

**ARMY POLYTECHNIC SCHOOL  
DEPARTMENT OF LANGUAGES**

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**APPLIED LINGUISTICS IN ENGLISH PROGRAM**

**TITLE:**

**INCIDENCE OF A NEW PROPOSAL SYLLABUS FOR TEACHING  
AERONAUTICAL PHRASEOLOGY IN ENGLISH AT “CAP.  
FERNANDO VASCONEZ” ARMY AVIATION SCHOOL FOR  
XXIX BASIC PILOTS COURSE 2006.**

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**QUITO – ECUADOR**

# **LEGAL FOUNDATION**

**ARMY POLITECHNIC SCHOOL "E.S.P.E."  
SCHOOL OF LANGUAGES**

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## **O F I C I O**

FECHA: 05- MAYO-2006

PARA: Escuela de Aviación del Ejército "Capt. Fernando Vásquez"

Por medio del presente nos permitimos saludarles muy atentamente a la vez desearles el mayor de los éxitos en sus actividades diarias.

Como egresados de La Facultad de licenciatura en Lingüística Aplicada al Idioma Inglés nos hallamos realizando la tesis, que constituye el requisito final para obtener el título del Licenciados en Lingüística Aplicada al Inglés.

Para tal efecto, realizaremos un proyecto completo de enseñanza de la asignatura "Fraseología Aeronáutica en Inglés"; teniendo en cuenta que esta materia es sumamente importante tanto en la formación como en el desempeño profesional de todo piloto, deseamos conocer cómo se encuentra estructurado este programa en su prestigioso instituto, a la vez que esta información nos permitirá ajustar y refinar todos los detalles para crear un programa completo para al enseñanza de dicha materia.

Por esta razón, nos permitimos solicitar de la manera más comedida se digne autorizarnos para realizar una entrevista con el personal de pilotos alumnos, pilotos graduados y personal encargado del área de entrenamiento e instrucción, con el propósito de recabar información relacionada con este aspecto. Cabe recalcar que dicha información será manejada con la mayor discreción y será utilizada únicamente para el propósito académico que nos interesa. Además nos comprometemos a que una vez finalizado y aprobado el proyecto le haremos llegar una copia del mismo para que si ustedes tienen a bien lo apliquen en el entrenamiento de sus alumnos.

Seguros de contar con una acogida favorable a nuestro pedido e insistiendo una vez más que dicha información sólo será empleada para fines académicos le anticipamos nuestro más sincero agradecimiento.

Atentamente,

VERONICA ARMAS

JOHNNY TIPAN TROYA

*El Ecuador ha sido es y será*

**“País Amazónico”**



**ESCUELA DE AVIACIÓN DEL EJÉRCITO  
“CAPT. FERNANDO VÁSCONEZ”**

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**Señor: MAYO. DE A.E. PLTO.  
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**Presente.-**

**Asunto: Autorización.**

En referencia a la solicitud presentada a este Instituto por parte de la Srta. Verónica Armas Miranda y Johnny Tipán Troya, egresados de la ESPE facultad de Lingüística Aplicada al Inglés, esta Dirección autoriza a los mencionados a llevar a cabo la investigación a cerca de la materia de Fraseología Aeronáutica en Inglés en este instituto.

Para lo cual se darán las facilidades respectivas y se prestará el apoyo necesario a fin de que dicha investigación no solo satisfaga las expectativas de su trabajo investigativo sino que también sirva y se revierta en beneficio de la Escuela de Aviación del Ejército, institución empeñada siempre en mejorar y aplicar nuevas herramientas que permitan garantizar la formación integral de nuestros pilotos.

**EL DIRECTOR DE LA ESAE “CAPT. FERNANDO VASCONEZ”**

**MILTON CORONEL NOBOA  
MAYO. DE A.E. PLTO.**

## *ACKNOWLEDGMENTS*

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*We also wish to acknowledge the faith, advice and encouragement of our thesis directors: Msc. Lilian Avalos and Dr. Oswaldo Villa, without them, this work would not have seen the light of the day.*

## DEDICATORY

*To my lovely wife Marcia, To Sebas, my first- born (no doubt a future pilot) and to my mom somewhere up there for their support, encouragement and love.*

*Johnny*

*To my dear parents, who gave me the love and support to get my achievements in my life. To my brothers Georgi, Tania and Mauricio for their encouragement to have this work done.*

*Verónica*

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## **BRIEF SUMMARY OF THE WORK**

Creation of a Syllabus for teaching Aeronautical Phraseology in English at “Cap.Fernando Váscónez” Army Aviation School for XXIX Basic Pilots Course 2006 to include:

- **Planning Area** : unit plans, lesson plans.
  
- **Support Area**: text book to include class drills, instructional aids, Computer Based Training (CBT) with real material examples and other CBT with examples applied specifically to Army Pilot School requirements.
  
- **Evaluation Area**: communication skills tests.

All the material previously mentioned will be actually applied during XXIX Pilots Course to be effective on 2006. Besides it will be available to be implemented in any other similar institution whether civilian or military interested in it.

This work is oriented and includes a reference to theoretical material about English for Specific Purposes (ESP), a description about Communicative Language Teaching (CLT) and a final reference to testing strategies focused on speaking and listening skills.

At the very end of the document there is a glossary of terms intended to familiarize any person with aviation technical English.

Also attached in annexes there are all the materials produced during this process and that will be actually used in order to test the hypothesis as well as to train next courses at Army Aviation School.

## **INTRODUCTION**

Differences in the use of ICAO (International Civil Aviation Organization) phraseology in some countries complicate understanding; especially to pilots whose English is an acquired language. United States and Canada form a region where such differences are mostly noticeable.

Effective communication starts with the knowledge and respect of ATC procedures and aircraft performance data. Effective radio communication abroad also requires proficiency in general English. A well-known saying “Seeing once is better than hearing twice” gives the worst fit when it concerns radiotelephony phraseology. While preparing for flights in the North America and looking through materials that were at hand, there was no expectation of a bolt from the blue. But the first landing at Gander, followed by Ottawa, Toronto, Boston, New York, Chicago, Andrews and McGuire Air Force Bases, have made it clear that what was read by eyes in a book was rather difficult for ears to hear.

A deeper study of American aviation regulations has shown that radio communication over the US was a trouble not only to the crews, but also to American regulating authorities and aviation industry. In the fall of 1988 the FAA (Federal Aviation Administration) and airlines called for a joint action to improve communications between pilots and controllers.

Today, 18 years after this call, let's try to look into the real radio communication in the US and find out its differences from the one used in Europe and South America. Distinctions could be divided into three groups – language, phraseology, and procedures.

## **Language**

Frequency congestion is the first encounter. It is not easy to find a gap in the communication flow, so fluency is also high. The rate of speech of American ATCOs (Air Traffic Controllers) is much higher than 100 words per minute recommended by ICAO. Add unaccustomed accent, and you will realize the stress on the crew.

It is also worth mentioning that you may hear a joke in the air, as well as heaps of phrases that are not included into Thomas S. Mills' book *"The Pilot's Reference to ATC Procedures and Phraseology"*. As this relates not only to pilots but also controllers, there are quite a few situations when the captain turns his head to the first officer, the first officer turns his head to the captain and they simultaneously ask each other: "What did he say?"

## **Phraseology**

When ear gets used to the communication machine-gun fire you start to realize that controllers speak to "strangers" slower than to "friends", and stick to phraseology to a greater extent. But you may face pitfalls even in phrases that are 100 per cent clear. Starting with the easiest – pronunciation of numerals, namely, absence of "zeroes" when transmitting runway numbers: "Runway 7" instead of "Runway 07". As all Ground controlling units use the 121 MHz band, you may hear "Contact Ground on 75", which actually means 121.75.

Miles are always nautical (1852 m), and only referring visibility they become statute (1609 m). When receiving pressure values for landing instead of habitual "QNH" you will hear

“altimeter” followed by a four-digit measurement in inches up to their hundredth, e.g.: “Altimeter 2987” which means “QNH 29.87 inches”.

There are some differences in lexis as well. Instead of pronouncing a fraction bar (/) as “slash” or “diagonal”, frequently heard in Europe, the word “slant” is used. “If practicable” sounds as “if able”, and “delay not determined” as “delay indefinite”. “Climb and maintain eight thousand” goes instead of “Climb eight thousand”. Besides “expect” the word “anticipate” may be used (“Anticipate additional 20 minutes delay”). Along with “contact” in some phrases “change to” is used (“Change to departure”, “Change to my frequency...”), and “If practical, reduce speed to...” adjoins “If feasible, reduce speed to...”

When the controller advises you of another traffic, to describe its path he uses words “closing”, “converging”, “parallel same direction”, “opposite direction”, “diverging”, “overtaking”, “crossing left to right”, “crossing right to left”. Pilots acknowledge traffic advisories, depending on the situation, with the following words: “looking”, “in sight” “traffic in sight” or “negative contact”. If the pilot does not observe the conflicting traffic, then the controller (after the radar blips pass by) would prompt: “Traffic no factor”.

While in Europe for entering the runway before take-off you will be instructed to “Line up and wait runway 12”, in the US the phrase will sound as “Taxi into position and hold runway 12”. Instead of “How do you read me” the controller will be interested “How do you hear me”? When a holding pattern to be flown is published in aeronautical handbooks, you will be told: “Hold as published”.

Some unusual phrases with a usual word “maintain”: “Maintain maximum forward speed”, “Maintain slowest practical speed”, “Maintain 180 knots or greater”. In the US preposition “for” is absent in approach clearances: “Cleared ILS runway one one approach”. Besides, in landing clearances first the runway number is indicated: “Runway one six right, cleared to

land". In Canada, there is a beloved phrase: "Proceed direct ABC on course", which in reality means "Proceed direct ABC, then according to your flight planned route".

## **Procedures**

A certain difficulty crops up with phrases that sound the same way as recommended by ICAO, but imply a pilot's response that differs from the one customary to the Old World.

For example, you are requesting taxi instructions at an airdrome with several runways and you hear the controller saying: "Taxi to runway 1 left". Such instruction involves a clearance to cross any runway on the route of taxiing.

On an approach for landing in excellent visibility you observe several aircraft ahead approaching the same runway, but you will receive controller's clearance: "Runway 13 right, cleared to land". But when you hear "Fly runway heading", you should fly the heading of the runway without drift correction, i.e. if the magnetic heading of the runway centreline is 044, fly 044.

It would seem to the naive that this is a major problem only for American or foreign pilots but we must not forget that we are also immerse in this world, because we have international airports and many foreign aircrafts flying in the same airspace that we – national pilots - are flying. Airplane and Helicopter pilot's – even in our country – face almost daily the need to know and use Aeronautical phraseology in English. Even if they are not flying overseas, there is a lot of international aircrafts arriving and departing from our international airports, taking part in approach, landing and take off maneuvers who maintain communications using aeronautical phraseology in English.

We - as an integral part of that aeronautical traffic – need to understand what they are saying if we are to perform our flights safely. Sometimes air controllers due to the high work load can make mistakes and give incorrect instructions to the airplanes flying in a specific area,

and then we need to pay attention and more than that to be able to understand what they are saying and act in consequence.

These facts probably resume the importance of Aeronautical Phraseology in English currently, even in our country where the official language is Spanish; we need to remember that English is “The Official” language of worldwide aviation.

## **RESEARCH THEME**

**“ INCIDENCE OF A NEW PROPOSAL SYLLABUS FOR TEACHING  
AERONAUTICAL PHRASEOLOGY IN ENGLISH AT “CAP. FERNANDO  
VASCONEZ” ARMY AVIATION SCHOOL FOR XXIX BASIC PILOTS  
COURSE 2006.”**

# **CHAPTER I**

## **RESEARCH PROBLEM**

### **1.1. Problem identification**

Unfortunately most – if not all – the schools where initial pilots are trained don't teach Aeronautical Phraseology in English; most of them just deal with this fact as a part of the teaching process of this subject in Spanish. In other words they teach Aeronautical phraseology in Spanish and occasionally and in a very brief way – normally at will of the teacher – they only talk about Aeronautical phraseology in English, they don't evaluate the learning and they do not have any standardized material to teach it. Being this, a critical aspect during his professional career, it should be paid much more attention to this subject during their initial training.

In most of the cases the pretended “vast experience” of the teachers determines that they do not create a formal lesson plan to follow a logical sequence in the teaching process of this particular subject. In the specific case of aeronautical phraseology in English this problem is much more evident because this aspect is not established as

a formal subject; then the teachers usually instruct their students according to their point of view.

Almost as important as the syllabus itself, it is the creation of instructional aids that allow a better grasp of the instruction. We found no standardized instructional aids; in most of the cases the students get their own aids through internet, computer programs like simulators, games, tapes, etc. On the other hand some teachers in their intent to improve the knowledge assimilation use their own particular aids. Because of this, there is the need to create specific instructional aids according to the syllabus to be followed and at the same time to standardized them in order to teach in “the same way” to every course and if possible in every basic training school.

One of the essential materials that the students have in order to follow the syllabus and reinforce what they have learned in class is the text book. During our investigation we found no text book to be followed by the students, instead of it there was a wide variety of sources that provide the theoretical knowledge determining that every course use different materials with the risk to get totally different goals and the possibility that at the end of the course the students acquire different levels of knowledge.

Finally, as a consequence of the previous problems mentioned, the evaluation process lacks of standardized tools to correctly evaluate student’s performance, especially if we consider that evaluation of listening and speaking skills is the most challenging tasks to be performed by the teachers. There is not an accurate perception of the real assimilation of the knowledge by the students. If we keep in mind that aeronautical phraseology is a subject mainly based on listening and speaking; evaluation tools at this point must focus on determining the student’s proficiency in these two critical skills.



## 1.2. Problem setting

As in many other fields, English Language represents the leading one. In a globalized world there is always a trend to use one language as a universal or standardized language. English is for long, the most used language around the world and the leading edge publications in technology, science, culture, sports, etc. are written and published in English.

General aviation as one of those fields around the world use English as an official language in countries where international airports exist, these airports due to its classification, control aircrafts from all over the world. In our specific case, here in Ecuador we have the following International airports:

- “Mariscal Sucre” in Quito
- “Simón Bolívar” in Guayaquil
- “Eloy Alfaro” in Manta
- “Cotopaxi” in Latacunga.

As a consequence, civil and military aviators are faced everyday with the need to use English while performing their particular duties, not only international pilots ATP (Air Transport Pilots), but every pilot that considered himself as a real professional in this field and who is committed with keeping the safety standards very high in order to avoid accidents that unfortunately most of the times cost the life of innocent people.

Any flight overseas implies that the aeronautical communications will be established and maintained using aeronautical phraseology in English. In our country many

airports have designed some days during the week where the communications should be maintained in English as means of practice not only for pilots but for air controllers.

These facts allow us to realize how important aeronautical communications in English are, especially in a globalized world as the one, we are living in today.

### 1.3. Variables working out

VARIABLE	CONCEPT	DIMENSION	SUB DIMENSIONS
<b>Independent:</b>  Syllabus	A programme, a document which says what will or at least what should be learned.  Obviously what will be learned passes through several different stages before it reaches destinations in the mind of the learner.	General  English for Specific Purposes (E.S.P.)	
VARIABLE	CONCEPT	DIMENSION	SUB DIMENSIONS
<b>Dependent:</b>  Academic achievement	Numerical data represented by the media (average) of the individual results reached by the students sample in the diagnosis as well as the evaluation tests.	High  Average  Low	90% – 100%  80% – 89%  < 80%

### 1.3. Objectives

#### 1.3.1. General Objectives

- To diagnose the existence of a syllabus for teaching aeronautical phraseology in English at Army pilot's school.
- To analyze the academic achievement in aeronautical phraseology in English reached by students at Army pilot's school before syllabus application and based on a general English doctrine.
- To study the level of incidence of an ESP based syllabus for teaching aeronautical phraseology in English with the scores reached by students after syllabus application.

### **1.3.2. Specific Objectives**

- To group the scores into the corresponding levels of proficiency: high, average and low.
- To investigate the incidence of general English based syllabus for teaching aeronautical phraseology in English in a low academic achievement specifically at Army Pilots School for XXIX basic pilot's course 2006.
- To analyze the incidence of English for Specific Purposes based syllabus for teaching aeronautical phraseology in English with a high academic achievement specifically at Army Pilots School for XXIX basic pilot's course 2006.

