unit? **e.g.** Form guided to free? From comprehension to production? Accuracy to fluency? By some other means? Should there be no obvious sequence?	**12.B. How is the content sequenced within a unit?**
METHODOLOGY	
13.A. What theory(ies)of learning should the course be based on? Should it be: Behaviorist, Cognitive, Affective, Some other kind, A combination of one or more of these?	**13.B. What theory(ies)of learning are the materials based on?** (Check carefully- don't just take the author's or publisher's word for it!)

14.A. What aspects of learners' attitude to/ expectations about learning English should the course take into account?	**14.B. What attitudes to / expectations about learning English are the materials based on?**
15.A. What kinds of exercises/tasks are needed? Guided free? ⟷ Comprehension production? Language/skills practice ⟷ language/skills use? One right answer many possible right answers? Whole class group ⟷ individual? Language /skills-based content-based? Mechanical problem-solving? Role-play, simulation, drama, games? Ones involving visuals? Self-study? Some other kind?	**15.B. Whatkinds of exercises/tasks are included in the materials?**
16.A. What teaching-learning techniques are to be used? **e.g.** Lockstep? Pair-work? Small-group work? Student presentations? Work involving technical subject-matter? Other kinds?	**16.B. What teaching-learning techniques can be used with the materials?**
17.A. What aids are available for use? Cassette recorders? Overhead projectors? Realia? Wall charts? Video? Other?	**17.B. What aidsdo the materials require?**
18.A. What guidance/support for teaching the course will be needed? **e.g.** Statements of aims? Lists of vocabulary and language-skills points? Language guidance? Technical information? Methodological directive or hints? Suggestions for further work? Tests? Other kinds?	**18.B. What guidance do the materials provide?**
19.A. How flexible do the materials need	

to be?	
	19.B. In what ways are the materials flexible? **e.g.** Can they be begun at different points? Can the units be used in different orders? Can they be linked to other materials? Can they be used without some other components (e.g. cassettes)?
OTHER CRITERIA	
20.A. What price range is necessary?	20.B. What is the price?
21.A. When and what quantities should the materials be available?	21.B. When and how readily can the materials be obtained?

3.10. Alternative Assessment

Alternative assessment, as its name suggests, is a type of evaluation that comes as an alternation of the traditional standardized testing. Whereas paper-and-pencil tests show what learners reproduce and recall their knowledge about the language, different types of alternative assessment demonstrate learners' ability of producing language. Alternative assessment also gives learners a role in their own evaluation process. It came to light as there is growing recognition that a single measure is incapable of estimating the diversity of skills, knowledge, processes, and strategies that combine to determine student progress (Wiggins, 1989). Also, Hamayan (1995, p.213) describes alternative assessment procedures as those techniques that can be used within the context of instruction and can be easily incorporated into the daily activities of the school or classroom.

Yet, according to Huerta-Macias (1995, p.8) there is no clear cut definition of "alternative assessment." Rather, she contends, a "variety of labels has been used to distinguish it from traditional standardized testing." The main goal is to gather data about how students are processing and completing authentic tasks in the target language.

In general, the following characteristics are met once alternative assessment is deployed:

• The focus is put on individual learner's progress over time, rather than on competition between learners.

3.11. Review of Learning Style Inventories

Sims and Sims (1995) provided a thorough overview of several learning style inventories, they are summarised as follows:

The Goldberg Organ Instructional Preference Inventory consists of 82 items to be completed by an individual in a two alternative, forced choice format. The items are not organized into scales and rage across a wide variety of issues considered important to instructional preference by the author. This instrument was developed to indicate "those characteristics of college students which predispose them towards learning more effectively from one, rather than some other particular instructional format". Goldberg, 1972 (as cited in Sims & Sims, 1995)

The Friedman and Stritter Instructional Preference questionnaire (1976) contains 40 self-report items with Likert-type six pint scales used to describe student preferences for pacing, influence over learning, media, active role in learning and feedback in learning.

Canfield and Lafferty Learning Style Inventory was designed with 120 self-report rank ordered items to investigate 20 scales grouped into four areas: conditions of learning, content of learning and mode of learning and expectation for learning. The purpose of this inventory was to identify learner preferences for instruction. Canfield 1980 (as cited in Sims & Sims, 1995)

Hill's 1976 Cognitive Style Interest Inventory is composed of 216 items, each of which involves a three point Likert-type scale to be completed by the students. The items are arranged to measure 27 different scales in three areas: symbols and their meanings, cultural determinants, and modalities of inference. The instrument was developed to

provide an overall picture of a learner's "mode of behavior in deriving meaning" Whitley, 1982 (as cited in Sims & Sims, 1995)

The Grasha and Riechmann Student Learning Style Scales (1974) in a series of self-report Likert-type five-point scale items that describe the learner along three bipolar scale dimensions (independent-dependent, avoidant-participant, and collaborative-competitive). The purpose of these scales was to "develop an instrument that was based on the type of learning styles college students demonstrate in the classroom", which they felt was the appropriate approach if teachers are to innovate and take students learning into consideration Riechmann and& Grasha,1974 (as cited in Sims & Sims, 1995)

The Inventory was the Dunn, Dunn, and Price learning style inventory. Several versions of this inventory were defined and rated as well as presentation, of the overall conception of the inventory. It is composed of 100 self –report true or false in order to investigate 24 scales grouped into five categories considered likely to affect learning: environmental elements, emotional elements, physical elements, sociological elements and psychological elements. The authors proposed that 'this instrument analyses the condition under which students in grades three through twelve prefer to learn Dunn, 1983 (as cited in Sims & Sims, 1995)

The Dunn, Dunn, and Price Inventory and its theory were placed in the instructional preference layer because the majority of the theory (17 of the 20 scales) describes features of the situation in which learning occurs.

3.11.1. Kolb's Learning Styles Inventory

Kolb (1981) developed the Learning Style Inventory (LSI) to evaluate the way people learn and work with ideas in day-to-day life. He used the LSI to help people understand how they make career choices, solve problems, set goals, manage others, and deal with new situations. The instrument consists of twelve questions in which the subject selects one of four possible responses. The four columns in the instrument relate to the four stages Kolb

identified as a cycle of learning: Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE). He paired AE and RO as polar opposites (doing vs. watching), and CE and AC as polar opposites (feeling vs. thinking).

According to Kolb (1981), Concrete Experience (CE) emphasizes active involvement, relating with other people, and learning by experience. Learners in the CE phase of learning are open-minded and adaptable, and are sensitive to the feelings of themselves and others. Reflective Observation (RO) is the stage in which the learner watches and listens, views issues from different points of view, and discovers meaning in the learning material. Abstract Conceptualization (AC) is the application of thought and logic, as opposed to feelings, to the learning situation. Planning, developing theories, and analysis are part of this stage. The last stage is Active Experimentation (AE) and involves testing theories, carrying out plans, and influencing people and events through activity. Kolb believed that a complete cycle of learning involved each of these stages.

Table 3.2.
Characteristics of the Four Learning Types (McCarthy, 1987)

Learning Style	Characteristics as Learners
Diverger	Perceive information concretely, process reflectively, are imaginative, believe in their own experience, are insight thinkers, thrive on harmony and personal involvement, seek commitment, meaning, and clarity, and have high interest in people and culture.
Assimilator	Perceive abstractly, process reflectively, devise theories, seek continuity, need to know what experts think, love ideas, and are detail oriented. They exhibit intellectual competence in traditional classrooms.
Converger	Perceive abstractly, process actively, integrate theory and practice, are pragmatic, dislike fuzzy ideas, value strategic

	thinking, are skill oriented, like to experiment, and seek results and applications.
Accommodator	Perceive concretely and process actively, learn by trial and error, are interested in self-discovery, are enthusiastic about new things, are adaptable and flexible, like change, are risk takers, people are important to them, and they seek to influence.

Conclusion

This Chapter has begun by defining the main concepts like curriculum and syllabus. It has also outlined the different models of the curriculum as well as the types of the syllabus. It has been illustrated the interrelation between curriculum and syllabus. Phases of developments have been consistent with the theories of learning, AE subjects learning objectives, ESP curriculum design, evaluation and development models suggested in the review of the literature over which they can keep control. The Chapter has also reviewed that curriculum is developed via complex procedure. Given such intricacies, ESP curriculum developers and such as researchers and teachers come to realize that designing a simple, flexible and comprehensive ESP curriculum at a national level, cannot be an easy task to undertake. Several types of curriculum have been illustrated aiming at selecting the curriculum type that best suits the characteristics of the present research subjects (military pilot trainers and trainees). Yet, the existence of curriculum complexities might be the major reason behind eschewing the development process especially in countries where English is a foreign language like Algeria. The third section introduced practical issues and criteria of relation to curriculum development and materials evaluation. A review of different existing learning styles inventories has concluded this Chapter. In order to plan the curriculum, syllabus stages, suggest pertinent materials and testing tools, we have to embark on collecting data which is presented in the subsequent chapter. The latter tackles research methodology through which TSA and PSA have been identified, NA (both target

and learning needs) are collected and learning styles have been depicted. Findings may provide rich data to curriculum developers for an attempt to devise an AE curriculum. Further research recommendations will be highlighted in Chapter six.

Introduction

This chapter offers a thorough description of research methodology followed in this study. It begins with introduction focusing on the research questions and the purpose of research for which different types of research are discussed to choose an appropriate method for the present study. In the subsequent discussion, the chapter reports a detailed account of issues of sampling, description of the process of developing research interviews, questionnaire surveys, piloting and validation of research tools. This is followed by a discussion related to the administration of instruments and data collection process at great length. The chapter ends with information about data entry and data analysis.

4.1. Conceptual Phase

Through experience and a keen interest in ESP, a need was identified for investigating the language needs of the military helicopter aviators at the SHS at Ain Arnat Airbase - Setif. The idea then developed to do research on this topic. To better illustrate the statement of the research problem an introductory review of the literature was done. The research problem was stated and research questions, objectives and methodology formulated to guide the study. Both extensive and intensive literature was reviewed in order to elucidate and broaden the researcher's knowledge and understanding into the field of study and to define the conceptual context on which the study could be based. The literature review also served as a guideline for the development of the measurement instrument. Polit and Hungler (1999, pp.79-80) identify the following functions of a literature review namely that it can:

• Help the researcher to generate ideas or focus on a research topic and aid in the formulation of appropriate research questions.

• Help the researcher to ascertain what is already known on the topic.

• Help in the development of a broad conceptual context into which into which the research topic will fit.

• Provide information on the research method and approach.

4.2. Problem at Issue

Every course is supposed to have its own curriculum in which objectives are set according to the target and learning needs of the learner which is not yet avoidable at the SHS. The background idea of this study flashed upon our mind due to the fact that teachers of English at the SHS do not have any official English curriculum directed to pilot-students. Also, there is no significant endeavour in order to tailor a specific course to those students (in this context, we may use pilot students, officers and trainees interchangeably) taking into account their needs and lacks as well.

Despite the fact that trainees and pilot trainers have to follow the ICAO requirements akin to civilian aviators, Level 4 in English is not a pre-requisite for their enrolment and recruitment. Helicopter aviators, unlike civilian pilots do not land in foreign countries but they need to communicate with other pilots and ATCs who may be of a nationality different from theirs. At the SHS Ain Arnat, some student-trainees come from countries other than Algeria to undertake trainings like Malians, Palestinians, Jordanians and Nigerians and thus a lingua franca is necessary between them. That is, terminology and phraseology need to be standardized to avoid misunderstanding. In this case, the sole lingua franca, when French and Arabic do not serve, should be English.

The MND invests a large amount of money to fund the training of the military pilots abroad, in the time that the government can provide conditions for these pilots to do it in their country through encouraging experts in curriculum design to devise a programme to military pilots. The motive behind designing a programme to aviators is the importance of air transportation as the safest means for transporting troops and the direct impact they have on the battlefield to provide security for ground units. The life of aviators and safety of the whole country is linked to flight knowledge and communication that takes place

between pilots-pilots or pilot-ATCs. Aviators when flying are not able to see or determine their goal unless they get instructions. Most instructions are given in English which is not General English they use in daily life.

4.3. Research Tools

The study developed and implemented various techniques for data collection such as FGD, survey and semi-structured interview. The purpose of FGD was to explore the commonalities between pilot trainees and trainers as far as language skills and flight skills are concerned, the semi-structured interview seems akin to the qualitative data collected by FGD; however it was added that in order to deeply understand the phenomenon of helicopter aviators –both locals and foreigners- and how English language defines its position in aviation discourse and flight theory either during war- or peacetime. Questionnaire survey was imperative in order to get the exact quantitative data which is believed to be the most reliable data in any kind of research. Quantitative analysis was analytic and the relationship between the two population needs was counted through analysis of variance (ANOVA).

4.4.Study Framework

Thyer, 1993 (as cited in Kumar, 2005, p.84) posits that a traditional research design is a blueprint or detailed plan for how a research study is to be completed- operationalizing variables so that they can be measured, selecting a sample of interest for the study, collecting data to be used as a basis for testing hypotheses, and analysing the results. Likewise, Ragin 1994 (as cited in Flick 2008, p.128) asserts that a research design is a plan for collecting and analysing evidence that will make it possible for the investigator to answer whatever questions posed. The design of an investigation touches almost all aspects of the research, from the minute data collection to the selection of the techniques of data analysis. Hence, research design is the glue that brings research elements –population

sampling, data collection, methods- together in order to form a coherent whole. It forms the foundation structure of any research work.

Leedy (1993, p.45) made a comparison between research planning *(design, added)* and research methodology. According to him, the domain of research is the first fact responsible for methodology choice. For instance, the methodology employed in medicine to collect data about blood cells differs from that deployed in collecting historical facts; and this is because data differ from one situation to another. As for research planning, it deals with the art of how to collect suitable data pertaining to research and how to analyse and interpret those data.

4.5. Selected Design

Exploratory non-experimental research falls into the category of applied research because the findings obtained from this study can be useful for improving the practice in the workplace i.e. the SHS.

By Applied Research we mean that:

- Applied researchers conduct a study to address a specific concern or to offer solutions to a problem of their employer, a club or organization they are affiliated with, their community or a social movement to which they are committed.

- Applied research means a quick, small scale study that provides practical results that people can use in the short term. The consumers of applies research findings are practitioners.

Exploratory research design is a preliminary study of an unfamiliar problem about which the researcher has little or no knowledge. It is ill-structured and much less focused on pre-determined objectives. It usually takes the shape of a pilot study. It is just like an initial examination of a patient suffering from an unfamiliar illness and the attempt of a doctor to find some clues in order to diagnose the type of this illness. (Aggarwal & Khurana 2004, p.10).

Similarly, Rubin and Babbie (2001) point out that the exploratory design is linked to the purpose of the study, the main aim being to explore a topic and to provide a certain level of familiarity with it. Indeed, the exploratory approach was intended to: a) serve the researcher's interests, b) to help devising a more accurate syllabus implemented in government or public institutions of foreign languages and c) to provide a solid platform for further research.

In light of the previous reasons, qualitative methods were also adopted in the current study. Boeije(2009, p.32) pinpoints the most salient reasons to account for qualitative methods being used and which are as follows:

- *"Exploration*: when a study has an explorative nature –for instance, a newly emerging field of interest that has not yet been extensively examined – you need methods with a maximum explorative power. Qualitative methods do live up to this because of their flexible approach. As we have seen, the research questions can be tailored to the field of study. In addition, data collection and data analysis can be continually adjusted to the emerging findings. That is why both activities are conducted in small cycles instead of one after the other.

- *Description*: qualitative methods offer the opportunity for participants to describe the subject of study in their own words and to do so largely on their own conditions. They may express views, give words to their experiences and describe events and situations. Likewise, with the use of various observation methods, extended descriptions of cultural behaviour, knowledge and artefacts can be obtained. The information gained is not limited to preconceived questions and categories and can, by way of consequence, yield rich and detailed data that leads to focussed descriptions of a given phenomenon in the social world.

- *Explanation*: A qualitative method can lead to an interpretive rendering of the studied phenomenon. By cycling between data collection and data analysis, early conjectures can be checked in further cycles of new data collection and subsequent analysis of comparative

cases. Through the constant comparison of data with the emerging ideas, a more abstract and conceptual model can be generated that is grounded in the data".

Though the present research is exploratory (exploring a new area) and non-experimental as well because the present study took place in natural setting, the researcher could predict potential outcomes not because the topic is not new but because similar studies were conducted in civil aviation.

4.6. Questions at Issue

The purpose of this study is to examine the motives and needs of SHS pilots (both trainers and trainees) attempting to learn English needed during peace or war time. Also, one of the other main objectives is to reveal the supremacy of either natural –international-English or AE.

These lead us to ask the following questions:

1. Where do the perceptions of aviation trainees and trainers converge about English language needed for helicopter aviation?

2. What are the needs related to perceptions of SHS trainees and ESP teacher regarding the importance of the four language skills?

3. What are the needs related to perceptions of SHS trainers and ESP teacher regarding the importance of the four language skills?

4. Is restricted English phraseology enough for aviators in both peacetime and wartime?

5. Do military trainers and trainees meet the requirements of the international aviation?

4.7. Choice of Measurement Instruments

The present study is inductive in nature which entails a blending of qualitative and quantitative data collection procedures, i.e. triangulation. The present research falls within this spectrum. A combination of data sources, such as interviews, surveys, discussions, corpus analysis, and the use of different methods increase the likelihood that the

phenomenon under study is being understood from different point of view (Ary, et al, 2009, p.499)

While the quantitative research methods focus attention on measurements and amounts (more and less, larger, often and seldom, similar and different) of the characteristics displayed by the people and events (Thomas 2003, p.1), the qualitative methods elicit the opinions and the perceptions of the subjects, they involve a researcher describing kinds of characteristics of people and events without comparing events in terms of measurements and events (ibid.).

The major difference between qualitative and quantitative methods has begun to fade as researchers make use of both tools. A large amount of data is necessary to inform our understanding of the phenomenon - as mentioned above- which will require, a mixture of quantitative and qualitative methods implying the use of some research instruments, such as questionnaires and semi -structured interviews in addition to research participants, the site and procedure.

4.8. Research Timeline

The following diagram represents the timeline of the current research:
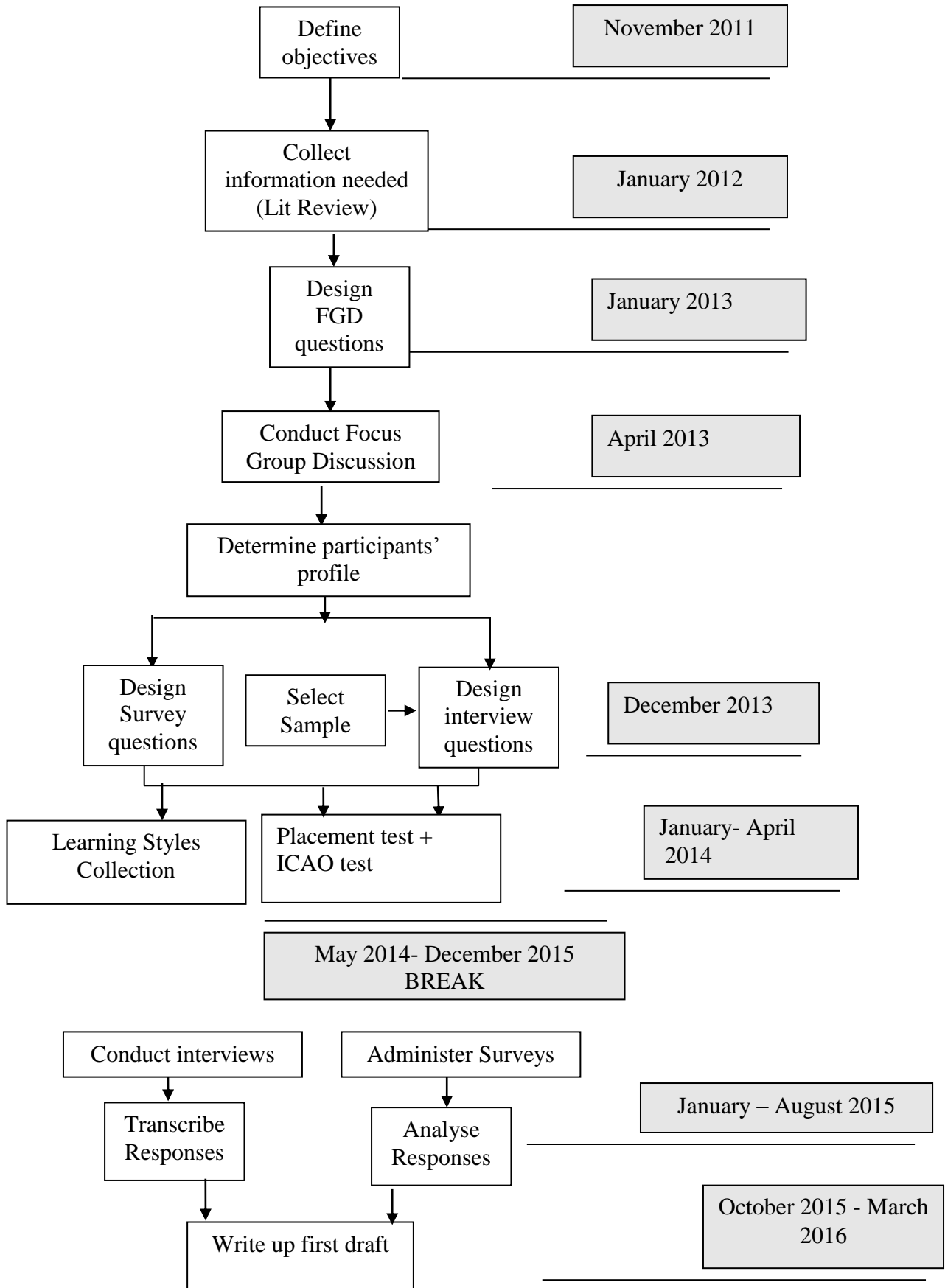
4.9. Population and Sampling

The population for this study consists of pilot trainees and trainers;the whole population consists of 65 (20 trainees and 45 trainers). Yet, the total sample comprises 35 participants. All officer pilots (students) were selected whereas 15 pilot trainers were chosen randomly during the open doors on helicopters. Research subjects age ranged between 25 and 39, their native language is Arabic. In a nutshell, we might say that research subjects are homogeneous to a great extent when it comes to setting, age, job and gender. However, this is not the case regarding nationality for the SHS receives some trainees from other Arab countries like Palestine, Jordan, Mali and Syria and other foreign countries like Nigeria. Heppner and Heppner (2002, p.114) state that heterogeneous populations have advantages because they contain great variability of characteristics, whereas homogenous populations are limited in the extent to which they can be generalized. This might be considered as one of the research limitations. According to Patten (2004), the quality of the sample affects the quality of the research generalizations. Nesbary (2000), suggests the larger the sample size, the greater the probability the sample will reflect the general population. However, sample size alone does not allow generalisation.

Patten (op.cit.), states that obtaining an unbiased sample is the main criterion when evaluating the adequacy of a sample. Patten also identifies an unbiased sample as one in which every member of a population has an equal opportunity of being selected in the sample. Therefore, random sampling was used in this study to help ensure an unbiased sample population. Because random sampling may introduce sampling errors, efforts were made to reduce sampling errors, and thus increasing precision, by increasing the sample size and by using stratified random sampling.

Due to the limited number of the trainees (20) we have selected all the subjects who attend three different classes according to the aircraft they will be trained on. In each class

there were 9, 6 and 5 students respectively. The third population of the present study is the

English teacher at the SHS.

4.10. Setting

The research took place in a single site – the SHS- which is located in Ain Arnat 7 km far

from Sétif city.

4.11. Demarcation of the Research

4.11.1. Time Dimension in Research

- An awareness of the time dimension will help researcher read or conduct research because

  different research questions or issues incorporate time in different ways.

- A case study involves qualitative methods and focuses on one or a few cases during a

  limited time period.

- Cross-Sectional Research.

- In cross sectional research, researchers observe at one point in time.

- It is usually the simplest and least costly alternative. Its disadvantage is that it cannot

  capture social processes or change.

4.12. Data Gathering

A. Exploratory Stage

1.MND Languages Teaching Directive. (See Appendix B)

2.ICAO Standardization Agreement (ICAO 1028). (See Appendix C)

3.Focus Group Discussion

4.The Placement Test

5.ICAO Proficiency Test

6.Kolb's Learning Preferences Styles

B. Qualitative Study

1. Individual Semi-Structured Interviews

- 03 Pilot- trainees (officers)

- 04Pilot trainers (instructors)

C. Quantitative Study

1. Questionnaire Surveys:

- 20 Pilot-trainees

- 15 Pilot- trainers

- 01 Teacher of English.

4.13. National Context: English Education in Military Circles

In 2000, the MND, through the Popular National Army (PNA) announced an action plan to equip military people with English abilities to drastically improve the English education in military circles. The government regards English as an international language which is necessary for the nations' empowerment and development in international society. Driven by the belief that high English proficiency leads to international presence due to the multiplication and strengthening of military cooperation with allied armies as well as international organizations such as North Atlantic Treaty Organization (NATO), United Nations (UN), European Union (EU)…etc.), the military English education policy in Algeria has drastically changed its focus since then to foster learners' practical communication skills.

4.14. ICAO Language Proficiency Requirements

ICAO has established English Language Proficiency Requirements (LPRs) for all pilots operating on international routes, and all ATCs who communicate with foreign pilots. These standards require pilots and ATCs to be able to communicate proficiently using both ICAO phraseology and plain English**.** Formal evaluation of language proficiency was required as of March 2008, but ICAO effectively extended the deadline to 05 March 2011**.**All ATCs and flight crew members engaged in or in contact with international flights must be proficient in the English language as a general spoken medium and not simply have a proficiency in standard ICAO radio telephony phraseology.

Those who do not have English proficiency must acquire it, or risk removal from international flight routes.

4.14.1. ICAO Language Proficiency Standards

ICAO grades English language performance on a scale from 6 (highest) to 1 (lowest):

Level 6 : Expert

Level 5 : Extended

Level 4 : Operational

Level 3 : Pre-operational

Level 2 : Elementary

Level 1: Pre-elementary

In order to conform with ICAO LPRs, Pilots, ATCs and all others who use English in radio telephony communication on international routes must be at ICAO English Language Level 4 (Operational) or above. An individual must demonstrate proficiency at Level 4 in all six categories in order to receive a Level 4 rating.

4.15. FGD

As its name shows, it is a group which the researcher puts much focus on. It consists of 8 members at least and 13 at most. The meeting with the group with the interviewer might be formal as it might be informal, i.e.; the respondents' of the group may be informed prior to the meeting that the discussion would be audio- or video- recorded. Also, questions would be structured and prepared by the researcher, whereas informal FGD looks like a spontaneous conversation between group members (the participants) and the researcher for the purpose of getting insights and perceptions of the subjects about the topic of the research. This is what DeVos (1998, p.313) confirms by stating that the researcher uses the FGD as a means to elicit information from participants and according Witkin and Alschuld (1995), the focus group is a structured process of interviewing a small

group of individuals. Obtaining consensus is not a goal. Rather, it is to elicit how the participants feel about the topic and how to identify the range of perspectives regarding it.

4.15.1. Rationale

Focus group was opted for due to several reasons according to Holloway and Wheeler (2013):

- The production of date through social interaction.

- The dynamic interaction stimulates the thoughts of participants and reminds them about their own feelings about the research topic.

- Informants build on the answers of others in the group.

- By responding to each other's answers, respondents may generate new and spontaneous ideas and answers.

- Interaction helps the respondents to remember facts or events.

- All the participants, including the interviewer, have the opportunity to ask questions and this will produce more ideas than individual interviews.

4.15.2. FGDAnalysis

Bernard and Ryan (2010) distinguish seven basic steps to conducting qualitative content analysis:

1. Formulate a research question to apply to data

2. Select a set of texts (or other data) to analyze

3. Create a set of codes that define items to observe in data (e.g, words, and phrases.)

4. Pretest the codes

5. Apply codes to data where items are observed

6. Create a case by variable matrix of the frequency of occurrence of each item

7. Analyze the matrix using whichever level of analysis is appropriate

For focus group analysis, we opted for a content data analysis; data were broken into defined parts. Data analysis will be fully explained in the subsequent chapter.

4.15.3. Procedure

In the context of the SHS, we had to tackle a particular issue related to the research topic with the aviators, both trainers and trainees. The meeting at first took place at the SHS yard of exhibitions during the Open Doors on Helicopters (April 2013). The respondents were solicited to join the group that consisted finally of 10 members. The meeting was informal and the researcher introduced herself and showed interests in the aircrafts and services offered during the event. A cell phone was used to record the respondents' answers and the interaction between the aviators. The spontaneous interaction could help us to well elicit what the respondents think and feel about the issues related to the research topic. Questions were varied and specific. What was useful in the focus group is that the informants interacted with each other more than with the interviewer, they generated new ideas upon each other's answers and they reminded each other of some forgotten information.

We were actually fortunate because we would not meet a certain considerable number of participants like during the Open Doors, all the aviators (trainers and trainees) were there with different ranks: Officer Pilots, Colonels, Majors, and Commanders. The selection was random but we had to make sure that the group consisted of both teachers and students. In fact, gathering ten (10) participants (5 pilot trainers and 4 Algerian student-trainees and one Malian) was the most difficult task the researcher underwent and this is due to the necessity of the respondents to be standing next to the aircrafts for explanation and illustration to visitors.

The interaction between the group of the participants may distract the researcher attention when more than two subjects talk, they may also disagree, add interesting things that may escape the researcher attention or commenting on others' ideas and beliefs. The focus

group was in a form of unstructured text. It was guided by a set of questions and it was focused and interactive, the number of the participants was enough to guarantee diversity of opinions and provide opportunity to everyone for open discussion. Focus group questions were general but tackling one specific issue; the importance ofEnglish skills in military course or on board. Questions were as follows a) Which language is spoken between pilots and ATC in peace time? b) Is English important in studies and during training? c) Is the phraseology list enough in case of non-routine situations especially in wartime? d) Is English needed for graduation? e) Are all language skills of equal importance? f) Is English for aviation required more than General English? (See Appendix D)

4.16. Placement Test

In English speaking countries, the placement test is a test usually given to non-native English students entering an educational institution to determine specific knowledge or proficiency in various subjects for the purpose of assignment to appropriate courses or classes. In our research context, the placement test aims at placing both trainers and trainees in the right position according to their level in order devise some curriculum guidelines according to their proficiency level (PSA) in EGP and AE or provide modifications to external programmes that did not take students level and needs into account.

4.16.1. Test Description

The test given to military aviators was adapted from the American Language Course Placement Test (ALCPT) at the defense Language Institute. The test consists of only two skills which are reading and listening in addition to vocabulary and grammar. The previously mentioned skills were emphasized based on the outcome of the FGD where respondents showed little interest in the writing skill and prioritized the remaining skills.

4.16.2. Why Placement Test?

The main reason behind giving a language test to military subjects is the following:

1. To know the current language abilities of the aviators.

2. To place the subjects according to the Common European Framework (CEF)(See Appendix E)

3. To know their proficiency level in English and to analyse their strengths and weaknesses in the different language skills, and finally

4. To confirm or correct the self-assessment aviators had provided in the questionnaire regarding their levels of English proficiency.

It is worth mentioning that the formats of ALCPT and the ICAO test administered by the researcher differed fundamentally in the following ways:

1. The ALCPT was composed of four parts:

- **Listening:** Where aviators were requested to listen to a recording and then they have to select the best correct answer of 10 questions.

- **Reading:** They were given a short text to read then to choose the best answer to the statements or questions asked.

- **Vocabulary:** A set of twenty (20) questions given to learners in order to guess some words and correct the form of some nouns

- **Grammar:** subjects were asked to choose the correct answer among fouroptions item (10) questions.

4.17. ICAO Test

4.17.1. ICAO Holistic Description

Proficient speakers shall:

a. Communicate effectively in voice-only (telephone/radiotelephone) and in face-to-face situations;

b. Communicate on common, concrete and work-related topics with accuracy and clarity;

c. 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;

d. 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

e. Use a dialect or accent which is intelligible to the aeronautical community.

4.17.1.1. Test Administration

- **Structure:** 10 questions relevant to grammatical structures were part of the task and aviators were requested to choose the best word to complete the sentence.

- **Vocabulary:** Aviators were given a set of 10 sentences and then were asked to choose the best answer. This part aimed at learning about the general vocabulary competence of the students.

- **Comprehension**: Seven questions were asked in order to show understanding the recording audio

- **Interaction:** In interaction section, pilots are required to provide the most appropriate answer to the question. This section consists of ten (10) questions, each contains four options.

- **Fluency:** In addition to a set of twelve (12) questions asked after having a look at two pictures and choosing the best answer that describes it, pilots were interviewed and recorded and their English fluency was rated by an aviation English trainer.

- **Pronunciation:** In addition to fluency rating, research subjects were also asked oral questions and requested to record their radio communication in both routine and non-routine situations in order to be assessed and rated by an aeronautical English trainer. (See Appendix F)

4.18. Qualitative Data

One might ask, since the questionnaire is an instrument for data collection, why are interviews also conducted? Actually, there are numerous answers to this question, and we shall review just some of them. According to Robson (2002, p.272) the interview is a flexible and adaptable way of finding things out. Also, interviewing provides the researcher with greater flexibility and personal control than do questionnaires. For instance, a respondent who finds the phrasing of an interview question unclear can ask the interviewer to explain the question- a kind of help rarely available with questionnaires- (Thomas, 2003, p.66). Furthermore, Slavin (1992, p.86) puts forward that in interviews, respondents can be asked to clarify or expand their responses making the data from an interview potentially richer and more complete than data which can be obtained from a questionnaire.

The sense of argument develops through the whole process of data collection, analysis and organization. This makes qualitative writing in essence very different from quantitative writing. Qualitative writing becomes very much an unfolding story in which the writer gradually makes sense, not only of her data, but of the total experience of which it is an artefact. This is an interactive process in which she tries to untangle and make reflexive sense of her own presence and role in the research. The written study thus becomes a complex train of thought within which her voice and her image of others are interwoven. Therefore, 'unlike quantitative work that can carry its meaning in its tables and summaries, qualitative work carries its meaning in its entire text… its meaning is in the reading' (Richardson & St Pierre, 2005,pp.959-60). The voice and person of the researcher as writer not only become a major ingredient of the written study, but have to be evident for the meaning to become clear. (Holliday 2007)

It is generally presumed that questionnaires are more efficient where time and money are concerned and that they can be completed and returned in almost the same amount of

time needed to complete a single interview. Yet, the present study has come to show a contradictory fact. Researchrespondents were more enthusiastic toward interviews better than questionnaires due to their busy schedule. We were able to conduct seven (07) interviews within a time less than what should be devoted to questionnaires administration.