### **1.4. Justification**

During worldwide aerial operations -no matter the country- the official language to be used in aeronautical communications is English; as an example in the South American region where Spanish is the official language, people working in the aviation field must master the technical English phraseology to develop their duties with the level of safety require for this type of operations.

In the Ecuadorian air space there is a lot of international traffic flying and maintaining communication in English. It is easy to anticipate the problems of having numerous aircraft flying in the same area and using two languages in their communications; the risk of an eventual accident increase even more if we assume that one of the involved elements do not understand the communications maintained in English.

It's necessary to consider also that initial pilots ought to be trained in an integral basis, meaning that they must learn and master from the very beginning a key aspect as aeronautical phraseology in English is.

As a summary, if English is the leading language around the world, especially in the general aviation field, if the lack of knowledge or the inappropriate teaching of the aeronautical phraseology can lead us to make critical mistakes that would result in the loss of human lives and highly expensive materials and if our pilots have to be trained with the highest standards; then, we suggest that teaching of aeronautical phraseology in English must be compulsory at initial pilot's schools and by it, our project is intended to help in solving this problem by providing a syllabus to teach "Aeronautical Phraseology in English" with all the materials required to apply it at "CAP. FERNANDO VASCONEZ" ARMY AVIATION SCHOOL.

## **CHAPTER II**

### **THEORETICAL FRAME**

#### **2.1. Theoretical and Conceptual Focus**

##### **SECTION 1**

##### **TECHNIQUES IN LANGUAGE TEACHING**

###### **Communicative Language Teaching (CLT)**

In the 1970s educators began to question if they were going about teaching in the right way. Some observed that students could produce sentences accurately in a lesson, but could not use them appropriately when genuinely communicating outside of the classroom. Being able to communicate seem to require more than mastering linguistic structures. Students may know the rules of linguistic usage, but be unable to use the language<sup>1</sup>. It became clear that communication require that students perform certain functions as well, such as promising, inviting and declining invitation within social context <sup>2</sup>. In short, being able to communicate required more than linguistic competence; it required communicative competence <sup>3</sup>, knowing when and how to say what to whom. Such observations contributed to a shift in the field in the late 1970s and early 1980s from a linguistic structures-centered approach to a communicative approach.

Communicative language teaching aims broadly to apply the theoretical perspective of the communicative approach by making communicative competence the goal of language teaching and by acknowledging the interdependence of language and communication. What this looks like in the classroom may depend on how the tenets are interpreted and applied.

There are important principles underlying this method:

- Whenever possible “authentic language”, language as it is used in a real context – should be introduced.
- Being able to figure out the speaker’s intentions is part of being communicatively competent.
- The target language is a vehicle for classroom communication, not just the object of study.
- One function can have many different linguistic forms. Since the focus of the course is on real language use, a variety of linguistic forms are presented together. The emphasis is on the process of communication rather than just mastery of language forms.
- Students should work with language at the discourse or suprasentential level. They must learn about cohesion and coherence, those properties of language which bind the sentences together.
- Games or situations are important because they have certain features in common with real communicative events – there is a purpose to the exchange. Also, the speaker receives immediate feedback from the listener on whether or not he or she has successfully communicated. In this way they can negotiate meaning.

Having students work in small groups maximizes the amount of communicative practice they receive.

- Students should be given an opportunity to express their ideas and opinions.
- Errors are tolerated and seen as a natural outcome of the development of communication skills.
- One of the teacher's major responsibilities is to establish situations likely to promote communication.
- Communicative interaction encourages cooperative relationships among students. It gives students an opportunity to work on negotiating meaning.
- The social context of the communicative event is essential in giving meaning to the utterances.
- Learning to use language forms appropriately is an important part of communicative competence.
- The teacher acts as a facilitator in setting up communicative activities and as an advisor during activities.
- In communicating, a speaker has a choice not only about what to say but also how to say it.
- The grammar and vocabulary that the students learn follow from the function, situational context and the roles of the interlocutor.
- Students should be given opportunities to listen to language as it is used in authentic communication. They may be coached on strategies for how to improve their comprehension.

### **Goals when using CLT**

The goals of teaching using this method are to enable students to communicate in the target language. To do this, students need knowledge of the linguistic forms,

meanings and functions. They need to know that many different forms can be used to perform a function and also that a single form can often serve a variety of functions. They must be able to choose from among these the most appropriate form, given the social context and the needs of their interlocutors.

They must also be able to manage a process of negotiating meaning with their interlocutors. Communication is a process; knowledge of the forms of language is insufficient.

### **Role of teachers and students**

The role of the teacher in this method is to facilitate communication in the classroom; one of his major responsibilities is to establish situations likely to promote communication. During the activities he acts as an advisor answering the student's questions and monitoring their performance. He might make note of the errors to be worked on at a later time during more accuracy based activities. At other times he may be a co-communicator engaging the communicative activity along with students.

Students are, above all, communicators. They are actively engaged in negotiating meaning, in trying to make themselves understood and in understanding others even when their knowledge of the target language is incomplete. Also, seems the teacher's role is less dominant than in a teacher-centered method, the students are seen as more responsible managers of their own learning.

### **Characteristics of teaching-learning process**



The most obvious characteristic of CLT is that almost everything that is done is done with the communicative intent. Students use the language a great deal through communicative activities such as games, role plays and problem solving tasks.

Activities that are truly communicative have three features in common:

- Information gap
- Choice
- Feedback.

An information gap exists when one person in an exchange knows something the other person does not.

In communication the speaker has a choice of what they will say and how they will say it. If the exercise is tightly controlled so that the students can only say something in one way, the speaker has no choice and the exchange, therefore is not communicative. Through purposeful communication a speaker can thus evaluate whether or not its purpose has been achieved based upon the information he/she receives from his listener. If the listener does not have an opportunity to provide the speaker with such feedback, the exchange is not really communicative. Forming questions through a transformation drill may be a worthwhile activity, but it is not in keeping with CLT since a speaker will receive no response from a listener, so is unable to assess whether her/his question have been understood or not.

Another characteristic of CLT is the use of authentic materials. It is considered desirable to give students an opportunity to develop strategies for understanding language as it is actually used. Activities in CLT are often carried out by students in

small groups. Small numbers of students interacting are favored in order to maximize the time allotted to each student for communicating.

### **Interaction**

There are also some features about student-teacher and student-student interaction that must be considered. The teacher may present some part of the lesson, such as when working with linguistic accuracy. At other times, he is the facilitator of the activities, but he does not always himself interact with the students. Sometimes he is a co-communicator, but more often he establishes situations that prompt communication between and among the students. Students interact a great deal with one another. They do this in various configurations: pairs, triads, small groups and whole group.

### **Student's feelings**

One of the basic assumptions of CLT is that by learning to communicate students will be more motivated to study a foreign language since they will feel they are learning to do something useful with the language. Also, teachers give students an opportunity to express their individuality by having them share their ideas and opinions on a regular basis. Besides students security is enhanced by the many opportunities for cooperative interactions with their fellow students and the teacher.

### **Vision of language**

In this method language is viewed as a tool for communication. Linguistic competence, the knowledge of forms and their meanings, is just one part of communicative competence. Another aspect of communicative competence is

knowledge of functions language is used for. A variety of forms can be used to accomplish a single function. A speaker can make a prediction by saying, for example: “it may rain”, or “perhaps it will rain”. Conversely, the same form of the language can be used for a variety of functions. “May” for instance, can be used to make a prediction or to give permission (you may sit in the back). Thus, learners need knowledge of forms and meanings and functions. However they must also use this knowledge and take into consideration the social situation in order to convey their intended meaning appropriately. A speaker can speak permission using “may” (May I have a piece of fruit?); however if the speaker perceives the listener as being more of a social equal or the situation as being informal, he or she would more likely use “can” to seek permission (Can I have a piece of fruit?).

### **Role of the student’s native language**

Judicious use of student’s native language is permitted in CLT. However when possible, the target language should be used not only during communicative activities, but also for explaining the activities to the students or in assigning homework. The students learn from these classroom management exchanges, too, and realize that the target language is a vehicle for communication, not just an object to be studied.

### **Evaluation**

A teacher evaluates not only student’s accuracy but also their fluency. The student who has the most control of the structures and vocabulary is not always the best communicator. A teacher can informally evaluate his student’s performance in his role as an adviser or co-communicator. For more formal -evaluation, a teacher is likely to use an integrative test which has a real communicative function.

## **Student Errors**

Errors of form are tolerated during fluency-based activities and are seen as natural outcome of the development of communication skills. Students can have limited linguistic knowledge and still be successful communicators. The teacher may note the errors during fluency activities and return to them later with an accuracy-based activity.

## **CLT TECHNIQUES AND MATERIALS**

### **Authentic Materials**

To overcome the typical problem that students cannot transfer what they learned in the classroom to the outside world and to expose students to natural language in a variety of situations, adherents of CLT advocate the use of language materials authentic to native speakers of the target language. For students with lower proficiency in the target language it may not be possible to use advanced language materials. More accessible materials, or at least once that are realistic, are most desirable.

### **Role Play**

Role plays are very important in CLT because they give students an opportunity to practice communicating in different social contexts and in different social role plays. Role plays can be set up so that they are very structured (for example, a teacher tells the students who they are and what they should say) or in a less structured way (for example, the teacher tells the students who they are, what the situation is and what they are talking about, but the students determine what they will say). The latter is

more in keeping with CLT, of course, because it gives the students more of a choice. Notice that role plays structured like this also provides information gaps since students cannot be sure ( as with most forms of communication) what the other person or people will say ( there is a natural unpredictability). Students also receive feedback on whether or not they have effectively communicated.

## **Conclusion**

Perhaps the greatest contribution of CLT is asking teachers to look closely at what is involved in communication. If teachers intend students to use the target language, then they must truly understand all that being communicatively competent entails.

**References:**

<sup>1</sup> Widdowson 1978

<sup>2</sup> Wilkins 1976

<sup>3</sup> Hymes 1971

**SECTION 2****ENGLISH FOR SPECIFIC PURPOSES ( E. S. P.)****What is ESP?**

To answer this question fully, we need first of all to establish a context which will help us to see how ESP at the present time relates to the rest of ELT (English Language Teaching). What exactly is the status of the citizens of ESP and its satellite settlements in relation to the general world of ELT.

We shall represent the relationship in the form of a tree. The tree represents some of the common divisions that are made in ELT. The topmost branches of the tree show the level at which individual ESP courses occur. The branches just below this level indicate that these may conveniently be divided into two main types of ESP differentiated according to whether the learner requires English for academic study (EAP: English for academic purposes) or for work / training (EOP / EVP / VESL: English for occupational purpose / English for Vocational Purposes / Vocational English as a second Language). This is of course not a clear-cut distinction: people can work and study simultaneously; it is also likely that in many cases the language

learned for immediate use in a study environment will be used later when the student takes up, or returns to a job.

At the next level down it is possible to distinguish ESP courses by the general nature of the learner's specialism. Three large categories are usually identified here: EST (English for Science and Technology), EBE (English for Business and Economics), and ESS (English for the Social Sciences). This last is not common, probably because it is not thought to differ significantly from more traditional humanities-based General English.

As we go down the tree, we can see that ESP is just one branch of EFL / ESL which are themselves the main branches of English Language Teaching in general. ELT, in turn is one variety of many possible kinds of language teaching. But of course there is more to a tree than is visible above ground: a tree cannot survive without roots. The roots which nourish the tree of ELT are communication and learning. The analogy of a tree can help us to get a bit closer to a definition of ESP not so much by showing what ESP is, but rather by showing what ESP isn't:

- ESP is not a matter of teaching "specialised varieties" of English. The fact that language is used for a specific purpose does not imply that it is a special form of the language, different in kind from other forms. Certainly there are some features which can be identified as "typical" of a particular context of use and which therefore, the learner is more likely to meet in the target situation. But these differences should not be allowed to obscure the far larger area of common ground that underlies all English use, as indeed, all language use.
- ESP is not just a matter of Science words and grammar for scientists, Hotel words and grammar for hotel staff and so on. When we look at a tree, we see the leaves

and branches, but there is much more to the tree than just these – much of it hidden from view inside and beneath the tree. The leaves do not just hang in the air: they are supported by a complex underlying structure. In the same way there is much more to communication than just the surface features that we read and hear. We need to distinguish between performance and competence that is between what people actually do with the language and the range of knowledge and abilities which enables them to do it.

- ESP is not different in kind from any other form of language teaching, in that it should be based in the first instance on principles of effective and efficient learning. Though the content of learning may vary, there is no reason to suppose that the processes of learning should be any different for the ESP learner than for the General English learner. There is in other words, no such thing as an ESP methodology, merely methodologies that have been applied in ESP classrooms, but could just as well have been used in the learning of any kind of English.

So what is ESP? Having stressed the commonality of language and learning, how does ESP differ from other forms of ELT? To answer this, ESP must be seen as an approach not as a product. ESP is not a particular kind of language or methodology, nor does it consist of a particular type of teaching material. Understood properly, it is an approach to language learning, which is based on learner need. The foundation of all ESP is the simple question: Why does learner need to learn a foreign language? From this question will flow a whole host of further questions, some of which will relate to the learners themselves, some to the nature of the language the learners will need to operate, some to the given learning context. But this whole analysis derives from an initial identified need on the part of the learner to learn a language. ESP, then, is an approach to language teaching in which all decisions as to content and method are based on the learner's reason for learning.



## **A Learning-Centred Approach**

In outlining the origins of ESP we identified three forces, which we might characterise as need, new ideas about language and new ideas about learning. It should become clear that in its subsequent development, however, scant attention has been paid to the last of these forces – learning. All of the stages outlined so far have been fundamentally flawed, in that they are all based on descriptions of language use. Whether this description is of surface forms, as in the case of register analysis, or of underlying processes, as in the skills and strategies approach, the concern in each case is with describing what people do with language. But our concern in ESP is not with language use – although this will help to define the course objectives. Our concern is with language learning. We cannot simply assume that describing and exemplifying what people do with language will enable someone to learn it. If that were so, we would need to do no more than read a grammar book and a dictionary in order to learn a language. A truly valid approach to ESP must be based on an understanding of the processes of language learning.

This brings us to the fifth stage of ESP development – the learning-centred approach. The importance of the implications of the distinction that we have made between language use and language learning will hopefully become clear.

## **THEORIES OF LEARNING**

### **A Model for learning**

In the following lines we will present a model of the learning process, which will provide a practical source of reference for the ESP teacher and course designer.

First, picture the mind as a network of connections, rather like a road map. The individual houses, towns and villages represent items or bundles of knowledge. These various settlements however are only useful if they are connected to the main network by roads. The mind of the learner is like a development agency. It wants to bring the settlements into the network and so develop their potential. To achieve this, communication links must be established. But, as with any communications network, links can only be established from existing links. In figure for example, town X is unlikely to be connected into the network, unless towns Y and Z are already connected. The towns and villages in K can't be connected until some way is found of bridging the river. But of course once the river is bridged, it will open up a whole new area. The same applies to the settlements beyond the mountains. There is no limit to the number of links possible. Indeed the more links a place already has the more it is likely to attract.

Why have we pictured the mind as operating like this?

- Individual items of knowledge, like the towns, have little significance on their own. They only acquire meaning and use when they are connected into the network of existing knowledge.
- It is the existing network that makes it possible to construct new connections. So in the act of acquiring new knowledge it is the learner's existing knowledge that makes it possible to learn new items.
- Items of knowledge are not of equal significance. Some items are harder to acquire, but may open up wide possibilities for further learning. Like a bridge across a river or a tunnel through a mountain, learning a generative rule may take time, but once it is there, it greatly increases the potential for further learning. This

is why so often learning appears to progress in leaps and bounds. For a long time it might appear that little progress is being made, then suddenly the learner makes an enormous leap to higher level of competence. Think of these leaps as the crossing of rivers, mountains and other major obstacles.