We believe that the primary difference between interviews and questionnaires is the fact that an interview is oral whereas the questionnaire is written. Respondents felt more comfortable during interviews, they were willing to share information generously and they were free to use any language or variety they preferred.

4.18.1. Credibility of the Qualitative Stage

Credibility corresponds to the notion of internal validity. This means the participants recognize the meaning that they themselves give to a situation or condition and the truth of the findings in their own social context. The researcher's findings are, at least, compatible with the perceptions of the people under study (Holloway & Wheeler, 2013, p.303)

Some scholars use the term reliability and validity to define rigor in qualitative research, but others protest that the underlying philosophy is different and the criteria are different, so different terms should be used. Best known of these alternative terms are those of Lincoln and Guba 1985 (as cited in Tappen, 2010, p.153) proposed to describe trustworthiness in qualitative research:

- Credibility: equivalent to internal validity

- Transferability: equivalent to external validity

- Dependability: equivalent to reliability

- Conformability: equivalent to objectivity

4.18.2. Developing the Interview Protocol

An interview consists of a one-on-one interaction between the data gatherer and the participant (interviewee). Interviews can be conducted face to face or by telephone and can

last from a few minutes to an hour or longer, depending on the depth of information needed. Interviews are useful for gathering information about perceptions, attitudes, and intended actions or application of learning and can be used to gather such data from any group of stakeholders who are pilot trainers and trainees at the SHS in the current study.

For this research, the interview protocol (list of questions) seeks answers to questions that are later translated in numbers and figures on a written questionnaire, providing thus the opportunity to gather richer and more detailed responses and probes for further information, and clarify any confusing issues. Interview questions for this research did not substantially differ from those of the group discussion's. The interview protocol was funneled, i.e., the interview started with general and easy-to-answer questions and concluded with narrower and specific ones. And factual questions were asked before behaviour-based questions.

4.18.2.1. Interviewing Techniques and Tips

Anderson and Arsenault(1998, p.185) provide some tips and techniques useful to an interviewer while asking questions. They highlight the fact that **a)** combining two or more questions (double-barreling) is, in effect, to be avoided; only one question is asked at a time, **b)** also combining two opposite positions in one question is also undesirable; every question has to be posed separately, **c)** avoidance of questions that may eliminate some options, **d)** eschewing the questions followed by a position statement; the interviewee might be led in a given direction and finally **e)** a choice of loaded words rather than emotionally charged terms.

4.18.2.2. In - Depth Interviews

In-depth interviewing is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, programme, or situation. This type of interviews provides more detailed information than any other data collection method. In-depth interviews are

useful when seeking detailed information about a person's thoughts and behaviors or explore new issues in depth, Anderson and Arsenault (1998). For this reason, only 07 participants were chosen randomly to be interviewed. We tried to elicit deeper answers from the research subjects by covering lot of ground concerning the use of English in military aviation, their beliefs and attitudes towards the status quo of English in their studies and hands-on trainings.

4.18.2.3. Semi- Structured Interviews

There are three kinds of interviews: structured, semi-structured and unstructured. Structured interviews are essentially face-to face surveys where mainly closed questions are asked (online, telephone or live) against coded responses. Unstructured interviews are interviews where the researcher guides naturally occurring conversations. Semi-structured interviews are so-called because the interview is structured around a set of themes which serve as a guide to facilitate interview talk. "Unlike the structured interview, the interviewer is expected to adapt, modify and add to the prepared questions if the flow of the interview talk suggests it" (Cousin, 2008, pp.71-72). Our research interview falls within this spectrum and an in-depth semi-structured interview was developed to gain as much information as possible about the difficulties faced by military aviators in non-routine situations and what may cause miscommunication. Also, the needs and motives of SHS pilots, both trainers and trainees, in order to improve their language and communication skills in aeronautical and plain English were collected. Semi-structured interviews were favoured for the reason that the researcher preferred to offer enough space to the respondents to express themselves freely and fully. Also, a semi-structured interview gives room to the researcher to ask some probe questions and follow-ups which may cast credit to data enrichment and open some other horizons that are not expected.

4.18.3. Sampling of the Interviewees

According to Flick (2008, p.80), 'for interviews, sampling is oriented to find the right people- those who have made the experience relevant for the study'. Sampling in most cases is purposeful; random or formal sampling is rather the exception. In this study, the sample of participants was selected randomly the same day the questionnaires were taken back. We requested the consent of the subjects to be interviewed. Seven (07) participants were available to be interviewed. Those who accepted to participate were asked for their email in order to arrange an appointment which suits both sides. Some respondents did not mind giving their cell phone numbers instead of email for the sake of a better course of action.

The researcher, afterwards, sent emails to some participants and rang up others so as to set up a meeting that suits the agenda of the interviewees. In the end, we managed to find a convenient time with all the interviewees. 05 respondents were met after work and study in the SHS parking lot whereas we verbally interviewed 02 subjects through phone. Although the sample size was small, it would provide a sufficient number of cases. The researcher halted interviews once the responses had become quite similar and any additional cases would typically add minimal new information.

4.18.3.1. Criteria- Based Sampling

The interviewees were chosen randomly but the researcher, intentionally, adopted criterion-based random sampling. The criterion on which participants were chosen was rank and age. In the military industry, age correlates positively with rank. Respondents were trainees and trainers and we preferred to have a blending of different professional and life experiences, perceptions, needs and necessities within the military community to draw meaningful information that would be beneficial to our study.

4.18.3.2. Interview Pilot Testing

After the protocol is developed, one or two pilot interviews are recommended to test the protocol (Heppner & Heppner, 2004, p.163). The pilot testing is used to examine the appropriateness and relevance of the interview questions from the participant's perspective, or uncovering any important concepts that are unexpected by the researcher.

Before conducting the interview, questions were first piloted with a Colonel pilot. He is 39and has been working at the SHS for more than eight years and underwent an intensive language course in Poland and the UK for eleven (11) months. The interview questions were revised and based on the participants' comments.

4.18.3.3. Interview Recording and Transcription

Whenever feasible, interviews should be audio-taped (exceptions include informal interviews where taping is likely to be intrusive). The tape provides a permanent record and allows the interviewer to concentrate on the interview (Robson, 2002, p.290). Similarly, Denscombe (1998, p.122) adds that audio/video-tape recording offers a permanent record and one that is complete in terms of the speech that occurs. It leads itself to being checked by other researchers. Generally, the recording procedure chosen should meet the following three criteria, according toGrinnell and Unrau (2007):

1. It should accurately record the manifest intent, if not the exact wording of the interviewees' answers.

2. It should be as unobtrusive as possible so that it doesn't inhibit the flow of the interview or distract the interviewee from giving complete candid answers.

3. It should facilitate transmittal of the data from the recording instrument to the data bank.(p.263)

The present research participants were informed before the meeting that their questions would be asked in Arabic, French and even in English from time totime and answers would be tape recorded. The researcher promised confidentiality of the answers

which would be used for research purposes only and explained that the tape recorder was just a facilitator for the researcher to allow more fully concentrationon the conversation.

As regards interview transcription, according to Hill et al. (1997), once the interview is completed, it should be transcribed verbatim with identification of information omitted and unnecessary non-language utterances ("um", "ah") and fillers ("you know") deleted. Copies of the transcripts should also be reviewed by the interviewees for additions, corrections, or clarifications. This step is called "member check", which enhances the credibility of the data Lincoln and Guba, 1985 (as cited in Heppner & Heppner 2004, p.166). However, according to Denscombe (1998, p.130), when transcribing a tape, the researcher should put informal notes and comments alongside the interviewee's words. These annotations can be based on the memories that come flooding back during the process of transcribing.

In reality, not all research interviews were transcribed. This is because of several reasons:

1) Responses were quite similar and then transcribing all interviews would be a redundancy.

2) Interviewees did not welcome our suggestion of giving them back the transcribed interviews to check. They apologized and asked for exemption due to lack of time.

3) The transcription was long-winded. So it would be adequate enough to provide transcripts that furnish new information.

4.18.3.4. Conducting the Interview

The purpose of this interview is to elicit from the subjects the most important information related to their daily work trainings in peace time and what they may face as language related difficulties in prospective emergency situations and also to allow questions which the questionnaire might not address.

The piloted interview was semi-structured; however, the interviewer might note some probes and follow-up questions. It was conducted with 03 pilot officers (students) and 04

pilot trainers. Some of the interviewees were asked by emails to arrange time for the interview and others were contacted via mobile phone for the same reason. We informed the participant beforehand that the interview would be taped and assured them that their responses would be kept anonymous. By so doing, we aimed at reducing bias for interviewees might not say the truth should they know that their responses would be accessible to others than the interviewer. Furthermore, participants were initially quite reluctant because they thought that they were to respond in English. To overcome this issue, we put them at ease and asked them to respond in any langue they wished, local language and any other language they preferred.

According to Patton (1990), interview questions should focus first on the present before asking about the background. For this reason, we commenced the interview with warm-up questions like age and current rank or course, and then we moved to investigate the importance of English in their academic studies and job. (See Appendix G and H for full Interview Protocols)

For both trainee and trainer protocols, some questions were closed-ended which required only yes or no, whereas the rest of the questions were open-ended used to help participants to explain themselves freely and without interruption from the interviewer. Probes were raised from time to time to seek more clarification. Interview questions were overall similar; however, differences lie in question 2 where students were asked about their current course of study whereas teachers were asked about their current rank (profession). Also, students were asked an additional question to evaluate the English course they take and whether they are satisfied of its content.

The interview was conducted face-to-face with some respondents and through phone with the rest. Face to face interviews offer the possibility of modifying one's line of enquiry, following up interesting responses and investigating underlying motives in a way

that postal and other self-administered questionnaires cannot. (Robson 2002, pp.272-273). Interview questions were read aloud to participants before starting the recording.

Although the selection of research interviewees was based on the criteria of age and rank, heterogeneity was apparent. The researcher's aim behind heterogeneity was to create a more complex sample. Heterogeneity here demanded a range of ages (from 25 to 39), nationality (Algerians and foreigners – both Africans and Asians), rank (officer, colonel, commandant, major) and range of experience (trainees and trainers).

After having obtained the primary data via the interview, we listened thereafter to each tape and reviewed our notes and embarked on a verbatim transcription. We proposed to participants the transcripts for correction or addition but they did not welcome the idea and emphatically stated that what they had said required neither correction nor addition. Finally, and after having obtained all data, analysis and interpretation were proceeded.

4.19. Collecting the Quantitative Data

Quantitative data refer to the questionnaire surveys handed in to the research subjects. Prior to administering questionnaires careful design and pilot testing took place in order to obtain more genuine responses that help in findings generalization and unbiased results.

4.19.1. Designing the Questionnaire

Zikmund (2000, p.60) states that the task of writing questionnaires, determining the list of questions, and designing the exact format of the printed or written questionnaire is an essential aspect of the development of a survey research design. For the present study, the questionnaires items were written from the first sight in English before administering them for the participants accepted to answer in English. Both questionnaires handed to trainers and trainees consist of four sections entitled on the top of the page, followed by an introductory paragraph that introduces the researcher, the aim of the study, then ensures confidentiality of responses. Questions were numbered, sequenced in increasing order of difficulty and written clearly so that the subjects would find them easy to answer. To

achieve more valid and reliable answers, questionnaire items were a mixture of multiple choice and fill-in-the blank with Likertscale items. The aim behind so doing is to reduce the respondents' likely boredom at having to answer the same item category.

A thorough literature review survey was conducted in Chapters one and two prior to designing the questionnaire and eventually administering it. The questionnaire was designed and administered to the aviators at the SHS at Ain Arnat - Sétif. The study aims at investigating and collecting the English language needs of the aviators in academic and occupational purposes and whether there is a significant difference between the needs of trainees and trainers.

4.19.1.1. Administering the Questionnaire

The questionnaires were handed to 35pilots (20 pilot-students and 15 pilot-teachers). they contained four main sections (See Appendix I and J): Contact information, population identity and occupation, origin, rank, participants' needs of using English, participants' needs in the target situation and then the rating of the skills importance.

Special consideration was given to those parts of the questionnaire that are related to the analysis of the participants' linguistic needs in the target situation and abilities in using English in that situation. The questionnaire was handed in to the whole twenty (20) student-informants and randomly selected fifteen (15) trainers. Pilots did not find a problem in understanding the questions written in English and showed willingness to respond within the three (03) days of the Open Doors. Pilots' ranks were varied but modesty was very apparent in their behaviour. In three days, all the questionnaires were collected and checked in order to make sure that all questions were answered or at least most of them.

4.19.1.2. Pilot Trainees Questionnaire

For pilot-trainees' questionnaire, section one included background information, biographical information, and questions related to their course of study (questions 1

to7).Respondents were asked their contact information in case we needed to clarify their answers to the items of the questionnaire. Not all respondents answered this question for privacy reasons. This fact compelled us to verify answers when we took back the questionnaire. Questions were given in the foreign language, that is English, and answers were also volunteered in English. After a pilot-testing has been conducted, respondents furnished all information in a clear fashion.

According to Qadir (1996, pp.138-139) demographic questions come first in the questionnaires. Learners are familiar with this pattern, as they have filled in the school and college examination forms with demographic questions given at the outset. Secondly, giving information about oneself and then going to factual questions is a more engaging pattern.

The rest of the questionnaire is composed of fourteen (14) questions. The first section consists of three (2) main questions. The first questions' items were developed with a five point Likert scale (1= Very often, 2= often, 3 = sometimes, 4= rarely, 5 = never). The questions investigate the frequency of the skills exposed to. Subjects were asked in the remaining questions to rate the importance of English language skills in general and in their work place in particular according to a three point Likert scale (1= very important, 2= important, 3= not important)

Section two comprises four questions which examine the importance of the sub skills. Importance items were asked according to Likert scale as well (1=not important, 2= important, 3= very important). For section three, informants were asked to evaluate their language proficiency level according to a scale (1= low level of competence, 2 = average level of competence, 3= good level of competence, 4= very good level of competence) and then trainees were asked in question 15 whether they prefer to study aviation in English as an amendment in the curriculum, question 16 asks whether they take English courses outside the SHS at language schools whereas question 18 investigates which skill they

would like to improve the most. Question 19 asks whether phraseology suffices in case of non-routine events in air. Section four contains two questions 20 and 21 of whether they would like to take further tests to evaluate their English like ICAO and STANAG respectively.

4.19.1.3. Pilot Trainers' Questionnaire

The questionnaire consists of twenty-one (21) questions to helicopter pilot trainers divided into four main sections. Demographics, age range, origin, work experience and rank initiate the questionnaire followed by the first section which consists of three (2) main questions. The first questions' items were developed with a five point Likert scale (1= Very often, 2= often, 3 = sometimes, 4= rarely, 5 = never). The questions investigate the frequency of the skills exposed to. Subjects were asked in the remaining questions to rate the importance of English language skills in general and in their work place in particular according to a three point Likert scale (1= very important, 2= important, 3= not important)

Section two comprises four questions which examine the importance of the sub skills. Importance items were asked according to Likert scale as well (1=not important, 2= important, 3= very important). For section three, informants were asked to evaluate their language proficiency level according to a scale (1= low level of competence, 2 = average level of competence, 3= good level of competence, 4= very good level of competence). The following questions (15,16,17)were about respondents' preferences and perceptions about AE speciality establishment and whether they are taking English classes outside the SHS. Question 18 examines the skills trainers they would like to improve, whereas question 19 asks whether phraseology suffices in case of non-routine events in air. The last section seeks information about whether the respondents show any kind of willingness to improve their English by taking ICAO or STANAG test respectively.

4.19.1.4. Teacher Questionnaire

Regarding the teacher questionnaire, it contains 17 questions and is divided into four sections. The first section concerned of the demographical information of the participants, in terms of age range, and gender in addition to qualification and teaching experience (item 1, 2, 3 and 4). Section 2 was related to the teachers' background knowledge in ESP in general and in AE in particular. Also they were asked if they follow an official curriculum by the ministry to teach English (item 5 to 8). The third section sought information regarding the teachers' perceptions of the importance of English language skills in aviation industry (listening, speaking, reading and writing)and then the items were designed accordingly (item 9 to 13). The last section dealt with analytical assessment. Respondents were required to give their own evaluation of the level of the students and their performance in particular skills (item 14 to 17).

After having structured the initial form of the questionnaire, it was sent to the teacher for final comments. She reviewed and answered the preliminary version of the questionnaire and provided feedback in terms of contents; as she commented that items of *giving presentations*and *radio programmes*in question 13 as useless. The same was done with the item *oral presentations* in question 16. Corrections and adjustments were implemented accordingly. (See Appendix K)

4.19.2. Measuring Reliability

There are different ways to measure the reliability of a questionnaire (Mackey & Gass, 2005, Dornyei, 2007). A statistical test (Cronbach's Alpha) can be applied when the number of possible responses is more than two (Mackey & Gass, 2005, p.130), as in the self-report questionnaires of the current study. Therefore, this study used Cronbach's Alpha to measure the degree to which the closed items in each version of the questionnaire were related. The results are presented in Table 4.2. The researcher opted for calculating Cronbach's Alpha herself by using excel (2013) extended functions. Cronbach's Alpha has

a maximum value of 1 and a minimum of 0; values closer to1 indicate a strong relationship between the items of the questionnaire (Dornyei, 2007)

Table 4.1
Measuring Reliability

Version	Sample	N° of Items	Reliability (Cronbach's Alpha)
1	Pilot-trainees	72	.847
2	Pilot-trainers	70	.821
3	English teachers	65	.667

The three high values indicate that the three versions of the questionnaire were reliable.

4.19.2.1. Pilot-testing Pilots Questionnaires

Data gathering instruments should be piloted to evaluate the quality of the data collection tool while it can still be revised and improved before it is used with the actual subjects in the research. Piloting the questionnaire aims at testing how long it takes respondents to complete them, and whether all questions are clear and understood by the respondents. The information the researcher collects by means of a pilot test is of two types. The first relates to practical aspects of administering the instrument, for example, the time needed to administer the questionnaire. The second relates to the reliability and validity of the instrument. This information is then used to revise the data collection procedure, that is, to remove and/or modify items, to extend or shorten the administration time, and/or to clarify some of the tasks. It may sometimes be necessary to pilot the procedure again.

The questionnaires were sent to one pilot-trainer and his student prior to the official open doors. We requested that taking the survey seriously is very important for research findings; they were not required to ask questions and behave as if they were under normal circumstances. It took quite the same time for subjects to respond to preliminary survey questions and comment on them. Our cell phone number and email were at the disposition of the respondents in case of ambiguity.

Questions were written clearly for informants to ensure comprehension. We preferred not to waste the time of both parties; respondents were always short of time and wished to expedite the matter as swiftly as they could. Hence, modifications were suggested by respondents to some questions which they deemed irrelevant, ambiguous or long-winded. Consequently, questionnaires were thus revised and adjusted.

4.19.3. Quantitative Data Analysis

An analytical method for the quantitative data was opted for. Quantitative data are measurable. Measurement of data is expressed by means of various scales of value. We generally recognize four basic scalar categories for classifying analytical-survey data:

1. The nominal scale: is the grossest of the differentiational scales. It merely expresses categorical classifications-eg; boys, girls.

2. The ordinal scale: is the scale next in refinement, indicating a measurement of degree of difference-e.g;more boys, more girls; twice as many boys as girls.

3. The interval scale: for which unit of measurement has been established- e.g; Tom is 3 inches (indicating three standard measurement units) taller than Kathy.

4. The ration scale: in which the values are measured from an absolute designated zero point. The ratio scale measures multiples of one value over another. Examples: this solution of H2SO4 has twice the acid content of that one. The temperature measures 25° celcius. (Leedy, pp.132-133).

4.19.3.1. Analytic Phase

During the quantitative phase the required and preferred data collection instrument – the questionnaire survey- was developed. The data-collection instrument was pilot-tested and changes made accordingly. The required data was collected from the population– 20 pilot-trainees and a sample of 15 trainers and then was processed, tabulated and interpreted.

In sum, the methodology followed in this study consists of a detailed description of participants i.e. domain experts and students, followed by data collection via informal FGD, semi-structured interviews and questionnaires. Information in the present study are gathered via primary sources (as mentioned above, which are questionnaires and interviews and discussion) in addition to secondary sources for collection which include ICAO language requirements, placement test, Kolb's style inventory and informal FGD. Also, examples of radio telephony discourse in a virtual setting between ATC and pilots or pilot-pilot were transcribed and then examples of the discourse communication were describing both routine and non-routine events.

4.19.3.2. Data Analysis Program

The field study required quite a considerable amount of data. Yet, this study did not require a complex method of analysis. The researcher was then cognizant with application rules and interpretation method. For this reason, the researcher utilized her own Microsoft Office Word and Excel system Version 2016 to tabulate and illustrate data by means of tables and bar charts. Since most of the questionnaire questions were closed and scales were used in only two successive questions, entering the data into the computer was greatly facilitated. In a similar fashion, for qualitative data analysis, thematic analysis was deployed and data findings were summarised in six themes or concepts extracted from subjects' common responses.

According to Dornyei (2003), a good questionnaire uses a crosscheck question to inform the researcher about the reliability of respondents to judge whether they were paying attention to the questions or answering carelessly. The details of the number of items designed in questionnaires 1, 2, 3 and interview questions as well are illustrated in the following Table 4.2.

Table. 4.2.

The Table Representing Subsidiary Research Questions and their Related Items in Questionnaires 1, 2, 3 and interview1 and 2.

Research questions number	Research Questions	Pilot Trainers Questionnaire	Pilot Trainees Questionnaire	Teachers Questionnaire	Pilot Trainers Interview	Pilot Trainees Interview
1	Where do the perceptions of aviation trainees and trainers converge about English language needed for helicopter aviation?	Item 7 and 9	Item 8 and 11		Item 4 and 5	Item 3, 4 and 5
2	What are the needs related to perceptions of SHS trainees and ESP teachers regarding the importance of the four		Item 10, 11, 13, 14, 15 and 16	Item 9, 10 11, 12 and 13		Item 6

	language skills?					
3	What are the needs related to perceptions of SHS trainers and ESP teachers regarding the importance of the four language skills?	Item 8, 9, 10, 11 and 12		Item 9, 10 11, 12 and 13	Item 4 and 5	
4	Is restricted English phraseology enough for aviators in both peacetime and wartime?	Item 17	Item 20		Item 8 and 9	Item 8 and 9
5	Do military trainers and trainees meet the requirements	Item 15, 17 and 18	Item 17 and 19	Item 14, 15 and 16	Item 10	Item 9 and 10

	of the				
	international				
	aviation?				

4.20. Ethical Considerations

Does this research threaten the subjects' life and profession? This question seems very reasonable to be posed. According to Polit and Hungler (1999, p.131) when humans are used as study participants in research care must be taken that the rights of those humans are protected. The ethical measures pertaining to survey research and this study were implemented as follows:

• Voluntary participation. All respondents participated voluntary of their own free will in this study. The participants were not coerced in any way. The principle of respect for human dignity and the self-determination were therefore adhered.

• Informed consent. The researcher also explained the nature of the study telephonically to prospective participants who did not attend the meeting or were recruited for the research. The nature of the study was also explained in the written permission letters to some of the selected work places.

• The right to privacy. The right to privacy entails that any information collected from the study will be kept in strictest confidence. Anonymity has been achieved when even the researcher cannot link a participant with the information for that person. In this research study no identifying information or numbering were indicated on the questionnaires. (ibid., p.139).

• Confidentiality, on the other hand is the management by the researcher of the private information disclosed by the participant (Burns & Grove 1997, p.204).

Written request of permission was sent to the Head of the military sector in Sétif where we explained the reason of the access to the SHS and guaranteed confidentiality(See Appendix

L). Participants were advised arrangements to securely store data and use it for research purposes only. The institution would receive a report including a summary of the major findings and recommendations arising from the study. Research data have to remain confidential and anonymous, and coding is used to ensure the anonymity of participants. Research documents were kept secure, and so is the case for computer data through passwords. Participants were free to withdraw from the study at any time, and documentation relevant to each research phase is made available for verification of data collected.

In this research, though privacy was promised, subjects were very keen to keep some information classified even though for academic purposes. The researcher took all measures that no unauthorised people gain access to the raw data of the research. Also, all data recorded were kept as they were without any attempt of modification in order to meet our expectations. Research record was conserved unless requested by Board of Examiners. The following figure summarise the data collection tools and techniques deployed in this research study:

Figure 4.1. Data Collection Instruments


```
                    DATA COLLECTION INSTUMENTS
                              |
              +---------------+---------------+
              |                               |
        Secondary Data                   Primary Data
              |                               |
        Placement Test            Semi-Structured Interview
              |                               |
          ICAO Test            Needs Analysis Questionnaire Survey
              |                          for Pilot-Trainees
      Kolb's Style Inventory              |
              |                  Needs Analysis Questionnaire Survey
   Informal Focus Group Discussion          for Pilot-Trainers
                                            |
                                    ESP teacher's Perceptions
                                    Questionnaire Survey
```
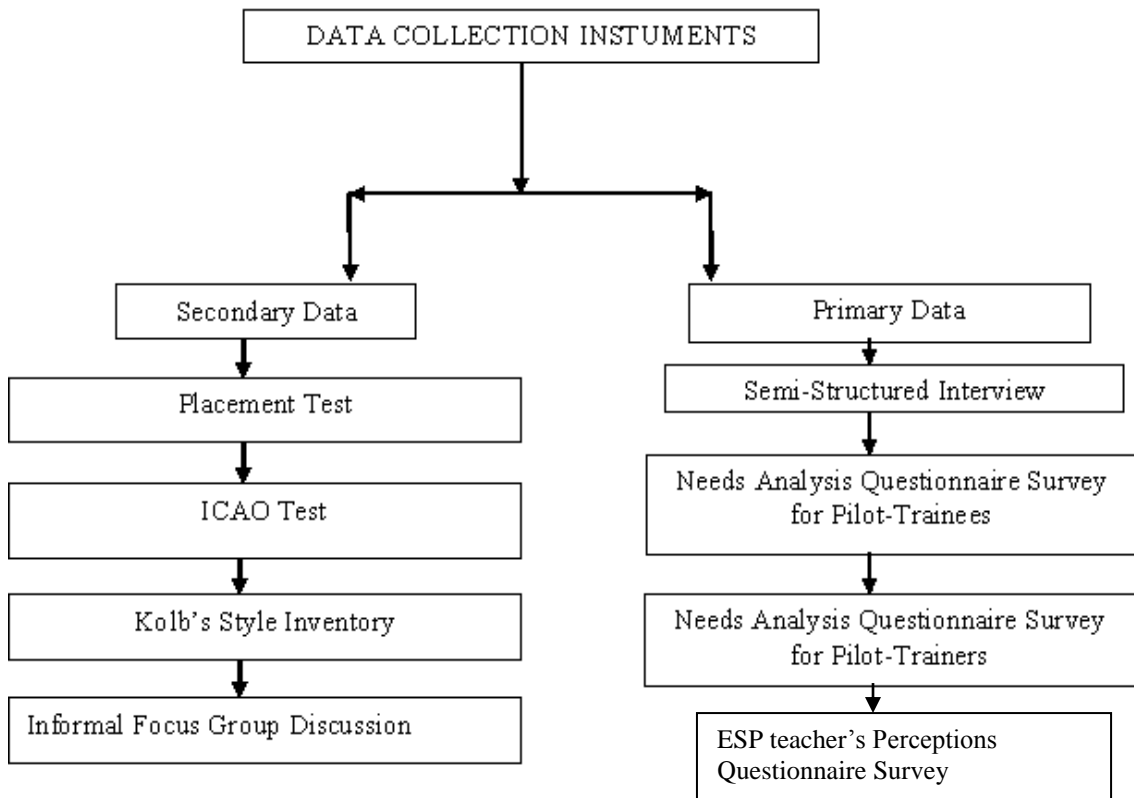
Conclusion

In line of the quantitative and qualitative research paradigms, the present study was planned. Questionnaires and interviews were designed for the sake of collecting data related to the SHS students and professionals in addition to ESP teachers in order to identify needs and motives behind learning English for aviation purposes and whether students' needs converge with trainers'. By so doing, the PSA and the TSA dimensions were measured accordingly. The database developed provided significant information about the field situation. Inferences were drawn upon data analysis, both primary and secondary.

Introduction

This chapter is divided into two main sections. In the first section, we are going to embark on the analysis of secondary data collected through FGD, placement and ICAO test, while the second section includes the analysis of research tools like questionnaire surveys and interviews.

5. Analysis of the Secondary Data

This section outlines the analysis the secondary data findings collected through, FGD, placement test and ICAO test.

5.1. Content Analysis of Focus Group

Pilot responses were summarized as follows:

Q1. Which language is spoken between pilots and ATC in peace time?

Pilots mentioned that several languages are used between them and ATC; they may use the local language for out of work conversation, French phraseology and even English phraseology. They added that pilots should respond in the language used by the ATCs.

Q2. Is English important in studies and during training?

Pilot officers emphasized the importance of English in their academic studies for example reading recent aviation-related documents and to be au-fait with the latest development in aviation. Also, officers find English important also during their hands-on trainings on the helicopters; the fact which pilot trainers emphasized too. Both trainees and trainers expressed the importance of listening to different English accents and how they often struggle to understand them during war game. Listening to native speakers also is one of the major difficulties pilots face during training simulation. They state that they may get the general idea if the native is talking slowly in work-related topics but when it comes to general topics or emergency situation (out of phraseology) pilots often cannot grasp the main meaning. Also, communication fluency in real life situations is one of the most targeted objectives for pilots

Q3. Is the phraseology list enough in case of non-routine situations especially in wartime?

In peace time phraseology is enough because they can resort to French or local language but in case of war, General English will be more required especially in non-routine turn of events with other non-native pilots.

Q4. Is English needed for graduation?

It is required in formal tests and during trainings. However, it is more required during trainings.

Q5. Are all language skills of equal importance?

For pilot-trainees it is reading, listening and speaking (peace time).

For trainers it is listening and speaking.

Q6. Is English for aviation required more than General English?

Terminology is learnt in the English unit but no course is fully devoted daily life English communication which ICAO requires civilian pilots to have. They think that English they are studying is basically dealing with language rules and grammatical structures and ignores most of the time the implementation of those rules in real life situations which is the ultimate aim of any language like French and Arabic.

Research participants' responses of the focus group generally agree that the English courses in the school are just an extension of high school English education, which are usually lecture-oriented and grammar-based and rely on somewhat monotonous teaching method based on the findings from the discussion, the students' expectations for the future direction of the English curriculum were investigated in more depth through the interview and questionnaire survey with reference to three major issues.

5.2. Placement Test Findings

The scores of the General English placement test administered to the research subjects were collected and interpreted according to the Cambridge English Language Assessment − Common European Framework (CEF), i.e. each level is reached with the following

scores: A1, 0-10, A2, 20–40; B1, 50–100; B2, 150–200; C1, 250–300, and C2, 350–500

(See Appendix P).

The six levels are summarized into three broad divisions :

- **Basic Speaker**

o A1 Breakthrough or beginner

o A2 Waystage or elementary

- **Independent Speaker**

o B1 Threshold or intermediate

o B2 Vantage or upper intermediate

- **Proficient Speaker**

o C1 Effective Operational Proficiency or advanced

o C2 Mastery or proficiency

5.2.1. Placement Test Scores of the SHS Pilots

The placement test scores of the SHS pilot trainers and trainings are summarized in the following table:

Table. 5.1.
Placement Test Scores of the SHS Pilots

SHS Pilots	Scores
15 pilot-trainers	07 subjects (70 points : B1) 03 subjects (100 points : B1) 05 subjects (150–200: B2)
20 pilot-trainees	01 subject (270 points : C1) 11 subjects (50–100: B1) 08 subjects (150–200 : B2)

According the description of the CEF, most of the subjects are independent speakers when

the largest number are threshorld or intermediate, the second largest number are upper-

intermediate whereas only one pilot is advanced.

5.2.2. ICAO Test Scores

<u>**Pronunciation and Fluency**</u>

The pronunciation and fluency test comprises two major parts:

Part 1 – Interview

The researcher devisesa series of questions to ask the subject on common, concrete and training-related topics relating to his aviation background. This part examines the use of basic English. (see appendix M)

Part 2 – Role Playing Exercise

Part 2 of the test is a role playing exercise where the subject assumes the role of the pilot and communicates with the researcher based on a script designed by the researcher herself. Scenarios are based on realistic prospective non-routine situations during trainings or war time. Emergency situations were created by the researcher and pilots were required to describe to the ATC.(See Appendix N)

Data were sent via email to a native rater, for assessment, who taught ESP and AE in Turkey and Colombia for 4 years. She assessed the pilots (both trainers and trainees- See Appendix O) as the following**:**

- **Structure:** according to the overall score, most respondents showed a good understanding of basic grammatical structures. Sentence patterns associated with predictable situations are not always well controlled.

- **Vocabulary:** Respondents did well on filling the gap with appropriate **v**ocabulary range. Accuracy seems sufficient to communicate on common, concrete, or work-related topics, but range is limited and the word choice often inappropriate. Pilot is often unable to paraphrase successfully when lacking vocabulary.

- **Comprehension:** They showed little comprehension. It was clearly limited to isolated, memorized phrases when they are carefully and slowly articulated.

- **Interaction:** Response time is slow and often inappropriate. Interaction is limited to simple routine exchanges.

- **Fluency and pronunciation:** according to the native rater, the holistic analysis was as follows:

Most of the respondents:

- Tend to take long pauses before answering

- In a general topic, they use appropriate formulaic expression for clarification, however ,in work-related topic, they use inappropriate communicative strategies to exchange messages and to recognize and resolve misunderstandings (e.g. to check, confirm, or clarify information)

- Often give short answers

- Stress is not correctly placed in some words like 'colonel, rotor, and emergency)

- Mispronunciation may lead to undesired consequences during flights.

- There was a lack of mutual intelligibility

- The interference of the first language accent was apparent

- Low ability in communicating on common, concrete and work-related topics with accuracy and clarity (the topic of target change)

- Can handle with relative ease exchanges upon familiar topics, however they show inadequacy in handling the linguistic challenges presented by a complication or unexpected turn of events.

According to ICAO LPRs, most of the pilots have level 2 and 3 (Elementary and Pre-operational). This may be attributed to the differences of age and years of experience.

5.2.3. Participants Learning Style

We have selected Kolb's learning style inventory for its simple and plain English in
addition to accurate items. We aimed at reducing the load on the subjects who begun to
lose willingness to assist**.**

Table: 5.2.
Analysis of the Participants Learning Style (Kolb Learning Style Inventory)

	Concrete Experience	**Reflective Observation**	**Abstract Conceptualization**	**Active Experimentation**
01	I like to deal with my feelings	I like to watch and listen	I like to think about ideas	I like to be doing things
Score	**4**	**7**	**8**	**1 3**
02	I trust mu hunches and feelings	I listen carefully and watch	I rely on logical thinking	I work hard to get things done
Score	**6**	**8**	**7**	**11**
03	I have strong feelings and reactions	I am quiet and reserved	I tend to reason things out	Iam responsible about things
Score	**5**	**6**	**9**	**12**
04	I learn by feeling	I learn by watching	I learn by thinking	I learn by doing
Score	**0**	**6**	**8**	**18**
05	I am open to new experiences	I look at all sides of an issue	I like to analyse things, break them into their parts	I like to try things out
Score	**4**	**7**	**8**	**13**
06	I am an intuitive person	I am an observant person	I am a logical person	I am an active person
Score	**3**	**11**	**8**	**10**
07	I learn best from personal relationship	I learn best from observation	I learn best from rational theories	I learn best from a chance to try and practice
Score	**5**	**5**	**7**	**15**
08	I feel personnaly involved	I take my time before acting	I like ideas and theories	I like to see results from my work
Score	**8**	**6**	**11**	**7**
09	I rely on my feelings	I rely on my	I rely on my ideas	I can try things

		observations		out for myself
Score	3	6	9	14
10	I am an accepting person	I am a reserved person	I am arational person	I am a responsible person
Score	4	6	10	12
11	I get involved	I like to observe	I evaluate things	I like to be active
Score	11	4	6	11
12	I am receptive and open-minded	I am careful	I analyse ideas	I am practical
Score	8	3	8	13
Score	4.83	6.25	8.25	11.46
Findings	Abstract Conceptualization minus Concrete Experience			3.42
	Active Experimentation minus Reflective Observation			5.21

5.2.3.1. Participants' Preferred Style Findings

The mean values from the sample were 5.21 for active experimentation minus reflective observation and 3.42 for abstract conceptualization minus concrete experience. When plotted on the style grid these mean values fall on the boundary between Accomodator and Assimilator. The plot for these median values falls within the accomodator learning style. A secondary learning style is convergence. Divergent and accommodative learning styles are each used by significantly small number of pilots within the study group. Figure 5.1. below describes the participants' preferred learning style:

Figure 5.1. Research Participants' Style
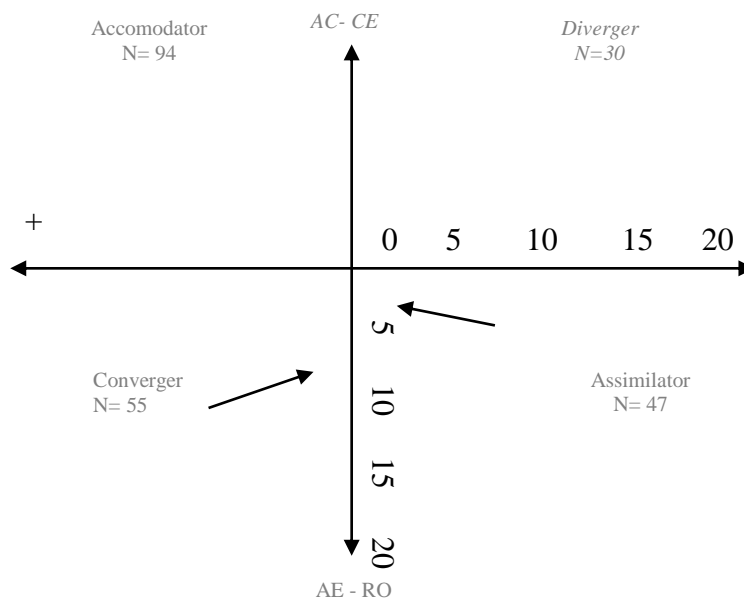
5.3. Primary Data Analysis

In this section, both interviews for both pilot trainers and trainees were analysed; the findings were summarised in form of themes as will be illustrated in the subsequent section.

5.3.1. Interview Data Analysis

Answers from both pilot trainers and trainees were collected and analysed. A list of following themes emerged in this regard:

1. Academic and Professional English in Aviation Industry

2. Effective Radio Communication

3. War-time English

4. Plain English

5. English Course for Pilot-Trainees

6. One-way Listening

7. Comprehension

   The responses of all informants according to the themes above-mentioned are reported in the following discussion. Firstly, the statements of the pilot trainers are given. Secondly aviation trainees' responses are presented.

1. **Academic and Professional English in Aviation Industry**

   The statements of respondents of both categories showed that English played a vital role in their academic and professional lives. The respondents from teachers of aviation perceived that proficiency in English is greatly required for them in the work place and to aviation students as well to deal with the challenges they may face during trainings, domestic safety or during the crisis time. Both aviation students and teachers stressed the imperativeness of English language proficiency in addition to flight theories. When it

comes to country and people safety, competence in the field and high proficiency of English is no longer an option. English language played significant role. It is required in further academic studies. Therefore, students should be given necessary trainings on English language. A significant number of respondents commented that English language is important and compulsory in every respect for both students and trainers since all books and relevant aviation literatures are available in English.

One of the trainers stressed the importance of English not only for students but considered it equally important for aviation professionals as well. He stated: *"Years ago, English was not a mandatory condition for the recruitment of the military personnel especially because most military operations were undertaken domestically during terrorism. However, starting from the mid-1990s, attention was shifted towards the importance of English in the military industry, in general, and aviation, in particular. Hands-on trainings during peace time do not require, to a great extent, English because local language and French can be sufficient for the training to be accomplished. Yet, in case of war and for other social purposes, aviation English and general English have become a must because during the war or foreign intrusion, general English cannot be avoidable. Phraseology may not be enough to describe particular situations."*

For aviation trainees, they stated that the Algerian teachers of English were not well proficient enough in English. Most teachers of English were not apt enough regarding general readings, listening comprehension and speaking practice. According to the pilot-trainees, the main reason behind their insufficient command of English language was lack of its practice in their class setting. A pilot- trainee argued *«English is essential for the success at the academic year such as reading the latest aviation documents, understanding exam questions, reading aviation documents and understanding instructions. Additionally, English is imperative in our trainings on board which form a great amount of our practical course".*

All in all, both pilot-trainers and trainees agreed upon the fact that English is very important in aviation, either civilian or military, in the flight units, and all the technical terms are in English. Likewise, English is a vital vehicle of communication especially during the war time between non-native pilots-pilots and pilots-ATCs

2. Effective Radio Communication

Respondents stressed that all military language is ruled by brevity and clarity. Communication between agents of land forces for example, in Ain Arnat, takes place face to face either in peace or war-time except in some particular cases. Nevertheless, air and air defence forces in addition to the navy, communication often occurs verbally through radiotelephonies. One of the trainers added that *"in addition to our ability to fly a helicopter and overcome technical problems we might encounter; radio communication forms the major endeavour of the pilot on board. Every mission, either during trainings or in case of war relies heavily on radiotelephony, and thus effective and successful conversations between pilot-pilot and pilot-ATC is essential regardless of the language used in this communication. The good choice of words and the ability to well listen to instruction are half duty in addition to good transmitting techniques of course"*.

Likewise, one of the trainees commented that *"as a student, my academic achievement is as important as my hands-on training accomplishment. We are required to apply aviation theory on board, but for English language communication, we are in need of more practice on how to attain an effective communication especially in unexpected cases when phraseology we took in class does not serve. For me, good shooting is similar to good communication"*

3. English Course for Pilot-Trainees

Pilots confirm during the interview that English classes at the SHS are reiterated and are grammar or lesson-based relying on traditional (structure-based) teaching. According to the interviewees, communicative skills were totally ignored and out of the box activities

for enhancing abilities in interacting, and communicating effectively are not created either for aviation or social purposes. This was very apparent in the respondents' answers where most of them stressed the importance of comprehending and responding efficiently through radio during their training in order to be prepared for eventual war where multiple languages may be spoken between pilots, co-pilots and ATCs. One of the trainees explained "*The inadequate command in English has hindered our ability tobe acquainted with the latest requirements of the international aviation like reading detailed aviation-related documents or lengthy instructions on manuals of recent obtained aircrafts.I believe that the lack of expertise in English was one of the major reasons for weak research area in aviation studies as well.*"

4. War-time English

After having posed the question about the importance and the need of English during war, most respondents reported that it goes without saying that during war, pilots are certainly under an enormous pressure and stress especially in case of blackout, and if long instructions are given in English, they require attention and focus and thus a full language comprehension is required. Additionally, pilots agreed that different accents pose difficulties for them either for phraseology aviation or General English. The latter, according to responses, is very imperative in case of emergencies and unexpected situations such as spying missions or taken hostage. At wartime, the unexpected may happen and pilots should be armed with the necessary linguistic weapon which is language, pilots should be trained to act in case of spying or taken hostage. Pilots or ground troops should master English which, according to them, the enemy might use.

5. Plain English

Pilot trainees emphasized the importance of English in their academic studies for example reading recent aviation-related documents and to keep abreast with the world state-of-the-art development in aviation. Also, officers find English important during their

practical trainings on helicopters; the fact which pilot trainers emphasised too. One of the trainers pointed out that"*for air forces missions in regard domestic affairs like terrorism, plain English in addition to AE is hardly ever used, however, our main concern is the general English during trainings if the ATC addresses us in English or during war when we need to resort to English in case Algeria receives aides from African or foreign allies who certainly use English as a lingua franca either AE or plain English. As a country protector, I should have control over my aircraft as well as my linguistic knowledge*".

Additionally, one of the pilot-students added *"terminology is learnt in Aviation English unit but no course is fully devoted to daily life English communication which ICAO requires civilian pilots to have. I think that English we are studying and we studied before was basically dealing with language rules and grammatical structures and ignores most of the time the implementation of those rules in real life situations which is the ultimate aim of any language like French"*.

6. One-way Listening

Both trainees and trainers expressed the importance of listening to different English accents and how they do not often understand them during war game simulation. Listening to native speakers also is one of the major difficulties pilots face during training simulation as well. They state that they may get the general idea if the native is talking slowly in work-related topics but when it comes to general topics or emergency situation (out of phraseology) pilots often cannot grasp the main meaning. Communication fluency in real life situations also is one of the most targeted objectives for pilots.In the latter cases, one-way listening skill is a pre-requisite, the skill which most pilots were in need to improve most.

One pilot-trainer commented *"one-way listening is the skill that I do not master very well. I feel frustrated when I cannot understand an English native speaker in ordinary circumstances and I cannot imagine my performance if I will be put in this awkward*

situation if the country is in war. When we were on a training in the UK, our tutor advised us to learn how to listen and speak in the same way we listen and speak our mother tongue." In case of held hostage, spying and scout missions and even during any prospective blackout, both trainees and trainers explained their weakness when it comes to one-way listening and an understanding of what others say around them.

Daily English news and speech by politicians are also important to them to comprehend and being acquainted with up-to date latest news inside or outside the country. Respondents explained that they may comprehend speech if spoken with a slow rate with a pause between sentences and the opposite does not hold true. They added that listening to different English accents is different from reading English manuals, books, advertisements... etc., simply because they do not have a chance to interrupt the speaker or ask him/her to say again and there is no negotiation of meaning or a request for clarification.

7. Comprehension

One of the most intricate and awkward situations is when miscommunication takes place between pilots-pilots or pilots and ATCs. Both aviation professionals and students expressed their worries about the comprehension of fast talk, long instructions by native speakers or non-native speakers. Their comprehension deficit lies, to a great extent, in the comprehension of the different accent of non-native speakers from other countries especially during wartime where other foreign countries may interfere during crisis either domestic or international. In addition to different accents, different Englishes also cause a great problem to them. For them, Australian English is different from the British English, which is different from American and New-Zealander. They expressed their confusion of which English standards they have to obey and which one of the previously-mentioned Englishes they have to know. (See Appendix Q & R).

5.3.2. Questionnaires Analysis

5.3.2.1. Pilot- Trainees and Trainers Questionnaire Analysis

Table 5.3.
Descriptive Statistics of Average Age of Pilot Trainees

Respondents	Frequency	Minimum	Maximum	Average
Pilot-Trainees	20	22	26	24

Figure 5.2: Pilot-Trainees Age
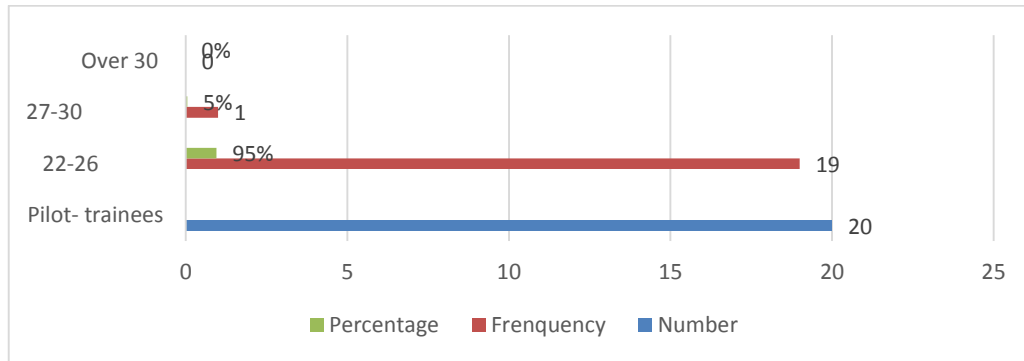
Table 5.4.
Descriptive Statistics of Average Age of Pilot Trainers

Respondents	Frequency	Minimum	Maximum	Average
Pilot-Trainers	15	23	45	34

Figure 5.3. Pilot-Trainers Age
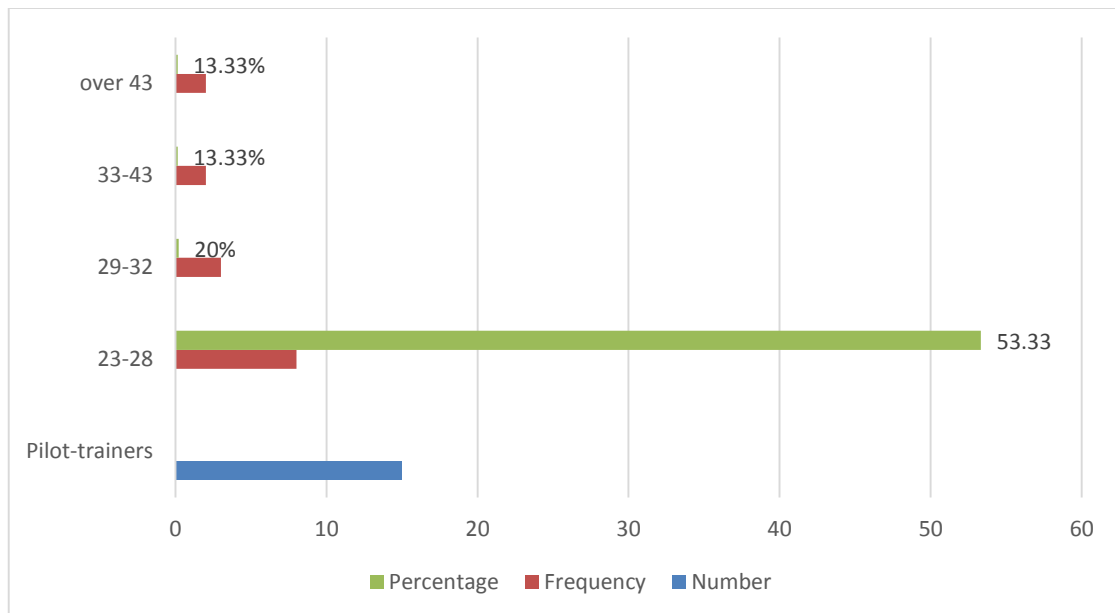
Tables5.3. and 5.4. present that the largest percentage of the students' age is between 22-26

followed by the second largest percentage of average age is between 27-30 whereas the

biggest age of the pilot-trainers is between 23-28 followed by a percentage of 20% goes to age between 29-32. The last least percentages are equal between ages of 33-43 and over 43 years old. Tables also present descriptive statistics related the average age of the pilot-trainees which is approximately 26 years old. Whereas the average age for pilot trainers is 34 years old.

Table.5.5.
Descriptive Statistics of the Respondents' Gender

	Male	Female	Number	Frequency	Percentage
Pilot Trainees	20	0	20	20	100%
Pilot TraineRs	15	0	15	15	100%

Table 5.5. show that all respondents, trainers and trainees, (100%) are males because females are not allowed in military fields since 1980s.

Figure 5.4: Descriptive Statistics of the Respondents' Gender
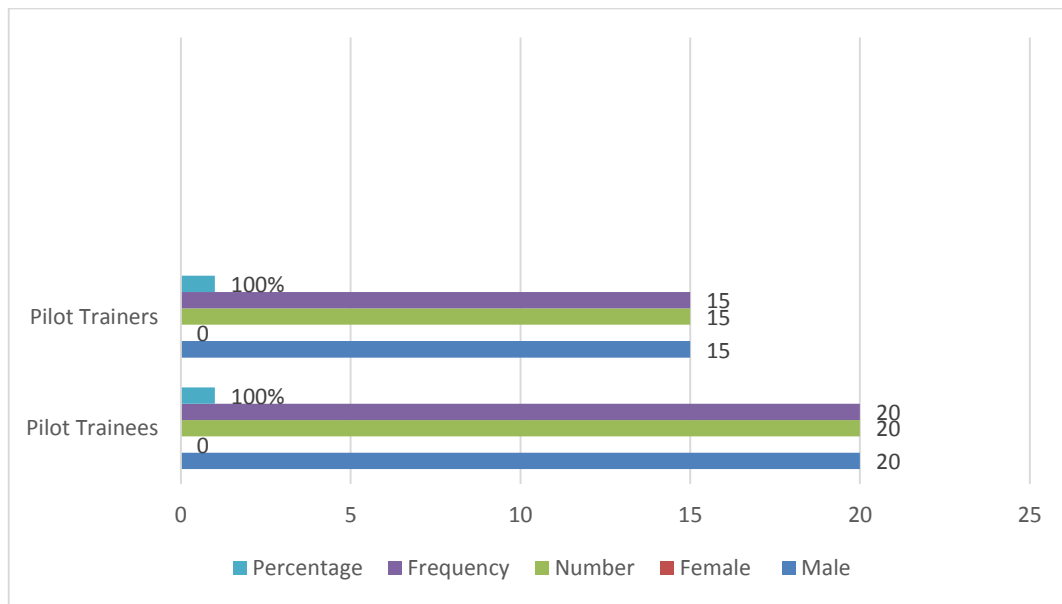
Table 5.6.
Descriptive Statistics of the Respondents' Nationality

Gender	Number	Frequency	Percentage
Pilot-trainees	20		
Algerian		18	90%
Malian		2	10%
Pilot-trainers	15		
Algerian		15	100%

Table 5.6. above highlights that all the pilot trainers (100%) are Algerians, whereas the biggest number of the students (90%) are Algerians and the second largest percentage (10%) is Malian and this explain that the SHS is an international war school.

Figure 5.5.Respondents' Nationality
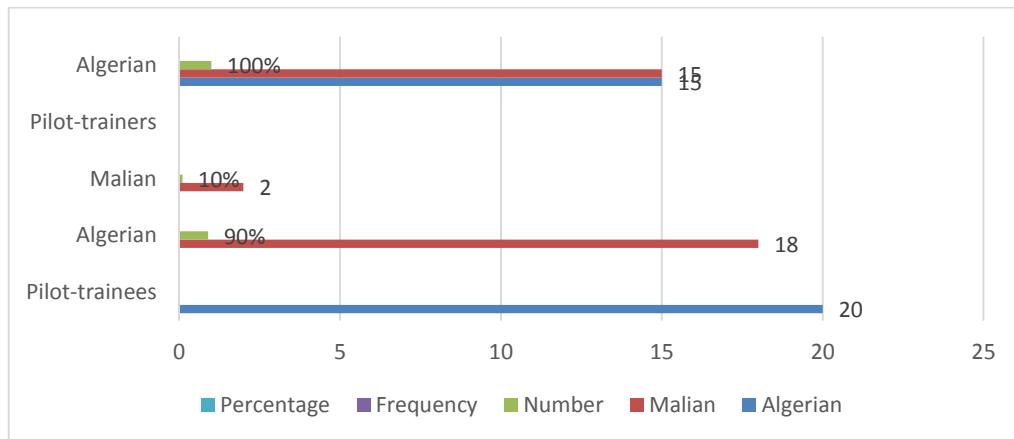
Table 5.7.
Descriptive Statistics of the Average Study Period of the Students

Study Period	Number	Frequency	Percentage
Pilot-trainees	20		
6 months study period		20	100%

Table 5.7. above illustrates that during that phase of the research, all pilot officers (100%) have enrolled in the last academic year and have been studying for six months.

Figure 5.6. Average Study Period of the Students
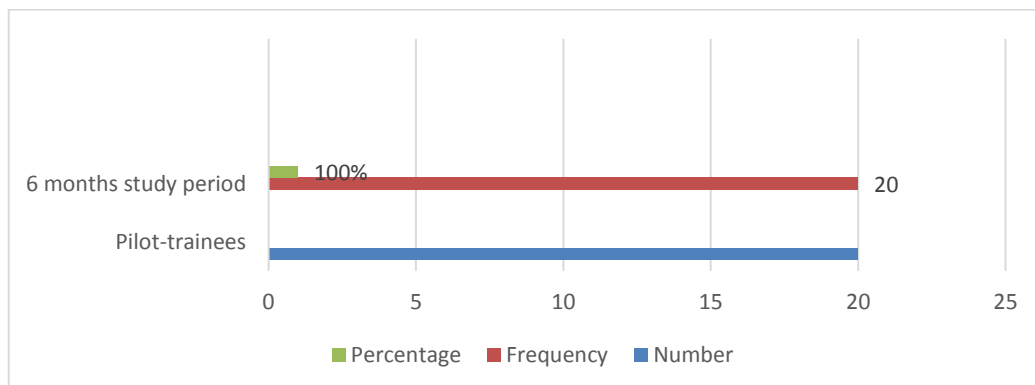
Table 5.8.
Descriptive Statistics of the Respondents' Rank

Respondents' Rank	Number	Frequency	Percentage
Pilot-trainers	15		
Colonel		2	13,33%
Commandant		10	66,33%
Captain		3	20%
Pilot-Trainees	20		
Commandant		0	0%
Captain		0	0%
Officer		20	100%

Table 5.8. shows that all pilot students (100%) are officers and this sounds logical because they are still students, whereas pilot- trainers' largest number (66.33%) is commandant followed by a second largest percentage (20%) of captains and the last least percentage (13.33) are colonels.

Figure 5.7.Respondents' Rank
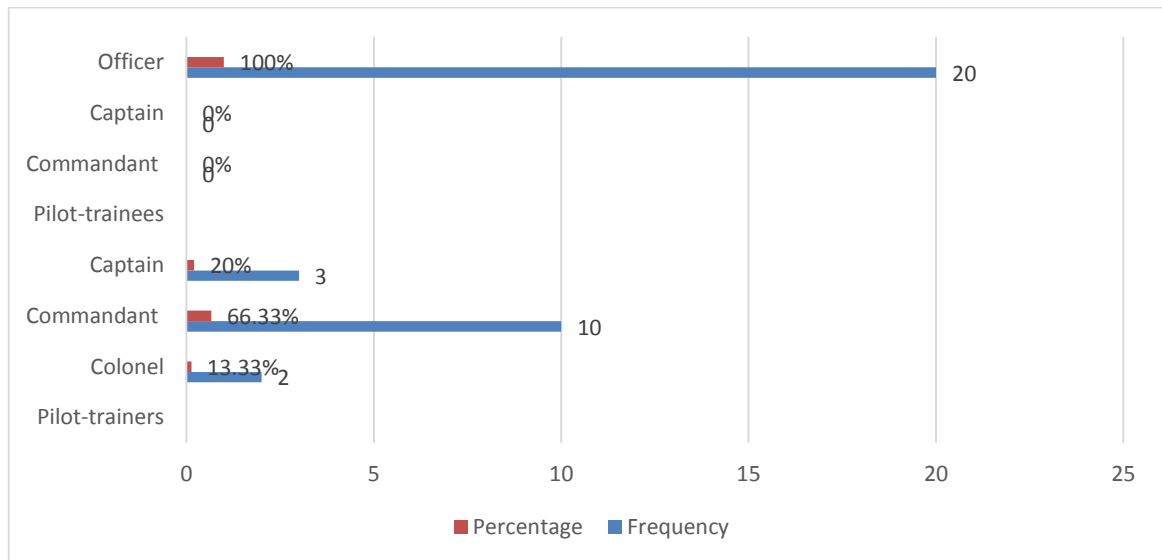
Table 5.9.
Descriptive Statistics of the Trainers' Work Experience

Pilot-trainers/ Experience	Number	Frequency	Percentage
	15		
1-3 years		1	6,66%
4-6 years		10	66,66%
7-10 years		2	13,33%
More than 10 years		2	13,33%

Table 5.9. above illustrates that most of the trainers (66.66%) have an experience of between 4 and 6 years. The second largest percentage (13.33%) goes to work experience of between 7 to 10 years a more than 10 years respectively.

Figure5.8. The Trainers' Work Experience
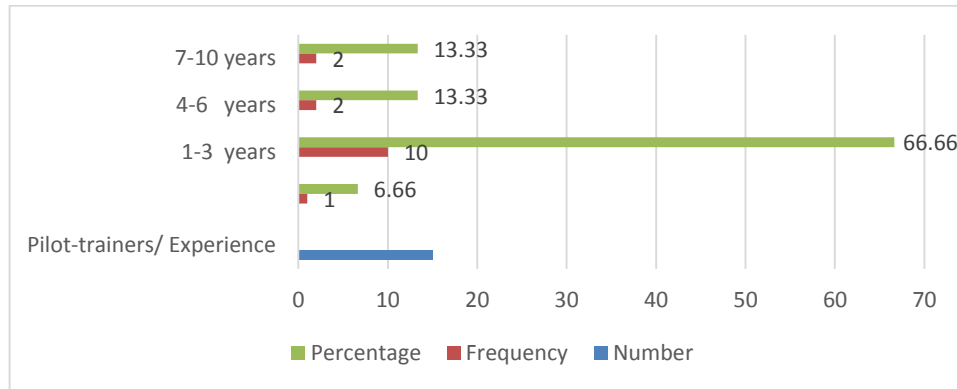
Table 5.10.
Descriptive Statistics of the Students' Perceptions of the English Course

	Number	**Frequency**	**Percentage**
Trainees' Perception of English Course	20		
Satisfied		6	20%
Unsatisfied		14	80%

Table 5.10. above shows that most students (pilot-officers) 70% are unsatisfied of the English course taken as an independent unit in their curriculum. Only 20% showed satisfaction of the English class.

Figure5.9. Students' Perceptions of the English Course
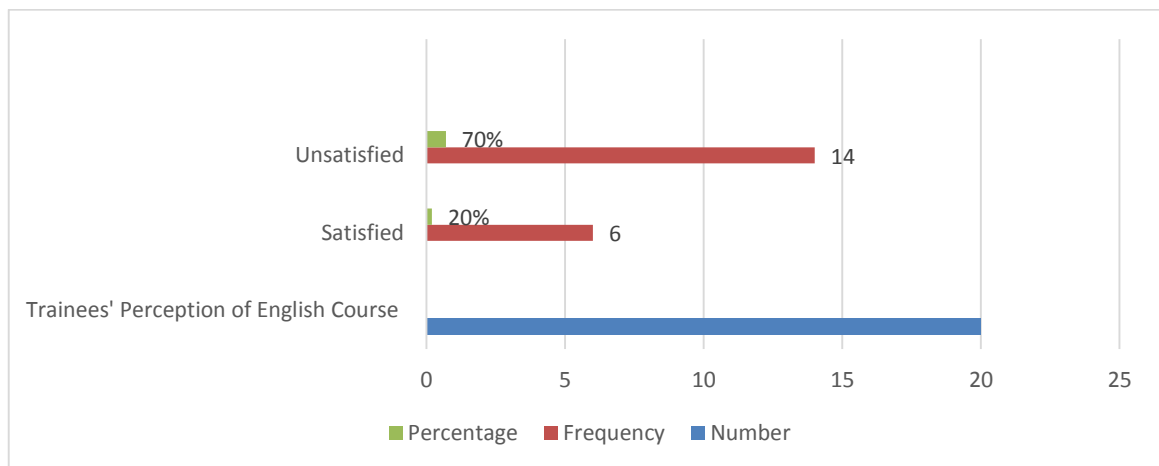
Table 5.11.
Descriptive Statistics of the skills Exposed to by Trainees

Trainees/ skills exposed to	Very Often	Often	Sometimes	Rarely	Never
Listening					
Frequency	10	5	3	2	0
Percentage	**50%**	25%	15%	10%	0%
Speaking					
Frequency	5	4	8	2	1
Percentage	25%	20%	**40%**	10%	5%
Reading					
Frequency	7	8	3	2	0
Percentage	35%	**40%**	15%	10%	0
Writing					
Frequency	3	4	9	3	1
Percentage	15%	20%	**45%**	15%	5%
Mean μ	**6.25**	**5.25**	**5.75**	**2.25**	**0.5**

Table 5.11. shows that half of the respondents (50%) reported that it is listening that they mostly do 'very often' to in their academic studies, followed speaking 'sometimes' with 40%. 40% answered as well that reading is the skills met 'often' during their studies. 45% reported that they 'sometimes' practice writing.

This explains that pilot-students are required to listen to the lesson, either to the teacher or in the language lab. The reading skill is also justified by the necessity to read for aviation purposes. Yet, speaking skill is not given much attention under academic purposes. This would support the view of Chamot (1995) that listening is often present under EAP for the sake of lecture notes and reference materials. Also Grabe and Stoller (2001) confirm that reading is recognized as the most significant academic language skill in the ESL context. Also, Goh(2013) adds that the purpose of academic listening instruction is typically to develop skills such as lecture comprehension that will help these students participate and succeed in academic or academic -related discourse.

Figure 5.10. Skills Exposed to by Trainees
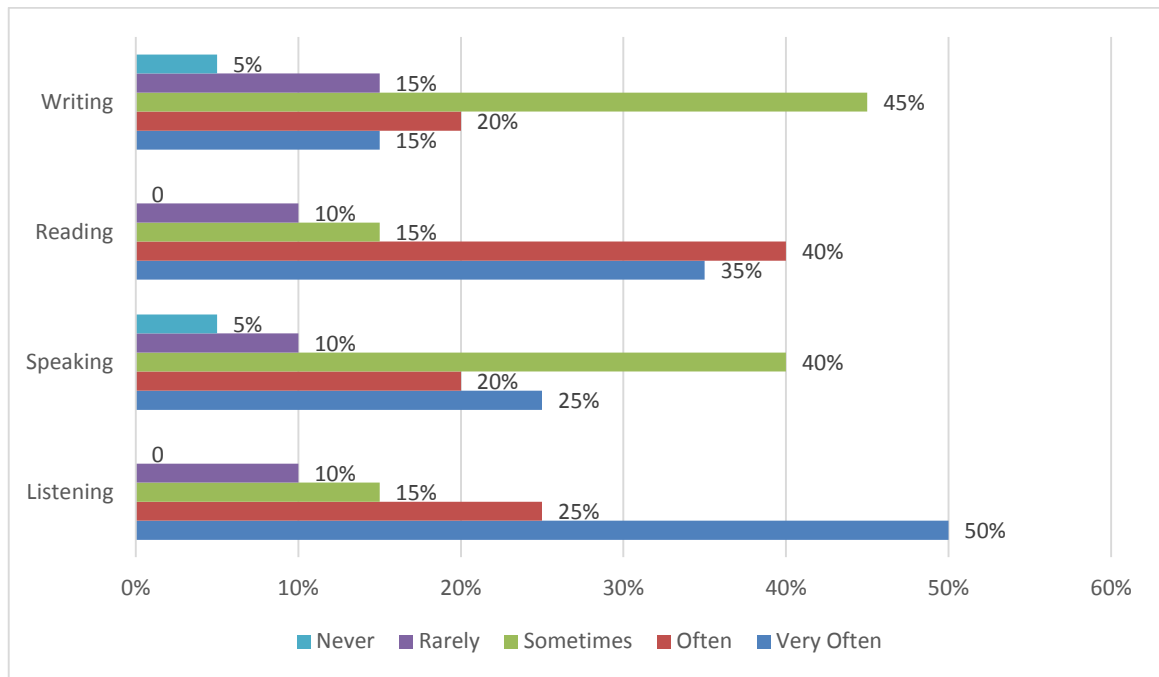
Table 5.12.
Descriptive Statistics of the Skills Exposed to by Trainers

Trainers/skills exposed to	Very Often	Often	Sometimes	Rarely	Never
Listening					
Frequency	2	9	2	1	1
Percentage	13,33%	**60%**	13,33%	6,66%	6,66%
Speaking					
Frequency	7	3	2	2	1
Percentage	**46,66%**	20%	13,33%	13,33%	6,66%
Reading					
Frequency	2	2	7	2	2
Percentage	13,33%	13,33%	**46,66%**	13,33%	13,33%
Writing					
Frequency	1	3	5	3	3
Percentage	6,66%	20%	**33,33%**	20%	20%
Mean µ	**3**	**4,25**	**4,25**	**2**	**1,75**

Table 5.12. illustrates that the largest percentage of the repondents (60%) reported that

they listen 'often'. Regarding the speaking skill, the highest number (46.66%) answerd that

they speak very often. The same number of the subjects (46.66%) reported that thery

'sometimes' read. Only 33.33% of the research informants said that they sometimes write.

These findings are also backed up by Guffey and Loewy (2010) that an important part of

the communication process is listening. Additionally, Belcher (2006) has discussed the dearth of research in workplace listening competencies, observing that it is very much a reflection of the overall ESP reality.