- Roads and rails are not built haphazardly. They require planning. The road builder has to recognise where problems lie and work out strategies for solving those problems. In the same way learner will make better progress by developing strategies for solving the learning problems that will arise.
- A communication network is a system. If the road builder can see the whole system, the planning and construction of the roads will be a lot easier. Language is a system, too. If the learner sees it as just a haphazard set of arbitrary and capricious obstacles, learning will be difficult, if not impossible.
- Last, but by no means least, before anyone builds a road, crosses a river or climbs a mountain, they must have some kind of motivation to do so. If they could not care less what is beyond the mountains, dislike the people who come from there or are simply afraid of travelling, the changes of communication links being established are minimal. First of all, there must be a need to establish the links. In ESP, this need is usually taken for granted. But as anyone who has set out on a long and possibly difficult journey will know, a need is not enough. You can always find an excuse for not going. The traveller must also want to make the journey. And the traveller, who can actually enjoy the challenges and the experiences of the journey, is more likely to want to repeat the activity. So, with learning, a need to acquire knowledge is a necessary factor, but of equal, if not greater importance, is the need to actually enjoy the process of acquisition.

## NEEDS ANALYSIS

We have defined ESP as an approach to course design which starts with the question “Why do these learners need to learn English?”. But it could be argued that this should be the starting question to any course, General or ESP. All courses are based on a perceived need of some sort. Otherwise why would English find its way on to a school or college timetable: Someone at sometime must have decided there was a need for it? What then, in the terms of our definition, is the difference between ESP and General English?

The answer to this very reasonable question is “in theory nothing, but in practice a great deal”. What Distinguish ESP from General English is not existence of a need but rather an awareness of the need? If learners, sponsors and teachers know why the learners need English, that awareness will have an influence on what will be acceptable as reasonable content in the language course and on the positive side, what potential can be exploited. Thus, although it might appear on the surface that the ESP course is characterised by its content (Science, Medicine, Commerce, Tourism, etc.), this is, in fact, only a secondary consequence of the primary matter of being able to readily specify why the learners need English. Put briefly, it is not so much the nature of the need which distinguishes the ESP from the General course but rather the awareness of a need.

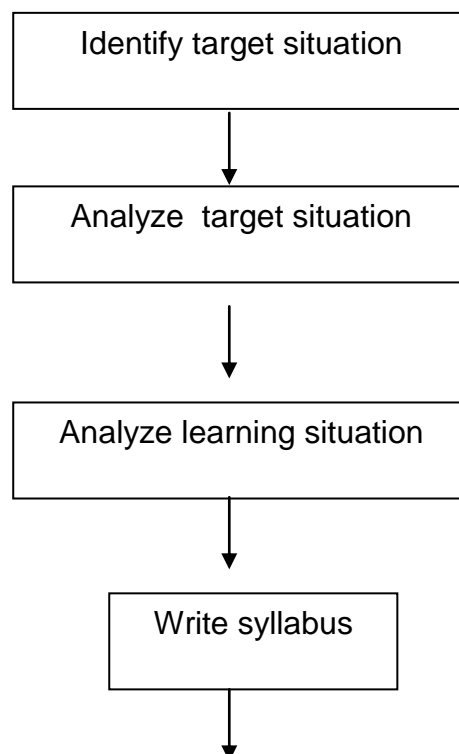
This being said, we would still maintain that any course should be based on an analysis of learner need. This is one way in which ESP procedures can have a useful effect on General English and indicates once more the need for a common approach. If we have to state in practical terms the irreducible minimum of an ESP approach to course design, it would be needs analysis, since it is the awareness of a target

situation - a definable to communicate in English- that distinguishes the ESP learner from the learner of General English.

### **Learning-centred course design**

Learning can, and should, in the context in which it takes place. Learning is not just a mental process; it is a process of negotiation between individuals and society. Society sets the target (indicates of ESP, performance in the target situation) and the individuals must to their best to get as close to that target as is possible. The learners will certainly determine their own route to the target and the speed at which they travel the route, but that does not make the target unimportant. A learner-centered approach say: ***we must look the role that enables someone to perform, because what we really want to discover is not the competence itself, but how someone acquires that competence.***

We might see the relationship in the following diagram:



Write materials



Teach materials



Evaluate learner achievement

Traditionally the target of the course design process has been determining influence on the development syllabus, materials, methodology, and tests. It is argued that the course design process should be much more dynamic and interactive. In particular, factors concerned with learning must be brought in to play at all stages of the design process. This is called a learner-centered approach, an approach with the aim maximizing the potential of the learning situation. Such an approach is inevitably more complex: it is based, after all on recognition of the complexity of the learning process.

## **Syllabus**

A syllabus is a document which says what will (or at least what should) be learned. But in fact there are several different ways in which a syllabus can be defined. This stems from the fact that the statement of what will be learned passes through several different stages before it reaches its destination in the mind of the learner. Each stage on its route imposes a further layer of interpretation. Nevertheless, at its simplest level a syllabus can be described as a statement of what is to be learned.

## **Why should we have a syllabus?**

In a view of the amount of work that goes into syllabus design and the considerable weight of the authority that syllabuses had, we might usefully consider whether they are necessary. This will reveal that just as they are acknowledged and hidden syllabuses, there are also acknowledged and hidden reasons for having a syllabus.

- Language is a complex entity. It cannot be learnt in one go. We have to have some way of breaking down the complex into manageable units. The syllabus provides a practical basis for the division for assessment, text books and learning time.
- In addition to its practical benefits, a syllabus also gives moral support to the teacher and learner, in that it makes the language learning task appear manageable.
- A syllabus, particularly an ESP syllabus, also has a cosmetic role. Sponsors and students will want some reassurance that their investment of money and / or time will be worthwhile. If nothing else, the syllabus shows that some thought and planning has gone into the development of a course. This aspect is, obviously, of particular importance when there are commercial sponsors involved.
- The syllabus can be seen as a statement of projected routes, so that teacher and learner not only have an idea of where they are going but how they might get there.
- A syllabus is an implicit statement of views on the nature of language and learning. A syllabus will normally be expressed in terms of what is taken to be the most important aspect of language learning. If we lay out a syllabus in structural terms we are saying that knowledge of the structures of the language constitutes

the most important element of language competence. If we take a skill basis, we are saying that skills are the more important aspect and so on. A syllabus, then tells the teacher and the student, not only what is to be learned, but, implicitly why it is to be learned.

- A syllabus provides a set of criteria for materials selection. It defines the kind of text to look for or produce, the items to focus on in exercises, etc. This is probably one of the commonest uses for a syllabus, but it can be one of the most damaging to the course design, if wrongly used.
- Uniformity is a necessary condition of any institutionalized activity, such as education. It is deemed to be important that standards within a system are as equal as possible. A syllabus is one way in which standardization is achieved or at least attempted.
- In that teaching is intended to lead a learner to a particular state of knowledge there need to be criteria against which success or failure in reaching that state will be assessed. A syllabus therefore provides a visible basis for testing.

It is clear from this list of roles that a syllabus is an important document in the teaching / learning process. Indeed its importance probably stems from its multi-functional purpose. But therein also lay the dangers:

We should be aware of why we want a syllabus and what we will use it for. If it is really just for cosmetic purposes to placate a sponsor then we should not try to use it as a means of selecting texts or deciding what to put in the exercises.

## **MATERIALS DESIGN**



Having completed the needs analysis and course design, there are three possible ways of turning a course design into actual teaching materials.

- Select from existing materials: materials evaluation
- Write our own materials: materials development
- Modify existing materials: materials adaptation

Materials writing is one of the most characteristic features of ESP in practice. In marked contrast to General English teaching, a large amount of the ESP teacher's time may well be taken up in writing materials. There a number of reasons for this.

- A teacher of instruction may wish to provide teaching materials that will fit the specific subject area of particular learners. Such materials may not be available commercially. In addition to the profusion of subject specialisms, there is also a wide range of course types. Whereas school, for example, work to standard time tables with a similar number of hours, ESP courses can vary from one week of intensive study to an hour a week for three years or more. Publishers are naturally reluctant to produce materials for very limited markets. The cost of producing and marketing a book much the same regardless of whether it sells one thousand copies or one hundred thousand copies. It is likely, then, that a course tailored to the needs of a specific group of ESP learners will not be available.
- Even when suitable materials are available, it may not be possible to buy them because of currency or import restrictions.

- ESP materials may also be written for non-educational reasons: for example, in order to enhance the reputation of an institution or an individual. Materials are a visible product of activity, regardless of whether such activity is useful or even necessary.

For these and other reasons, there is already an established tradition of ESP teachers producing in-house materials. These may then be distributed to other institutions or even published, but in general they are written by the teachers of a particular institution for the students at that institution. Such a pattern of work is often something of an abuse of teachers. Few have had any training in the skills and techniques of materials writing. It also shows a rather cavalier attitude to the activity of materials writing, implying, as it does, that if you can teach you can write materials. How many actors are expected to write their own plays or singers their own songs? On the other hand, it can be argued that the process of materials writing may help to make teachers more aware of what is involved in teaching and learning.

Rightly or wrongly, materials writing is a fact of life for a large number of ESP teachers.

**References:**

<sup>1</sup> (Richterich, 1984)

**SECTION 3****TECHNIQUES IN EVALUATION****LISTENING TESTS**

There are two broad categories of tests that incorporate the listening skill. One group of this oral test simply uses listening as a tool to evaluate something else. On the other hand listening could be also use as a means of evaluating low-level proficiency in grammar and pronunciation. Our focus will give attention to those tests that evaluate proficiency in the listening skill itself, namely listening comprehension. Since listening includes the recognition of words and structures and pronunciation features, the difference between sub skill tests using listening as a tool and the integrative listening comprehension test can be blurred at times. But the essential difference is that sub skill tests focus on the linguistic components of language, while the comprehension test is concerned with broader communication. Moreover, broader communications is concerned not with the bits and pieces of language but with the exchange of facts and ideas, as well interpreting the speaker's intentions.

### **Multiple Choice-Appropriate Response.**

There are three guidelines to keep in mind when preparing multiple choice appropriate response items to test listening comprehension: focus on meaning, keep the options simple and learn to adjust the difficulty of the items.

Focus on meaning. When writing multiple choice appropriate-response items, use vocabulary and grammar the students already know. The object is to measure only the students understanding of a particular sentence or short dialog. Look at the following example:

When TAME 464 leaves, they'll clear you, won't they?

- a. Yes, you will
- b. Yes, they are leaving
- c. Yes, they will \*

The correct reply is C, notice that students, in order to answer correctly, have to see what information is directly related to the question, and what is not directly related to it. For example, the question suggests that TAME 464 will leave, but this is not the main point of the inquiry. Therefore B is not appropriate. Sometimes selecting the best response requires an understanding both of appropriate meaning and appropriate grammar.

Keep the options simple. Look at the previous example, notice how simple and brief the three options are. Each one is only about three words long. Students have to keep the stem in their memory; they won't hear it a second time. Therefore, we use only three options, and we keep these brief so the students won't become confused.

Notice, too, that the options are simpler than the stem. In addition we can see that the distractors are all grammatically correct, they are simply not suitable for this particular text.

Learn to adjust the difficulty of the items. We can take items like those illustrated above and we can make them easier or more difficult. In other words, we can adjust them to match what we have taught our students. Suppose we needed easier questions. We could simplify the stem, and we could make the distractors seem less correct.

There are also interesting ways to make an item more difficult. For example, real life answers to yes no questions often drop the yes or no. More challenging correct answers would be replies such as “probably” or “if they have time” or “They haven’t said”.

### **Alternate forms of multiple-choice appropriate response**

There at least three additional ways to use multiple-choice questions in testing short conversational utterances.

- One of these is the added comment:

Avianca isn’t landing now

- a. But it has
- b. But it should (\*)
- c. But it does

- Another is the paraphrase

Army planes aren't any heavier than Air Force planes.

- a. Army planes are heavier
- b. Navy planes are heavier
- c. They weigh about the same (\*)

- And the third is the question on a dialog.

Do you have them in your scope?

Yes. But I have them only on primary.

(What ATS dependence are they in?)

- a. Tower Control
- b. Ground Control
- c. Radar Control (\*)

Again any test should provide examples to avoid confusion. Also the speech should sound natural, and it needs to be spoken at a normal speed. Two speakers (ideally a male and a female) should be used for dialog items. Allow about an eight to ten seconds pause between questions for students to read the options and mark their answers. Don't repeat any oral cues.

### **Advantages of multiple choice appropriate response**

- It is fast and easy to correct.

- It can be scored consistently and reliably.
- It is an integrative, communicative measure of listening.

## **SPEAKING TESTS**

The testing of speaking is widely regarded as the most challenging of all languages exams to prepare, administer, and score. For this reason, many people don't even try to measure the speaking skill. They simply don't know where to begin the task of evaluating spoken language. One reason why speaking tests seem so challenging is that the nature of the speaking skill itself is not usually well defined. There is some disagreement on just what criteria to choose in evaluating oral communication. Grammar, vocabulary and pronunciation are often named as ingredients. But matters such as fluency and appropriateness of expression are usually regarded as equally important.

In an international survey of speaking test which was carried out by Randall Jones it was found that of 74 exams evaluated, 81 percent measured grammar, 71 percent fluency, 67 percent vocabulary, 66 percent pronunciation, 63 percent appropriateness and 37 percent other matters. Still other factors to be identified in oral communication include listening comprehension, correct tone (sadness or fear) reasoning ability, and such things as initiative in asking for clarification.

Even when a speaking criterion like fluency is widely agreed upon, there is some question about how to test it. (Do we look for quickness of response, amount of

information conveyed per minute, or simply a general impression of fluency). In brief, the elements of speaking are numerous and not always easy to identify. Also there isn't very wide agreement on how to weight each factor (such as fluency or grammar). Other concerns related to the testing of speaking include how to get students to speak and how to evaluate so many things at once. There is also the practical problem of having to test each student individually.

Yet another complication is the range of oral communication. At the beginning level we find several pre-speaking activities, like pronunciation and vocabulary identification. We can test beginning-level students by using informal evaluation techniques or we can use suggestions on pronunciation.

There are of course numerous advanced applications of speaking: besides its use in professions like teaching, business and law, there are specialized uses such as spoken translation by simultaneous translators, professional oral reading by radio newscasters and dramatic roles on television. One way that we can simplify the task of evaluating spoken language is to limit the range of speaking activities tested. (It is suggested that teachers be cautious about using formal tests of speaking at very early stages of instruction. Instead, the relatively non-threatening limited-response measures that follow are recommended.

### **Limited Response**

Students with limited speaking skill can be evaluated by using rather controlled testing methods. Three of the most useful ways are through directed responses, questions about pictures and reading aloud. All of these can produce connected speech and all three appear in everyday communication.

### **Alternate forms of Limited Response**



***Directed-response role play:*** Sometimes it is not convenient to have another person present during the exam. Then we can have the student “talk to” someone else in a role play situation. One way to do this is to borrow a telephone set. The student relays the information that we give him to an imaginary person on the telephone.

### **Advantages of limited response items**

- These include useful techniques for those with limited language skill (notably directed response and questions about visuals).
- These provide helpful ways of getting the specific responses that we want.
- These techniques are generally not threatening. Often the subject matter and even the structure and vocabulary are provided.
- There is a tendency for these to be interesting and lifelike. Generally they have rather good face validity – that is, they appear to measure what they claim to measure.

### **Guided Techniques**

#### Guided Role Play

Open ended role play can result in lots of talk from highly imaginative students with outgoing personalities, or it can be unproductive with shy or unimaginative persons. Therefore, we recommend guided role play. The teacher or volunteer helper takes a fixed role, and the students respond as prompted. Usually the situation is briefly explained before the role play begins. It is best to have several role plays prepared so that there can be some element of surprise during the discussion.

Ground Control: Army 401, cleared to start engines at 12:45, report ready to taxi

Pilot 1: roger, we are cleared to start engines at 12:45 will report ready to taxi.

Pilot 1: Quito Ground Control Army 401, is ready to taxi

Ground Control: Roger Army 401 you are cleared to taxi via main taxiway, runway in use 35, hold short.

Pilot 1: Roger army 401 cleared to taxi.

The person or teacher taking the fixed role should be very familiar with what he is to say. His lines should be spoken at normal speed, and if possible with only an occasional glance at the notes. Also the person taking the fixed role needs to adapt to what the student says.

### **Advantages of Guided techniques**

- These allow greater freedom of response than do controlled techniques.
- These help to get at higher level matters such as cognitive expression, (explanations for instance) and appropriate response (as in a role play).