Figure 5.11. Skills Exposed to by Trainers
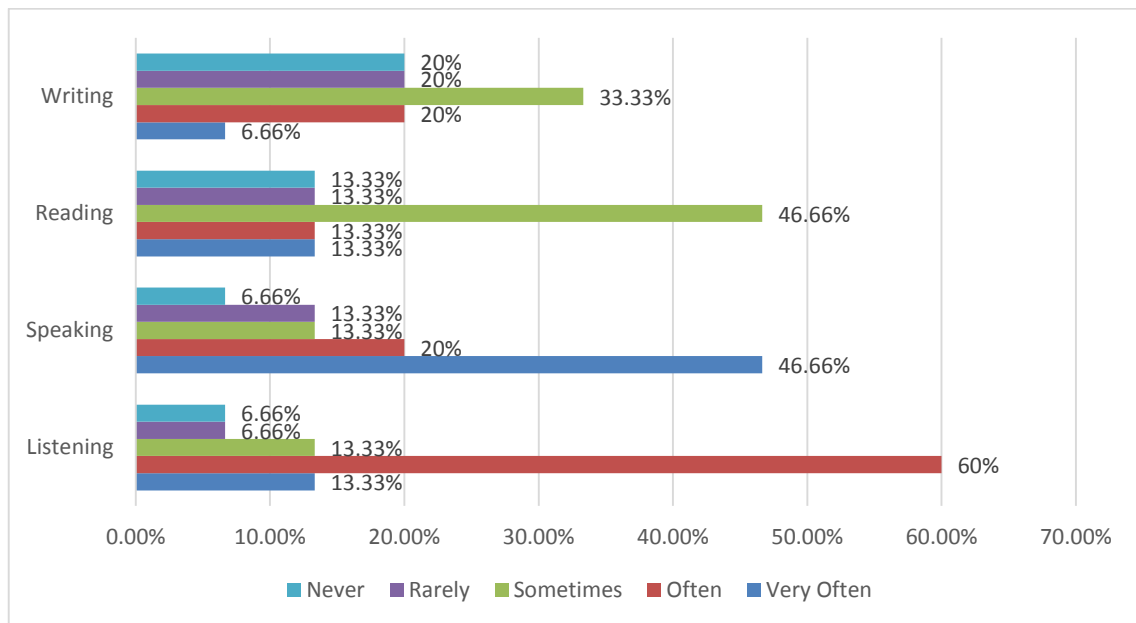
Table 5.13.
One way Anova for the Skills Exposed to by Pilot-Trainees and Trainers

Anova: Single Factor

SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Column 1	2	9,25	4,625	5,28125		
Column 2	2	9,5	4,75	0,5		
Column 3	2	10	5	1,125		
Column 4	2	4,25	2,125	0,03125		
Column 5	2	2,25	1,125	0,78125		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	25,2125	4	6,303125	4,082996	**0,077507**	5,192168
Within Groups	7,71875	5	1,54375			
Total	32,93125	9				

Table 5.13 shows that One-way Anova was used to test the equality regarding theskills exposed to among aviation trainers and trainees .It is indicated that there was no significant difference among aviators groups when it comes to the frequency of the skills as p-value was greater than 0.05.

Table 5.14.
Importance of the Four Skills for Trainees

Trainees/Importance of Skills	Very important		Important		Not important	
Listening	**Co**	**%**	**Co**	**%**	**Co**	**%**
	12	60%	7	35%	1	5%
Speaking	**Co**	**%**	**Co**	**%**	**Co**	**%**
	10	50%	8	40%	2	10%
Reading	**Co**	**%**	**Co**	**%**	**Co**	**%**
	4	20%	6	30%	10	50%
Writing	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	5%	4	20%	15	75%
Mean μ	**6,75**		**6,25**		**7**	

Table 5.14. presents thatmost of the respondents (60%) reported that the listening skill is 'very important', followed by the second largest percentage (50%) who rated speaking as 'very important' as well. For the reading skill, half of the subjects (50%) answered as not 'important'. Similarly, a considerable percentage of the informants (75%) reported that the writing is 'not important'.

Surprisingly, students agree upon the fact that listening and speaking are more important skills than reading and writing. This is may be because pilot trainees are more interested in tarinings success rather than academic achievement

Figure5.12. The Importance of the Four Skills for Trainees
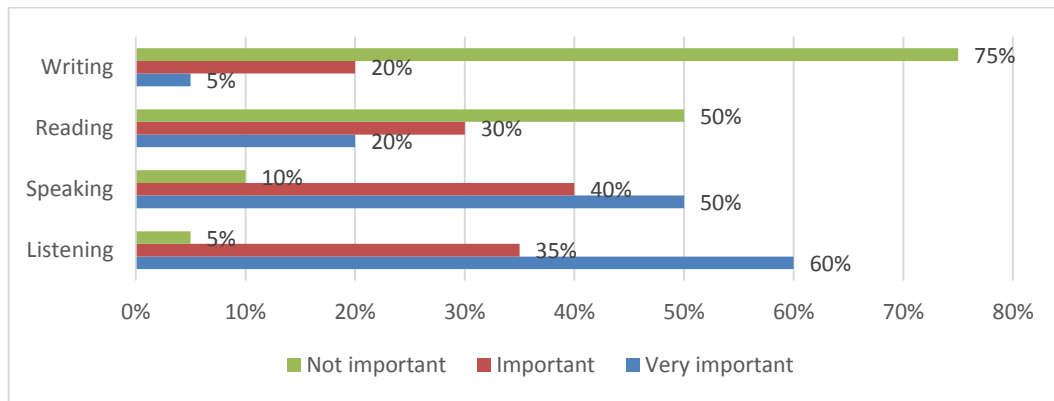
Table 5.15.
Importance of the Four Skills for Trainers

Trainees/Importance of Skills	Very important		Important		Not important	
Listening	**Co**	**%**	**Co**	**%**	**Co**	**%**
	10	66.66%	4	26.66%	1	6.66%
Speaking	**Co**	**%**	**Co**	**%**	**Co**	**%**
	8	53.33%	5	33.33%	2	13.33%
Reading	**Co**	**%**	**Co**	**%**	**Co**	**%**
	5	33.33%	6	40%	4	26.66%
Writing	**Co**	**%**	**Co**	**%**	**Co**	**%**
	3	20%	5	33.33%	7	46.66%
Mean μ	**6,5**		**5**		**3,5**	

Table 5.15. illustrates that the largest number of the pilot trainers (66.66%) reported that the listening is 'very important'. In the same vein, the biggest percentage of the informants (53.33%) rated the speaking as 'very imporant' as well. Regarding the reading skill, 40% of the subjects reported that it is 'important', where the largest number 46.66% rated the writing as 'unimportant'. The statistics sound reasonable for the pilot trainers's main job is communication while boarding the helicopter. The task which requires to a great extent listening and speaking in addition to aircraft control.

Figure 5.13. Importance of the Four Skills for Trainers
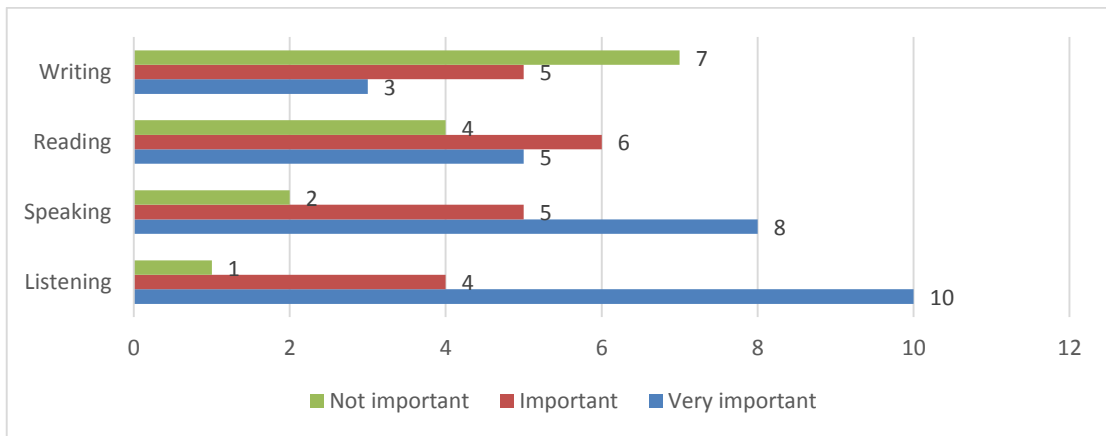
Table5.16.
One way Anova for the Importance of Language Skills

Anova: Single
Factor

SUMMARY				
Groups	*Count*	*Sum*	*Average*	*Variance*
Column 1	2	13,25	6,625	0,03125
Column 2	2	11,25	5,625	0,78125
Column 3	2	10,5	5,25	6,125

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	2,020833	2	1,010417	0,436937	**0,681497**	9,552094
Within Groups	6,9375	3	2,3125			
Total	8,958333	5				

The One-way Anova table 5.16. was used to test the equality regarding the
importance of the language skills among aviation trainers and trainees .It is indicated
that there was no significant difference among aviators groups regarding the importance
of the four skills as p-value was greater than 0.05, which means that respondents' answers
were identical.

Table 5.17.
Importance of the Speaking Skill for Trainees

Importance/ Trainees	Not Important		Important		Very important	
Aeronautical Phraseology or terminology usage	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	10%	8	40%	10	50%
Find the right word	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	5%	11	55%	8	40%
Pronunciation	**Co**	**%**	**Co**	**%**	**Co**	**%**
	3	15%	9	45%	8	40%
Aviation phonetics	**Co**	**%**	**Co**	**%**	**Co**	**%**
	0	00%	7	35%	13	65%
Mean µ	**1,5**		**8,75**		**9,75**	

Table 5.17. presents the following findings:

1. Aeronautical Phraseology or Terminology Usage

Half of the respondents (50%) rated 'very important', followed by 40% reported 'important', whereas only 10% answered as 'not important'.

2. Find the Right Word

55% answered 'important'. 40% reported 'very important'. Only 5% rated 'unimportant'.

3. Pronunciation

In the same vein, 45%regarded pronunciation as 'important', followed by 40%with 'very important'. Only, 15% with'not important'.

4. Aviation Phonetics

65% reported it to be'very important'. 35% as'important'. No one answered 'not important'.

Figure 5.14.Importance of the Speaking Skill for Trainees
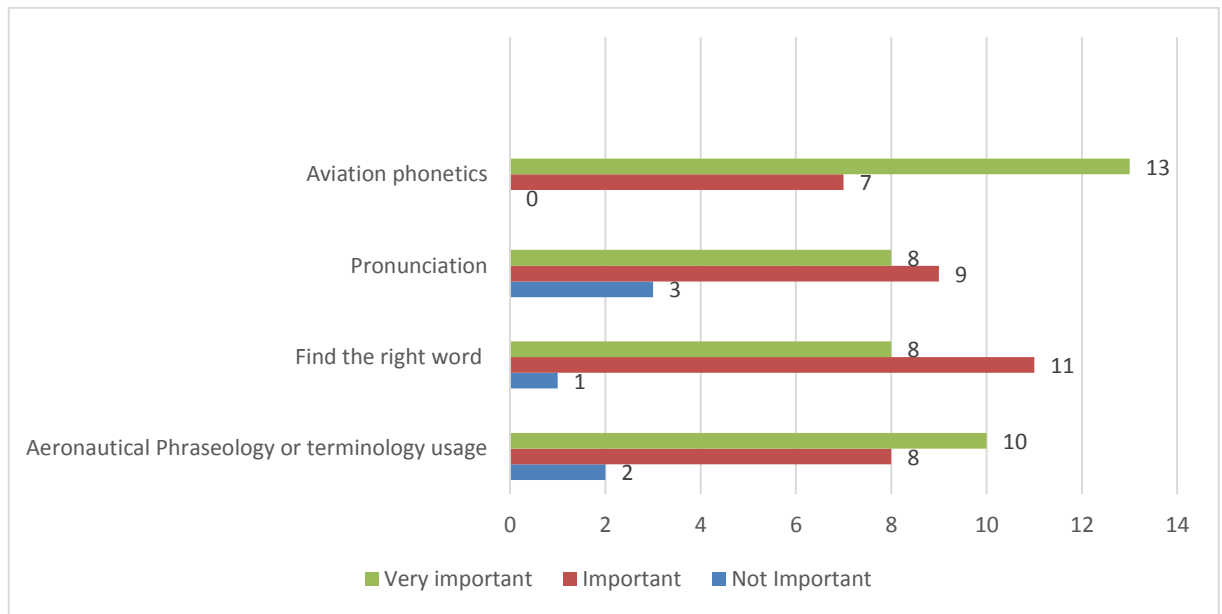
Table 5.18
Importance of the Speaking Skill for Trainers

Importance/ Trainees	Not Important		Important		Very important	
Aeronautical Phraseology or terminology usage	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	6.66%	7	46.66%	7	46.66%
Find the right word	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	13.33%	8	53.33%	5	33.33%
Pronunciation	**Co**	**%**	**Co**	**%**	**Co**	**%**
	3	20%	9	60%	3	20%
Aviation phonetics	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	13.33%	4	26.66%	9	60%
Mean μ	**2**		**7**		**6**	

Table 5.18. presents the following findings:

1. Aeronautical Phraseology or Terminology Usage

46.66% rated 'important' and 'very important' similarly, followed by 13.33% as 'not important'.

2. Find the Right Word

The majority of the subjects (53.33%) answered that finding the right word is 'important'. The subsequent high number (33.33%) of the pilot trainers reported as 'very important'. Only 5% of the subjects rated it as 'unimportant'.

3. Pronunciation

In the same vein, the highest number of the respondents (60%) answered that pronunciation is 'important', followed by the second percentage (20%) as 'very important' and 'not important' respectively.

4. Aviation Phonetics

60% reported aviation phonetics as 'very important'. 26.66% reported it as 'important'. Two subjects (13.33%) answered that phonetics is 'not important'.

Figure 5.15.Importance of the Speaking Skill for Trainers
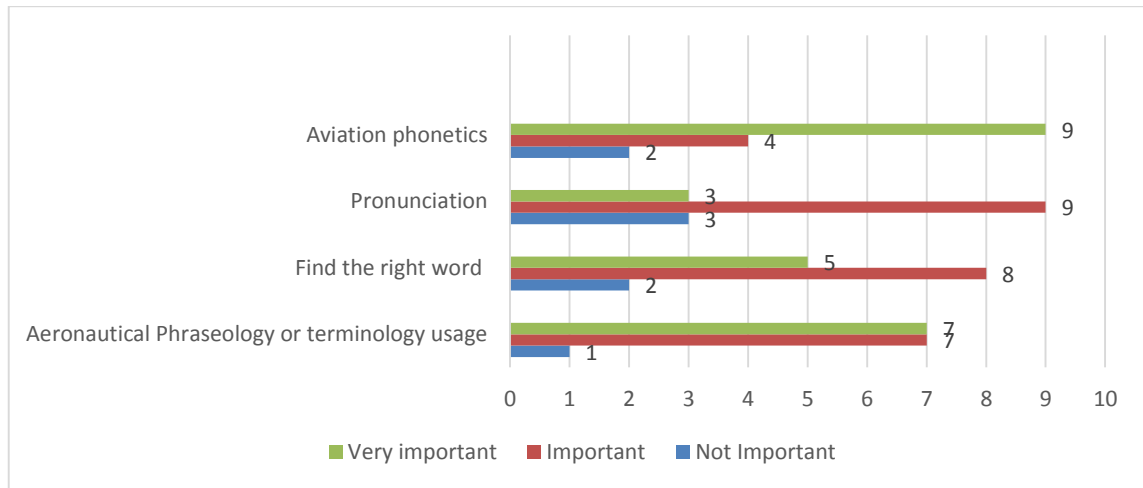
Table 5.19.
One- way Anova for the Importance of the Speaking Skill
Anova: Single
Factor

SUMMARY				
Groups	*Count*	*Sum*	*Average*	*Variance*
Column 1	2	3,5	1,75	0,125
Column 2	2	15,75	7,875	1,53125
Column 3	2	15,75	7,875	7,03125
ANOVA				
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	50,02083	2	25,01042	8,636691	**0,056924**	9,552094
Within Groups	8,6875	3	2,895833			
Total	58,70833	5				

The One-way Anova table 5.19. was used to test the equality of average importance of the speaking skill among aviation trainers and trainees. It indicates that the results were insignificant as p-value was greater than 0.05. This concludes that the respondents' answers regarding the importance of the speaking skill were identical. This result validates that students' perceptions of the importance of speaking converge with the trainers'. Speaking for trainees is important under EAP when they need to participate, ask questions, play roles, and answer the teacher's questions. It is also needed for their flight trainings. Regarding trainers, aviation terminology is taught verbally and speaking English is also needed on board.

Table 5.20.
Importance of the Listening Skill for Trainees

Importance- Trainees	Not Important		Important		Very important	
Understanding lengthy instructions	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	10%	13	65%	5	25%
Fast Talk	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	5%	7	35 %	12	60%
Different English accents	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	10%	12	60%	6	30%
Mean μ	**1,66666667**		**10,6666667**		**7,66666667**	

The table 5.20 shows the following answers:

1. Understanding Lengthy Instructions

Most of the respondents (65%) reported that understanding lengthy instructions is 'important', followed 25% as'very important', whereas only 10% answeredas'not important'.

2. Fast Talk

For understanding fast talk, 60% consider itas'very important' followed by 35% regarding it as'important'. Only, one subject (5%) answered 'not important'.

3. Different English Accents

Listening to different English accents got quite the same answers from the respondents. 60 % reported as 'important'. 30% as 'very important', whereas 10% stated it as 'not important'.

Figure 5.16. Importance of the Listening Skill for Trainees
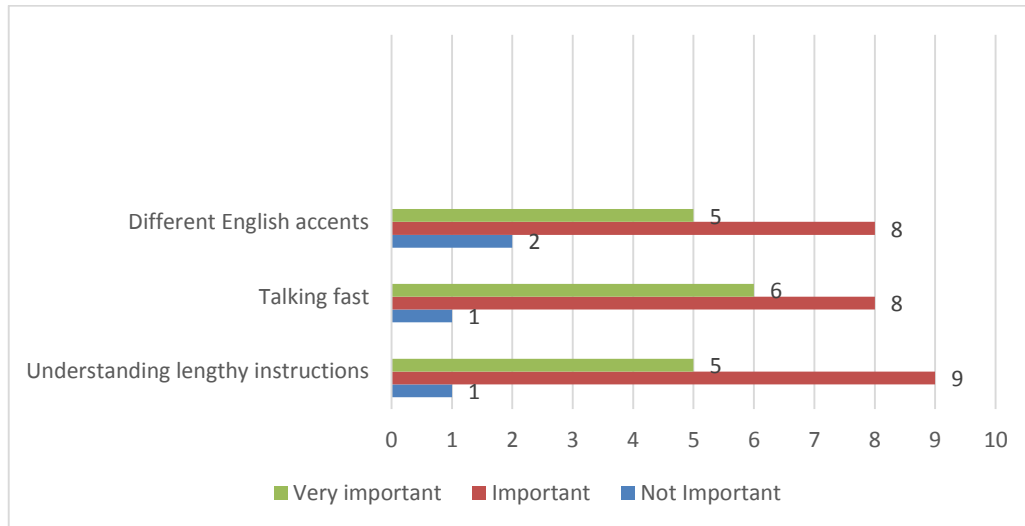
Table 5.21.
Importance of the Listening Skill for Trainers

Importance- Trainers	Not Important		Important		Very important	
Understanding lengthy instructions	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	6.66%	9	60%	5	33.33%
Fast Talk	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	6.66%	8	53.33%	6	40%
Different English accents	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	13.33%	8	53.33%	5	33.33%
Mean μ	**1,33333333**		**8,333333333**		**5,333333333**	

Table 5.21. shows the following answers:

1. Understanding Lengthy Instructions

60% reported that understanding lengthy instructions as 'important', followed by 33.33% who answered 'very important', whereas only 6.66% as 'not important'.

2. Fast Talk

Quite similarly, more than half the subjects 53.33% think that understanding fast talk as 'important' and 40% as 'very important'.6.66% answered 'not important'.

3. Different English Accents

Listening to different English accents got quite the same answers from the respondents. 53.33% reported as 'important'. 33.33% as 'very important', while 13.33% as'not important'.

Figure 5.17. Importance of the Listening Skill for Trainers
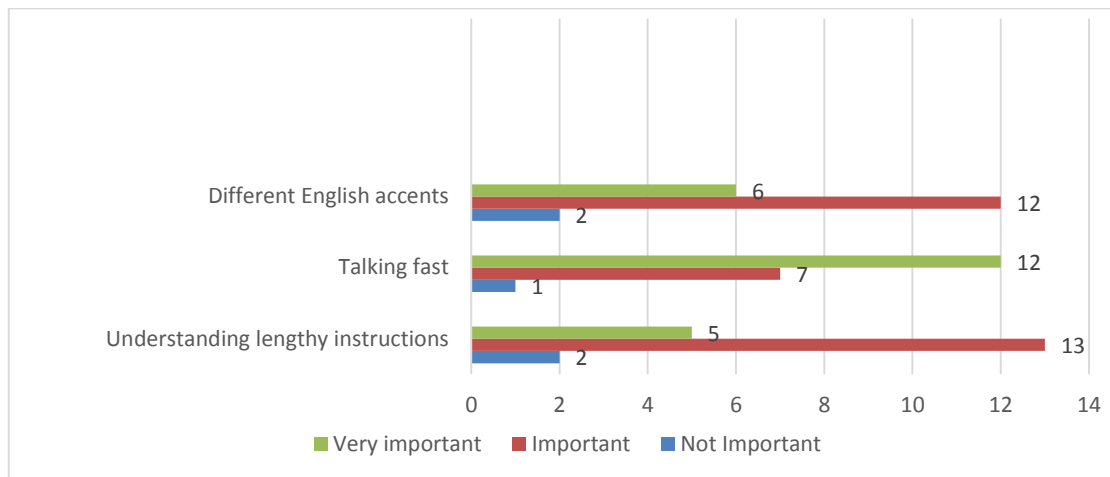
Table 5.22.
One-Way Anova for the Listening Skill

Anova: Single Factor

SUMMARY				
Groups	*Count*	*Sum*	*Average*	*Variance*
Column 1	2	2,99	1,495	0,05445
Column 2	2	18,99	9,495	2,71445
Column 3	2	12,99	6,495	2,71445

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	65,33333	2	32,66667	17,87229	**0,051546**	9,552094
Within Groups	5,48335	3	1,827783			
Total	70,81668	5				

The One-way Anova table 5.22. was used to test the equality of average importance of the listening skill among aviation trainers and trainees. It indicates that the results were not significant as p-value was greater than 0.05. This concludes that the respondents' answers

regarding the importance of the listening skill were not identical. This shows again that trainees' perceptions of the importance of listening converge with the trainers'. It can be explained that listening is needed at the workplace during radio communication by trainers and during practical-trainings for the trainees.

Table 5.23.
Importance of the Writing Skill for Trainees

Importance- Trainees	Not Important		Important		Very important	
Punctuation and spelling	**Co**	**%**	**Co**	**%**	**Co**	**%**
	14	70%	3	15%	3	15%
Grammar	**Co**	**%**	**Co**	**%**	**Co**	**%**
	11	55%	5	25%	4	20%
Appropriate English vocabulary	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	10%	13	65%	5	25%
Appropriate aviation vocabulary	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	5%	5	25%	14	70%
Expressing ideas appropriately	**Co**	**%**	**Co**	**%**	**Co**	**%**
	5	25%	10	50%	5	25%
Developing ideas	**Co**	**%**	**Co**	**%**	**Co**	**%**
	7	35%	6	30%	7	35%
Mean μ	**6,666666667**		**7**		**6,333333333**	

Table 5.23. demonstrates the following findings:

1. Punctuation and Spelling

The majority of the respondents (70%) reported that punctuation and spelling as 'not important', whereas 15% as 'important' and 'very important' respectively.

2. Grammar

For grammar, 55% answered 'unimportant', followed by 25% as 'important' and 20% for 'very important'.

3. Appropriate English Vocabulary

65% of the respondents reported English vocabulary as 'important', and only 10% as 'not important'.

4. Appropriate Aviation Vocabulary

70% agreed that aeronautical vocabulary is 'very important', followed by 25% who reported it as 'important'.

5. Expressing Ideas Appropriately

Half of the population 50% responded that expressing ideas appropriately are 'important', whereas the rest was divided between 'not important' and 'very important'.

6. Developing Ideas

The respondents' answers were divided equally 35% between 'very important' and 'not important' whereas 30% of the respondents reported it as 'important'.

Figure 5.18. Importance of the Writing Skill for Trainees
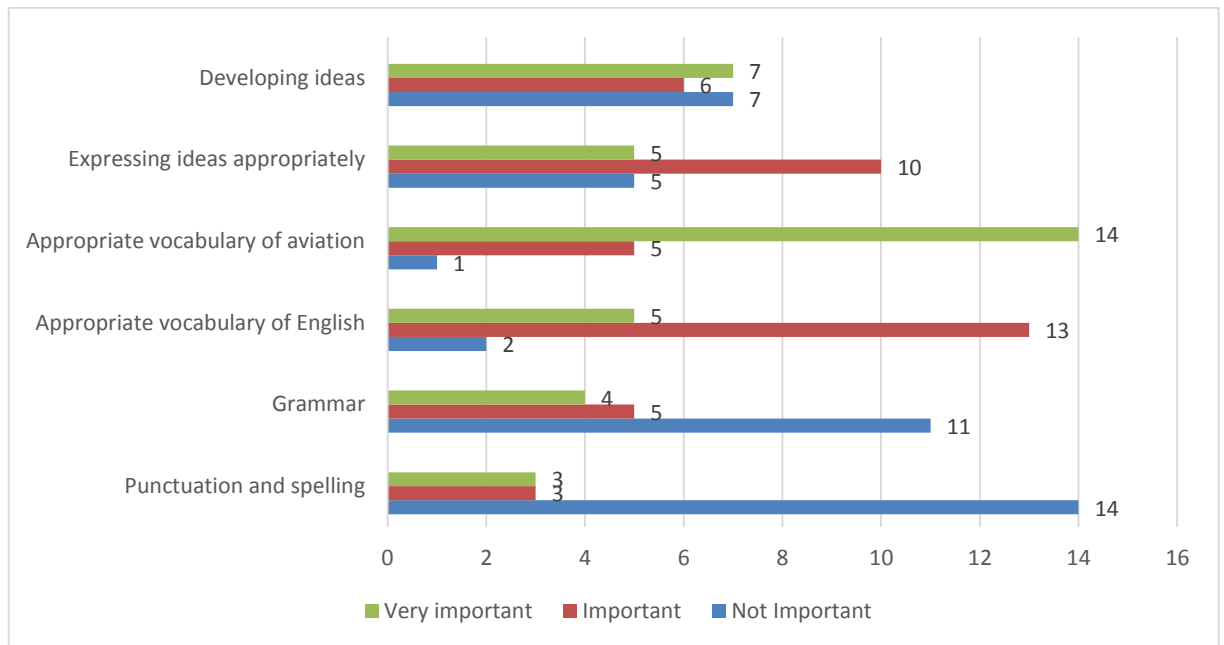
Table 5.24.
Importance of the Writing Skill for Trainers

Importance- Trainers	Not Important		Important		Very important	
Punctuation and spelling	**Co**	**%**	**Co**	**%**	**Co**	**%**
	8	53.33%	4	26.66%	3	20%
Grammar	**Co**	**%**	**Co**	**%**	**Co**	**%**
	3	20%	9	60%	3	20%
Appropriate English vocabulary	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	13.33%	10	66.66%	3	20%
Appropriate aviation vocabulary	**Co**	**%**	**Co**	**%**	**Co**	**%**
	0	00%	3	20%	12	80%

Expressing ideas appropriately	Co	%	Co	%	Co	%
	2	13.33%	11	73.33%	2	13.33%
Developing ideas	Co	%	Co	%	Co	%
	7	46.66%	7	46.66%	1	6.66%
Mean μ	**3,66666667**		**7,33333333**		**4**	

Table 5.24. demonstrates the following findings:

1. Punctuation and Spelling

The majority of the respondents (53.33%) reported punctuation and spelling as 'not important', whereas quite the same number of the participants 26.66% and 20% answered by 'important' and 'very important' respectively.

2. Grammar

For grammar, also the majority 60 % consider it as 'important', followed by 20% as 'not important' and 'very important'.

3. Appropriate English Vocabulary

The highest percentage 66.66 % of the respondents reported English vocabulary as 'important', 20% reported it as 'very important' and only 13.33 % as 'not important'.

4. Appropriate Aviation Vocabulary

The majority 80% agreed that aeronautical vocabulary is 'very important', followed by 20% as 'important' and no participant as 'unimportant'.

5. Expressing Ideas Appropriately

Most of the population 73.33 % responded that expressing ideas appropriately are 'important', whereas the rest was divided between 'not important' and 'very important' with 13.33%.

6. Developing Ideas

The respondents' answers were divided equally 46.66 % between 'important' and 'not important' but only 6.66% reported it as 'very important'.

Figure 5.19.Importance of the Writing Skill for Trainers
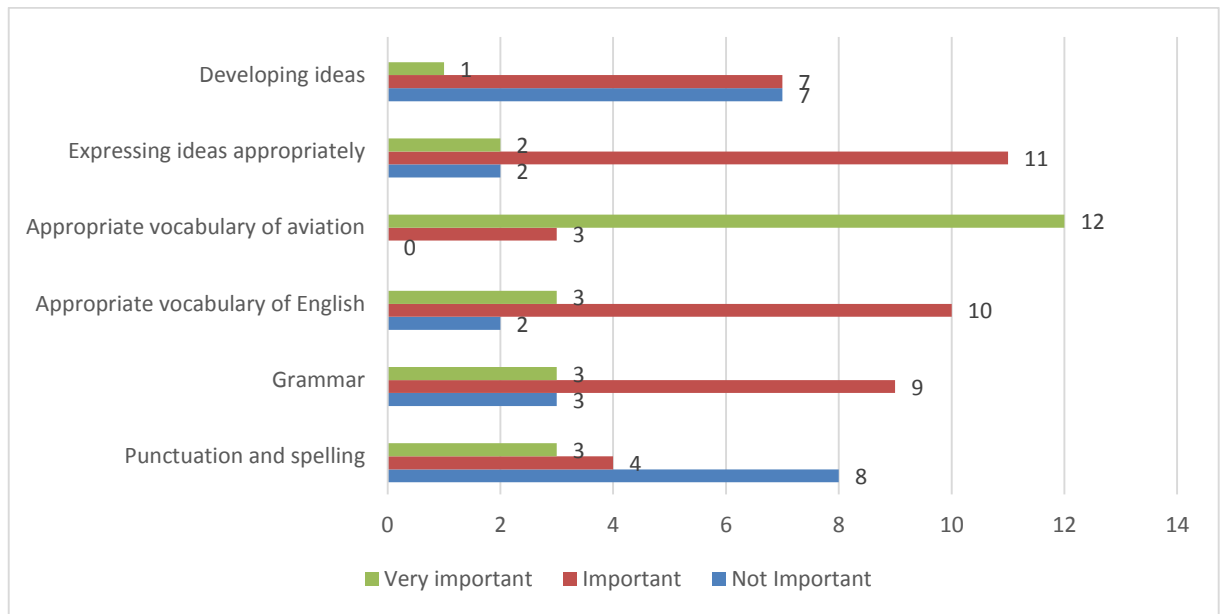
Table 5.25.
One-way Anova for the Writing Skill

Anova: Single Factor

SUMMARY				
Groups	*Count*	*Sum*	*Average*	*Variance*
Column 1	2	10,32	5,16	4,5
Column 2	2	14,33	7,165	0,05445
Column 3	2	10,33	5,165	2,71445

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	5,3467	2	2,67335	1,103338	**0,437362**	9,552094
Within Groups	7,2689	3	2,422967			
Total	12,6156	5				

The One-way Anova table 5.25.was used to test the equality of average importance of the writing skill among aviation trainers and trainees. It indicates that the results were significant as p-value was less than 0.05. This concludes that the respondents' answers regarding the importance of the writing skill were not identical. Trainees do not share the same perceptions of the importance of writing with trainers. This can be explained that

trainees need to write lessons, exam answers, flight reports…etc. However, trainers may find writing trivial because they spend most of the time on board and writing is only needed for writing aviation terms in English.

Table 5.26.
Importance of the Reading Skill for Trainees

Importance- Trainees	Not Important		Important		Very important	
Reading aviation books in English	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	5%	8	40%	11	55%
Read manuals	**Co**	**%**	**Co**	**%**	**Co**	**%**
	0	0%	8	40%	12	60%
Read magazines and journals	**Co**	**%**	**Co**	**%**	**Co**	**%**
	10	50%	7	35%	3	15%
Read newspapers in English	**Co**	**%**	**Co**	**%**	**Co**	**%**
	13	65%	5	25%	2	10%
Read aviation-related documents	**Co**	**%**	**Co**	**%**	**Co**	**%**
	0	0%	14	70%	6	30%
Mean µ	**6,666666667**		**7**		**6,333333333**	

Table 5.26. shows the following findings:

1. ReadingAviation Books in English

Most of the respondents 55% reported that reading aviation books in English as 'very important', followed by 40% as'important', whereas only 5% as 'not important'.

2. Read Manuals

Similarly, most of the respondents 60% reported reading aviation books in English as 'very important', followed by 40% as'important', while no one 0% as 'not important'.

3. Read Magazines and Journals

Half of the subjects 50% reported as 'not important', followed by 35% 'very important' and only 15% as 'very important'.

4. Read Newspapers in English

The majority of the subjects 65% reported reading newspapers in English as 'not important', followed by 25% as 'important' whereas only 10% as 'very important'.

5. Read Aviation-related Documents

No subject 0% said that reading aviation-related documents 'not important', however 70%

reported as 'important' whereas 30% said as'important'.