### **ORAL INTERVIEW**

So far we have been looking at ways to get a student to say something in a speaking test. These are called elicitation techniques. Anyone of these or a combination of them can be used to test speaking. The interview procedure, however, is not really an elicitation device, but rather a kind of framework for using various elicitation techniques.

During the interview the whole thing is held together by the constant interaction of the interviewer and the student. This provides an important contrast with other test formats: instead of simply reciting information, the student is actually talking with someone. The oral

interview can provide a genuine sense of communication. The good interviewer is neither harsh nor familiar, condescending nor intimidating. A sincere, open, supportive manner is more effective.

A variety of questions types is used, especially when testing new students whose skills we are not sure of. We have to be flexible in questioning; incidentally we have to be careful about the way that we say our questions. More demand is placed on the student when we use an information (or wh-) question. Appropriate responses to statements are still more demanding. It is important when using statements as cues to pause briefly a look at the student as though expecting a response. Otherwise examinees may not feel that any response is needed.

The level of difficulty of items on any given interview should vary both to maintain student confidence and the flow of the interview and also to provide an opportunity for the teacher to see how competent the student really is. Finally, the interview should not be limited to just questions (or statements) and responses. A third person can be involved for role play or relaying information. Visual and paraphrase techniques can be used. The time spent is also flexible; some teacher spent as much as 15 to 30 minutes on an interview. But it is not necessary a rule. Five to ten minutes per student is generally ample for most classes.

#### **Advantages of the oral interview.**

- It can be one of the most communicative of all language examinations.
- It is remarkably flexible in terms of item types that can be included.
- The scoring tends to be more consistent and simpler than the scoring of many guided-technique items.

#### **SCORING PROCEDURES**

On a speaking test, getting the students to say something appropriate is only half the job. Scoring the test is equally challenging. There are ways to simplify the scoring. The most successful way is a system of discrete objectified scores for nearly every utterance or response that the student makes. The alternative is to use the holistic grading that evaluates the entire body of student speech simultaneously.

The scoring system that we select tends to depend on one of two things: how well trained we are to evaluate oral communication and what factors we choose to evaluate. Different commercial tests use different approaches to scoring. Generally speaking, teachers with considerable experience and training (particularly in linguistic and testing) are more inclined to use holistic scoring than teachers without this background.

Holistic scoring also tends to be selected when the teacher is inclined toward evaluating a wide variety of criteria simultaneously (such as appropriateness, fluency, grammar, vocabulary and pronunciation).

Objectified scoring is used both by teachers with little or no specialized training and by highly trained teachers who simply prefer evaluation that is consistent and easy to use.

The speaking test provides not only a consistent spoken sample of student speech but also a way to quantify or score each person's utterance.

**Holistic Scoring.** To understand how the several components of student's speech can be evaluated holistically we will look at the following example of a commercial test:

ALIGU test (American Language Institute / Georgetown University) has been based on five criteria:

- comprehension
- pronunciation
- grammar and word order
- vocabulary
- General speed of speech and sentence length.

Each of these is weighed equally. The criteria for grammar and word order follow:

5 points: Uses English with few, if any, noticeable errors of grammar or word order.

4 points: In general uses “good English” but with occasional grammatical or word order errors, which do not, however, obscure meaning.

3 points: Meaning occasionally obscured by grammatical error and / or word order errors.

2 points: Grammatical usage and word order definitely unsatisfactory. Frequent need to rephrase constructions and / or restricts himself to basic natural patterns.

1 point: Errors of grammar and word order make comprehension quite difficult.

0 points: Speech so full of grammatical and word order errors as to be virtually unintelligible to “the man in the street”.

The points listed above are multiplied by four. Therefore a top score in all five areas would result in 100%. Some sort of scale like this accompanies almost all speaking tests using holistic grading. The examiners listen for all criteria as the interview progresses, sometimes focusing temporarily on one criterion and then on another. Sometimes additional questions are asked to clarify a particular area such as vocabulary or comprehension.

The advantage of holistic grading is probably obvious: it concentrates on communication while not overlooking the components of speech. The limitation is that a great many teachers (untrained in analyzing speech) find it confusing to evaluate so many things simultaneously.

Rating scales have been adapted for the use of teachers, and quite a few teachers have prepared their own. Some experienced ESL instructors in a program with clearly identified evaluation criteria will want to rate their students in a holistic scale. This is an unquestionably an ideal rating system when consistency can be maintained. Yet the vast majority of language teachers do not have the time or opportunity to become expert in using the scales we have discussed. Besides, in the area of speaking, the criteria of oral communicative competence are less well defined and few people have the sophisticated training needed to provide consistent, accurate holistic grading of speech.

## **2.2. Structure**

The following is a complete description on what aspects should be covered and how this subject should be sequenced and configured in order to get a successful teaching - learning process and get the best performance from the students.

If the teacher follows this sequence then the student will get involved gradually with the terminology in English and will relate it with the flight progression, making assimilation and use of this new knowledge much easier.

# **AERONAUTICAL PHRASEOLOGY IN ENGLISH**

## **Part 1**

### **INTRODUCTION**

- **General Information**

Contains some rules that must be followed in order to keep communications: accurate, brief and above all using standard phraseology

- **Radio communications techniques**

Advises to keep an effective communication.

- Listen before transmit
- Think before pulse the transmission key
- Wait for a response

- **Basic phraseology**

It is a compendium of the most useful terminology with its corresponding standard phraseology, to include:

- Numbers
- Phonetic alphabet
- Altitude
- Flight levels
- Headings
- Speed
- Frequencies

- **Automatic Terminal Information Service (ATIS)**

Includes a concept of this service followed by description of all the data provided by the recording and several practical exercises to get the student started with the listening part of the training.



## Part 2

### STANDARD PHRASEOLOGY

- **Call signs**

Definition of a call sign, its constituent parts and a description of its usage.

- **Initial contact**

- Describes the type of communication called “initial contact”, the format to be used and the rules to be followed in different conditions of flight. Finally, it refers the communications after the initial contact:

- Next contacts and answers from ATC dependences.
- Initial contacts in flight

- **Air Traffic Control (ATC) Clearances**

Contains a definition, constituent parts, and some rules for using an ATC clearance. There are some examples to practice the listening and identification of clearances.

- **Taxi instructions**

This section covers the phraseology used in taxi procedures and focus on the ramp control and ground control communications, also provide some exercises to improve listening skills of the students.

- **Take off**

During take off communications students must know and put in practice instructions about taxi into position and hold, hold short and take off clearances, which are critical because any one of them require a specific action from the pilot.

- **Enroute communications**

This section deals with a wide range of instructions in flight which covers most of the occurrences, as follows:

- In flight clearances
- ATC instructions
- Change of frequencies.
- Transit reports
- Turbulence report requests
- Detour requests because of meteorology.

- **Approach and landing**

Approach and landing phases are commonly known as the most critical phases in a flight, due to it, this section makes a full review of all the phraseology related with the correspondent maneuvers, as follows:

- Instruments approach clearances
- Visual approach clearances
- Missed approach phraseology
- Landing clearances
- Taxi clearances

## **Part 3**

### **EMERGENCY PHRASEOLOGY**

- **Emergency phraseology**

As the headline states this is a review of the wide range of phraseology related with emergency situations in any phase of the flight, the principal topics are:

- Minimum fuel alarm
- Emergency claims (MAY DAY)
- Urgency claims (PAN PAN)
- Turn back requests because of sick passenger.

- **Terms glossary**

Finally due to the fact that aviation is a technical field that uses its “own” terms, at the end of the instruction there is a section including a terms glossary which covers a full description of almost every term used in this field.

As a final advice, before teaching aeronautical phraseology in English students should be encourage to refresh and update all their training about radio communications in Spanish, this activity would facilitate the effective assimilation of the knowledge.

## **2.3. Hypothesis system**

### **2.3.1. Null Hypothesis**

There is no interaction between the new proposal syllabus for teaching aeronautical phraseology in English at Army pilot’s school and the proficiency level of the students.

### **2.3.2. Alternative Hypothesis**

The new proposal syllabus for teaching aeronautical phraseology in English at Army pilot's school will improve the level of proficiency of the students in this subject matter.

## **CHAPTER III**

### **METHODOLOGICAL DESIGN**

#### **3.1. Research type and design**

For the data collection we will use the structured interview technique applied to Principal of Pilot's School ([Annex 1](#)) and for Pilots we applied survey technique – ([Annex 2](#)) in order to collect the data at Army Pilot's School. We have also designed a principal interview matrix ([Annex 1.2](#)) in order to register the results of our findings; this matrix covers the following aspects.

- Existence of valid unit plan
- Lesson plans created for teaching every class session
- Quality of instructional aids if available
- Availability of a well structured manual about the subject
- Evaluation tools related with testing communication skills

Each field has a top score and a particular weight depending on the importance that we have assigned to each one. There is also an individual percentage column to determine how effective is every field in particular and at the end we have determine the average percentage to show the general level of preparation for teaching Aeronautical Phraseology.

For the Application phase we are going to work with the same group and we expect to evaluate them with a diagnosis test at the beginning and before the syllabus application and an evaluation test at the end of the course after the syllabus application; therefore we have chosen a **Repeated Measures Design**.

### **3.2. Population and sample**

The Army Pilot's Schools located In Guayaquil City, Ecuador, has the responsibility to train helicopter as well as airplane pilots in order to cover Army requirements.

From that population we have chosen the XXIX Army Pilot's Course 2006, in order to apply our proposal.

### **3.3. Fielding**

As a part of the investigation phase an interview was conducted in Army Pilot's School with the head of the Institute, and with some experienced pilots.

The objective of this investigation was to confirm if they have a syllabus for teaching aeronautical phraseology in English. If positive, how it is structured, what areas does

it cover and how effective has it been. If negative, have they any alternative tool to train students in this area? Or definitely they don't teach aeronautical phraseology in English at all.

The application phase focus specifically on XXIX basic pilots course 2006 and begin with the diagnosis test (Annex 3) to determine the level of knowledge of the students about this subject. Next, the proposed syllabus was applied according to the unit plan and lesson plans. At the end of the course an evaluation test (Annex 4) was applied and the scores reached by the students were treated by means of a statistical tool to establish the level of improvement. (Annex 4.3)

### **3.4. Instruments for data collection.**

For the first part of our project (determining the existence of a syllabus to teach Aeronautical Phraseology in English), we are going to use the inquiry methodology through the interview technique. In this specific case, we are going to apply a structured interview for the Pilot's School Principal and a structured survey for a sample of operative pilots. We have selected and narrowed the questions in order to maintain the focus of our interview and also to avoid divagation from the surveyed personnel.

For the second part of the investigation (To determine the incidence of a new proposal syllabus to teach aeronautical phraseology in English) we will apply a diagnosis test to the students before the syllabus application and at the end of the course a evaluation test will be applied to determine the improvement of the students on this area. The diagnosis test data collection was carried on by means of an interview (first part of the test), which data was recorded on audio files (Annex 3.1) for

a later evaluation. A written quiz (second part of the test) and an application test (third part of the test) collected by means of written papers for a later evaluation as well. In the other hand, we used the same procedure with the evaluation test (Annex 4), evaluating students by mean of an interview (Annex 4.1) recorded on audio files.

### **3.5. Processing and analysis.**

The processing and analysis for the first part of the investigation will consist on transforming the qualitative data obtained from the Pilots school Principal into numerical data, by means of a principal interview matrix (Annex 1.2). Once we have done this, we used the statistical tool of central tendency as the media, in order to realize what the actual situation of the investigated institution as a whole is.

The survey results were collected and analyzed through a matrix (Annex 2.1) and represented by graphs to make it easy to draw conclusions.

On the second portion of the research we used a statistical tool as the media in order to obtain the average performance of the sample students during the diagnosis test as well as during the evaluation test at the end of the course. Through a configured graph we represented the comparison of students sample performance before the syllabus and after the application of our new proposal (Annex 5). Besides in order to prove the thesis statement we used a dispersion measure tool as the standard deviation to guarantee that a real improvement in the students' performance occurred.

## **CHAPTER IV**

### **ADMINISTRATIVE FRAME**

#### **4.1. Material resources**

- Office supplies
- Computer equipments
  - Personal computer
  - Printer
  - Projections devices
  - Simulation software
  - Joystick
  - Mp3 (voice recorder)
  - Memory stick
- Tape and video recorders
- Reference bibliography

#### **4.2. Human competence**



- Project Directors: Msc. Lilián Avalos and Dr. Oswaldo Villa.
- Researchers
- Head of Army Pilot's School
- Pilots course students
- Experienced Army Aviation Pilots

### 4.3. Budget

DESCRIPTION	VALUE
Office Supplies	\$70
Computer Supplies	\$150
Recording hiring	\$30
Internet services	\$40
National travel expenses	\$400
Accommodations	\$150
Food and beverages	\$80
Local expenses	\$200
Communication	\$120
<b>TOTAL</b>	<b>\$1240</b>

## 4.4. Chronological distribution

ANNEX 3

### TIMETABLE

PROGRAM FOR TEACHING AERONAUTICAL PHRASEOLOGY IN ENGLISH AT “CAP. FERNANDO VASCONEZ”  
ARMY AVIATION SCHOOL FOR XXIX BASIC PILOTS COURSE

ACTIVITIES	JULY				AUGUST				SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Topic selection	■																							
Preparation of a working bibliography	■																							
Paper outlining		■																						
Collecting Information		■																						
Draft writing			■	■																				
Delivering draft to E.S.P.E. University				■																				
Draft checking (not date available)				■																				
Approved draft returning						■																		
Beginnig of the project structure						■																		
Work on theoretical frame						■																		
Refining methodology						■																		
Field data collection							■	■	■	■	■	■												
Analysis and data interpretation									■	■	■	■	■	■	■	■								
Conclusions and recommendations drawing													■	■	■	■								
Working out in annexes															■									
Proposal elaboration																■	■	■	■	■				
Preliminaries preparation																				■	■			
Final project delivery																					■			
Project defense ( date to be determined)																								■

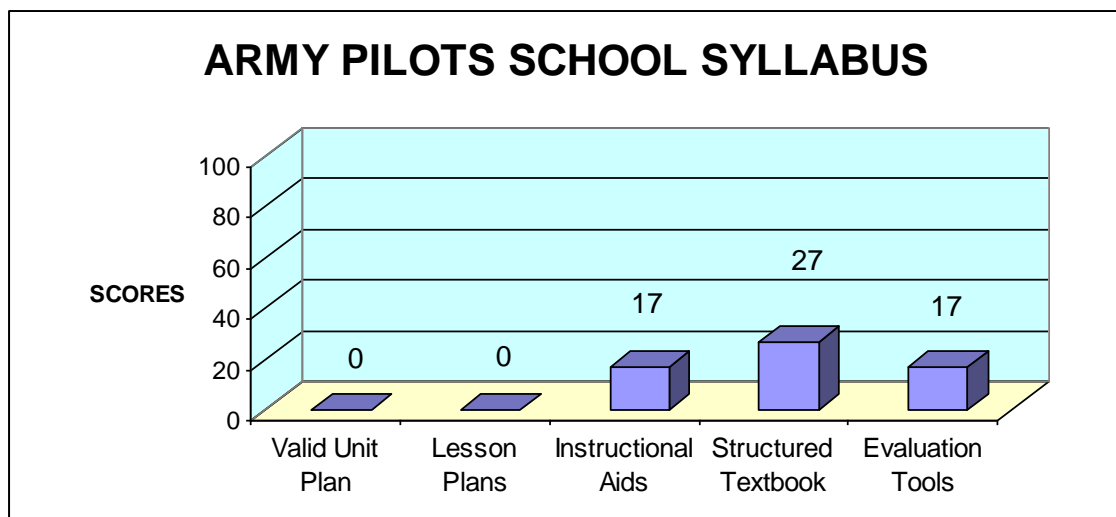
## CHAPTER V

### TESTING THE HYPOTHESIS

#### 5.1. Graphical exposition of results

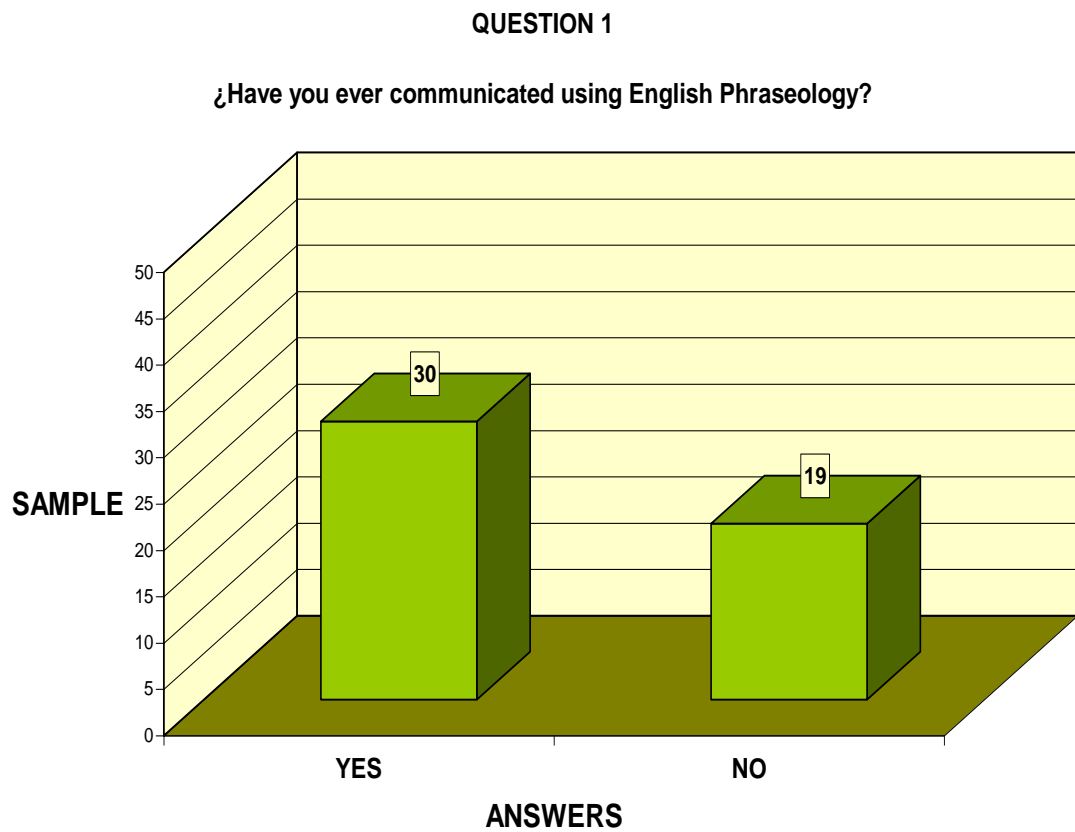
##### 5.1.1. Investigation Phase

- Interview with the Director of the Army Pilots School about the existence of a syllabus for teaching aeronautical phraseology in English. (See Video on Annex 1.1).



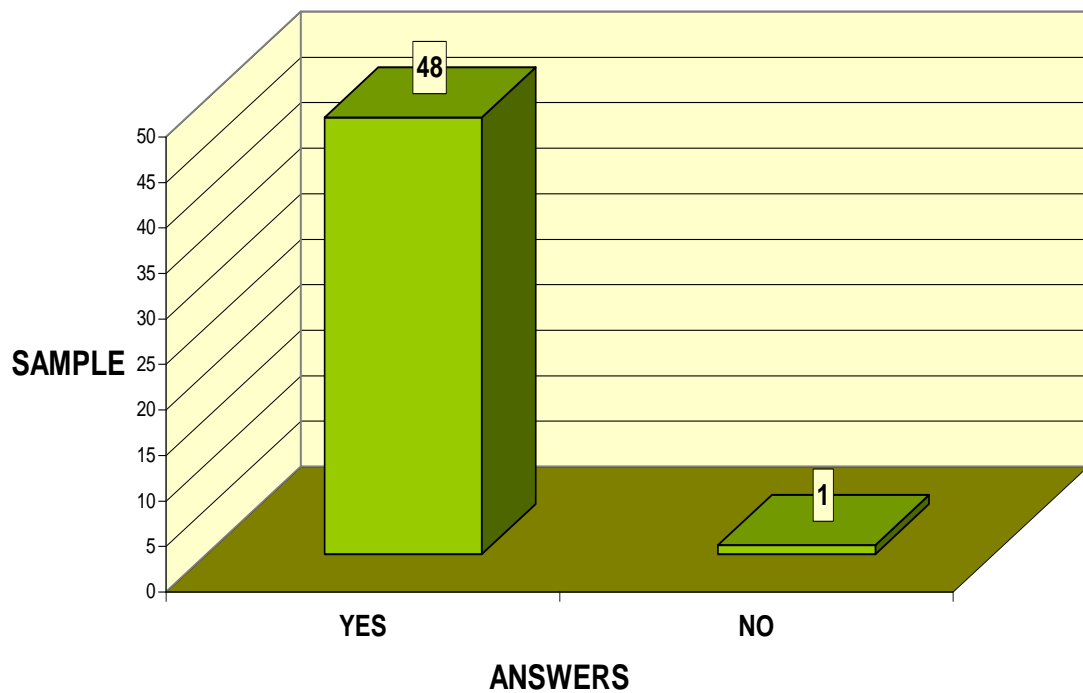
**Analysis:** Army Pilot's School doesn't have a standardized syllabus for teaching aeronautical phraseology in English, as proved by the investigation survey. Particularly on the planning area they don't have units or even lesson plans to follow during the instruction, then they reach "zero" on the percentage score. They use several textbooks and most of the times they don't follow the same structure besides it isn't synchronized with the syllabus, by it, they got 27 percent on this subject. Instructional aids are assorted and not focused on the planning, then they got 17 percent. Finally, evaluation tools are sometimes used and sometimes not, they are not focused on listening and speaking skills, then they got 17 percent on this subject.

- Results of survey with experienced pilots (See Annex 2.1).



**Analysis:** 30 out of a sample of 49 pilots, have ever communicated using phraseology in English, which tell us that this subject is useful during their professional life.

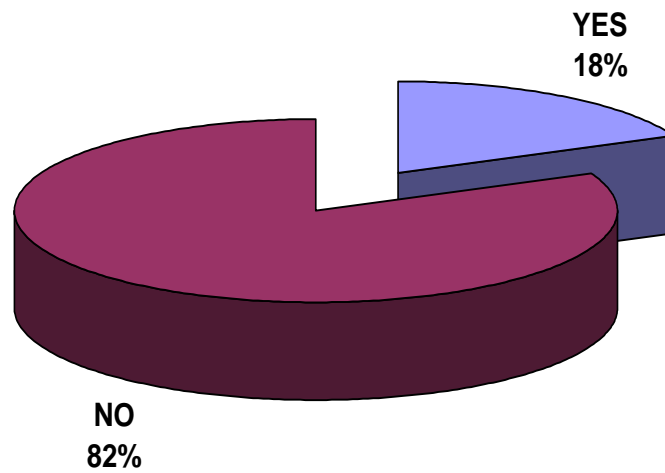
**QUESTION 4**  
**¿Must be Aeronautical Phraseology in English included into the formation of initial pilots?**



**Analysis:** 48 out of a sample of 49 pilots agree with the fact that aeronautical phraseology in English must be studied from the very beginning of pilots training. They have experienced the lack of this knowledge during their professional activities.

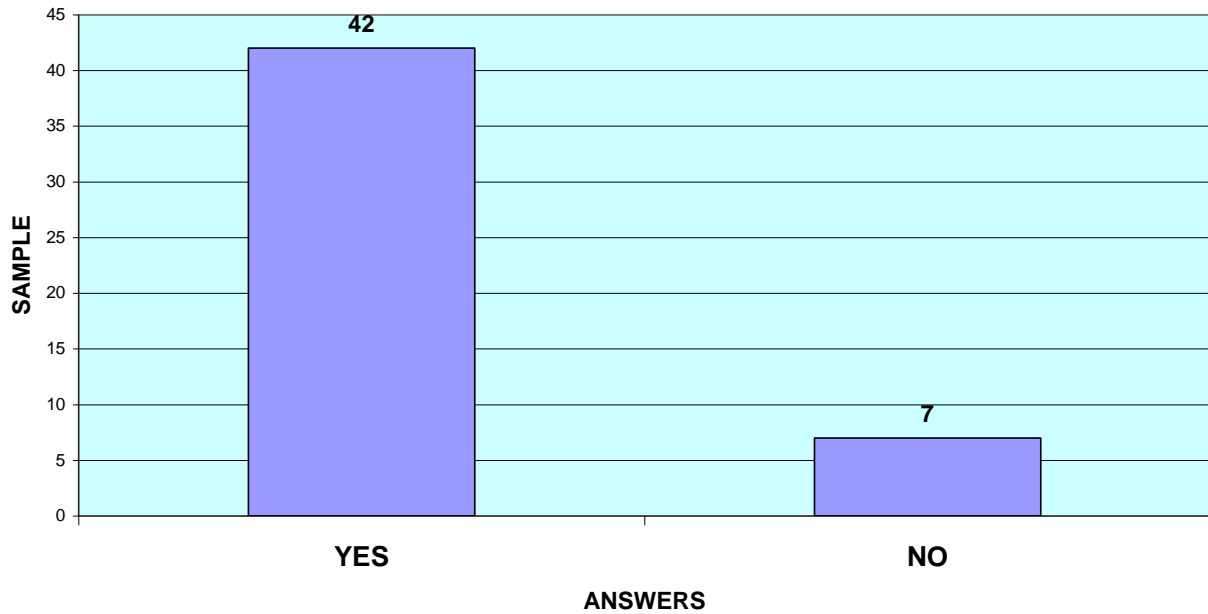
## QUESTION 5

¿Did you received Aeronautical Phraseology in English as an independent subject ?



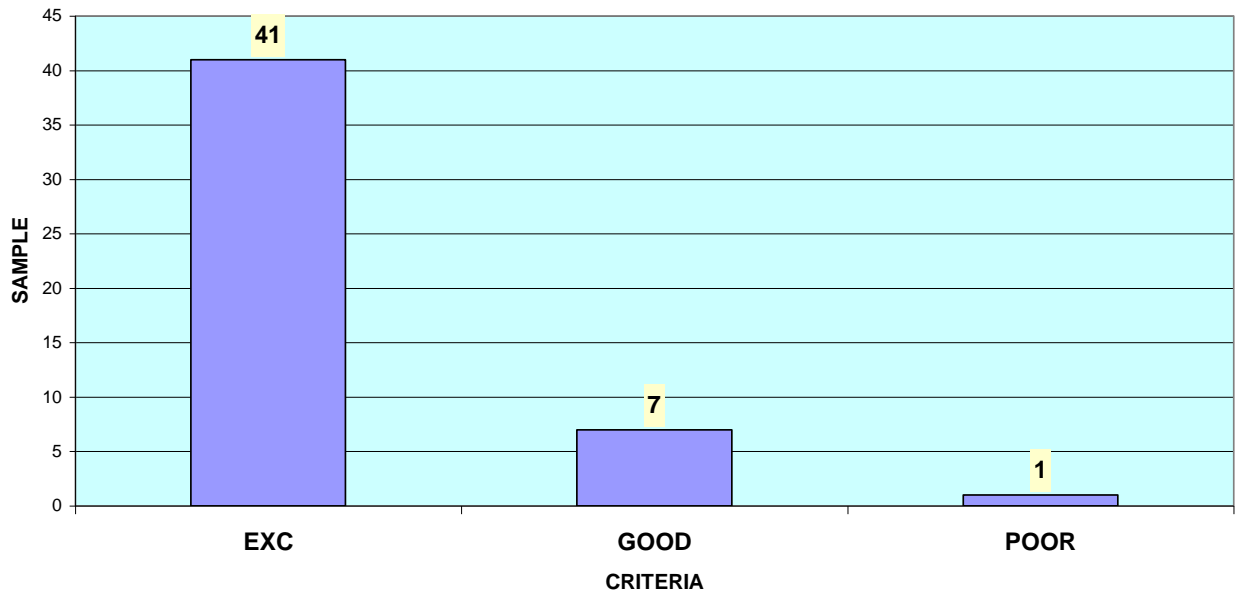
**Analysis:** This graphic demonstrates that Aeronautical phraseology is not taught as an independent subject during pilot's initial training, at least not on a regular basis.

**QUESTION 6**  
**Would you like this subject to be taught as an independent subject?**



**Analysis:** 42 out of 49 pilots considered that aeronautical phraseology in English must be taught as an independent subject, because they want to be focused on it on a specific way and not as a part of a bigger subject.

**QUESTION 7**  
**What's your criteria about creating a complete syllabus to teach Aeronautical Phraseology in English?**

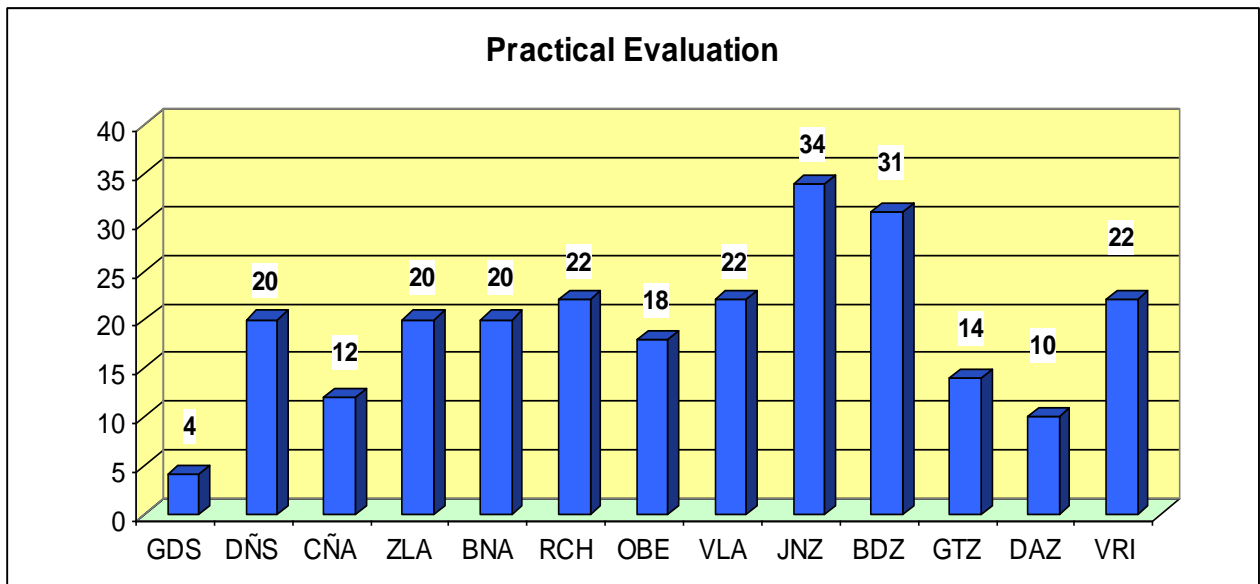


**Analysis:** A great majority of the sample agreed that it is a good idea to create a “brand new” syllabus to teach aeronautical phraseology in English specifically.