Figure 5.20. Importance of the Reading Skill for Trainees
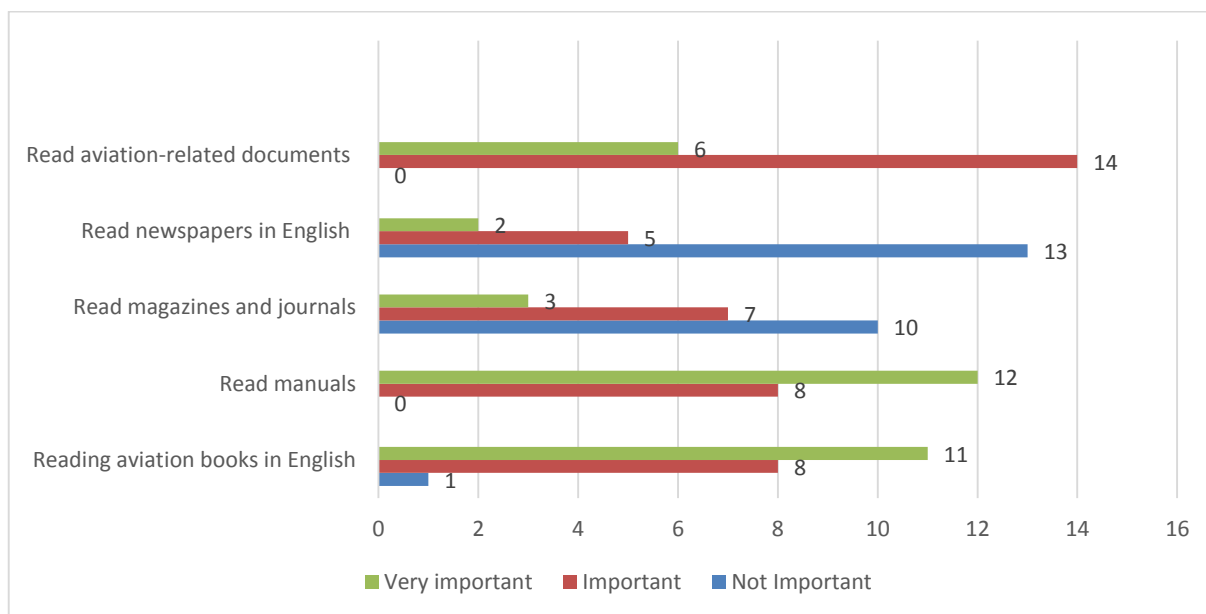
Table 5.27.
Importance of the Reading Skill for Trainers

Importance- Trainers	Not Important		Important		Very important	
Reading aviation books in English	**Co**	**%**	**Co**	**%**	**Co**	**%**
	4	26.66%	8	53.33%	3	20%
Read manuals	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	6.66%	11	73.33%	3	20%
Read magazines and journals	**Co**	**%**	**Co**	**%**	**Co**	**%**
	7	46.66%	8	53.33%	0	00%
Read newspapers in English	**Co**	**%**	**Co**	**%**	**Co**	**%**
	10	66.66%	3	20%	2	13.33%
Read aviation-related documents	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	6.66%	3	20%	11	73.33%
Mean μ		**4,6**		**6,6**		**3,8**

Table 5.27. shows the following findings:

1. Reading Aviation Books in English

Most of the respondents 53.55% reported reading aviation books in English as 'important', followed by 26.66% who consider it as'not important', but 20 % reported it as 'very important'.

2. Read Manuals

Similarly, most of the respondents 73.33% reported reading aviation books in English as 'important', followed 20% as'very important', whereas only one respondent 6.66% who reported it as 'not important'.

3. Read Magazines and Journals

Most of the subjects 53.33 % reported as 'important', followed by 46.66% as'not important' and no respondent 0 % as 'very important'.

4. Read Newspapers in English

The majority of the subjects 66.66% reported reading newspapers in English as 'not important', followed by 20% as 'important' whereas only 13.33% as 'very important'.

5. Read Aviation-related Documents

Only one research subject 6.66% consider reading aviation-related documents as 'not important', however the majority of the respondents 73.33 % reported it as 'very important' whereas 20% as 'important'.

Figure 5.21. Importance of the Reading Skill for Trainers
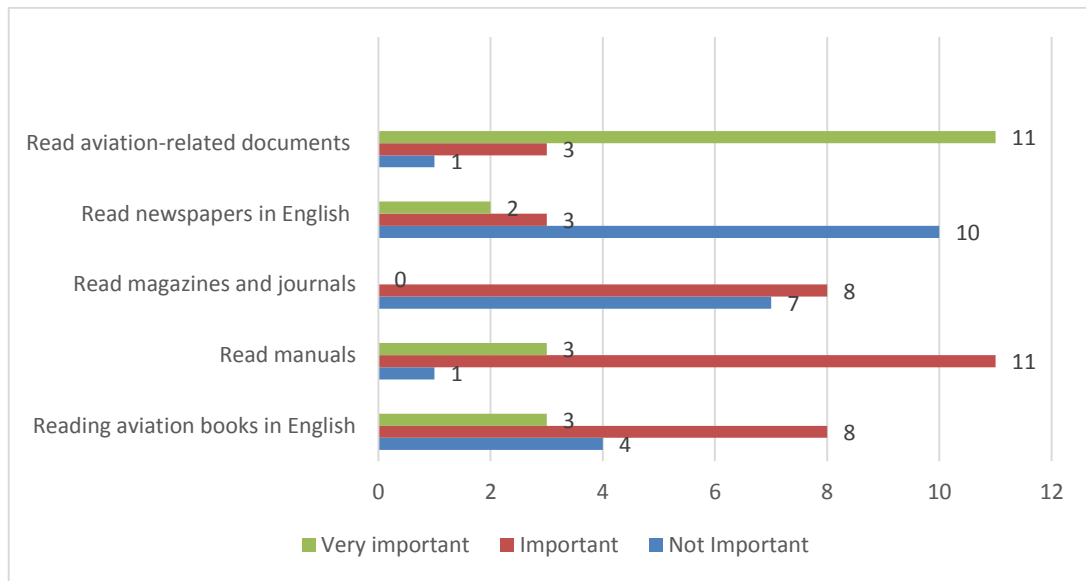
Table.5.28.
One-way Anova for the Reading Skill

Anova: Single
Factor

SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Column 1	2	11,35	4,26	4,5		
Column 2	2	16,33	8,105	0,06445		
Column 3	2	10,33	5,165	1,81445		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	5,3467	2	2,67335	1,103338	**0,0485282**	9,552281
Within Groups	6,2689	3	2,422967			
Total	13,6156	5				

The One-way Anova table 5.28.was used to test the equality of average importance of the reading skill among aviation trainers and trainees. It indicates that the results were significant as p-value was less than 0.05. This concludes that the respondents' answers regarding the importance of the reading skill were not identical.

Table 5.29.
Trainees' Self-rating

Situation/ Level	1		2		3		4	
Understanding instructions	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	10%	3	15%	14	70%	1	5%
Responding effectively to particular instructions	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	5%	6	30%	12	60%	1	5%
Understand recordings by English native speakers	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	13	65%	7	40%	0	0%	0	0%
Understanding radiotelephony instructions	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	0	0%	0	0%	5	25%	15	75%
Aeronautical Phraseology or terminology usage	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	10%	12	60%	4	20%	2	10%
Finding the right word	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	6	30%	10	50%	3	15%	1	5%
Pronunciation	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	11	55%	7	40%	1	5%	1	5%
Aviation phonetics	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	5	25%	10	50%	3	15%	2	10%
Understanding lengthy instructions	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	7	35%	8	40%	3	15%	2	10%
Fast Talk	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	12	60%	6	30%	2	10%	0	0%
Different accents	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	10	50%	5	25%	3	15%	2	10%
Punctuation and spelling	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	14	70%	5	25%	1	5%	1	5%
Grammar	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	5%	5	25%	10	50%	4	20%
Appropriate English vocabulary	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	4	20%	9	45%	5	25%	2	10%
Appropriate aviation vocabulary	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	10%	2	10%	14	70%	2	10%
Expressing ideas appropriately	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	9	45%	8	40%	3	15%	0	0%
Developing ideas	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	10	50%	9	45%	1	5%	0	0%
Reading aviation books in English	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**

	10	50%	7	40%	2	10%	1	5%
Reading manuals	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	5%	6	30%	11	55%	2	10%
Reading magazines and journals	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	9	45%	6	30%	4	20%	1	5%
Reading newspapers in English	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	12	60%	6	30%	1	5%	1	5%
Reading aviation-related documents	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	0	0%	6	30%	12	60%	2	10%
Mean μ	**6,17391304**		**6,7826087**		**4,60869565**		**2,04347826**	

Table 5.29. above illustrates the pilot trainees' self- assessments in the same situations they may encounter in their academic or occupational setting. Concerning:

1.Understanding instructions: Most respondents (70%) evaluated themselves as having high level of competence- good experience in the skill area

2. Responding effectively to particular instructions:The majority of the informants (60%) rated their level as level 3 which is a high level of competence- good experience in the skill area

3. Understand recordings by English native speakers: Most subjects (65%) rated their level as level 1 which stands for low level of competence- little experience in the skill area

4. Understanding radiotelephony instructions: The largest percentage (75%) reported that they have level 4 which is an excellent level competence- very good experience in the skill area

5. Aeronautical Phraseology or terminology usage: The biggest number of the trainees (60%) rated their ability in this situation as having average level of competence- some experience in the skill area

5. Finding the right word: Half of the subjects (50%) answered that their level in this TSA is 2 which stands for average level of competence- some experience in the skill area

6. Pronunciation: More than half of the subjects (55%) reported that they have level 1 in pronunciation which represents low level of competence- little experience in the skill area.

7. Aviation phonetics: Again, half of the research subjects (50%) said that their level in the mastery of aviation phonetics is 2, that is average level of competence- some experience in the skill area

8. Understanding lengthy instructions: Quite similar numbers of the respondents (35%) and (40%) reported that they evaluate themselves in this TSA as level 1 and 2 respectively which means low level of competence- little experience in the skill area and average level of competence- some experience in the skill area.

9. Fast Talk: The majority of the subjects (60%) rated their level as 1, i.e., low level of competence- little experience in the skill area.

10. Different accents: Half of the respondents (50%) also evaluated themselves in this TSA as level 1 which is low level of competence- little experience in the skill area.

11.Punctuation and spelling: Half of the subjects (50%) answered that they have level 3 in this situation, that is a high level of competence- good experience in the skill area.

12.Grammar: For grammar, it seems that most pilot trainees (70%) are satisfied of their level as they rated it as level 3 which stands for high level of competence- good experience in the skill area.

13. Appropriate English vocabulary: Almost similar percentages of the respondents (45%) and (40%) assessed themselves as having level 1 and 2 which is interpreted as low level of competence- little experience in the skill area and average level of competence- some experience in the skill area respectively.

14. Appropriate aviation vocabulary: Most respondents (70%) said that they have high level of competence- good experience in the skill area.

15. Expressing ideas appropriately: 45% and 40% of the subjects rated their level as 1 and 2 in this particular situation, which means low level of competence- little experience in the skill area and average level of competence- some experience in the skill area respectively.

16. Developing ideas: Almost similar percentages (50%) and (45%) of the respondents reported that they have level 1 and 2 in developing ideas which represents low level of competence- little experience in the skill area and average level of competence- some experience in the skill area respectively.

17. Reading aviation books in English: The majority of the respondents (50%) evaluated themselves as having low level of competence- little experience in the skill area.

18. Reading manuals: For this TSA, most respondents (55%) reported that they have high level of competence- good experience in the skill area.

19.Reading magazines and journals: Most informants (45%) assessed their level in reading magazines and journals as low level of competence- little experience in the skill area.

20. Reading newspapers in English: The largest percentage of the subjects (60%) answered that they have level 1 in this skill which is low level of competence- little experience in the skill area.

21.Reading aviation-related documents: However, for reading aviation-related documents, the biggest number of the respondents (60%) assessed themselves as having high level of competence- good experience in the skill area.

Figure 5.22. Trainees' Self-rating

	Level 4	Level 3	Level 2	Level 1
Reading aviation-related documents	2	12	6	0
Reading newspapers in English	1	1	6	12
Reading magazines and journals	1	4	6	9
Reading manuals	2	11	6	1
Reading aviation books in English	1	2	7	10
Developing ideas	0	1	9	10
Expressing ideas appropriately	0	3	8	9
Appropriate vocabulary of aviation	2	14	2	2
Appropriate vocabulary of English	2	5	9	4
Grammar	4	10	5	1
Punctuation and spelling	1	1	5	14
Different accents	2	3	5	10
Talking fast	0	2	6	12
Understanding lengthy instructions	2	3	8	7
Aviation phonetics	2	3	10	5
Pronunciation	1	1	7	11
Finding the right word	1	3	10	6
Aeronautical Phraseology or terminology usage	2	4	12	2
understanding radiotelephony instructions	15	5	0	0
understand recordings by English native speakers	0	0	7	13
responding appropriately to particular instructions	1	12	6	1
understanding instructions	1	3	14	2

Table 5.30.
Trainers' Self-Rating

Skills / Level	1		2		3		4	
Understanding instructions	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	13.33%	7	46.66%	4	26.66%	2	13.33%
Responding appropriately to particular instructions	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	1	6.66%	8	53.33%	4	26.66%	2	13.33%
Understand recordings by English native speakers	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	5	33.33%	7	46.66%	3	20%	0	0%
Understanding radiotelephony instructions	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	0	0%	6	40%	1	6.66%	8	53.33%
Aeronautical Phraseology or terminology usage	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	13.33%	1	6.66%	6	40%	6	40%
Finding the right word	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	6	40%	4	26.66%	3	20%	2	13.33%
Pronunciation	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	6	40%	5	33.33%	3	20%	1	6.66%
Aviation phonetics	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	13.33%	5	33.33%	7	46.66%	1	6.66%
Understanding lengthy instructions	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	5	33.33%	5	33.33%	3	20%	2	13.33%
Fast Talk	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	8	53.33%	5	33.33%	2	13.33%	0	0%
Different accents	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	7	46.66%	5	33.33%	2	13.33%	1	6.66%
Punctuation and spelling	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	5	33.33%	7	46.66%	2	13.33%	1	6.66%
Grammar	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	3	20%	8	53.33%	2	13.33%	2	13.33%
Appropriate English vocabulary	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	5	33.33%	6	40%	3	20%	1	6.66%
Appropriate aviation vocabulary	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	13.33%	2	13.33%	2	13.33%	9	60%
Expressing ideas appropriately	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	5	33.33%	6	40%	2	13.33%	2	13.33%
Developing ideas	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	7	46.66%	4	26.66%	2	13.33%	2	13.33%
Reading aviation books in English	**Co**	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
	2	13.33%	6	40%	6	40%	1	6.66%

Reading manuals	Co	%	Co	%	Co	%	Co	%
	1	6.66%	5	33.33%	6	40%	3	20%
Reading magazines and journals	Co	%	Co	%	Co	%	Co	%
	5	33.33%	7	46.66%	2	13.33%	1	6.66%
Reading newspapers in English	Co	%	Co	%	Co	%	Co	%
	8	53.33%	3	20%	2	13.33%	2	13.33%
Reading aviation-related documents	Co	%	Co	%	Co	%	Co	%
	3	20%	1	6.66%	2	13.33%	9	60%
Mean µ	**4,26086957**		**5,82608696**		**3,17391304**		**1,52173913**	

Table 5.30. above illustrates the pilot trainers' self- assessments in the same situations they may encounter in their occupational setting. Concerning:

1.Understanding instructions: Most respondents (46.66%) evaluated themselves as having average level of competence- some experience in the skill area.

2. Responding effectively to particular instructions: The majority of the informants (53.33%) rated their level as level 2 which is average level of competence- some experience in the skill area.

3. Understand recordings by English native speakers: Most subjects (46.66%) rated their level as level 2 which stands for average level of competence- some experience in the skill area.

4. Understanding radiotelephony instructions: The largest percentage (53.33%) reported that they have level 4 which is excellent level of competence- very good experience in the skill area

5. Aeronautical Phraseology or terminology usage: Similar number of the trainers (40%) rated their ability in this situation as having high level of competence- good experience in the skill area and excellent level of competence- very good experience in the skill area respectively.

5. Finding the right word: Most of the respondents(40%) answered that their level in this TSA is 1 which stands for low level of competence- little experience in the skill area.

6. Pronunciation: Approximately similar percentages (40%) and (30%) reported that they have level 1 and 2 respectively which means low level of competence- little experience in the skill area and average level of competence- some experience in the skill area.

7. Aviation phonetics: The majority of the trainers (46.66%) said that their level in the mastery of aviation phonetics is 3, that is high level of competence- good experience in the skill area.

8. Understanding lengthy instructions: similar numbers of the respondents (33.33%) and (33.33%) reported that they evaluate themselves in this TSA as level 1 and 2 respectively which means low level of competence- little experience in the skill area and average level of competence- some experience in the skill area.

9. Fast Talk: The majority of the subjects (53.33%) rated their level as 1, i.e., low level of competence- little experience in the skill area.

10. Different accents: The majority of the subjects (46.66%) rated their level as 1, i.e., low level of competence- little experience in the skill area.

11. Punctuation and spelling: Most respondents (46.66%) answered that they have level 2 in this situation, that is average level of competence- some experience in the skill area.

12.Grammar: For grammar, the largest percentage (53.33%) rated it as level 2 which stands for average level of competence- some experience in the skill area.

13. Appropriate English vocabulary: Most of the respondents (40%) assessed themselves as having level 2 which is interpreted as average level of competence- some experience in the skill area respectively.

14. Appropriate aviation vocabulary: The majority of the research subjects (60%) said that they have excellent level of competence- very good experience in the skill area.

15. Expressing ideas appropriately: 40% of the subjects rated their level as 2 in this particular situation, which means average level of competence- some experience in the skill area respectively.

16. Developing ideas: The biggest number of the respondents (46.66%) reported that they have level 1 in developing ideas which representslow level of competence- little experience in the skill area.

17. Reading aviation books in English: Similar number of the trainers (40%) rated their ability in this situation as having average level of competence- some experience in the skill area and high level of competence- good experience in the skill area respectively.

18. Reading manuals: For this TSA, most respondents (40%) reported that they have high level of competence- good experience in the skill area.

19.Reading magazines and journals: Most informants (46.66%) assessed their level in reading magazines and journals as average level of competence- some experience in the skill area.

20. Reading newspapers in English: The largest percentage of the subjects (53.33%) answered that they have level 1 in this skill which is low level of competence- little experience in the skill area.

21.Reading aviation-related documents: However, for reading aviation-related documents, the biggest number of the respondents (60%) assessed themselves as having excellent level of competence- very good experience in the skill area.
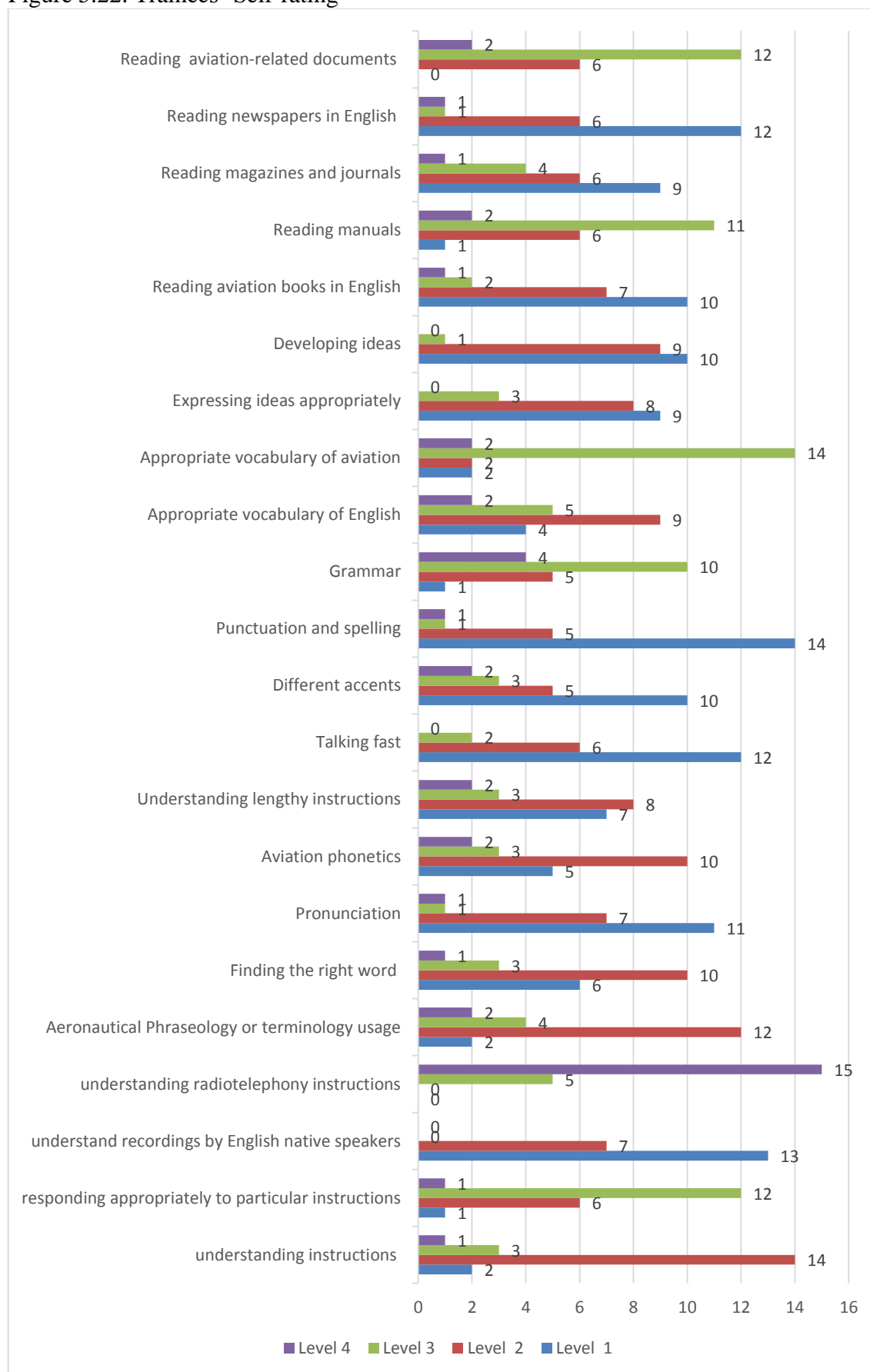
Figure 5.23. Trainers' Self-Rating

Figure 5.23. Trainers' Self-Rating
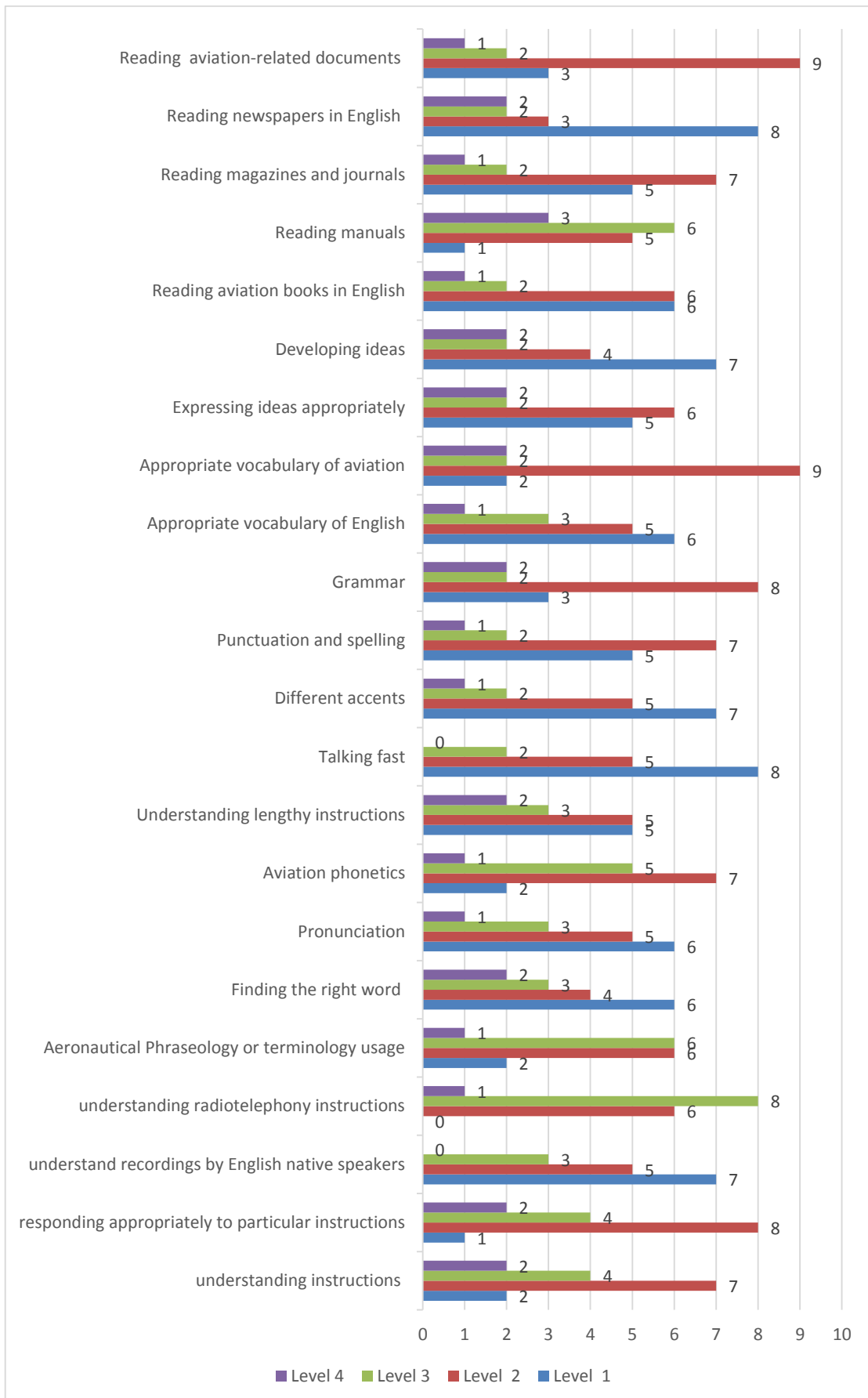
Table5.31.
 One-way Anova for Pilots Trainers and Trainees Self-Evaluation

Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance		
Column 1	2	10,44	5,22	1,8432		
Column 2	2	12,62	6,31	0,4802		
Column 3	2	7,77	3,885	1,02245		
Column 4	2	3,56	1,78	0,1352		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	22,8182375	3	7,606079	8,739983	0,031362	6,591382
Within Groups	3,48105	4	0,870263			
Total	26,2992875	7				

The One-way Anova table 5.31.was used to test the equality of average self-evaluation of

the language level among aviation trainers and trainees. It indicates that the results were

significant as p-value was less than 0.05. This concludes that the respondents' answers

regarding their language level were not identical. This result confirms the placement and

ICAO test scores where trainees' level was between average and good, whereas trainers'

level ranged from good to very good.

Table 5.32.
Establishment of Aviation English Specialty

	Yes		No	
Aviation English Speciality	**Co**	**%**	**Co**	**%**
Pilot - Trainees	18	90%	2	10%
Pilot - Trainers	14	93.33%	1	6.66%

Table 5.32. shows that the majority of the respondents (trainees and trainers) 90% and

93.33% showed agreement about aviation specialty establishment.

Figure 5.24. Establishment of Aviation English Specialty
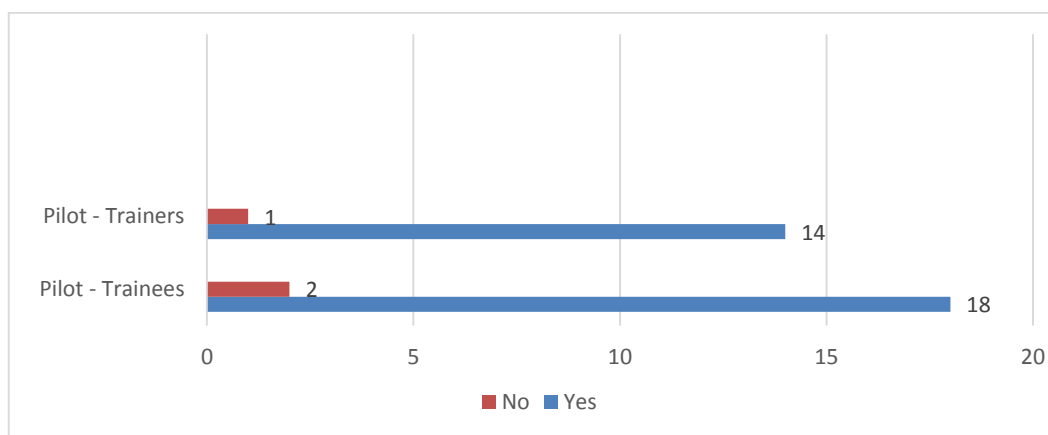
Table 5.33.
English Taken Outside the SHS

	Yes		No	
Pilot- Trainers	**Co**	**%**	**Co**	**%**
	12	80%	3	20%
Pilot - Trainees	11	55%	9	45%

Table 5.33. illustrates that the majority of both trainees 55% and trainers 80% reported that

they take English outside the SHS.

Figure 5.25. Pilots Taking English Courses Outside the SHS
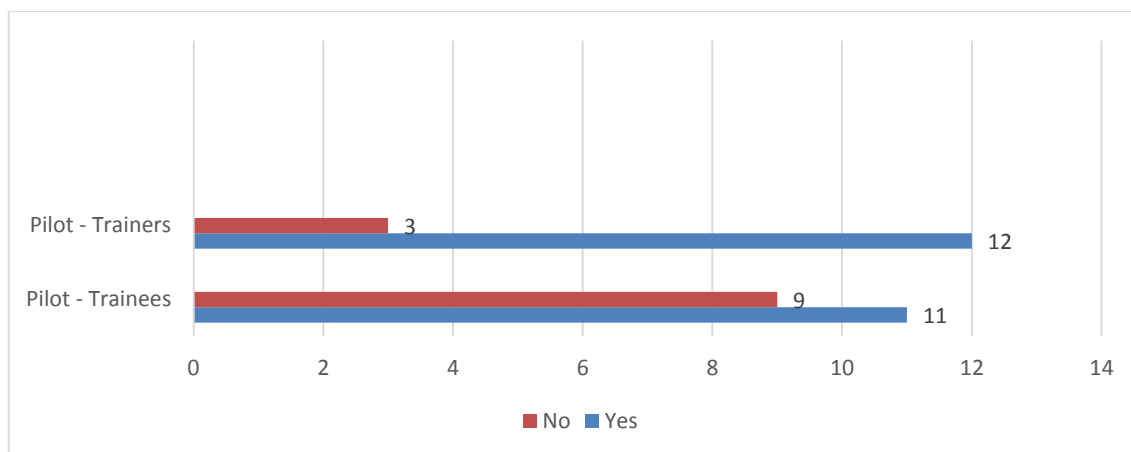
Table 5.34.
Type of English Studied

Type of English Studied	Aeronautical English		General English	
	Co	**%**	**Co**	**%**
Pilot – Trainers	3	25%	9	57%
Pilot – Trainees	1	9.09%	10	90.9%

Table 5.34. demonstrates that the majority of both trainees and trainers 90.9% and 57% responded respectively that they study General English outside the SHS.

Figure 5.26. Type of English Studied
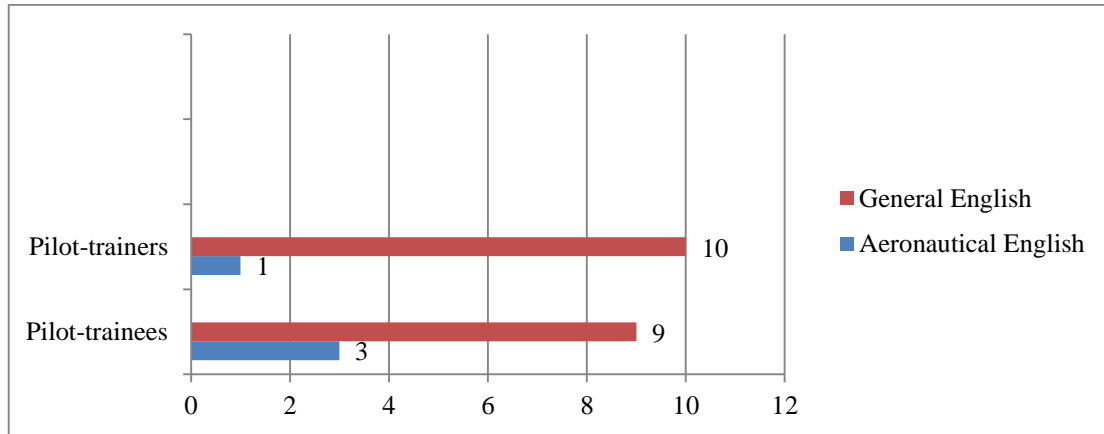
Table 5.35.
Skills to be Improved

Skills to be Improved	Listening		Speaking		Reading		Writing	
	Co	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
Pilot-trainees	8	40%	7	35%	3	15%	2	10%
Pilot-trainers	9	60%	5	33.33%	1	6.66%	0	0%

Table 5.35. shows that the majority of both trainees and trainers 40% and 60% respectively responded that the listening skill is the most important to be improved, followed by the speaking skill which took 33.33%; whereas the reading skill got only 6.66%. No participants 0% said that they like to improve the writing skill.

Figure 5.27. Skills to be Improved
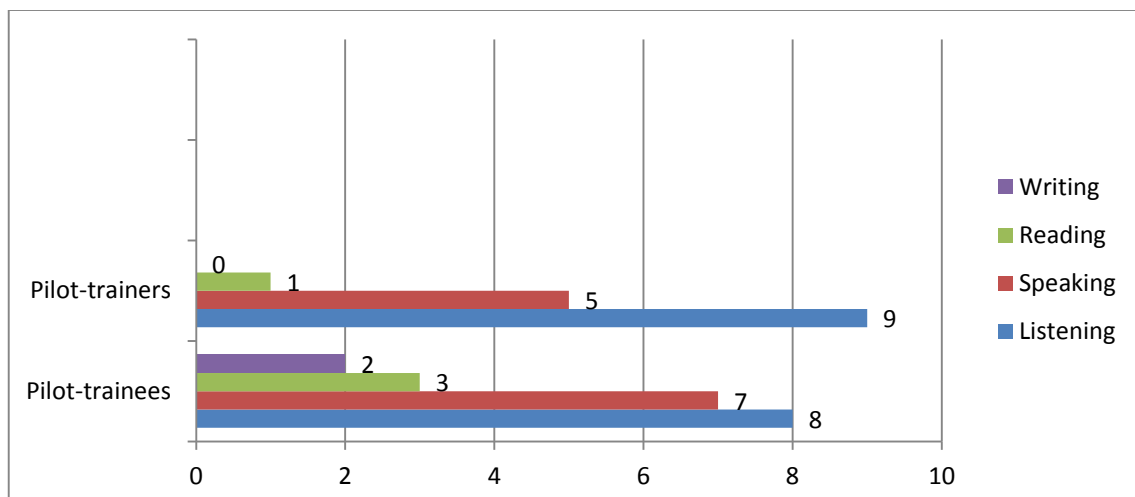
Table 5.36.
Phraseology sufficiency

Is phraseology enough?	Yes		No	
	Co	**%**	**Co**	**%**
Pilot- Trainers	11	73.33%	4	26.66%
Pilot - Trainees	8	40 %	12	60 %

Table 5.36 shows that both trainers and trainees agree that aviation list of phraseology does not suffice for performing all language-related tasks in non-routine events.