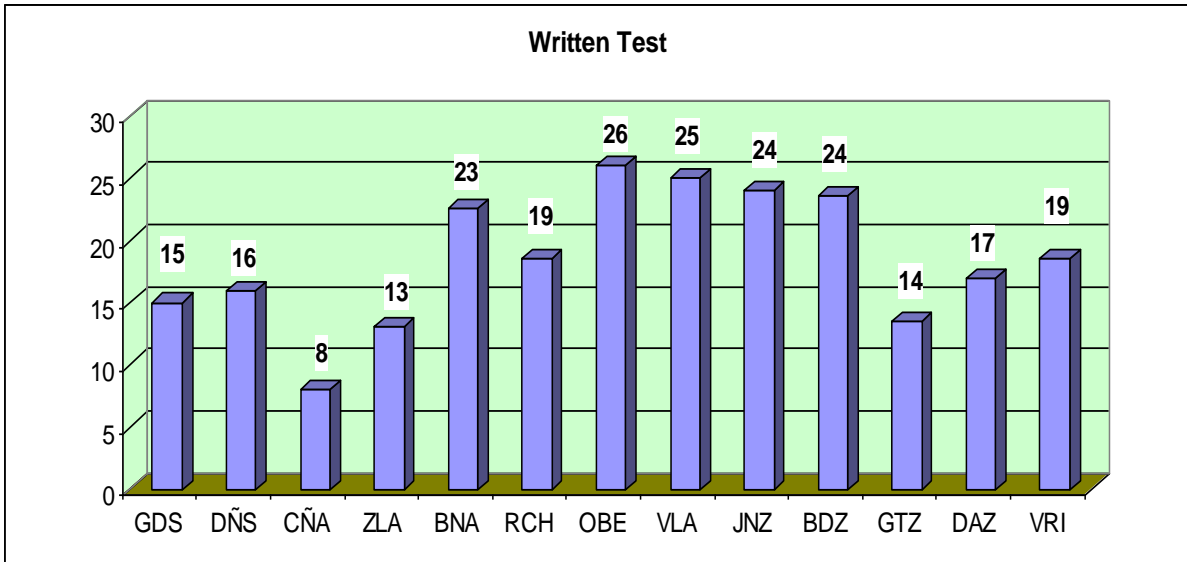


## 5.1.2. Application Phase

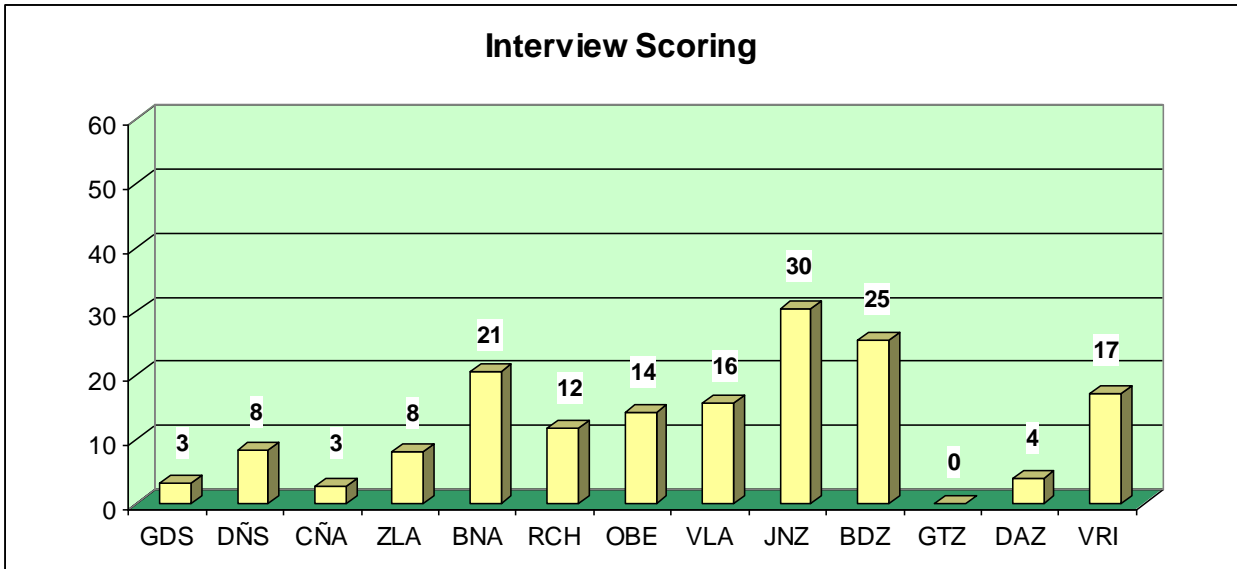
### 5.1.2.1. Results of student's competence in aeronautical phraseology in English BEFORE the syllabus application. (Annex 3.3)



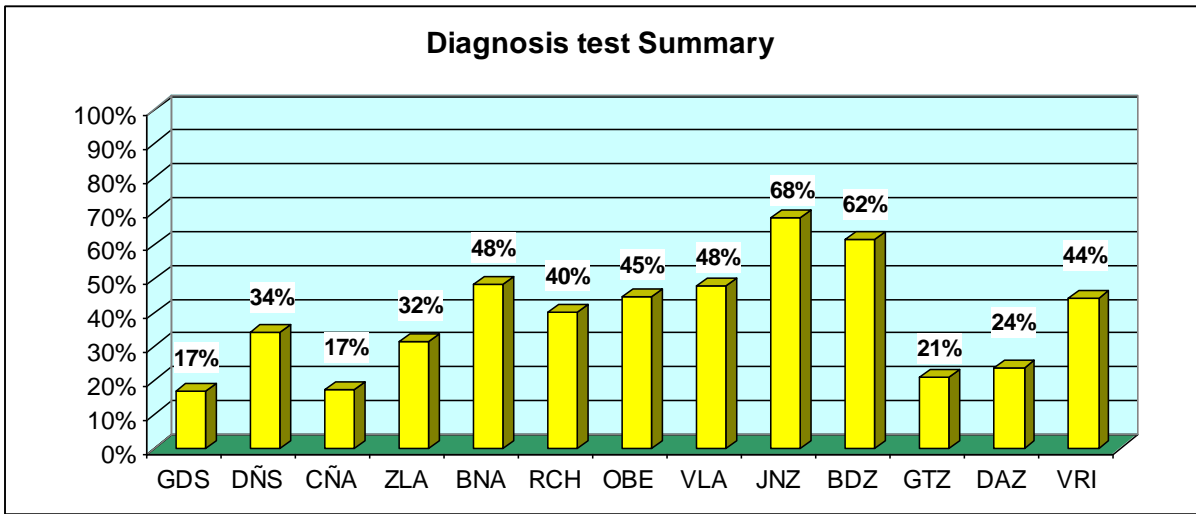
**Analysis:** Scores from practical evaluation show an average performance around 50% of the expected score, one pilot has reached an extremely low score and two have achieved high scores. This graphic depicts that the sample have an average performance when dealing with hearing and understanding what is heard. Obviously this was one of the most demanding tasks.



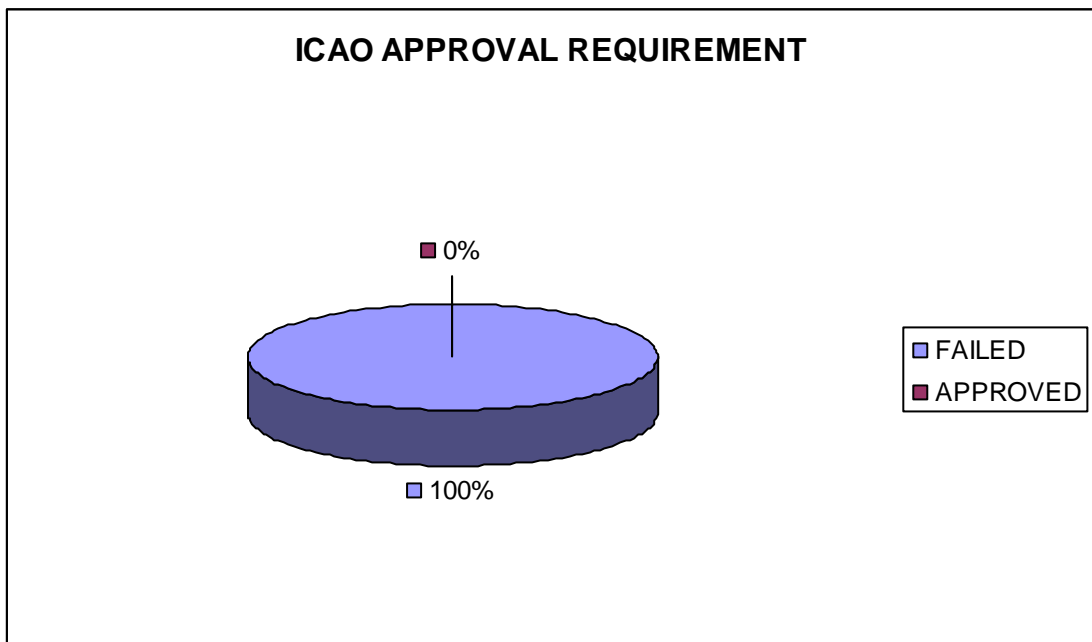
**Analysis:** Scores reached during the written test show that writing is one of the most acceptable task for them, at least five of them have reached high scores and the rest of the sample have achieved an average performance. It must be considered that writing is a sort of copy and that is the reason for the relatively acceptable scores.



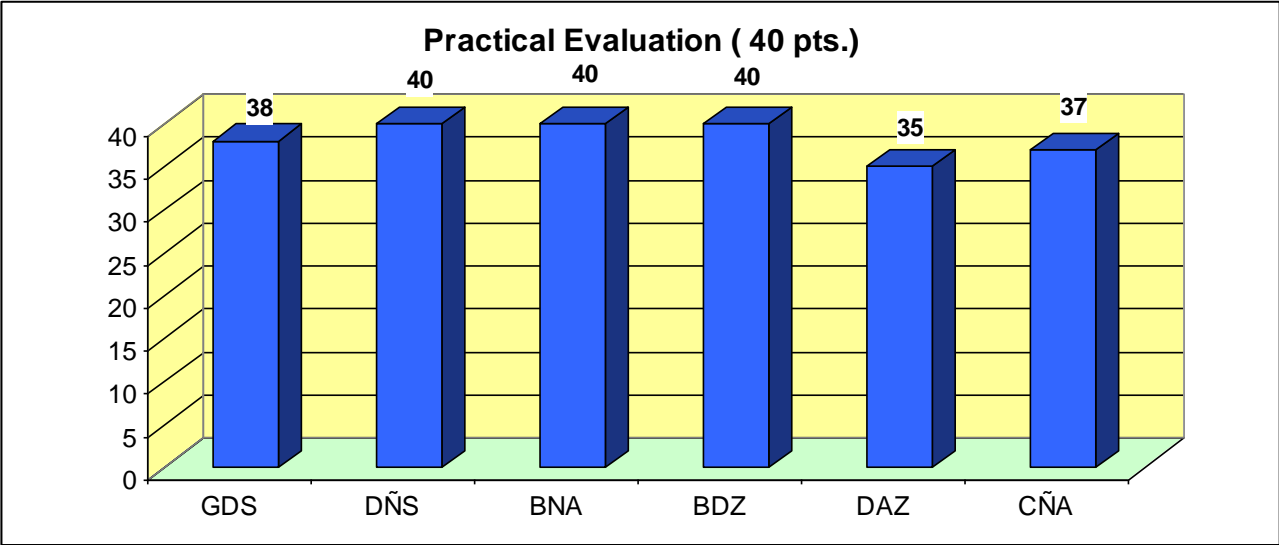
Analysis: This is the lowest score reached by the sample, only one pilot reached 50 % of the maximum score; two are in the low score, 4 pilots have a very low score and the 6 remaining barely reach extremely low scores. We must have in mind that these results demonstrate that **speaking and hearing are the most demanding tasks** for the sample and paradoxically they are the less trained subjects.



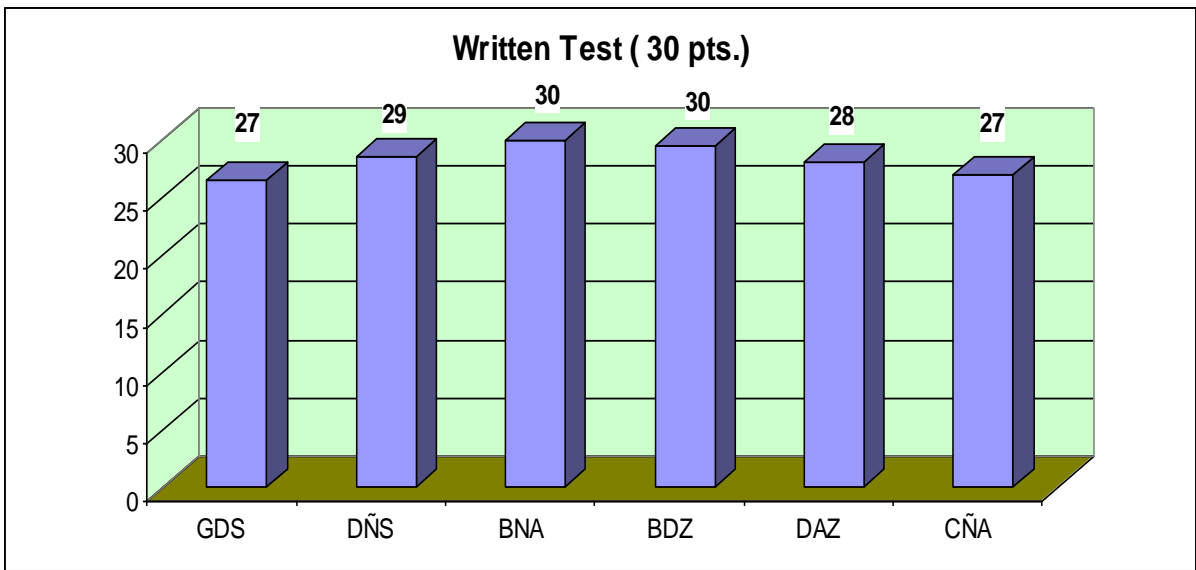
**Analysis:** By the integration of the previous skills evaluated separately we got the summary of the sample performance on a 100 % basis. The highest score reached is 68% and the lowest is 17%. We have two pilots near a low band, 5 pilots in a very low score band and 5 pilots on a extremely low performance band. NONE of them have reached at least 80% which is a requirement from the ICAO and FAA regulations to be considered as a pilot able to establish and maintain aerial communications in English.



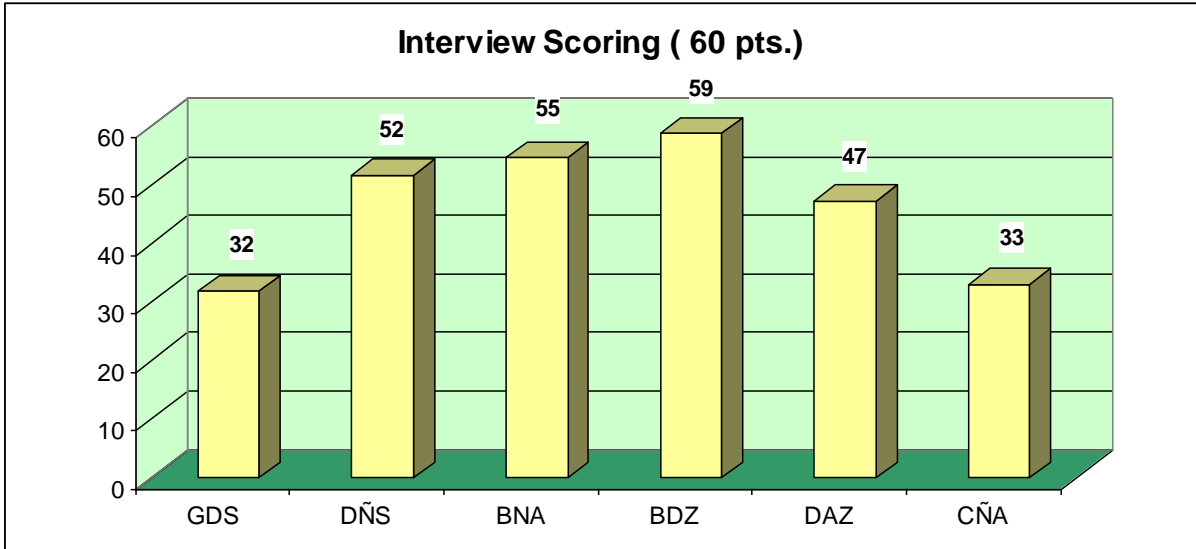
**5.1.2.2. Results of student’s competence in aeronautical phraseology in English AFTER the syllabus application. (Annex 4.3)**



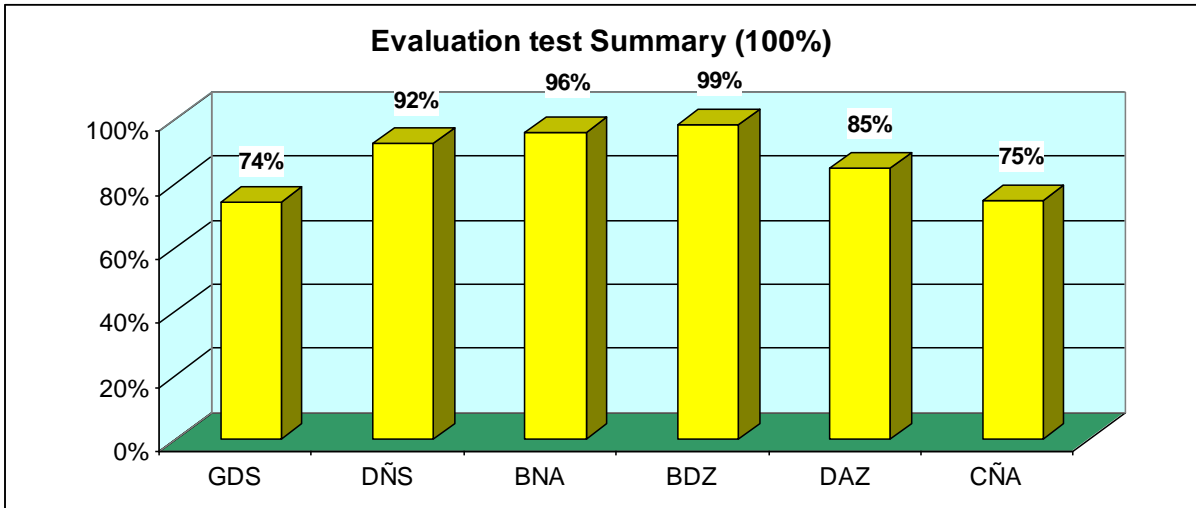
**Analysis:** Being the hearing skill one of the most demanding tasks, the graphic demonstrates that practice with CBT using real – world communications have produced a remarkable improvement, three of the pilots have reached the top score while the rest of them have obtained a medium high score.



**Analysis:** Just like the diagnosis test the written part on the evaluation test demonstrates to be the “easiest” part because again it is a sort of copy and it becomes much easier when pilots are trained on how to answer and how to readback instructions. This is the reason for the high scores achieved by four of them and the relatively acceptable scores from the rest.

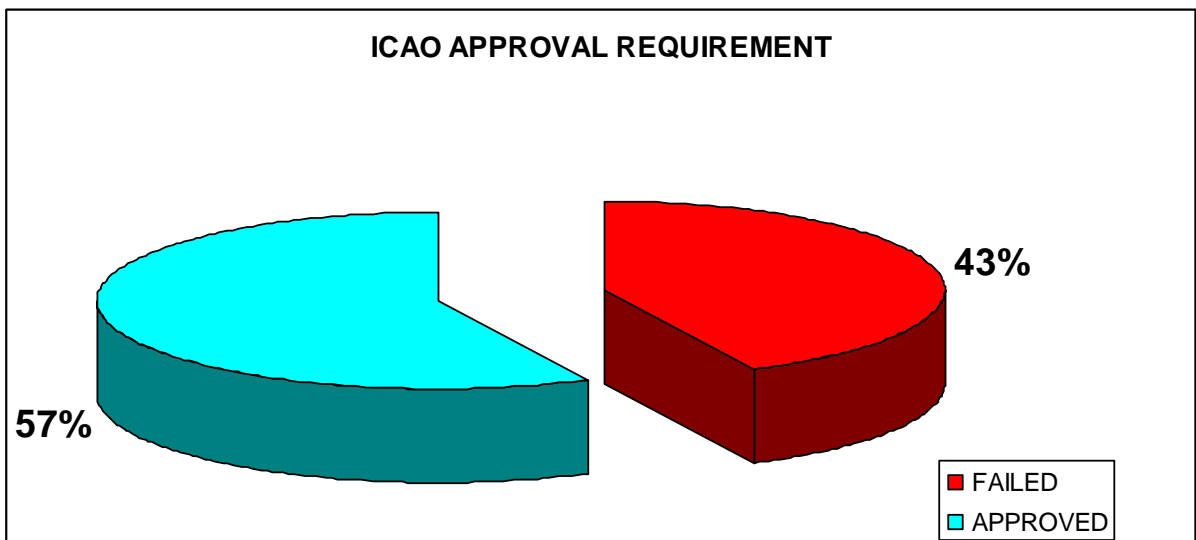


**Analysis:** As we said during the diagnosis test *speaking and hearing skills are the most demanding tasks* for the sample and paradoxically they are the less trained subjects. The present graph shows that three out of six pilots have reached high scores, one of them an average score and the two remaining have reached low scores. Once again, this part probes to be the “hardest” part when evaluating aeronautical phraseology in English.



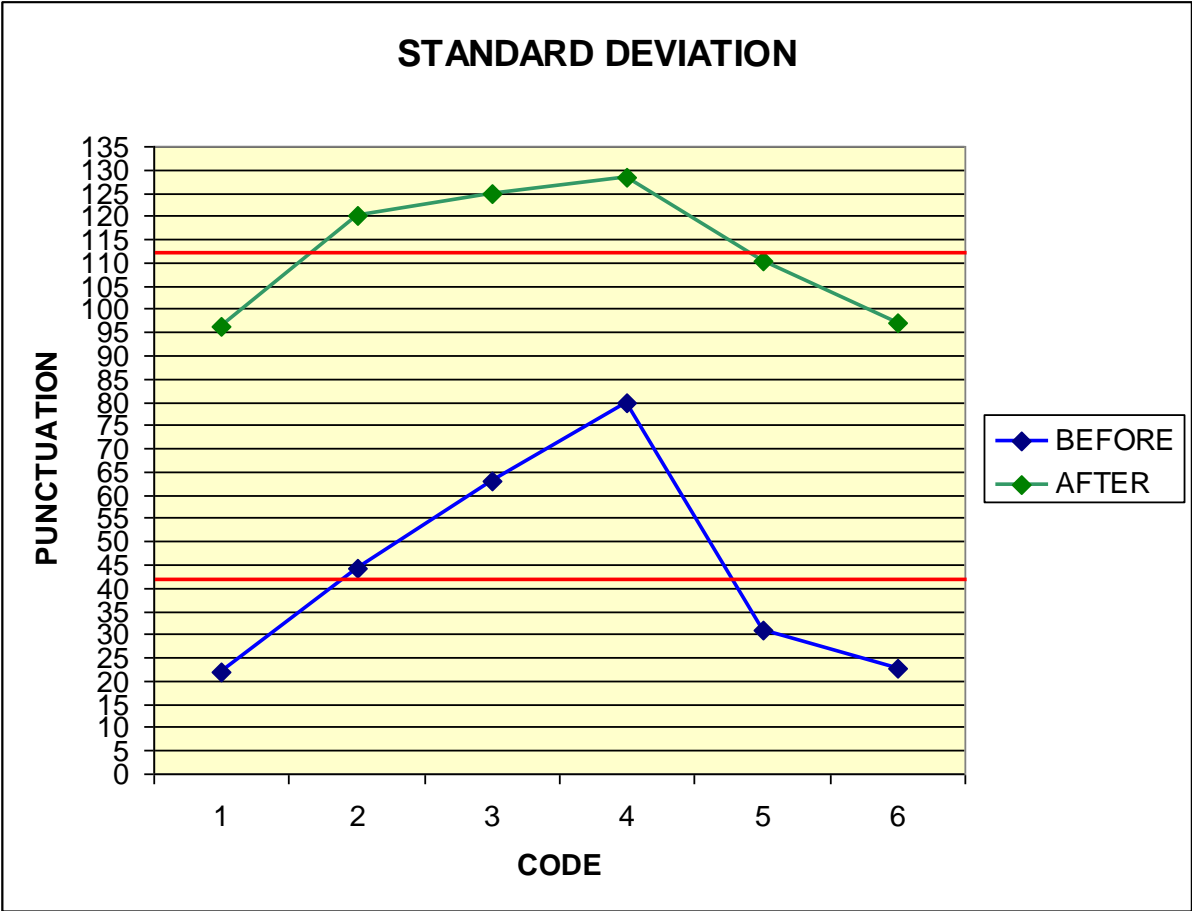
**Analysis:** By the integration of the previous skills evaluated separately we got the summary of the sample performance on a 100 % basis. The highest score reached is 99% and the lowest is 74%. Three pilots have reached high scores, one more an average score and finally the two remaining have reached low scores.

Four of them they have reached over 80% which is a requirement from the ICAO and FAA regulations to be considered as a pilot able to establish and maintain aerial communications in English.

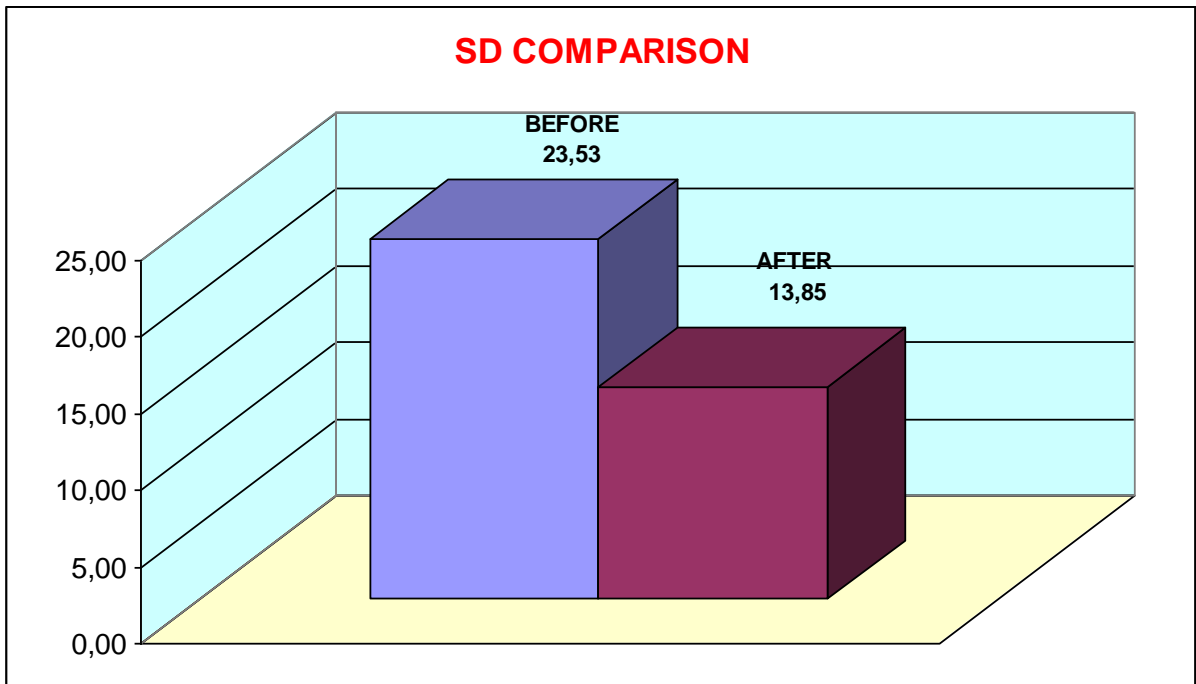




5.1.2.3 Comparison before and after the syllabus.



**Analysis:** With the results from the diagnosis and the evaluation tests, we used a statistical tool as the standard deviation to determine the level of dispersion in each case. As we can see in the graphic, the scores achieved by the students before the syllabus application shows a wider range of dispersion than the scores were gotten after the syllabus application.



**Analysis:** The graphic shows that before the syllabus there was a standard deviation of 23.53 and after the syllabus application, there was a standard deviation of 13.85. The difference of 9.68 between both measures, demonstrates the level of improvement in students' performance.

## 5.2. Conclusions

- We can conclude that during the investigation phase the hypothesis was probed to be true, the army Pilot's School didn't have a standardized syllabus to teach Aeronautical Phraseology in English. They didn't have lesson or unit plans at all, and just a poor attention was paid to the textbook, instructional aids and evaluation tools. As a result of this, they got a total of 9 points out of a total of 95 possible, which represented a 12,63 % out of the 100% of what they were supposed to have in order to teach aeronautical phraseology in English.
- The sample have an average performance when dealing with written tests, a low performance on practical tests ( reading back clearances) and a very to extremely very low performance when faced with oral interview tests.
- The overall low performance during diagnosis test is generated by a lack of knowledge of aeronautical phraseology in English.
- Analyzing the overall performance reached by the students during the diagnosis test we can conclude that NONE of them have reached at least 80% even though this is a compulsory standard establish by the ICAO and FAA for a pilot to be considered able to maintain aerial communications in English. Most of them evidence a poor knowledge on this matter and above all a huge lack of training on speaking and listening skills in English.
- The proposed program to teach Aeronautical Phraseology in English was oriented as an ESP because there is a certain community who is becoming the user of this particular subject. It was created with their own materials: situations, dialogs, and so

on, using real-world communications to get the students familiarized with it. It was based on a learning –centred approach because the use of language as a mean for communication was always emphasized. It used role playing techniques in order to teach most of the items, because it was considered that this technique best matches the real usage of the language in the target situation. And finally specially designed evaluation tools were created to emphasize on listening and speaking evaluation, because those are the most important skills used in this subject.

- The results obtained from the Analysis of Evaluation test (see Annex 4.3) have demonstrated that the teaching method, the teaching materials especially the class drills created and the CBT (Computer Based Training) have hit right in the target, because this methodology have made learning easier and fun. The constant changes of roles and situations have created the right atmosphere to show the students how they are going to use the language in the real world, in real situations, because of this we have used especially real materials.
- After the completion of the course, the scores reached by the students were closer to the media. Applying the standard deviation, we demonstrate that the level of dispersion was minor. Consequently, the application of the syllabus produced a real and significant improvement in the students' performance.
- The evident improvement in the student's performance concerning the Aeronautical Phraseology subject, we believe -is a consequence- of the planning based on ESP, because we have focused our planning and methodology as an ESP matter, dedicated exclusively to meet the specific needs of those people involved in aerial operations communications to include pilots and Air Traffic Controllers as well.

- This training has also determined a critical improvement on the flight safety, because now the pilots are aware of the international traffics flying in their same airspace and now they can understand exactly what is happening with them.

### **5.3. Recommendations**

1. We strongly recommend our syllabus to be used during the training of army pilots.
2. To focus the training into listening and speaking skills.
3. To apply the syllabus in order to meet ICAO and FAA standards.
4. Extensive use of CBT's because of their interactive nature. They allow the students "learn by themselves".

#### Note:

All the materials produced during the thesis development are going to be delivered to the Army Pilot's School, in order to be used during the instruction of their students. Besides, we really hope that Army Aviation Groups and similar institutions adopt this method and these materials during the instructions of pilots and military controllers as well. Finally, we encourage flight crews to keep improving their training and practicing every time they can. We are convinced that this is the only way to become better pilots and most of all to have safer flights.

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## GLOSSARY

- **Altitude:** Vertical distance taking mean sea level as the origin.
- **Approach:** Final Phase of a flight where all maneuvers are performed in order to land the aircraft.
- **ATC (Air Traffic Control):** Dependence in charge of control aircrafts flying in a specific aerial space.
- **ATC Dependence:** Every one of the departments making up the traffic control service (Operations, meteorology, radar, and so on.)
- **ATIS (Automatic Terminal Information Service):** Pre recorded instructions providing information for flight usually associated with a specific radio frequency.
- **ATP (Air Transport Pilot) :** Category assigned to a pilot who have accomplished all the requirements that legally authorize him to fly transporting passengers.
- **Call sign:** Word, number or a combination of both through a pilot identify himself with the controller.
- **CBT (Computer Based Training):** Software installed in a computer designed to provide instruction and allow user to auto evaluate.
- **Clearance:** In aviation jargon, means authorization to do something.
- **Controller:** Short term for Air traffic Controller. Person in charge of the organization and control of the aircrafts flying in a specific area and in a specific time.
- **Diagnosis test:** Test applied at the very beginning to determine level of knowledge of the students about a topic.
- **Enroute communications:** Communications provided by ATC in a specific air space when the aircraft is already flying to its destiny.
- **Evaluation Test:** Test applied at the end of a period of instruction in order to determine the level of proficiency reached by the students.