Table 5.37.
Tests Pilots Prefer to Take

Tests	Yes		No	
	Co	**%**	**Co**	**%**
ICAO / Trainees	16	80%	4	20%
ICAO / Trainers	15	100%	0	0%
STANAG/Trainees	11	55%	9	45%
STANAG/Trainers	13	86.66%	2	13.33%

Table 5.37. highlights that the majority of the trainees and the trainers 80% and 100% showed willingness to take the ICOA international test and similarly, 55% of the trainees and 86.66% were also willing to take STANAG test.

Figure 5.28. Tests Pilots Prefer to Take
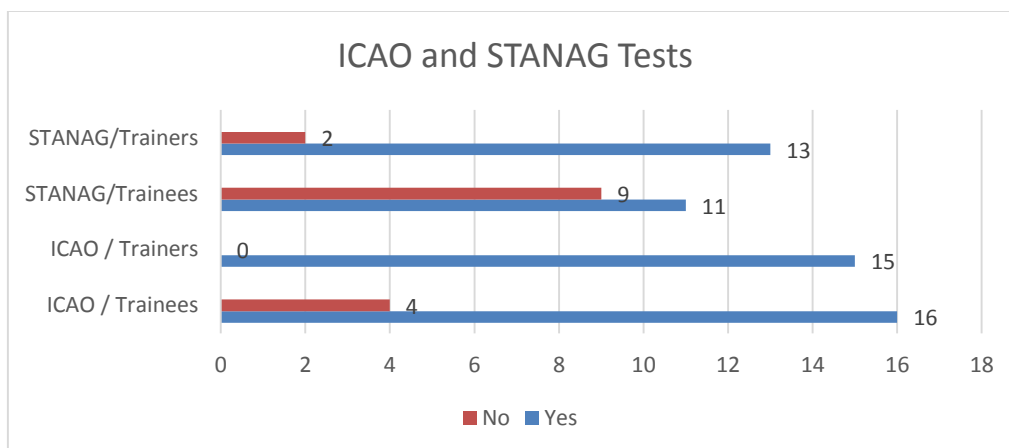
5.3.2.2. Teacher Questionnaire Analysis

PART ONE : Demographics

Table 5.38.

Teacher's Qualification

	Bachelor of Art (Licence)		Master of Art (Magister)		Doctorate		other
	Co	**%**	**Co**	**%**	**Co**	**%**	**%**
ESP Teachers	00	00%	01	100%	00	0%	0%

The table 5.38. shows that both teacher is Magister qualified this is because teachers of

English should hold at least a Magister degree when applying for the position.

Table 5.39.

Age Range

	24-30		31-40		41-50		over 50
	Co	**%**	**Co**	**%**	**Co**	**%**	**%**
ESP Teachers	01	100%	00	00%	00	0%	0%

Table 5.39. shows that one of the teacher's age ranges between 31 and 40

Table 5.40.

Gender

	Male		Female	
	Co	**%**	**Co**	**%**
ESP Teachers	00	00%	01	100%

Table 5.40. illustrates that the teacher is a woman.

Table 5.41.

Teaching Position

	Full time		Part time	
	Co	**%**	**Co**	**%**
ESP Teachers	00	00%	01	100%

Table 5.41. illustrates that the teacher is part time.

Table 5.42.

Teaching Experience

	0-05		05-10		10-20		over 20
	Co	**%**	**Co**	**%**	**Co**	**%**	**%**
ESP Teachers	00	00%	01	100%	00	00%	0%

Table 5.42.demonstrates that the teacher experience ranges between 5 and 10.

PART TWO: Teachers' Background Knowledge

Table 5.43.
Teachers' Background Knowledge

Background knowledge in military aviation	Yes		No	
	Co	**%**	**Co**	**%**
ESP Teachers	01	100%	00	00%

Table 5.43.shows that the teacher (100%) has some background knowledge in military

aviation.

Table 5.44.
Trainings on AE

Received training on teaching aeronautical English	**Yes**		**No**	
	Co	**%**	**Co**	**%**
ESP Teachers	00	0%	01	100%

Table 5.44.shows that the teacher (100%) did not take any training on teaching
aeronautical English.

Table 5.45.
Curriculum Followed

Accredited curriculum	Yes		No	
	Co	**%**	**Co**	**%**
ESP Teachers	00	0%	01	100%

Table 5.45. also demonstrates that the teacher (100%) does not follow any accredited and
official curriculum.

Table 5.46.
Resources Used

ESP Teachers　　　　　　　　　　　　　　　　Resources for teaching AE	Yes		No	
	Co	**%**	**Co**	**%**
Extra curriculum for English Language development	01	100%	0	0%
Recommendations of the Ministry of National Defence **[MND]**	00	00%	01	100%
Curriculum for general ESP development	01	100%	0	0%
Your institution syllabus	00	0%	01	100%
Your own designed syllabus	00	0%	01	100%
Extra ESP textbook contents	01	100%	0	0%

Table 5.46 demonstrates that theteacher relies completely on extra curriculum for the language teaching, and she does notfollow the recommendations of MND. Also, she adopts the curriculum for general ESP development and reported that sheneither devises any syllabus of her own nor following a syllabus of her institution. She mentioned that she relies on extra ESP textbook contents.

PART THREE: Teacher's Perceptions of the Importance of English in Aviation Industry

Table 5.47.
Teachers' Perceptions of the Importance of English in Aviation

	Extremely important		Important		Not important		No opinion
	Co	**%**	**Co**	**%**	**Co**	**%**	**%**
ESP Teacher	00	00%	01	100%	00	00%	0%

Table 5.47. shows that the teacher perceives English as important in aviation.

Table 5.48.
Teachers' Perceptions of the Importance of English Skills in Aviation

ESP Teachers perceptions	Extremely important		Important		Not important		No opinion
	Co	**%**	**Co**	**%**	**Co**	**%**	**%**
Listening	01	100%	00	00%	00	00%	0%
Speaking	01	100%	00	0%	00	0%	0%
Reading	00	0%	01	100%	00	0%	0%
Writing	00	0%	01	100%	00	00%	0%

Table 5.48. shows that the ESP teacher considers that the listening skill is extremely important. And this answer is similar to that related to speaking. For reading and writing skill, she reported that they are equally important.

Table 5.49.
Importance of English Skills for Academic Purposes

		Listening	Speaking	Reading	Writing
A	Lectures	3 4			
B	Asking questions in class		2 3		
C	Participation in class	2 3	3 4		
D	Discussions on aviation issues	4	4		
E	Discussion on social issues	2 3	3 4		
F	Aviation terminology	3 4	4	3 4	2 3
G	Textbooks			2	
H	Aviation books			2 3	
I	Understanding the main idea of a text			3 4	
J	Specific details of a given text			2 3	
K	Note taking	2			2
L	Understanding instructions	4			
M	Responding effectively to instructions		4		

1 – Not important   2- Somewhat important   3- Important   4- Very important

Table 5.49. above shows the teacher's perception of rating the importance of the English skills in the academic setting. The teacher's opinion is summarised as follows:

1. The listening skill is:

a. Important and very important in lectures

b. Somewhat important and important in class participation

c. Very important in discussions on aviation issues

d. Somewhat important and important in discussion on social issues

e. Important and very important aviation terminology

f. Somewhat important in note taking

g. Very important in understanding instructions

2. The speaking skill is:

a. Somewhat important and important in asking questions in class

b. Very important in discussions on aviation issues

c. Important and very important in discussion on social issues

d. Not important in giving presentations

e. Very important in aviation terminology

f. Very important in responding effectively to instructions

3. The Reading skill is:

a. Important and very important in aviation terminology

b. Somewhat important in textbooks

c. Somewhat important and important in aviation books

d. Important and very important in understanding the main idea of a text

e. Somewhat important and important in understanding specific details of a given text

4. The Writing skill is:

a. Somewhat important and important in aviation terminology

b. Somewhat important in note taking

PART THREE : Analytical Assessment

Table 5.50.
Teachers' Opinion About Students' Level

Satisfaction of teachers	Yes		No	
	Co	**%**	**Co**	**%**
ESP Teachers	01	100%	00	00%

Table 5.50. demonstrates that the ESP teacher is satisfied of the level of her students.

Table 5.51.
Teachers' Evaluation of the Learners' Language Skills

ESP Teachers Skills Evaluation	Excellent		Good		Fair		Poor	
	Co	**%**	**Co**	**%**	**Co**	**%**	**Co**	**%**
Listening	00	0%	00	00%	01	100%	00	0%
Speaking	00	0%	00	0%	01	100%	00	00%
Reading	00	0%	01	100%	00	0%	00	0%
Writing	00	0%	00	00%	01	100%	00	0%

Table 5.51. shows that the teacher evaluates her learners' listening, speaking and writing as 'fair'. Regarding the reading skill, she answered that student officers are 'good'.

Table 5.52.
Evaluation of Students' Proficiency in English Language by ESP Teachers

Rate of students' proficiency in English language by ESP teachers	Poor		Average		Good		Very good	
	Co	%	Co	%	Co	%	Co	%
Aeronautical Phraseology or terminology usage					01	100%		
Finding the right word			01	100%				
Pronunciation			01	100%				
Phonetics			01	100%				
Taking Notes			01	100%				
Understanding lengthy instructions	01	100%						
Fast talk comprehension	01	100%						
Different Englishes	01	100%						
Punctuation and spelling					01	100%		
Grammar					01	100%		
Appropriate vocabulary of English			01	100%				
Appropriate vocabulary of aviation					01	100%		
Organizing paragraphs and assignments in English for aviation			01	100%				
Expressing ideas appropriately	01	100%						
Developing ideas	01	100%						
Reading aviation books in English	01	100%						
Understanding the text general idea			01	100%				
Understanding specific details					01	100%		
Read manuals					01	100%		
Read exam questions							01	100%
Read aviation-related documents							01	10 0%

Table 5.52. above shows that the teacher evaluated the proficiency of the student- pilots as:

1.Poor at:

a. Understanding lengthy instructions

b. Fast talk comprehension

c. Different Englishes

d. Expressing ideas appropriately

e. Developing ideas

f. Reading aviation books in English

2.Average at:

a. Finding the right word

b. Pronunciation

c. Phonetics

e. Taking Notes

d. Appropriate vocabulary of English

f. Appropriate vocabulary of aviation

g. Understanding the text general idea

3.Good at:

a. Aeronautical Phraseology or terminology usage

b. Punctuation and spelling

c. Grammar

d. Appropriate vocabulary of aviation

e. Understanding specific details

f. Read manuals

4.Very good at:

a. Read exam questions

b. Read aviation-related documents

Table 5.53.
Teacher's Opinion About the Importance of English in Academic and Occupational Setting

The importance of English language in aviation	1		2		3		4		5	
	Co	%	Co	%	Co	%	Co	%	Co	%
General English is important for aviation pilot officers									01	100%
Aviation English is important for aviation pilot officers									01	100%

Statement	1		2		3		4		5	
The materials in aviation English courses should be relevant to the aviation field.									01	100%
The amount of English instruction given to aviation students before joining the SHS is adequate to meet their academic and occupational English language needs.	01	100%								
English language instructors should use a method in which students can learn English interactively in groups.							01	100%		
In emergency situation, pilots should have a good level of general English									01	100%
Understanding general English by native speakers is imperative during war-time							01	100%		
It is important for aviation students to be able to read the latest aviation-related documents							01	100%		
A good knowledge of grammar is essential for students' academic studies							01	50%		
Specialist vocabulary is essential for students' academic studies									01	100%
Correct pronunciation is imperative for safety purposes							01	100%		

1= strongly disagree   2= Disagree   3= Not sure   4= Agree   5= Strongly disagree

Table 5.53.presents the teacher's opinion about the importance of English in academic and occupational setting for pilot-trainees. Her answers were organized as follows:

1. The teacher did not agree that: The amount of English instruction given to aviation students before joining the SHS is adequate to meet their academic and occupational English language needs.

2. The teacher agreed that:

a. English language instructors should use a method in which students can learn English interactively in groups.

b. Understanding general English by native speakers is imperative during war-time

c. It is important for aviation students to be able to read the latest aviation-related documents

d. A good knowledge of grammar is essential for students' academic studies

e. Correct pronunciation is imperative for safety purposes

3. The teacher strongly agreed that:

a. General English is important for aviation pilot officers

b. Aviation English is important for aviation pilot officers

c. The materials in aviation English courses should be relevant to the aviation field.

d. In emergency situation, pilots should have a good level of general English

e. Specialist vocabulary is essential for students' academic studies

5.4. Findings and Discussions

This section presents overall findings of the study. The data were collected by means of two interviews and two questionnaires designed for two different groups of informants from aviation community, trainers and trainees. Questionnaire 1 and interview 1 were structured for student-pilots; questionnaire 2 and interview 2 were designed for pilot-trainers. One questionnaire was administered to the teacher of English in SHS.

In order to explore needs of students of aviation regarding their academic and occupational settings in the field, it was necessary to gather data from the other related stakeholders. The study investigates the expectations and perceptions of the teacher of English. Also she has a permanent contact with student-pilots. Similarly, the perceptions of aviation trainees were important, since they were aware of both academic and professional English language needs of the aviation field. The perceptions of aviation trainers working at the SHS provided a detailed profile of their professional linguistic needs as practicing pilots.

Both qualitative and quantitative data were gathered to better obtain information about situational needs of the pilot officers in terms of English language. The quantitative data were analysed by means of statistical analysis on Microsoft Word 2016. The results were presented using descriptive statistics including frequencies and percentages. The One-way Anova test was applied to compare means of perceptions of different sample groups. Graphs were presented by using Microsoft Excel sheet. The qualitative data were analysed by creating themes out of similar responses of respondents. For quantitative items, Likert scale and multiple choice questions were designed. For qualitative information, open-ended items were included to explore English language needs of the student-pilots in their

academic and professional settings; and trainers in their workplace. The overall findings provide answer to the main research questions, they are recapitulated in the following discussion.

1. Where do the perceptions of aviation trainees and trainers converge about English language needed for helicopter aviation?

With regard to first question, details of the findings reveal that all groups of respondents perceive that English is important in aviation studies and profession. Pilot trainers and trainees share the same answers regarding the difficulties faced when listen or speak compared to reading and writing. It was expected to receive such responses that determine the importance of English on the basis of its usage in aviation field.

Also, regarding listening and speaking skills, student-pilots and instructors perceive them as very important in academic and professional setting respectively. However, for reading and writing, trainers and trainees do not share the same opinion as regard their importance. This can be verified by Anova tables 5.28. and 5.31.pages (209 and 213).

Trainees and trainers converge regarding the skills they need to improve. Listening takes the lion's share of 40% and 60% respectively. 35% of trainees and 33.33% of trainers have chosen speaking as the second skill. Reading got 15% and 6.66% whereas writing was the last skill they want to improve with answers of 10% and 0%.

Qualitative data findings also reveal that respondents from teachers of aviation perceive that proficiency in English is greatly required for them in the work place and to aviation students as well to deal with the challenges they may face during trainings, domestic safety or during the crisis time.

2. What are the needs related to perceptions of SHS trainees and ESP teachers regarding the importance of the four language skills?

In response to the findings related to the second research question, majority of the trainees and the English teacher regarded that it was very important for academic and

occupational settings. For ranking of more important skill than others for aviation studies and job, findings revealed that 60 % respondents ranked listening as the most important skill, whereas 50% ranked speaking as second important skill, 75 % ranked writing as the third important skill and50 % respondents ranked reading as the fourth. The English teacher confirms the aforementioned answers by responding that listening and speaking are extremely important whereas reading and writing as important. She also ranked activities required listening, speaking and reading are more important than writing- related class activities.

3. What are the needs related to perceptions of SHS trainers and ESP teachers regarding the importance of the four language skills?

Findings related to this question have revealed that trainers 46.66% agree with the teacher that the writing skill is the least important. Yet, 66.66% of the respondents reported that listening as very important, 53.33% as very important as well and 40% answered that reading is important.

4. Is restricted English phraseology enough for aviators in both peacetime and wartime?

This question was answered by interview data findings where pilots stress the fact that the restricted list of phraseology does not suffice in case of emergencies. French or English phraseology may be enough during peace or in case of domestic crisis. English is only needed to communicate with foreign trainees at the SHS who do not master French or local language. Yet, in war, many situations cannot be foreseen or predicted. Phraseology cannot cover most of unexpected events. Pilots need to express themselves clearly and precisely in General English spoken in daily life.

5. Do military trainers and trainees meet the requirements of the international aviation?

According to qualitative data finding, some trainers who went on a training abroad do meet the ICAO requirements. Trainees do not take any test to assess their level (compared to civilian pilots) but their English knowledge was just gained in the classroom. They are

not forced to meet the ICAO requirements as a condition for job recruitment at aviation schools.

5.6. Research Limitations

As is the case with any research, the present one was not free of some limitations which might cause an impediment to the research process. What actually hindered the researcher from the very outset was the fact that pilots had little time to spare while studying or working. Also, some interviews and follow up information were gained several times out of the SHS like the parking lot. Time, in addition to place, were indeed the researcher's biggest constraints.

Also, we were not granted access to most school sites like the air traffic tower for the highly classified information even for training purposes. Respondents were very prudent in answering questions and they were keen not to reveal any secrets that may threaten the state security. As far as data collection was concerned, we have chosen a strategy in which questionnaires contained only four sections owing to the lack of time on the part of our informants. We anticipated that including more questions would dampen the motivation to respond. Likewise, time devoted to interviews was also problematic; interviews were done in shorter time than expected. Moreover, the collection of data via interviews was also constrained by sociocultural traditions. It was embarrassing to meet males in open areas. In a conservative society; it is generally frowned upon for women to meet alone with men even for academic reasons.

Conclusion

This Chapter presented the analysis of the data collected from the different stages of the research with regard to the theoretical and practical aspects and review of literature presented in Chapters one, two and three. The obtained data came from:

- institutional documents,
- focus group discussion,
- placement test results,

- ICAO test results
- questionnaires administered to aviation trainers and trainees,
- interviews administered to aviation trainers and trainees and
- questionnaire conducted with the ESP teacher.

Chapter six will present a comprehensive summary of the results of the data analysis obtained in Chapter five presented in line with the research questions for the pilot officers, pilot trainers and the English teacher. Recommendations for further research including curriculum guidelines and proposed actions, implications for practice and implications for further research will be presented.

Introduction

After having presented and discussed the findings of the needs collection and analysis of both pilot trainees and trainers in addition to the English teacher's perceptions and evaluation of the English course and pilots' level, it is now crucial to determine to what extent the curriculum and the syllabi followed by the teachers meet the needs of the research participants.

6. Summary of the Study and Key Findings

- Research findings have revealed that both pilot-trainees and trainers as well are in a need of the listening and the speaking skill for occupational purposes and hands-on trainings respectively. Pilot officers have also demonstrated that reading is also important in their academic studies. The same fact confirmed by the ESP teacher.

- According to the placement test results, most pilot trainers are intermediate and upper-intermediate (B1 and B2). There was only one pilot teacher who is advanced (C1). Quite the same result was obtained from pilot-trainees.

- According to the ICAO test findings, and according to the native rater, both pilot trainers and trainees can operate effectively during the flight (level 2 and 3), that is elementary and operational.

- Similarly, according to participants' self-evaluation in the section of self-rating in the questionnaire, respondents' common levels are 2 and 3 which are average level of competence - some experience in the skill area and high level of competence – good experience in the skill area respectively. The English teacher also reported that pilot-trainees are average and good at General English and AE respectively.

- Our research participants have come to show that their learning styles are a combination of accommodation and divergence.

Based on the above findings, it seems reasonable to suggest that in general, both trainers and trainees are not satisfied with their own level of English compared to ICAO guidelines. Also, the English course did not lead to a satisfactory achievement of its objectives which is summarized in enabling trainees and trainers as well to have a good command of general English in case of emergency, first, and to comprehend different English, second. That is, what is taught appears to have been poorly implemented and attained. This may be due to such factors as the lack of teachers training in teaching English for aviation, the lack of background knowledge in aviation industry, the inappropriate textbooks used, the teaching strategies and methodologies followed, insufficient time devoted to achieving the objectives and few trainings in English-speaking countries.

The nature of our research objectives has been questioned, and we are keen to keep them, in particular realistic, ambitious and valid simply because they are primarily derived from an analysis of learners' needs.

6.1. Usefulness of the AE Course

In both the interview and the questionnaire given to trainees, students were asked to express their beliefs concerning the role of the English course, in improving their English ability in general and in particular their four main language skills, their grammar and their general and aviation vocabulary. The ESP teacher was also asked the same question with regard to her students.

Most pilot-officers felt unsatisfied with the helpfulness of the course in improving their English speaking and listening skills. They reported that English course was a mere content of grammar, reading and writing, in addition to aviation terminology. The teacher claimed that the course has been helpful in improving her students' language skills and vocabulary. However, the overall level of the students remains average.

6.2. English Skills Needed in Students' Academic Studies

The data suggest that the majority of pilot-officers, pilot- trainers' language teachers recognized the importance of English language for aviation enterprise. For pilot-trainees, data from both interviews and questionnaires indicate that the majority of informants considered all four main English language skills to be important in academic studies, amongst which reading and listening were seen as most important, followed by speaking and writing.

The fact which was validated by the statistical analysis which revealed no significant differences between the three groups (trainees, trainers and teacher), mainly in relation to perceptions of the importance of the four skills.

Regarding the analysis of the interviews and questionnaires pilot-trainees, we have summarized that they may need the following English language sub-skills to be able to complete tasks in their academic studies. These are summed up as follows:

1. Reading lecture handouts and notes.

2. Reading both aeronautical and general dictionaries;

3. Reading and comprehending graphic information: tables, diagrams, charts and graphs

4. Skimming and scanning to find the required information quickly.

5. Understanding the differences between different English vocabularies.

6. Understanding quizzes, tests and exam questions and writing appropriate answers

7. Writing short sentences and paragraphs.

8. Writing clearly, taking care of spelling and punctuation.

9. Comprehending spoken instructions in a range of natural pronunciation;

10. Asking and answering questions during lectures;

11. Asking for clarification and repetition.

6.3. English Skills Needed in Students' Target Careers

The study found English to be considered important for officers' target careers and trainers' work place. The results also suggest that having a fluent command of oral English is an integral part of being a successful aviation professional. The majority of interviewees and questionnaire respondents agreed upon the fact that comprehending and speaking English are of equal importance during trainings and job during peace-time and wartime is no exception.

Again, statistical analysis of the questionnaires results demonstrated no differences among trainees, trainers and ESP teacher, these three groups of respondents were in agreement that speaking and listening were the most important skills needed for pilot-officers and pilot-professionals during hands-on trainings which would be much more needed in any prospective war. The analysis of the interviews, questionnaires indicate that both students and trainers should perform and expect as well many tasks to carry out during their flight trainings and war fight requiring English language sub-skills. These are summed up as follows:

1. Fully comprehending aviation phraseology in English.

2. Responding effectively to requests using phraseology

3. Comprehending English by native speakers (at least for aviation purposes)

4. Comprehending English by native speakers in case of taken hostage or high jacking

5. Using general English to describe non-routine situation

6. Reading aviation manuals

7. Making a difference between different world Englishes especially during war-time.

8. Communicating satisfactorily with co-workers;

9. Discussing aviation-related topics or political issues with others by using English as lingua franca.

10. Communicating with foreign teachers during training abroad.

11. Pronouncing words intelligibly and correctly;

12. interpreting French phraseology into English if necessary.

6.4. English Course

On the whole, the results of the interviews and questionnaires revealed that research participants (both trainers and trainees) take English courses outside the SHS especially for trainings and job purposes, the fact which explains that the ESP course was ineffective and unhelpful in improving respondents' language ability, to some extent. However, English teachers agreed that it adequately prepared students' (pilot-officers) for their academic studies which was validated by pilot-trainees. Also, most pilot-trainees agreed that the course unsatisfactorily prepare them for their simultaneous target career. Granted that a language course can hardly be without limitations, a developmental approach to ESP course evaluation should have aimed at identifying its weak points while underscoring its strong ones.

6.5. Recommended ESP Curriculum

Albeit being highly context-specific, this study holds some broader implications which can be drawn from it before introducing those related to the immediate context. One implication is the prominent position of English as an international language of aviation, be it civilian or military. Thus, a fluent command of oral English is seen as an integral part of being a successful aviation professional or student as well. Another implication is that simultaneous workplace experience can aid English language students in mastering oral and aural communication skills. Such experience can also be very beneficial for ESP course developers. By collecting adequate data from the workplace, course developers can see how the content, skills and tasks on which they want to base the course are actually used by workers (pilots) in the real word. Collecting multiple types of data from various sources in NA is also necessary to gain a deeper understanding of learning and target needs.

Recommendations and implications for the development of the ESP curriculum that best suits the research context are based on a rational evaluation of the previously illustrated models in Chapter three. The table below justifies our choice.

Table. 6.1.

Comparison of Curriculum Models

Curriculum Model	Strengths	Drawbacks	Practicality on Research Context
Tyler Model	- Rational, objective, - Enables content to be selected and structured. - Learning outcomes are precisely defined. - Levels of learning are clearly defined.	-Learners' needs are not addressed. -No clear explanation of which objective should be more prioritized than the other. - Affective factors are not taken into account.	- It is government-driven curriculum where objectives are dictated and followed as they are. - Stakeholders may not be able to write good in-class behavioural objectives. - It can inspire nowadays stakeholders to develop adjusted logical curriculum that meets present learners' needs.
Taba model	- Logical, systematic. - Teachers are the first to be concerned with curriculum development.	- Needs and needs analysis are not the first curriculum step. -Only teachers are concerned with	-Teachers or novice researchers may find steps difficult to apply due to lack of expertise.

		conducting NA.	- It might work well
		- It starts with objectives (akin to Tyler's)	with children where objectives can be easy to derive and predict.
		- Curriculum steps are not related.	- Needs collected by teachers are not taken
		-Linear and developers may not interfere or refer back to previous elements for a change or amendments.	from learners themselves.
Dynamic/ Process Model	- Cyclical - Flexible curriculum elements - It takes into account teaching- learning outcomes	- Highly theoretic. - Lack of emphasis on appropriate content. - Objective assessment is difficult.	- It is demanding and requires money and time. yet AE curriculum needs urgent realization
Wheeler Model	-It addresses learners' needs. -Cyclical and responds to changes in education whenever possible. - Not linear and continuous in nature -Curriculum stages are	- Similar perspectives of rational model. - Not easy to apply by non-experts. - Time consuming and requires constant revision.	- Time consuming and EST is cost effective especially military AE. - Curriculum experts only can develop this kind of curriculum for ESP context.

	interrelated.		
Communicative Model	-It addresses the communicative and discourse needs of the learners. - Learners' social aspects and background are taken into account.	-It may neglect the linguistic needs of the learners. - It requires a constant interaction between learners' in the classroom.	- It needs ethnography approach to data collection for a better course of action which seems not possible, for the SHS access is not always granted. - Interaction and communication between learners do not take place under EAP.
Brown's model	-Simple and easy- to-achieve steps. - Teachers and other novice researchers can adopt it. - It revises every step before moving to the next through evaluation. -Adjustments are made on the spot.	-Continuous assessment at might be time consuming. -	- Its principles are still followed till nowadays. - It suits perfectly the present research aims and objectives. - Easy to implement.

Table 6.1. above describes most of curriculum models strengths and pitfalls. However, choosing the most appropriate curriculum for this study is quite overwhelming with all of

these choices. The best way to make up one's mind is to determine standards when selecting the curriculum type.

1. **The first criterion curriculum should meet is whether it is easy to implement by teachers**.

For Tyler and Taba models, the teachers are the first responsible for designing curriculum. Teachers spend the most time with students and know better what their needs are. However, research findings (see table 5.44 and 5.46, pp. 228-229) have revealed that English teachers at the SHS are not trained enough to conduct NA or design curriculum for their students. Also, the teacher relies on extra ESP books not specifically designed to military aviators.

For communicative model, it requires a permanent contact with the learners and applies ethnographic approach. It does not seem possible for the access to the SHS is limited to aviation personnel. Also, due to cultural constraints, female teacher/ researcher can, by no means, implement this curriculum stage.

Process and Wheeler models do not provide guidelines for the right content selection; and thus teaching method and techniques remain obscure.

Regarding Brown's model, it provides teachers and researchers with steps of how NA is collected and assessed as well. Untrained teachers can also deploy it by following its recommendations.

2. **The second reason is whether its elements are interrelated and allow refinement at every stage**.

Stenhouse, Wheeler and Brown have devised a continuing process of curriculum. They account for possible interaction by various components. Yet, content in Process and Wheeler model cannot be assessed objectively.

For Brown's, assessment is possible at every stage of the curriculum because NA has provided a thick description of learners' profile.

3. The third reason is whether it takes into account learners preferences and attitudes.

Taba, Process and Wheeler models are considered as rational and objective models which consider learners' aims behind language learning as merely linguistic. Communicative model might account for learning needs of the students; however, those needs are not confined to ESP context. Brown includes needs assessment as the first step of his model. The teacher may have a thorough explanation of the target in addition to learning needs such as styles, strategies, preferences and attitudes.

Most of the aforementioned, namely Tyler, Taba, Process and Dynamic, curricula are technically useful, they often overlook the human aspect such as the personal attitudes, feelings, styles in curriculum making. Also, for following these curricula, the teacher must work from an appropriate theoretically provided knowledge which those curricula do not offer. Therefore, they are not a recipe and should not be a substitute for using professional and personal judgment on what is a good approach to enhancing student learning.

For this reason, we have decided to opt for Brown's curriculum model. It is easy to apply for teacher at the SHS since it covers all NA procedure. It focuses on objective and subjective needs of aviation personnel. Their styles and attitudes help in adjusting the course content and methods. It is flexible in terms of starting by any elements of the curriculum (suitable to non -expert teachers) and it also allows continuous evaluation at every step. Continuous evaluation is very pertinent to ESP context in general, and in military purposes, in particular. This is due to the constant change of learners' needs which is the result of the ongoing changes of technology and industry in the military filed.

According to this model, the curriculum development process has six components: NA, objectives, testing, materials, teaching and evaluation of the curriculum being developed. The findings of the NA and course evaluation are applied to the other parts of the curriculum development process, namely course objectives, materials, classroom

teaching and assessment procedures. That is, the information and insights gained from the NA and course evaluation are used to formulate the course objectives, to form the basis of an approach to course teaching and to select the tasks, materials and assessment procedures that would lead to the desired learning outcomes.

6.6. Aims and Objectives

Following the previous ESP curriculum development model, the NA and course evaluation (its formative side in particular) should have the aim of informing and be able to inform decision-making on all other aspects of curriculum development, including the resetting and adjustment of its objectives and aims if needed. The findings of the questionnaires suggest that the majority of officers and the teacher thought that most of the course objectives had not been attained to the optimum level. The low level of achievement of the objectives seems to be partially related to their articulation. It is suggested that the present objectives lack clarity, specificity and do not adequately indicate the commutative skills students need in their academic studies and target career. Therefore, modifications and renewals in formulation may be necessary for clarification purposes, in view of the NA and formative evaluation findings.

The overall course objective is to improve the trainees and trainers English language and enable them to use it during study, hands-on training and in communication in the workplace. Apart from the ambiguity of using the expression "respondents' English language", it seems that the focus of the objective is on communication skills. If the overall objective of the ESP course were the mere improvement of the oral communication skills especially during flights when there is no visual contact between pilot-pilot, there would accordingly be no need for the other components of reading, writing and grammar, etc., particularly for job purposes. Instead, both the literacy and fluency skills of aeronautical English should be included in the overall objective of the course. To be

precise, the position of the four language components of reading, writing, vocabulary and grammar should be articulated clearly.

Also, a short account is needed in order to rationalize and guide the general organization of the curriculum. For example, there is a need to emphasize the learners' proficiency level at entry and the importance of presenting the language components in a more realistic and integrated manner that resembles the target language in use and responds to the learners' present and target language needs. These language presentation guidelines should be utilised throughout the course implementation, including the classroom processes such as teaching and assessment. It is recommended that the course should fill the gap between the actual level of pilots' general English ability and the specialized English proficiency as dictated by the target situation needs. Consequently, the two main objectives of the new ESP course are to improve the aviators' language ability in general and to provide them with the literacy and fluency skills of AE they need a realistic and proper way that would enable them to communicate and function effectively in their academic studies and target career with stressing more the latter aim, particularly in case of crisis.

In order to match objectives to needs, the instructional objectives of the course components should be derived from the different target tasks identified above. Such tasks can be the main basis for the design of pedagogical tasks as explained below.

6.7. Classroom Activities and Methodologies

This study came to the conclusion that the classroom teaching approach of the teacher was generally unsuitable. Part of the problem may be that the teacher, constrained by limited time and lack of background knowledge in aviation, lack of materials and appropriate textbooks has become 'so bogged down in carrier content that he loses sight of course objectives' (Scott & Scott, 1984, p.215). The main teaching strategies of the reading, writing, grammar and aviation terminology components include, for example,

'pair-work'. However, relevant teachers are advised to employ these dynamic classroom techniques and activities effectively and appropriately, acting and seeing themselves as learning facilitators rather than information transmitters when it comes to communication enhancement. Interaction between pairs of students through role plays and simulations is thought by researchers to play an important role in the development of linguistic and communicative competence. It is strongly recommended that teachers should not start asking their students to work in pairs or groups until they become more accustomed and advanced. It seems plausible that a combination of Audio-Lingual Method and Communicative Language Teaching would do in such context. It is also recommended that each class should have a teacher who is capable of managing such classroom interaction activities and of fulfilling the specific objectives of the language component in order to satisfy the relevant needs. More importantly, raising teachers' awareness of the advantages of such activities in classroom interaction and training them to use them is strongly recommended.

Regarding materials in English courses, they should be specifically designed thus the students can easily adapt according to actual academic and flight situations. It would save time and efforts of aviation learners making them free from additional academic pressures during their studies. Moreover, it would help in keeping their interest and motivation level intact for learning English language.

The ESP staff can be helped to teach more effectively by means of enhancing close cooperation and direct contact between the language teachers and the subject teachers. Because such 'joint teaching' is 'time consuming' (Jordan, 1997, p.121), it could in the present case be best utilized during the proposed intensive AE phase of the course. In practice, after considerable coordination between the language and subject tutors, the latter might prepare and present a lecture on an appropriate subject during which students were asked to take notes.

6.8. Assessment Procedures

On the whole, the course assessment procedure was found to constitute a weak area of planning and implementation. All of the problems assumed to arise from giving equal weight in the assessment to each of the four language components and from students' noticeable negligence of certain components could be expected to vanish under the proposed integration scheme. It is also recommended that the integration of the course should not be considered to end with the integration plan itself. Individual differences in language proficiency amongst students are to be expected and should be considered. A test should therefore be administered at the outset of the course for diagnostic purposes, to make sure that the integrated courses meet the students' needs. If necessary, certain students should accordingly be exempted from following parts of the course which would be too easy for them and not informative at all, thus using the initial test for placement purposes as initially done.

In addition, quizzes, assignments and end-of-term exams should be used as continuous assessment procedures. Under the alternative assessment scheme, quizzes and an end-of-term exam would be used in the first term of the course (the intensive GE phase). Successful students would then be allowed to move to the second phase of assessment for communication purposes with a great focus on aural and oral skills and sub-skills. In the last term, a variety of assessment tools (quizzes, assignments, role plays, simulations) could be used to alleviate the problem of heavy dependence on exams. Each learner's final average grade for the last term would indicate whether he had passed the ESP course. The weight given to each language component should be decided by its importance.

It is highly recommended that in the last term, the assessment requirements should represent the learners' simultaneous experience (academic and professional goals), rather than pass/fail ones. That is, evaluation should be formative in nature and measure the pilots' abilities and knowledge relevant to their academic studies and to their work site,

thus providing a beneficial wash back effect. This can be carried out through the use of authentic assessments. Such assessments require the students to complete a real-life task that they will likely to encounter in their target situations.

6.9. Untrained Teacher of AE

There should be trained English language instructors recruited for teaching aviation trainees and professionals. Untrained teachers would not be able to bring fruitful results in terms of effective teaching and learning. The teachers of aviation can also be given special trainings in order to teach English to their students. This would help in saving extra cost and budget applied to the trainings of language teachers outside the SHS community. However, for their trainings, it is necessary to carry out further research to design specific materials and methodologies.

Additionally, untrained teacher of AE, in this context, should be at least a collaborator with aviation instructor. This would help, to a great extent, to incorporate the acquisition of aviation units in addition to communication. The second role of the teacher is adopting the role of consultant, i.e. the teacher who has the knowledge of communication practices but needs to negotiate with the students on how best to explore these practices to meet the objective they have. The relationship is more or less of a partnership. In this case, the learners may instruct the teacher and exchange their own area of expertise against the language knowledge skills from the teacher.

However, to be successful, this teaching procedure requires willingness, 'openness' and 'flexibility' from all participants, especially the subject specialists (Dudley-Evans & St John, 1998, p.47). Therefore, only those subject teachers having positive attitudes towards the ESP course, sympathizing with its teachers and students, and showing some interest in ESP matters may be asked to take part in the venture, particularly in its early days (Hutchinson & Waters, 1987, p.164).

6.9.1. Trainers' Trainings

To this end, an early priority has been the professional development of the English language instructors in military training establishments. This can be achieved through the following possible processes:

- a series of teacher development workshops focused on the use of latest course books relevant to military aviation.

- the preparation of all instructors for the Cambridge Teaching Knowledge Test (TKT), an internationally recognised professional updating qualification

- The preparation of a smaller number of experienced instructors for the Cambridge In-service Certificate in English Language Teaching (ICELT), an advanced language and methodology course delivered through two modules. Module 1 focuses on language knowledge. Module 2 focuses on methodology.

- Given the various starting points of the instructors (some with no degree, others some are experienced and some are not in ELT), I strongly recommend teachers training to provide appropriate levels of teaching and learning in English and are able to meet international standards of aviation.

6.10. SHS –Sétif- Context

In the case of the SHS, research outcomes have been challenging to achieve. There is no nationally validated programme for the SHS language instructors. The current study is to use the new teaching materials for the SHS as a catalyst for change in war school as a foreign language instruction, and to base future SHS teacher development programmes on the introduction and application of the new language curriculum. Although this trainer training programme will not have the same level of impact as the professional development offered to English language instructors, it will, nevertheless, constitute a sustainable training and teaching resource for basic listening and speaking skills for the armed forces.

A central strand of the study has been to ensure that teaching of English and aviation more fully meet the needs of trainees and trainers and their organisations.

6.11. Course Implementation

The findings suggest that there are similarities (listening and speaking skills were shared) and dissimilarities (reading and writing needed most by student-pilots) between academic and professional needs of aviation trainers and students therefore, the language courses should be tailored in an order to prioritise individual needs of the learners keeping in view different stages of their aviation careers. Their individual needs can be different (e.g., as student- trainee, teacher, practitioner, and administrator) according to their multiple roles in aviation discourse community. Hence, a thoroughly generic course of English cannot be recommended.

The design and implementation of aviation and English language syllabus falls within the spectrum of content-oriented and task-based, it should address three fundamental questions that supply enough answers for its implementation. The first question that is to be posed is the main reason behind course implementation which is summarised as "why questions" whose answer represents the rationale for course planning that includes the learners profile and needs, and expresses the learning objectives. The subsequent question that should be asked is "what" question that is represented in terms of inventory selection, resources and teaching materials that are organised in a teaching/learning procedure. The "how" is the last enquiry that encapsulates the procedure which takes place within time constraints, teachers and learners roles, and how learners achievements are measured according to the defined objectives. The present course content would be for academic and occupational (trainings) purposes.

In this curriculum, we suggest an AE communication course for intermediate and upper intermediate learners. This course incorporates learners with different ranks and education levels. It is expected that a proficiency gap creates a problem in the course and

this is why it is preferable to adopt a task-based syllabus. This course addresses aviation interaction and communication. The course objectives are designed after having obtained needs analysis results so as to guide the ESP instructors in planning their lessons and teaching. The syllabus recommended in this case study is task- or activity-based approach.

Research participants are aviation trainers and trainees simultaneously who already have work experience and want to improve their English to improve their profession career. Hence, it is expected also that the SHS aviators can speak and understand aviation-related terminology besides general English vocabulary, and understand cultural differences. McCarten (2007, p.26) states 'making vocabulary personal helps to make it more memorable.' So again ESP courses have an advantage over general English courses.

6.12. Occupational and Academic Curriculum Integration

Teahen (1996, p.3) contends that "vocational educators are criticised for providing overly specific training, and academic educators are criticised for providing instruction that is neither participatory nor connected to the real-world's requirements". One solution to this dilemma is the integration of academic and occupational education. Integration of academic and professional courses can also help to move vocational education from traditional narrow skills-training to education that prepares students to work in increasingly high-skilled, technical work places. The integrated course at the SHS would be of great utility to satisfy both trainers and trainees immediate or delayed needs. For trainers, they may benefit from the vocational-oriented course which is of great help in their work place aviation communication and the mastery of the aircraft during their applied trainings. For trainees, aviation theory units taught in English can shift the knowledge obtained into the practical field which trainees share with their trainers. There must be a drastic changing interests and needs cites a "compelling need to move vocational education away from the overemphasis on hands-on skills in order to develop programs that meet the needs of employers". Jacobs (1993, p.81)

6.12.1. Rationale for Occupational and Academic Curriculum Integration

Academic and occupational education reinforces the shifting paradigm from teaching to learning and requires that students become active participants in the construction of their own knowledge. Badway and Grubb (1997) suggest that integrating academic and occupational education broadens occupational education and strengthens its connection to civic goals. Academic and occupational integration has the potential to offer a broader focus for occupational education and to offer opportunities for a more diverse group of students

Copa and Ammentorp (1997, p.10) suggest that design of the learning process - i.e., curriculum, instruction, and assessment - must become more integrated and better suited to the specifications for learning outcomes. They suggest that the learning process "engage the learner in inquiry (research) and knowledge construction and that learning projects are connected to the needs of the community».

Edmonds (1993, p.85) states that there appears to be general consensus that students in occupational programs need more than concrete skills to perform well in the work force. She challenges faculty and administrators to "integrate occupational programs and general education so that students see the connectedness of their learning, practice problem solving, work cooperatively with others, and construct and evaluate alternatives".

6.12.2. Integration Constraints

Barriers to occupational and academic curriculum integration are many and varied and pose challenges to colleges wishing to move ahead with integration initiatives. Examples of barriers include (Teahen, 1996, p.16): schools' lack of acceptance of transfer credit for "new" courses, reluctance of institution to change, pervasive disciplinary specialization, lack of leadership in support of curriculum reform, lack of support from administrators, lack of knowledge of how to integrate, perceptions of status differences between academic and occupational purposes, and lack of resources for release time, planning, and

professional development. Each of these barriers presents special challenges and requires college-wide commitment to engage in substantive efforts to integrate academic and occupational education particularly in aviation industry. In addition to the aforementioned reasons, in our research context, the status of English in Algeria as a foreign language is a major reason behind the incompetence of several ESP teachers. Also, the latest developments in aviation industry regarding aircrafts industrialization for civilian or military fields, take place in English speaking countries, the fact which compels the resort to those countries for a training and acquisition.

6.13. Reflections of the Researcher

My initial assumption was that conducting NA and figure out whether pilot trainees and trainers share the same needs regarding English language requirements. Later, when I went through the research process, I had to admit that the time needed was a real limitation of such studies. However, this research was a great platform to learn how to manage and plan time effectively. It has also enabled me to recognise the role of both NA and evaluation not only in theory, but also as practical aspects of language course design and development. The experience of doing this research has also taught me some valuable lessons and provided me with research skills that I lacked. For example, it has greatly developed my interviewing and communication skills through meeting and interacting with different kinds of people: administrators, language teachers, pilot professionals and war school staff. Moreover, I have learned a great deal of SPSS software and apply it on the Microsoft Office 2016 in order to obtain both descriptive and inferential statistics. It has also taught me to be an independent, critical and neutral thinker.

Having been a teacher of Business English for more than four years, I have figured out how different EST context (AE) is from business purposes. This fact cast much credit to my position in the present study for I was confident that I did not impose any personal views on any aspect of it, including its participants and outcomes. I was detached from the

study, continuously reflecting and taking a critical look at my research in order to improve its validity and recognise its limitations. My central role as an external researcher was to investigate the questions addressed with the purpose of developing the current ESP course. In short, I could by no means, interfere in my research outcomes and satisfy my expectations.

Surely, the experience of doing this research has taught me many things which cannot be covered in this limited space. I will draw on this experience, when serving on committees or curriculum teams at the Ministry of Defense, to design and/or develop ESP courses and syllabi. This experience will, I believe, serve me well in spite of the challenges and obstacles thrown up by events, administrations, programmes, secret information and bureaucracy in the process of curriculum development.

Conclusion

Aviation trainees and trainers at the SHS have several reasons to learn English at the war school or at language schools. They need English in their academic and occupational settings to cope with various tasks (e.g., to understand class lessons, reading aviation-related books, understanding exam questions, reading aviation research papers, important database available on internet and reading original texts). With the advent of globalization, English has taken status of lingua franca in the international aviation community either civilian or military. Most pilot trainers are sent to foreign countries in pursuit trainings, where the sole means of communication and learning is English.

This situation favors a strong case of AE curriculum recommendation. There have been no courses of English established in the SHS despite the strong needs of aviation students and professionals. One of the reasons could be non-availability of proficient AE teachers and their trainings. If student -pilots are taught a course of English for academic and occupational aviation purposes during their first four years of study in aviation schools (Cherchel and Tafraoui), their satisfaction and performance level can be improved to great

extent in the later year of practical study. Pilot trainees and trainers require good proficiency in English in their professional life, as knowledge of English equips them with ability to deal with their professional challenges during crisis time, in particular. The amount of English taught to the aviation personnel before joining aviation studies is not adequate to cope with their academic and occupational needs in aviation industry. In addition, General English is not in exact alignment with needs of aviators. Restricted language, phraseology proved to be insufficient in expressing non-routine situations in English which requires plain English.

GENERAL CONCLUSION

There have been no courses of English established in the SHS despite the strong needs of aviation students and professionals. One of the reasons could be non-availability of AE teachers and their trainings. If pilot students of are taught a course of English for academic and occupational military purposes during their first four years of study in military schools, their satisfaction and performance level can be improved to great extent in the later years of the SHS study. The students are required good proficiency in English in their professional life, as knowledge of English equips them with ability to deal with their professional challenges. The amount of English taught to the officers before joining the SHS is not adequate to cope with their academic and occupational needs in aviation field. In addition, General English is not in exact alignment with needs of aviation trainees and trainers. English for Military Purposes course is in high demand and thus calls attention of the government and related bodies for its urgent implementation in aviation schools. The AE course should be task based similarly; audio-lingual method should be preferred method of teaching AE course. The contents and methods should be further researched by carrying out simultaneous needs analyses studies. Also AE courses should integrate materials from all four language skills emphasizing the academic and occupational perspectives of aviation education.

The overall study includes the theoretical reviewed literature relevant to our area of investigation which is needs analysis, ESP, aviation discourse and curriculum design. In the first Chapter we have reviewed held views about the meaning of need in a broader sense and NA in a narrower view and mentioned the importance of the latter in designing particular ESP courses. We have also reviewed ESP and aviation discourse and communication. We have attempted to provide a workable definition of ESP in general, its origins, development, classification and types, and then we have moved to a particular

types of ESP which is EOP and EAP and English for aviation precisely. In the second sub-part of the same Chapter we have tackled the radio telephony and communication which included phraseology and emergency situations.

After having displayed the role of NA in designing a specific curriculum. Curriculum and syllabus development has been illustrated in details in addition to their types; upon which we have tried to select the optimum course that would suit our research population.

The practical part of the research has deployed a triangulation method for data gathering. We have designed an FGD, placement and ICAO test and interviews in order to gain richer data we have added questionnaire surveys. Analysis and interpretations of the findings have been illustrated in form of tables and graphs. After having obtained the results and arrived to a conclusion we have opted for some recommendations about curriculum design and what would, according to findings, be suitable for ESP learners of aviation English. At the end of the present research we have come out with several inferences which may be of help to further research in the field of EOP and EAP, they are as follows:

- ✓ Aviation English is needed simultaneously with General English.
- ✓ Aviation professionals and students are seeking accurate English.
- ✓ Conveying a meaningful message through radio is of prime interest either in routine or non-routine situations.
- ✓ English is needed for safety and security.
- ✓ Listening and speaking skills are of a paramount interest in radio conversations.
- ✓ Reading and writing are the alternative significant skills in distant communications.

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LIST OF APPENDICES

Radio-Communication Exchange

Short of Fuel

P: Alger approach AG 19 helicopter (Ecureuil) 35 NM out of you radial 090° 4500 feet we think that we have a fuel leakage

ATC: AG 19 Alger report fuel on board and flight time remaining

P: AG 19 we took-off with 600 L now we read 200 L on the indicator after 20 minutes of flight

ATC: AG19 Alger confirm no fuel smell in the cockpit

P: Affirm AG19 but indicator needle is going down slowly

ATC: AG 19 Alger report heading back; reduce speed to 80 kt

P: Alger AG 19 we declare an emergency the remaining fuel is 70 L that's 10 minutes of flight we can't reach the runway

ATC: AG 19 Alger clear to land on a safe area near the airport report position after landing

P: AG 19 we'll land 7 nm south west the airport

ATC: AG 19 you're on the radar pass with tower on 119.7 good luck

Fuel Dumping

P: Boufarik TWR 7 TWUG 76 (Hercules) ready for departure

ATC: 7TWUG 76   TWR runway 23 clear for departure via Blida than Cherchel report reaching 6000 feet

ATC: Clear for departure via Blida than Cherchel report reaching 6000 feet 7TWUG 76

P: Boufarik 7TWUG 76 6000 feet heading to Cherchel request climbing to FL 160 (16000 feet)

ATC: 7TW BOUF clear for climbing to FL 120 initially

P: FL 120 initially 7TW

P: Bouf 7TW we have problem with the right engine , the oil pressure indicates 0 and the temperature is getting higher we declare an emergency

ATC: 7TW BOUF confirm your altitude

P: 7TW crossing 9500 feet

ATC: 7TW cancel climbing and maintain 9000 feet squak 7700 (code transponder indicating the emergency) and report your load

P: Bouf 7TW   we fly with load max we need to dump fuel before landing

ATC: 7TW bou from your position turn right heading 030° and descent to 6000 feet report 40 NM out of Boufarik wind is 270°/ 15 kt

ATC: Copy that 7TWUG 76

P: Bouf 7TW 40 NM out 6000 feet ready for dumping procedure

ATC: 7TW bouf Clear for dumping call ready for the heading back

P: Bouf 7TW end of dumping we shut down the right engine

ATC: Clear 7TW maintain 6000 feet heading 165° report direct to final 23

P: Wilco 7TWUG 76

Sandstorm

P: Biskra TWR   SM 44 (MI 171) good morning from Sétif to your destination 5000 feet 50 NM on radial 350° request last weather please.

ATC: SM 44 Biskra good morning sir ready to copy last weather?

ATC: SM 44 go ahead.

P: SM 44 Biskra runway in use 16 wind 180°/35kt gusting 45kt visibility 2000 m due to haze temperature 32°c QNH 1029

ATC: Runway in use 16 QNH 1029 SM 44

P: SM 44 Biskra last forecast speci (special message) sandstorm south east of the airport moving north west report any met change.

ATC: Wilco SM 44

P: Biskra SM 44, 25 NM the visibility is getting worse we cannot see the ground

ATC: SM 44 Biskra turn right heading 330° and maintain 5000 feet the storm is moving to the airport report 40 NM north west of the terrain

P: SM 44 we hardly can maintain control of the helicopter we need to descent to 2000 feet

ATC: Clear to descent 2000 feet SM 44 call when out of the storm

Hidden Target

P: Ground   SB 11 (MI 24) overhead the fighting area request clearance to arm missiles

ATC: Clear to arm SB 11 report target in sight

P: Roger SB 11

P: Ground SB 11 target in sight; and moving south, we waiting for order

ATC: SB 11 ground report target locked

P: G, SB 11 the target is hidden by a large stone it is not in sight we need support from ground

ATC: SB 11 ground keep closer, support is on the way

P: Ground SB 11 target locked order to launch

ATC: Clear to launch SB 11 report target destroyed

P: Target destroyed return to base SB 11

The Co-pilot Got a Heart Attack

Pilot: PAN PAN; PAN PAN; PAN PAN Constantine tower AT 28 (SOKOL) we've got a serious problem.

ATC: 28 Constantine pass your message

Pilot: 28 The co-pilot has a pain in his chest and struggling to breathe.

ATC28 Const report position and level.

Pilot: 28, 25 NM (nautical mile) on radial 260° FL 70 (flight level)

ATC: 28 Const report passengers on board.

Pilot: 28 I confirm no passengers on board.

ATC: 28 Const descent immediately to 5000 feet QNH 1023 report crossing radial 159° at

15 NM.

Pilot: Const AT 28 the co-pilot is losing consciousness please get the ambulance ready at

landing.

ATC: 28 Const the medical assistance is ready; clear to land near the ambulance report in

sight wind 350° /7kt (knot).

Pilot: 733 Const report runway vacated we have an emergency on final runway 34.

ATC: Report runway vacated expediting 7TWG 33.

Tail Rotor Failure

P: Setif ATC ST 89 (MI 2) runway 27 request take-off.

P: 89 Sétif clear to take-off wind is calm.

ATC: Clear to take-off wind calm ST 89.

P: 89 we hear a strange noise coming from the tail boom area.

ATC: 89 Sétif confirm if there is any vibration.

P: 89 affirm there is an excessive vibration intensifying.

ATC: 89 Sétif abort take-off, clear to land at the end of the runway.

P: Mayday, Mayday we lose control, a sharp left yaw and no response to pedals.

ATC: 89 Reduce power to minimum and enter an autorotation at 70 kt speed.

ATC: 89 shut down the engines before landing.

P: Sétif ST 89 on ground we have some damages we need help.

ATC: 89 Sétif maintenance truck is on the way; disable the batteries and leave the

helicopter.

APPENDIX B

Directive

Relating to the Teaching of Foreign Languages

Within the National Popular Army

REPUBLIQUE ALGERIENNE DEMOCRATIQUE ET POPULAIRE

MINISTERE DE LA DEFENSE
NATIONALE

L'ARMEE NATIONALE POPULAIRE

LE CHEF D'ETAT-MAJOR

Directive
Relative à l'enseignement des langues étrangères
Au sein de l'Armée Nationale Populaire
Préambule

La multiplication et l'intensification de la coopération militaire entre l'Armée Nationale Populaire. Les armées étrangères ainsi qu'avec les organisations internationales et régionales (ONU, UA, UE, OTAN,…etc.) et des activités qui en découlent dont l'exécution d'exercices militaires conjoints, la participation aux séminaires et symposiums à l'étranger, les échanges de délégations, les négociations avec nos partenaires, les visites de prospection, sont autant de facteurs, qui ont fait ressentir, ces dernières années, le besoin d'une prise en charge de manière urgente et réglementée de l'enseignement et de la maîtrise par nos cadres des langues étrangères, notamment la langue anglaise.

Certes, notre appareil de formation dans sa configuration actuelle, dispose de capacités et dispense un enseignement prévu et programmé dans tous les paliers de formation. Cependant cet enseignement qui se limite à la seule langue anglaise, demeure insuffisant par le volume horaire et le coefficient affecté. Par ailleurs, il n'est pas sanctionné par une attestation de niveau normalisé, d'où un manque d'intérêt des stagiaires quand à l'apprentissage des langues et ce par rapport à celui du métier des armes et des sciences. A cela s'ajoute le manque d'harmonie et de continuité dans l'enseignement de cette langue d'un palier de formation à un autre.

En outre, et de dépit de l'importance accordée par le commandement à cet aspect de la formation et aux efforts consentis, pour l'enseignement et l'apprentissage des langues , notamment par l'allocution d'enveloppes budgétaires, l'affectations de matériels, la mise en place de laboratoires de langues, la coopération avec le partenaire américain dans le cadre du programme IMET (International Military Education and Training), les résultats obtenus demeurent en deçà des exigences de la situation et des objectifs escomptés.

Cet état de fait implique un manque de cadres disposant des connaissances requises pour pouvoir suivre des formations à l'étranger et participer à des opérations de maintien de la paix en qualité d'observateurs militaires, activités qui nécessitent un niveau de maîtrise des langues étrangères élevé. Dans ce contexte, la désignation des candidats potentiels est souvent effectuée sur la base du seul critère linguistique.

Il en résulte, enfin, des difficultés de communication entre nos cadres et leurs homologues étrangers nécessitant, la plus part du temps la présence d'interprètes ne maîtrisant pas les spécificités et le vocabulaire du sujet traité générant quelquefois des incompréhensions et des ambiguïtés, de part et d'autre.

Actions à Entreprendre :

Afin de palier à cette situation et relever les défis imposés par la diversification de la coopération de l'Armée Nationale Populaire avec ses partenaires étrangers, et d'honorer les engagements de notre pays, il est décidé la création d'une structure centrale et des entités locales au niveau des grandes garnisons pour prendre en charge l'enseignement des langues étrangères au profit des personnels de l'ANP.

En prévision de la création d'une structure centrale dénommée « Institut Militaire des Langues Etrangères » (IMLE), le Département des Langues Etrangères et Techniques de Communications de l'ENPEI/Rouiba, aura la charge, en plus de sa vocation principale d'enseignement des langues, le suivi et le soutien pédagogique des entités locales (Centres de Langues Etrangères), par l'élaboration des programmes, le recrutement et la formation des professeurs, l'organisation des examens et la délivrance des attestations de niveau et enfin, la tenu d'un fichier des cadres maîtrisant les différentes langues permettant la sélection éventuelle à la demande du Commandement.

Ce Département sera également chargé de définir en commun accord avec le Bureau des Enseignements Militaire de l'Etat-Major de l'ANP et en concertation (la Portion Centrale, les Commandements de Forces, les Régions Militaires, les Secteurs Opérationnels Centre et Sud de Tindouf et les 04 Divisions) permettant l'enseignement continu et in situ des cadres sans les soustraire à leurs missions.

Ces classes de langues étrangères, qui permettrons de préparer les cadres à une formation plus approfondie ou spécifique au niveau du Département de Langues de l'ENPEI/Rouiba, seront créées au niveau des sites ci-dessous énumérés :
- Le siège du CSDM/OTAN pour la Portion Centrale ;
- Les Commandement des Forces ;
- Les Commandement Régionaux
- Les Postes de Commandements des quatre (04) Divisions (Grandes Unités)
- Les Postes de Commandements des Secteurs Opérationnels Centre et du Sud de Tindouf / 3° RM

Ces entités seront placées sous l'autorité des structures chargées de la formation :
- Le Bureau des Enseignements Militaires pour la Portion Centrale ;
- Les Divisions Ecoles pour les Commandements de Forces ;
- Les Bureaux de formation des Départements et des Directions Centrales ;
- Les Bureaux des Opérations pour les Régions Militaires ;
- Les Bureaux Instruction et Opération pour les divisions (Grandes Unités).

Objectifs

Par la création de ces structures de formation, le commandement compte atteindre les objectifs majeurs suivants :
- Enraciner dans l'esprit des cadres la nécessité de l'apprentissage des langues par une formation continue, permanente et in situ ;
- Dispenser une formation en langues étrangères orientée sur les aspects militaires principalement.
- Introduire progressivement l'apprentissage de nouvelles langues autres que l'anglais (russe, espagnol, italien, allemand,…etc.)

- Mettre en place un système de suivi, de contrôle et d'évaluation des cadres en matière de connaissance en langues étrangères ;
- Instaurer des certificats de niveaux normalisés répondant aux standards universellement reconnus (Standardisation Agreement STANAG), ouvrant droit de candidatures à des formations et postes à l'étranger ;
- Etablir une coopération dense et régulière, ainsi bien avec les instituts nationaux et /ou étrangers similaires en procédant à l'échange d'expériences et de professeurs, en organisant des séminaires et conférences et en effectuant des recyclages au profit des formateurs ;
- Tenir et suivre un fichier des cadres maîtrisant des langues étrangères pour une utilisation rationnelle de cette ressource.

Axes D'efforts :

Pour concrétiser les objectifs suscités, les efforts des différents intervenants devrons se focaliser sur les mesures suivantes :
- Renforcer et doter le Département des Langues de l'ENPEI/Rouiba en moyens humains et matériels lui permettant de s'acquitter de sa mission relative à l'enseignement des langues ;
- Réunir les meilleures conditions pour la désignation des lieux d'implantation des classes et laboratoires de langue au niveau de la Portion Centrale, des Commandements de Forces, des Régions Militaires, des Secteurs Opérationnels Centre et Sud de Tindouf et des quatre (04) Divisions ainsi que leur aménagement voire leurs équipements spécifique en exploitant les espaces disponibles.
-

Pour la concrétisation de cet objectif, et en attendant la promulgation des textes portant création des structures de formation en langues étrangères :
J'ordonne

Aux Commandants de Force et des Régions Militaires et au Chef du DEP/EM-ANP :

- De faire aménager et équiper les espaces devant abriter les structures d'enseignement des langues, relevant de leurs compétences territoriales ;
- D'évaluer les candidatures pour permettre le dimensionnement des espaces retenus et d'exprimer les besoins en laboratoires ;
- D'évaluer les besoins en enseignants (par langue et en fonction de la disponibilité locale en professeurs) et en moyens matériel nécessaires à la mise en œuvre rapide et efficace des structures destinées à l'enseignement des langues.

Au Chef du Département Organisation-Logistique/EM-ANP :

- De concert avec le Département Emploi-Préparation/EM-ANP, prévoir le financement des laboratoires de langues et les matériels spécifiques.

Au Chef du Département Emploi-Préparation/EM-ANP :

- De concert avec le Direction des Personnels/MDN, recenser les officiers de l'ANP, détenteurs de diplômes en langues étrangères pour leur affectation éventuelle vers ces structures d'enseignement ;

- De concert avec la Direction Centrale du Service National/MDN, orienter les officiers de réserve diplômés en langues étrangères vers l'enseignement.

Au Directeur Général de l'Ecole Nationale Préparatoire aux Etudes d'Ingéniorat :

- De créer les conditions favorables permettant au Département des Langues Etrangères de l'ENPE/ Rouiba d'assumer provisoirement les missions principales devant être assignées au futur Institut Militaire de Langues Etrangères (IMLE), à savoir :
  - L'élaboration des programmes d'enseignements ;
  - La constitution du fond documentaire spécifique ;
  - La définition des besoins nécessaires en professeurs de langues et la mise sur pied d'une équipe mobile de contrôle et d'évaluation du niveau des stagiaires et de l'enseignement des langues ;
  - L'assistance aux Commandements locaux concernés pour le démarrage effectif du fonctionnement des structures décentralisées d'enseignement des langues en particulier la langue anglaise.
- Déclarer les besoins nécessaires en matière de personnels spécialisés ou de n'importe quel autre moyen qui pourra contribuer au bon déroulement de cette institution.

Pour le démarrage de l'enseignement des langues étrangères au sein de l'Armée Nationale Populaire dans les délais les plus brefs et les meilleures conditions l'exécution des travaux assignés fera l'objet d'un rapport détaillé qui nous sera soumis par les Commandants de Forces, les Régions Militaires et les Directions de Soutiens avant le 31/12/2006.

Fait à Alger le : **09/10/2006**

LE CHEF D'ETAT-MAJOR

DE L'ARME NATIONALE POPULAIRE

APPENDIX C

ICAO Language Proficiency Requirements (LPRs) for Pilots and Air Traffic Controllers

The International Civil Aviation Organisation (ICAO) has established English language proficiency requirements (LPRs) for all pilots operating on international routes, and all air traffic controllers who communicate with foreign pilots. These standards require pilots and air traffic controllers to be able to communicate proficiently using **both ICAO phraseology** *and plain English*.

Formal evaluation of language proficiency was required as of March 2008, but ICAO effectively extended the deadline to **05 March 2011**.

All Air Traffic Controllers and Flight Crew Members engaged in or in contact with international flights **must be proficient in the English language** as a general spoken medium and not simply have a proficiency in standard ICAO Radio Telephony Phraseology. Those who do not have English proficiency must acquire it, or risk removal from international flight routes.

ICAO Holistic Descriptors

Proficient speakers shall:

a. communicate effectively in voice-only (telephone/radiotelephone) and in face-to-face situations;
b. communicate on common, concrete and work-related topics with accuracy and clarity;
c. 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;
d. 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
e. use a dialect or accent which is intelligible to the aeronautical community.

ICAO Language Proficiency Standards

ICAO grades English language performance on a scale from 6 (highest) to 1 (lowest):

Level	
Level 6:	Expert
Level 5:	Extended
Level 4:	Operational
Level 3:	Pre-operational
Level 2:	Elementary
Level 1:	Pre-elementary

In order to conform with ICAO Language Proficiency requirements, Pilots, Air Traffic Controllers and all others who use English in R/T communication on international routes must be at ICAO English Language Level 4 (Operational) or above. An individual must demonstrate proficiency at Level 4 in all six categories in order to receive a Level 4 rating.

Those who are assessed at ICAO Level 4 (Operational) must be re-tested every three years. Those who fail may not be licensed to operate on international routes, so even if a pilot or controller achieves Level 4 once, further English training may be needed to maintain this level of proficiency.

ICAO Language Proficiency Rating Scale:

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 cultural 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 occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting.	Comprehension is mostly accurate on common, concrete, and work-related topics when the accent or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic 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	Basic grammatical structures and sentence patterns associated with predictable situations are not always well	Vocabulary range and accuracy are often sufficient to communicate on common, concrete, or work-related topics, but range is	Produces stretches of language, but phrasing and pausing are often inappropriate. Hesitations or slowness in	Comprehension is often accurate on common, concrete, and work-related topics when the accent or variety used is sufficiently intelligible for an international	Responses are sometimes immediate, appropriate, and informative. Can initiate and maintain exchanges with reasonable ease on

	understanding.	controlled. Errors frequently interfere with meaning.	limited and the word choice often inappropriate. Is often unable to paraphrase successfully when lacking vocabulary.	language processing may prevent effective communication. Fillers are sometimes distracting.	community of users. May fail to understand a linguistic or situational complication or an unexpected turn of events.	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: ICAO. (2004). Publication of Doc 9835-AN/453, Manual on the Implementation of ICAO Language Proficiency Requirements.

APPENDIX D

Focus Group Questions

Q1. Which language is spoken between Pilots and ATC in peace time?

Q2. Is English important in studies and on board?

Q3. Is the phraseology list enough in case of non-routine situations especially in wartime?

Q4. Is English needed for graduation?

Q5. Are all language skills of equal importance?

Q6. Is English for aviation required more than general English?

APPENDIX E

THE PLACEMENT TEST

American Language Course Placement Test
ALCPT

1. LISTEN to the text and answer the questions

1. Where is Jimmy from?

A) Canada

B) The USA

C) Great Britain

2. How old is he?

A) Nine

B) Ten

C) Eleven

3. How many best friends does he have?

A) Two

B) Three

C) Four

4. Who are American?

A) Jane and Maria

B) Billy and Maria

C) Jane and Billy

5. Who is Italian?

A) Billy

B) Jane

C) Maria

6. What school do they go to?

A) Primary

B) High

C) Secondary

7. What is the name of the school?

A) New York

B) Lincoln

C) American

8. What class are they in?

A) 5C

B) 5A

C) 5B

9. New York is … .

A) an old town

B) a small town

C) a modern city

10. Who likes New York very much?

A) Jane

B) Jimmy

C) Billy

2. READ the text and find the right answer

A bear is a large, heavy, strong animal with thick fur and a very short tail. There are several kinds of bears, black bears, polar bears, and grizzly bears. The brown bear lives in the forests and mountains of Northern America, Europe and Asia. Bears live alone; they never live in groups. Mother bear usually has from one to four baby bears. They are born in the winter and drink their mother's milk. They live with their mother for one or two years. Bears often spend much of their winter sleeping. Before winter they eat a lot of food. Bears can be dangerous to people.

11. A bear has small eyes.

A) True

B) False

C) Doesn't say

12. Bears can be black.

A) True

B) False

C) Doesn't say

13. Bears don't live in Europe.

A) True

B) False

C) Doesn't say

14. They live in groups.

A) True

B) False

C) Doesn't say

15. Mother bear has more than five babies.

A) True

B) False

C) Doesn't say

16. Baby bears are born in the winter.

A) True

B) False

C) Doesn't say

17. Baby bears live with their father.

A) True

B) False

C) Doesn't say

18. Baby bears hunt with their mother.

A) True

B) False

C) Doesn't say

19. Bears eat a lot before winter.

A) True

B) False

C) Doesn't say

20. Bears are never dangerous.

A) True

B) False

C) Doesn't say

3. a. Vocabulary:

Choose the correct form of the nouns

21. There are many … on the table.

A) boxes

B) boxs

C) box

22. Our dog has three nice … .

        A) puppy

        B) puppys

        C) puppies

23. All … should go to school.

        A) childs

        B) childrens

        C) children

24. Many … work at the factory.

        A) man

        B) men

        C) mens

25. The majority of teachers are … .

        A) women

        B) womans

        C) woman

26. You should clean your … twice a day.

        A) teeth

        B) teethes

        C) tooth

27. I saw many … in the village.

        A) goose

        B) gooses

        C) geese

28. There are many forks and … on the table.

        A) knife

        B) knifes

        C) knives

29. Our … are made of wool.

        A) scarfes

        B) scarves

        C) scarf

30. Girls are usually afraid of … .

        A) mice

B) mouse

C) mouses

3.b. Vocabulary: Guess what it is

31. It is very red and sweet and it is so good to eat.

A) An orange

B) An apple

C) A carrot

32. What animal has the longest neck?

A) A horse

B) A giraffe

C) A crocodile

33. It has four legs, a long tail and it can give milk.

A) A sheep

B) A pig

C) A cow

34. It is white, it is cold, you can ski on it.

A) Sugar

B) Chalk

C) Snow

35. It has one face and two hands, it goes and yet it stands.

A) A clock

B) A baby

C) A doll

36. What is it that was tomorrow and will be yesterday?

A) Yesterday

B) Today

C) Tomorrow

37. What has four legs and a back?

A) A table

B) A chair

C) A shelf

38. It has no wings but it can fl y away.

A) A balloon

B) A bird

C) A grasshopper

39. I'm an insect. I gather nectar from flowers.

A) A bee

B) A bird

C) A fly

40. What goes up when the rain comes down?

A) A cloud

B) The sky

C) An umbrella

4. Grammar

Choose the best answer: [A, B, C or D]

41. There isn't _____ butter in the fridge.

A) Any

B) some

C) the

D) a

4**2.** These people _____ to the theatre this evening.

A) has gone

B) are going

C) is going

D) goes

4**3.** See me in my office _____ Monday morning.

A) on

B) in

C) the

D) at

44. I can sell you some oranges but only _____.

A) little

B) few

C) a little

D) a few

45. Thank you for letting me _____ the car?

A) to take

B) taken

C) take

D) taking

46. Susan came top in the examination because she worked _____.

    A) excellent

    B) hardly

    C) hard

    D) good

47. "They love English food, _____?"

    A) aren't they

    B) don't they

    C) isn't it

    D) are they

48. It has been 3 years since I last _____ English.

    A) studied

    B) have studied

    C) was studying

    D) have been studying

49. The President is said _____ South Africa next year.

    A) to visit

    B) to be visiting

    C) that he will visit

    D) to have visited

50. If she had got up earlier, she _____ late for school.

    A) mightn't have been

    B) wouldn't be

    C) can't have been

    D) shouldn't be

51. I regretted my mistake. It was one which I _____.

    A) ought not to be making

    B) mustn't make

    C) ought not to have made

    D) had not to make

52. He certainly wouldn't like _____ in such bad company.

A) to have seen

B) to be seeing

C) to see

D) to be seen

E)

53.   **Dave:** Did they get any cigarette there?

Alan: Yes, they got _____.

a) any

b) some

c) much

d) nothing

54. My father _____ to San Antonio.

a) didn't not fly

b) don't fly

c) didn't never fly

d) didn't fly

55. Jack saw Tom at the dance last night

a) Tom was seen by Jack.

b) Tom wasn't there last night.

c) He will be at the dance

d) Jack didn't go to the dance last night.

APPENDIX G

Semi- Structured Interview Protocol for Pilot-Trainees

1. How old are you?

2. Do you need English in your studies?

3. How do you perceive the role of English in practicing aviation tasks?

4. Which English language skills you need most?

5. How do you evaluate your performance in language-requiring tasks?

6. Are you able to improvise and describe an emergency situation in plain English?

APPENDIX H

Semi- Structured Interview Protocol for Pilot-trainers

1. Would you let me know your age and rank?

2. How many years of experience do you have for helicopter pilot position?

3. How do you perceive the role of English in aviation?

4. Do all aviation tasks require a language?

5. Which difficulties you usually face during your daily hands-on trainings?

6. Is English more important at wartime than at peace-time?

7. How would you behave during an emergency turn of events?

8. Does phraseology suffice in case of non-routine situations?

9. Which language skills you think you need to improve most?

APPENDIX I

Questionnaire for Pilot -Trainees

The questionnaire is part of my doctoral dissertation. It intends to gather information for the identification of English language needs of pilot officers at the Specialized Helicopter School and subsequently would be reported with recommendations to improve the standard of aeronautical English. The findings of research will lead to recommending English for Specific Purposes (ESP) curriculum designed on the basis of specific needs of the aviation. I am grateful for your time and effort in completing the questionnaire.

Background information

1.Contact information (optional):

2.Age:

3.Gender:

4.Origin:

5.How long have you been studying in the SHS?   …… ….Months

6.What's your current course of study?

7.Are you satisfied of the content of "English unit"?   Yes ☐   No ☐

If no, choose language aspects that are of interest to you in class:

Section One

Overview of skills needed and difficulties encountered

8. In your course of study how often are you exposed to the following skills? (please circle)

	Very often	often	sometimes	rarely	never
Reading	1	2	3	4	5
Writing	1	2	3	4	5
Speaking	1	2	3	4	5
Listening	1	2	3	4	5

09. How important in your study are the following abilities? (please circle)

	Very important	important	not important
Listening	1 2	3	4 5
Speaking English	1 2	3	4 5
Writing English	1 2	3	4 5
Reading English	1 2	3	4 5

Section Two

10. **The Speaking skill**: rate the importance of the following activities:

Speaking Activities	Not important	important	Very important
Aeronautical Phraseology or terminology usage			
Find the right word			
Pronunciation			
Aviation phonetics			

11.The Listening skill: rate the importance of the following activities

Listening Activities	Not important	important	Very important
Understanding lengthy instructions			
Fast Talk			
Different English accents			

12.The Writing skill: Rate the importance of the following activities

Writing Activities	Not important	important	Very important
Punctuation and spelling			
Grammar			
Appropriate English vocabulary			
Appropriate aviation vocabulary			

Expressing ideas appropriately			
Developing ideas			

13. The Reading Skill: rate the importance of the following activities

Reading Activities	Not important	important	Very important
Reading aviation books in English			
Read manuals			
Read magazines and journals			
Read newspapers in English			
Read aviation-related documents			

SECTION THREE: self-rating of language skills

14. Would you assess your performance in the following language skills according to the scale below:

> 1) Low level of competence- little experience in the skill area

2)Average level of competence- some experience in the skill area
3) High level of competence- good experience in the skill area
4) Excellent level of competence- very good experience in the skill area

Respondents Self-assessment	1	2	3	4
Understanding instructions				
Responding effectively to particular instructions				
Understand recordings by English native speakers				
Understanding radiotelephony instructions				
Aeronautical Phraseology or terminology usage				
Finding the right word				
Pronunciation				
Aviation phonetics				
Understanding lengthy instructions				
Fast Talk				

Different accents				
Punctuation and spelling				
Grammar				
Appropriate English vocabulary				
Appropriate aviation vocabulary				
Expressing ideas appropriately				
Developing ideas				
Reading aviation books in English				
Reading manuals				
Reading magazines and journals				
Reading newspapers in English				
Reading aviation-related documents				

15. Do you favour an establishment of aviation English Specialty?

Yes ☐   No ☐

16. Are you taking English language courses outside SHS?

Yes ☐   No ☐

17- If yes, is it?

 General English ☐   aviation Engl ☐

other……………………………………

18.Skills you would like to improve

Reading   ☐

Writing   ☐

Speaking   ☐

Listening   ☐

19. Does English phraseology suffice to better perform in emergency cases?

Yes ☐   No ☐

SECTION FOUR: Suggested Assistance

20.Would you like to be assisted to take ICAO proficiency test (Doc 1028)?

Yes ☐   No ☐

21.Would you like to be assessed to attain STANAG English language proficiency level?

Yes ☐   No ☐

APPENDIX J

Questionnaire for Pilot -Trainers

   The questionnaire is part of my doctoral dissertation. It intends to gather information for the identification of English language needs of pilot trainers at the Specialized Helicopter School and subsequently would be reported with recommendations to improve the standard of aeronautical English.   The findings of research will lead to recommending English for Specific Purposes (ESP) curriculum designed on the basis of specific needs of the aviation. I am grateful for your time and effort in completing the questionnaire.

Background information

1. Contact information (optional):

2.Age:

3.Gender:

4.Origin:

5.Occupation Rank:

6.How long have you been working in the SHS?   …… ….years

7.Is English needed in your workplace?   Yes   No

If yes, choose language aspects that are of interest to you:

Section One

8. In your course of study how often are you exposed to the following skills? (please circle)

	Very often	often	sometimes	rarely	never
Reading	1	2	3	4	5
Writing	1	2	3	4	5
Speaking	1	2	3	4	5
Listening	1	2	3	4	5

09. How important in your study are the following abilities? (please circle)

	Very important		important		not important
Listening	1	2	3	4	5

Speaking English	1	2	3	4	5
Writing English	1	2	3	4	5
Reading English	1	2	3	4	5

Section Two

10. **The Speaking skill**: rate the importance of the following activities:

Speaking Activities	Not important	important	Very important
Aeronautical Phraseology or terminology usage			
Find the right word			
Pronunciation			
Aviation phonetics			

11.The Listening skill: rate the importance of the following activities

Listening Activities	Not important	important	Very important
Understanding lengthy instructions			
Fast Talk			
Different English accents			

12.The Writing skill: Rate the importance of the following activities

Writing Activities	Not important	important	Very important
Punctuation and spelling			
Grammar			
Appropriate English vocabulary			
Appropriate aviation vocabulary			
Expressing ideas appropriately			
Developing ideas			

13. The Reading Skill: rate the importance of the following activities

Reading Activities	Not important	important	Very important
Reading aviation books in English			
Read manuals			
Read magazines and journals			
Read newspapers in English			
Read aviation-related documents			

SECTION THREE: self-rating of language skills

14. Would you assess your performance in the following language skills according to the scale below:
1) Low level of competence- little experience in the skill area
2) Average level of competence- some experience in the skill area
3) High level of competence- good experience in the skill area
4) Excellent level of competence- very good experience in the skill area

Respondents Self-assessment	1	2	3	4
Understanding instructions				
Responding effectively to particular instructions				
Understand recordings by English native speakers				
Understanding radiotelephony instructions				
Aeronautical Phraseology or terminology usage				
Finding the right word				
Pronunciation				
Aviation phonetics				
Understanding lengthy instructions				
Fast Talk				
Different accents				
Punctuation and spelling				
Grammar				

Appropriate English vocabulary				
Appropriate aviation vocabulary				
Expressing ideas appropriately				
Developing ideas				
Reading aviation books in English				
Reading manuals				
Reading magazines and journals				
Reading newspapers in English				
Reading aviation-related documents				

15. Do you favour an establishment of aviation English Specialty?

Yes ☐   No ☐

16.Are you taking English language courses outside SHS?

Yes ☐   No ☐

17-If yes, is it?

General English ☐   aviation English ☐

18. Skills you would like to improve:

Reading   ☐

Writing   ☐

Speaking   ☐

Listening   ☐

19. Does English phraseology suffice to better perform in emergency cases?

Yes ☐   No ☐

SECTION FOUR: Suggested Assistance

20.Would you like to be assisted to take ICAO proficiency test (Doc 1028)?

Yes ☐   No ☐

21.Would you like to be assessed to attain STANAG English language proficiency level?

Yes ☐   No ☐

APPENDIX K

English Teacher Questionnaire

The questionnaire is part of doctoral dissertation. It intends to gather information for the identification of English language needs of pilot officers at the Specialized Helicopter School and subsequently would be reported with recommendations to improve the standard of aeronautical English.   The findings of research will lead to recommending English for Specific Purposes (ESP) curriculum designed on the basis of specific needs of the aviation. Also, this questionnaire has been designed to collect your perceptions and opinions of the level of the pilot officers as well as the role you play in helping learners to improve their English proficiency.

I am grateful for your time and effort in completing the questionnaire.

PART ONE: Demographics

1. Qualification:

Bachelor of Art (Licence) ☐   Master of Art (magister) ☐   Doctorate ☐   other ☐

2. Age range:

24-30 ☐   31-40 ☐   41-50 ☐   over 50 ☐

3. Gender:

Male ☐   Female ☐

4. Teaching experience (years):

0-05 ☐   05-10 ☐   10-20 ☐   over 20 ☐

Section TWO: Teachers' Background Knowledge

5. Do you have background knowledge in military aviation?

Yes ☐   No ☐

6. Have you ever received training in how teach English to military aviators?

Yes ☐   No ☐

7. Do you follow an accredited curriculum?

Yes ☐   No ☐

8. If no, which documents do you use while teaching aeronautical English?

Type of the document	Yes	No
Extra curriculum for English Language development		
Recommendations of the Ministry of National Defence **[MDN]**		
Curriculum for general ESP development		
Your institution syllabus		
Your own designed syllabus		
Extra ESP textbook contents		

Section THREE: Teachers' perceptions of the importance of English in aviation industry

9. How is it important for the aviation students to have a good English level proficiency to perform their studies effectively?

☐Extremely important   ☐Important   ☐Not important   ☐No opinion

10. Which of the following English skills do you think are more important than the others for aviation studies? By using the following scale

1= Very important,   2= Important,   3= Not important,   4= No opinion

1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4

☐Listening   ☐Speaking   ☐Reading   ☐Writing

11. How important do you think English is for the aviation officers training or future work-place?

☐Extremely important   ☐Important   ☐Not important   ☐No opinion

12. How important is it for the aviation students to have sufficient competence in English for aviation purposes?

☐Extremely important   ☐Important   ☐Not important   ☐No opinion

13. How important is it for aviation students to have a good English command when performing the following activities

1 – Not important   2- Somewhat important   3- Important   4- Very important

	Listening	Speaking	Reading	Writing

A	Lectures	1 2 3 4			
B	Asking questions in class		1 2 3 4		
C	Participation in class	1 2 3 4	1 2 3 4		
D	Discussions on aviation issues	1 2 3 4	1 2 3 4		
E	Discussion on social issues	1 2 3 4	1 2 3 4		
H	Aviation terminology	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
I	Textbooks			1 2 3 4	
J	Aviation books			1 2 3 4	
K	Understanding the main idea of a text			1 2 3 4	
L	Specific details of a given text			1 2 3 4	
M	Note taking	1 2 3 4			1 2 3 4
N	Understanding instructions	1 2 3 4			
O	Responding effectively to instructions		1 2 3 4		

SectionFour : Analytical Assessment

14. Are you satisfied with the level of your students?

Yes ☐   No ☐

15.How do you describe the existing level of aviation officers' proficiency in the following english language skills

                          Excellent   Good   Fair   Poor   No opinion

1   Listening Skill

2   Speaking

3   Reading

4   Writing

16. Read the following factors and rate your students' proficiency in English language according to the scale given below. (Please tick the appropriate number).

 1=Poor   2= Below average   3=Average 4=Very good

	1	2	3	4
Aeronautical Phraseology or terminology usage				
Finding the right word				
Pronunciation				
phonetics				

Taking Notes				
Understanding lengthy instructions				
Fast talk comprehension				
Different Englishes				
Punctuation and spelling				
Grammar				
Appropriate vocabulary of English				
Appropriate vocabulary of aviation				
Organizing paragraphs and assignments in English for aviation				
Expressing ideas appropriately				
Developing ideas				
Reading aviation books in English				
Understanding the text general idea				
Understanding specific details				
Read manuals				
Read exam questions				
Read aviation-related documents				

17. Would you rate the importance of English language in aviation industry according to the following scale:

1= strongly disagree   2= Disagree   3= Not sure   4= Agree   5= Strongly disagree

	General English is important for aviation pilot officers	1	2	3	4	5
a	Aviation English is important for aviation pilot officers					
b	The materials in aviation English courses should be relevant to the aviation field.					
c	The amount of English instruction given to aviation students before joining the SHS is adequate to meet their academic and occupational English language needs.					
d	English language instructors should use a method in which students can learn English interactively in groups.					

e	Emergency situation, should have a good level of general English					
f	Understanding general English by native speakers is imperative during war-time					
g	It is important for aviation students to be able to read the latest aviation-related documents					
h	A good knowledge of grammar is essential for students' academic studies					
i	Specialist vocabulary is essential for students' academic studies					
j	Correct pronunciation is imperative for safety purposes					

APPENDIX L
Demande D'autorisation
Mr le Chef De Secteur
19000Sétif

Monsieur,

Je, soussignée ,Fouzia ROUAGHE, sollicite votre autorisation afin d`effectuer une recherche dans le cadre de la préparation d`un doctorat en Didactique de l'anglais [TEFL]. Je suis doctorante spécialisée en didactique de l'anglais (TEFL) à la Faculté des Lettres et Sciences Humaines à l'Université de Ferhat Abbes à Sétif. Mon sujet de recherche est le suivant:

National English Curriculum For Helicopter Aviators: A Case of The Specialized Helicopter School at Ain Arnat- Sétif
(Elaboration d`un programme national d`Anglais pour les pilotes d`helicopters : Cas de l`Ecole Specialisee en Helicopteres d`Ain Arnat)

Le but de cette recherche est d`appréhender la perception des différentes parties prenantes, (à savoir les étudiants et les enseignants) concernant :

1. La formation en langue anglaise pour étudiants aviateurs.
2. L`élaboration des critères pour un programme basé sur les besoins en langue anglaise.

La recherche aura lieu au moyen de questionnaires et d'entretiens qui dureront respectivement 30 minutes et 15 minutes pour chaque participant. Le processus d'entrevue aura lieu après les heures d`études, pour ne pas perturber le processus d'enseignement a l'école. La collecte des données se fera sur papier, et sur cassette audio pour les questionnaires. La collecte des données se fera après obtention de la permission écrite des participants.

Je suis consciente du que les participants ont le droit de donner leur consentement et de le retirer à tout moment, au cas où ils changeraient d`avis.

Je vais adhérer aux principes moraux et éthiques ainsi qu`à la politique et la pratique, en tant que stagiaire des recherches et un employé.

Pour des raisons d'anonymat et la confidentialité des noms des participants ne seront pas mentionnés dans les données et les résultats de la recherche, au lieu numéros seront utilisés. Les données recueillies seront utilisées à des fins de recherche uniquement.

Les avantages directs de cette étude pour l'école sont les suivantes :

• Les participants seront en mesure de s'exprimer sur leurs perceptions sur les besoins linguistiques des étudiants aviateurs

• Les résultats de cette recherche seront pris en compte dans la conception d'un programme d'études pour le développement en langue anglaise pour les étudiants aviateurs.

Les résultats de la recherche seront partagés avec les parties prenantes, et va ajouter à l'ensemble des connaissances existantes en matière d'éducation militaire et la formation au sens large aviation militaire spécifiquement

Dans l'attente de votre avis favorable, veuillez agréer, Monsieur, à l'expression de ma parfaite considération.

Cordialement

Fouzia Rouaghe

APPENDIX M

Series of interview questions to test the subjects' pronunciation and fluency:

1. What regulates the air law?

2. In case of bad weather, are you able to change your course of action without getting instructions from the tower?

3. Do you often encounter technical problems of transmission?

4. Which is more important to you, academic or training achievement? (this question is asked to student-pilots).

5. All in all, how do you evaluate your performance on board?

APPENDIX N
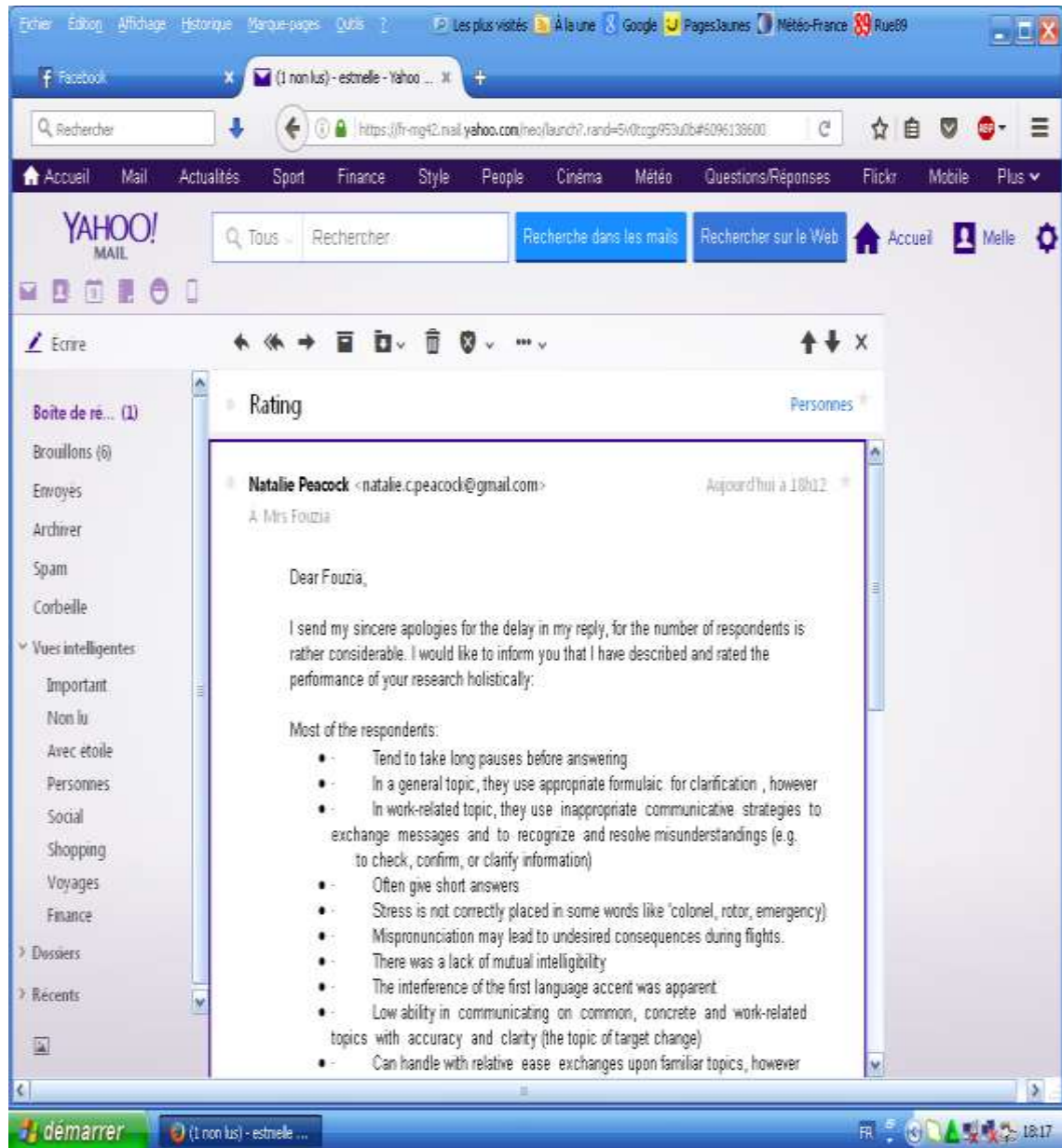
Role- Play Exercise

In this task, you are asked to simulate radiotelephony communication to explain to the ATC in English the following non-routine turn of events given in French: The scenarios are devised by me which include physical conditions, weather conditions and other technical conditions. Would you please let me know whether some of the following scenarios exist in the phraseology:

- ✓ Le co-pilote a eu une crise cardiaque. *(a sudden trauma of the co-pilot: a heart or panic attack).*

- ✓ Il y a de brouillard lors de l'atterrissage (*mist while landing*).

- ✓ Le rotor ne fonctionne plus (*rotor does not functio*n).

- ✓ Il y a plus de kerosene (*shortage of kerosene*).

- ✓ Le pilote voudrait vider le moteur (*empting the engine*).

- ✓ Fumée dense (*dense smoke*).

- ✓ Le co-pilote a eu une crampe (c*ramp*).

- ✓ Il y a de gros grains de grêlons (*thick Hail*).

- ✓ Une tempête de sable (s*andstorm*).

- ✓ La cible est cachée par une grande pierre (*target hidden by a huge rock*).

- ✓ On doit changer la direction à cause du vent fort (*change the course of action because of strong wind).*

APPENDIX O

Data Rating

APPENDIX P

Description of Common European Framework

The Common European Framework describes what a learner is supposed to be able to do in reading, listening, speaking and writing at each level:

Can understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type. Can introduce him/herself and others and can ask and answer questions about personal details such as where he/she lives, people he/she knows and things he/she has. Can interact in a simple way provided the other person talks slowly and clearly and is prepared to help.

Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need.

Can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise whilst travelling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of personal interest. Can describe experiences and events, dreams, hopes & ambitions and briefly give reasons and explanations for opinions and plans.

Can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialisation. Can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.

Can understand a wide range of demanding, longer texts, and recognise implicit meaning. Can express him/herself fluently and spontaneously without much obvious searching for expressions. Can use language flexibly and effectively for social, academic and professional purposes. Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organisational patterns, connectors and cohesive devices.

Can understand with ease virtually everything heard or read. Can summarise information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation. Can express him/herself spontaneously, very fluently and precisely, differentiating finer shades of meaning even in the most complex situations.

APPENDIX Q

Data Transcription- Trainers

Subject 1:

Question 1: would you let me know your age and rank?

I am 35, and I am colonel

Question 2: How many years of experience do you have for helicopter pilot position?

Almost 10 years of experience as co-pilot and pilot commander.

Question 3: How do you perceive the role of English in aviation?

Years ago, English was not a mandatory condition for the recruitment of the military personnel especially because most military operations were undertaken domestically during terrorism. However, starting from the mid-1990s, attention was shifted towards the importance of English in the military industry, in general, and aviation, in particular. Hands-on trainings during peace time do not require, to a great extent, English because local language and French can be sufficient for the training to be accomplished. Yet, in case of war and for other social purposes, aviation English and general English have become a must because during the war or foreign intrusion, general English cannot be avoidable. Phraseology may not be enough to describe particular situations.

Question 4. Do all aviation tasks require a language?

On board, everything inside helicopter should be mastered; I mean digits, figures, and manuals. How to get the helicopter started, flight theory studied in academic setting has to be practices for a good take-off. The second mandatory task is to have an effective communication with ATC for clearance before we take off. If ATC does not give the green light for any reason, we cannot fly the helicopter. In sum, aviation does require some kind of language, verbal, written or even in form of charts.

Probe: Then when communicating in English is imperative?

Travelling abroad for social purposes and during trainings we use English phraseology if ATC decides so.

Question 5: Which difficulties you usually face during your daily hands-on trainings?

Problems of technical transmissions

Question 6: Is English more important at wartime than at peace-time?

for air forces missions in regard domestic affairs like terrorism, plain English in addition to AE is hardly ever used, however, our main concern is the general English during trainings if the ATC addresses us in English or during war when we need to resort to English in case Algeria receives aides from African or foreign allies who certainly use English as a lingua franca either AE or plain English. As a country protector, I should have control over my aircraft as well as my linguistic knowledge".

Also, English is important in both situations; however, during peace or for domestic missions like fighting terrorism, we can use our local language or French for radio-communication. In war, we have to expect always the worst and we should be prepared technically and linguistically. That is, aviation skills are needed in addition to language skills, be it French or English in addition to standard Arabic.

Question 7: How would you behave during an emergency turn of events?

For technical problems we usually send digits to the tower which directs us how to solve the problem, either by landing, turning off the engine or leave the helicopter…etc. for example, 7700 means that the helicopter is high jacked, 7600, stands for problem of transmission, 7500 means problem of helicopter engine, 7000 means problem of language.

Question 8: Does phraseology suffice in case of non-routine situations?

At present, I mean in peace French or English phraseology can do in most cases, yet we do not rely on it completely. The Ministry of Defence now recognises the importance of

General English for pilots, either civilian or military and this is why we were went on training to the UK for general English course and Aviation practice.

Prompt: Also, in wartime, how do you communicate with other foreign pilots and ATC?

Answer: if pilots and ATCs share the same first language as ours, we may use standard Arabic or we switch code to French. In case of native speakers or other non-native speakers, international English is compulsory either concerning phraseology or emergency events.

Question 9: Which language skills you think you need to improve most?

Well, all skills are important, but on board listening and speaking are more prioritised especially in case of domestic crisis or a prospective war.

Probe: Among these components; phonetics, grammar or vocabulary, which is more a prerequisite in military aviation?

If I rate the importance of those areas, Vocabulary and phonetics outshine grammar especially in radio telephony, however in reading and writing grammar is vital to know.

Subject 2:

Question 1: Would you let me know your age and rank?

I am 42 and I am commander

Question 2: How many years of experience do you have for helicopter pilot position?

About 15 years.

Question 3: How do you perceive the role of English in aviation?

You know, due to globalisation, English has become the language of everything including technology, trade, and even football. Once someone leaves Algeria, the language he should master after Arabic must be English even if in a francophone country. This is what I

noticed when I went to France for a training. French pilots and ATCs use English more that French phraseology and they also take AE courses for a better course of action.

Question 4: Do all aviation tasks require a language?

in addition to our ability to fly a helicopter and overcome technical problems we might encounter; radio communication forms the major endeavour of the pilot on board. Every mission, either during trainings or in case of war relies heavily on radiotelephony, and thus effective and successful conversations between pilot-pilot and pilot-ATC is essential regardless of the language used in this communication. The good choice of words and the ability to well listen to instruction are half duty in addition to good transmitting techniques of course.

Question 5: Which difficulties you usually face during your daily hands-on trainings?

When co-pilots (trainees) commit technical mistakes on board or cannot transmit message clearly to ATC.

Probe: and language problems?

We do not use technical English or plain English unless we agree with the ATC or other pilots. We also pretend in a simulation to expect emergency situations and try to overcome them with our co-pilots or ATC.

Question 6: Is English more important at wartime than at peace-time?

I guess it is more important in war, we can't fully predict what will be required when it comes to language. We may receive foreign allies with whom we do not share the same first language or if we share it we can't use our local language. In this case, I presume we

should use English. And please note that in peace time we also receive students from other African and Asian countries. Trainings usually take place in English.

Question 7: How would you behave during an emergency turn of events?

In simulation trainings generally we expect every emergency situation we may face and which require sending signals like numbers to the tower or express it verbally either in our language or in English.

Question 8: Does phraseology suffice in case of non-routine situations?

ICAO tries from time to time to provide international requirements and phraseologies that may cover most emergency cases, however with the development in technology, aircraft and weapons restricted list of phraseology may be insufficient.

Probe: Can you predict some examples?

In case of spying, English should be mastered to understand what the enemy is planning for instance. Also, kidnapping, held hostage, discussing safety issues with foreigners and understanding military speech…etc.

Question 9: Which language skills you think you need to improve most?

For me, listening is the most important skill, one-way listening is the skill that I do not master very well. I feel frustrated when I cannot understand an English native speaker in ordinary circumstances and I cannot imagine my performance if I will be put in this awkward situation if the country is in war. When we were on a training in the UK, our tutor advised us to learn how to listen and speak in the same way we listen and speak our mother tongue

APPENDIX R

Data Transcription 1 –Trainee-pilots

Subject 1:

1. Do you believe that the restricted English phraseology suffices in case of prospective extraordinary situations?

2. Are you able to improvise and describe an emergency situation in plain English?

3. If you are offered a language course, which language skill or component you desire to improve?

Question 1: How old are you?

I am 24 years old.

Question 2: Do you need English in your studies?

English is essential for the success at the academic year such as reading the latest aviation documents, understanding exam questions, reading aviation documents and understanding instructions. Additionally, English is imperative in our trainings on board which form a great amount of our practical course.

Question3. How do you perceive the role of English in practicing aviation tasks?

French and English are very important in aviation. For English, there are some manuals we have to understand in order to fly helicopter or fix some breakdowns. And of course in radio communication, English is also used especially if ATC addresses us in this language for the sake of our r performance evaluation.

Question4. Which English language skills you need most?

All language skills are important, but for our theoretical studies, reading is needed for a better achievement in academic studies. But in our practical trainings, English is not required a lot but we have to practice it in case of crisis.

Question5. How do you evaluate your performance in language-requiring tasks?

The inadequate command in English has hindered our ability to be acquainted with the latest requirements of the international aviation like reading detailed aviation-related documents or lengthy instructions on manuals of recent obtained aircrafts. I believe that the lack of expertise in English was one of the major reasons for weak research area in aviation studies as well.

Question 6: Are you able to improvise and describe an emergency situation in plain English?

There are some emergency situations described in the English phraseology, during trainings, we practice them from time to time, but other situations not covered by the phraseology I think I'm not completely proficient like civilian pilots. 'I can manage'.

Subject 2:

Question 1: How old are you?

I am almost 26.

Question 2: Do you need English in your studies?

as a student, my academic achievement is as important as my hands-on training accomplishment. We are required to apply aviation theory on board, but for English language communication, we are in need of more practice on how to attain an effective communication especially in unexpected cases when phraseology we took in class does not serve. For me, good shooting is similar to good communication

Question3. How do you perceive the role of English in practicing aviation tasks?

If all the pilots and ATC are Algerians, we do not need English for radio communication. However, with other foreigners I suppose listening and speaking will be the most useful skills. I agree, even in using phraseology, listening is important in war-time for a better understanding, because every second counts. We may use phraseology either in French or

in English but if with foreigners; we will have to use English. I presume speaking is important especially in new events that may happen during war. We do not rely too much on phraseology even in peace-time, we can recognize the importance of general English, and this is why we are working on ourselves to improve our comprehension.

Question 4: Which English language skills you need most?

terminology is learnt in Aviation English unit but no course is fully devoted to daily life English communication which ICAO requires civilian pilots to have. I think that English we are studying and we studied before was basically dealing with language rules and grammatical structures and ignores most of the time the implementation of those rules in real life situations which is the ultimate aim of any language like French.

Question 5: How do you evaluate your performance in language-requiring tasks?

: in Aeronautic English, I am quite good. when it comes to English used at work, my level is average. I need to develop the general English skills. In training, I generally do well when tasks require English, but in a natural conversation I just cannot carry on for long.

Probe: Why is natural English needed?

The purpose of every language is communication, either speaking or writing as well, mastering a restricted language does not guarantee our ability to carry out tasks that entail General English especially during the war, everything is expected.

Question 6: Are you able to improvise and describe an emergency situation in plain English?

Somehow.

Probe: like civilian pilots may do?

Civilian pilots are required to have at least level 4, and some of them have level 5. They are much more proficient than us because they travel and land in many foreign countries where English should be used as lingua franca.