- **Flight levels:** A specific pressure altitude assigned for an aircraft to fly. Made up of three numbers which represents thousands of feet. Ex. FL 120 means flight level 12.000 ft.
- **Frequencies:** A combination of numbers to access radio communications in a specific channel.
- **Ground:** Includes all the traffic of the aircrafts in the terminal just before they take off or after landing.
- **Headings:** Angle composed between magnetic north and nodes of the aircraft.
- **Hold Short:** Instruction issued to an aircraft to prevent it from taxi into the runway.
- **Initial contact:** The very first contact of an aircraft with the traffic controller previous a flight.
- **Instruments Approach:** An approach to an airport in limited conditions of visibility, using only the aircraft instruments to conduct the approach.
- **Landing:** Act of land an aircraft in a specific runway or an assigned helipad.
- **MAY DAY:** Code word for declaring an emergency in flight.
- **Missed Approach:** Procedure to interrupt the approach when there is no visibility conditions to conduct a safe landing.
- **PAN PAN:** Code word for declaring urgency in flight.
- **Phonetic alphabet:** Code words used to represent every character in the alphabet.
- **Phraseology:** Standardized code words to maintain a clear communication in aerial operations.
- **Ramp:** Term used to design the parking area for the aircrafts in an airport.
- **Speed:** Velocity of a specific aircraft measured in knots (miles per hour).
- **Structured Interview:** A Preplanned interview where questions are previously created by the interviewer.
- **Take off:** Act of lift wheels or landing gear from the ground.
- **Taxi:** Act of driving an aircraft on the ground before take off or after a landing.



- **Taxi into position and hold:** Clearance issued to an aircraft in order to enter into the runway and wait for departure instructions.
- **Visual Approach:** Approach conducted when a positive visual contact with the ground or with the assigned runway is established.

## **ANNEXES**

Annex 1	Principal Interview
Annex 1.1	Principal Interview (video)
Annex 1.2	Principal Interview Matrix
Annex 2	Survey for experienced pilots
Annex 2.1	Analysis of survey for experienced pilots
Annex 3	Diagnosis Test
Annex 3.1	Diagnosis Test interview (recording)
Annex 3.2	Diagnosis Test interview scoring
Annex 3.3	Analysis of Diagnosis Test Matrix
Annex 4	Evaluation Test
Annex 4.1	Evaluation Test interview (recording)
Annex 4.2	Evaluation Test interview scoring
Annex 4.3	Analysis of Evaluation Test Matrix
Annex 5	Comparison Matrix

# **CHAPTER VI**

## **PROPOSAL**

### **6.1. Introduction**

We have developed our proposal based upon three main features: Communicative Language Teaching (CLT), English for Specific Purposes (ESP) and Testing speaking and listening skills.

We have considered CLT because Aeronautical Phraseology in English is mainly based on the fact that language is used for communication; this is its main goal. Pilots and controllers must use language properly in order to get effective and unmistakable communications during aerial operations.

ESP doctrine is undoubtedly an essential part of our work because our “customers” are part of a very specific and specialized group: pilots and aerial controllers. Our proposal is directed mainly to them and because of this; it must be treated as an ESP subject.

Finally, our work has focused evaluations on listening and speaking skills, because once again they are the most important and useful skills required in order to establish and maintain proper communication between pilots and controllers.

### **6.2. Justification**

We have covered four major areas:

- Textbook
- Instructional aids
- Planning tools: unit and lesson plans and
- Evaluation tools.

We have considered all these tools necessary in order to teach and learn effectively.

Every one of them represents a critical part in the overall performance of the teaching – learning process. Each one of them covers a specific area and with them we expect to contribute with the Pilot’s School in order to provide their students with the required tools for learning Aeronautical Phraseology in English. Tools that according to our first investigation they didn’t have and here the reason for our work and the value of this work.

### **6.3. Objectives**

- To provide a textbook containing Aeronautical Phraseology in English doctrine, to include class drills with examples applied specifically on army aircrafts, aeronautical shorthand and terms glossary to familiarize students with the principal words used during aerial communications.
- To implement CBT’s (Computer-Based Training) through power presentations which will allow students to study and practice by themselves: at home, during spare time and in the classroom environment.
- To provide the teacher with the unit and lessons plans in order to guide him through the teaching process and provide him with the required tools to achieve a coherent progression during this subject development.
- Finally, to suggest examples of diagnosis and evaluation tests and their scoring procedures in order to evaluate students performance before and after the syllabus application.

#### **6.4. Feasibility**

Project is absolutely feasible, because it requires the present materials and the students (pilots and / or controllers) in order to apply the tools and at the end of the course to evaluate their improvement on this subject.

#### **6.5. Impact**

The main impact of this work is going to happen on the area of standardization of procedures while using aeronautical Phraseology in English, in this case on army aviation crews.

Currently if a pilot establishes communication in English with ATC dependences while flying it is mainly product of his self instruction, because nobody before has taught them this subject at least in a formal manner. From now and on, every army aviation pilot will use a standardized procedure and phraseology when using English during their aerial communications. An hopefully, every student from the Army Pilot's School will learn this subject in a standardized form during their initial training and will practice it from the very beginning of his career.

#### **6.6 Evaluation**

The program is self evaluated through the suggested diagnosis and evaluation test. The former, to be used before the syllabus application in order to determine the knowledge level of each student individually and of the group as a whole and the latter to establish student's performance after the syllabus application establishing individual and group improvement.

## **6.7 How to Use the Proposal**

We strongly recommend applying the diagnosis test before anything else in order to have a clear vision of the group conditions before starting the course. After analyzing the results, the teacher will have a straight idea of what areas emphasize if needed.

Then, the teacher can use the CBT 1, in order to present the students with the initial theory on this subject. At the same time students willing to learn more can consult their textbook, which contains the same information than the CBT but in deeper detail.

Once reviewed the first four chapters (General Information, Radio communication Techniques, Basic Phraseology and ATIS) we recommend to go back to class drills on CBT 2, because they contain simpler examples of the usage of the phraseology corresponding to this items and above all they use army aircrafts call signs it will make students to get used to the airframe call sign they are actually flying.

Once students have mastered class drills on the firsts chapters it is recommended to go back to CBT 1, because it offers challenging examples with real world communication (Los Angeles, Miami, New York, airports). They will reveal the students that in crowded airports communications become a demanding task, opposed to communications in Ecuadorian airports where being smaller means the communications traffic is less complicated and a lot of terms used in overseas airports are not applicable here.

## **6.8 Proposal**

# **Part I**

## **Unit Plan & Lesson Plans**

# **Part II**

# **Textbook**



**ARMY PILOT'S SCHOOL**  
**"CAP. FERNANDO VASCONEZ"**

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**AERONAUTICAL**  
**PHRASEOLOGY IN**  
**ENGLISH**  
**(CLASS DRILLS)**

**2007**

## **AERONAUTICAL PHRASEOLOGY IN ENGLISH**

This part deals with radio communications between aircraft and ground stations. Particular emphasis is placed on radiotelephony procedures that are intended to promote understanding of messages and reduce communications time.

### **Language**

English is the language to be used for aeronautical radio communications around the world. The regulations specify that air traffic services shall be provided in English on every international Airport.

For safety and operational efficiency, once the language to be used has been determined, the pilot should refrain from changing language in the course of communications without formal notification to that effect. In addition, pilots should endeavour to become thoroughly familiar with the aeronautical phraseology and terminology applicable to the type of service being provided in the official language of their choice.

### **Use of Phonetics**

Phonetic letter equivalents shall be used for single letters or to spell out groups of letters or words as much as practicable. The ICAO phonetic alphabet should be used.

## THE PHONETIC ALPHABET AND MORSE CODE

LETTER	CODE	WORD	PRONUNCIATION	LETTER	CODE	WORD	PRONUNCIATION
A	·-·	Alfa	AL fah	N	-·	November	no VEM ber
B	-·-·-·	Bravo	BRAH VOH	O	---·	Oscar	OSS cah
C	-·-·-·	Charlie	CHAR lee or SHAR lee	P	·-·-·	Papa	pah PAH
D	-·-·	Delta	DELL tah	Q	---·-·	Quebec	keh BECK
E	·	Echo	ECK oh	R	·-·	Romeo	ROW me oh
F	·-·-·	Foxtrot	FOKS trot	S	·-·-·	Sierra	see AIR rah
G	---·	Golf	GOLF	T	-	Tango	TANG go
H	·-·-·	Hotel	hoh TELL	U	·-·-·	Uniform	YOU nee form or OO nee form
I	·-·	India	IN dee ah	V	·-·-·	Victor	VIK tah
J	·-·-·-·	Juliett	JEW lee ETT	W	·-·-·	Whiskey	WISS key
K	-·-·	Kilo	KEY joh	X	-·-·-·	X-ray	ECKS RAY
L	·-·-·	Lima	LEE mah	Y	-·-·-·	Yankee	YANG key
M	-·-·	Mike	M KE	Z	---·-·	Zulu	ZOO  oo
NUMBER	CODE	WORD	PRONUNCIATION	NUMBER	CODE	WORD	PRONUNCIATION
0	-----	Zero	ZE RO	5	·-·-·-·	Five	F FE
1	·-·-·-·	One	WUN	6	-·-·-·-·	Six	SIX
2	·-·-·-·	Two	TOO	7	-·-·-·-·	Seven	SEV en
3	·-·-·-·	Three	TREE	8	---·-·-·	Eight	A T
4	·-·-·-·	Four	FOW er	9	---·-·-·	Nine	NIN er

When spoken, capitalized syllables are given equal stress, e.g., ECKS-RAY. When only one syllable is capitalized, that syllable is given primary stress, e.g., NINE-er.

### Use of Numbers Figures

Indicating hundreds and thousands in round numbers, as for ceiling heights, flight altitudes and upper wind levels up to 9000', shall be spoken in accordance with the following examples:

500: Five hundred.

1.300: One thousand three hundred.

4.500: Four thousand five hundred.

9.000: Niner thousand. (Because of the german phonetic-sound)

Numbers above 9000 ft. shall be spoken by separating the digits preceding the word thousand.

10.000: One-Zero Thousand

13.000: One-Three Thousand

18.500: One-Eight Thousand five hundred

27.000: Two-Seven Thousand

All other numbers shall be transmitted by pronouncing each digit:

10: One-Zero

75: Seven-Five

583: Five-Eight-Three

1.850: One-Eight-Five-Zero

18.143: One-Eight-One-Four-Three

20.075: Two-Zero-Zero-Seven-Five

The digit "9" shall be spoken "niner". When a digit contains a decimal point, the decimal point is spoken as "point", or decimal. Examples:

122.1: One-Two-Two-point-One

126.7: One-Two-six-point-seven

### **Statement of time**

The 24-hour system is used in radiotelephone transmissions. The hour is indicated by the first two figures and the minutes by the last two figures. Examples:

0010: Zero-Zero-One-Zero

0935: Zero-Niner-Three-Five

Time may be stated in minutes only (two figures) in radiotelephone communications when no misunderstanding is likely to occur.

Current time at a station shall be stated in the nearest quarter minute, in order that pilots may use this information for time checks. Fractions of a quarter minute less than eight seconds shall be stated as the preceding quarter minute; fractions of a quarter minute of eight seconds or more shall be stated as the succeeding quarter minute. Examples:

9:29:05 AM: Time, Zero-Niner-Two-Niner

9:29:10 AM: Time, Zero-Niner-Two-Niner and one quarter

9:29:28 AM: Time, Zero-Niner-Two-Niner and one half.

## **Control Facilities**

A typical ground control system, which the pilot will normally deal, is as follows: (Usually all these facilities will be located in the tower).

- **Ground control:** is the function that control airplanes on the ground from the runway to parking space, and from the parking space to the run-up area, and also obtains clearances for IFR flights, Ground Control can usually be contacted on 121,9 or 121,7 Mhz.
- **The tower:** controls airplanes on and in the vicinity of the airport for takeoff and landing. However, Ground Control and Departure Control may be handled by the tower frequency at some stations.
- **Departure Control:** handles airplanes after takeoff and prior to being handed off the Air Route Traffic Control Center (ARTCC). Departure Control may be located in the tower, the IFR room in a nearby building.
- **Enroute Control:** is accomplished by Air Route Traffic Control Centers (ARTCC's) which are responsible, in each individual case, for a large section for example in the United States. These sections when combined cover the entire country.

The proper designation of the Air Traffic Control Center is ARTCC however it is commonly referred to as Air Traffic Control (ATC). ATC is also used to refer to any controlling agency. Within each of the center areas, several sectors are established and

as a pilot progress along a route, he is handed off from one sector to the next. When he reaches the boundary of a Control Center (ARTCC), he is handed off to the next Center along the route. Flight Services Stations (FSS are located at, or near, many of the Navigation facilities. Actual control of airplanes flying in controlled airspace is exercised by ATC and by the ground Control facilities at a specific field.

- **Approach Control** handles flights which are approaching to an airfield for landing or are elsewhere in the airport vicinity. Approach Control may transfer control of inbound flights to the tower prior to land. However it is a normal procedure for Approach Control to maintain control of inbound flight when inclement weather prevails. In this case, it becomes the responsibility of Approach Control to secure landing clearance from the tower for flights under its control.

### **Airways and Air Routes Designation**

Phonetics are used with the designation of airways and air routes.

Examples:

	<i>WRITTEN</i>	<i>SPOKEN</i>
AIRWAYS	G1	GOLF1
	A2	ALFA 2
	J500	JET 500
AIR ROUTES	RR3	ROMEO
		ROMEO 3
	BR4	BRAVO
		ROMEO 4

## **Distance Reporting**

Distance reporting based on NAV and GPS will be provided in miles, e.g. 30 mi. from someplace. When distance reports are based on DME, pilots will state DME, e.g. 30 DME from someplace.

## **Aircraft type numbers, wind speed and cloud base**

May be expressed in group form:

Examples:

*DC10 DC TEN*

*Wind  
270/10 WIND TWO SEVEN ZERO AT TEN*

*3400  
broken THREE THOUSAND FOUR HUNDRED BROKEN*

## **Aircraft headings**

are given in groups of three digits prefixed by the word "Heading". If Example:

*005  
degrees HEADING ZERO ZERO FIVE*

## **Aerodrome elevations**

Are expressed in feet, prefixed by the words "Field Elevation".

Example:

*150 FIELD ELEVATION ONE FIVE ZERO*

## **Transponder codes**

Are preceded by the word SQUAWK.

Example:

*code*  
SQUAWK ONE TWO ZERO ZERO  
1200

Numbers containing a decimal point are expressed with the decimal point in the appropriate sequence by the word DECIMAL except that for VHF or UHF frequencies, the decimal point may be omitted if the omission is not likely to cause any misunderstanding.

## **Call Signs**

In radio communications, the registration letters of an aircraft call sign must be expressed in phonetics at all times.

The word “heavy” is used to indicate an aircraft capable of a takeoff weight of 300,000 lbs or more. After communication has been established and when no likelihood of confusion, the word “heavy” may be omitted and call signs may be abbreviated.

Example:

Air Canada 149 Heavy (AIR CANADA ONE FOUR NINE HEAVY)

*Subsequent communications:* No abbreviations permitted except that “heavy” may be omitted.

A “MEDEVAC” is a flight responding to a medical emergency for the transport of patients, organ donors, organs or other urgently needed lifesaving medical material. This can also



apply to certain medical flights, generally helicopters, which may be designated as Air Ambulance Flights.

Examples:

*Austin 101 MEDEVAC (expressed: AUSTIN ONE ZERO ONE MEDEVAC)*

*Cessna FABC MEDEVAC (expressed: CESSNA FOXTROT ALFA BRAVO CHARLIE MEDEVAC).*

*Subsequent communications:* May be abbreviated as per normal procedures retaining the word MEDEVAC.

## **STANDARD RADIO TELEPHONY**

### **General procedures**

The identification of all aircraft must be transmitted in each contact with an Air Traffic Control facility. Also, pilots should be certain that their aircraft is clearly identified by ATC transmissions before taking action on ATC clearance. Garbled transmissions should never be taken for granted, but should be rechecked. On the initial radio transmissions to a ground facility the pilot should indicate the frequency on which a reply is expected if other than the normal frequency is to be used. Also, pilots must be certain that all transmissions are acknowledged and that all acknowledgments are clearly understood.

### **Listening watch**

All pilots operating on IFR clearances are required to maintain a constant listening watch on the frequency assigned by the controlling agency. If for some reason the pilot desires a temporary change in the frequency, he is authorized to request such a change. However, at any time a pilot is off an assigned frequency he must report to ATC when he resumes the listening watch on the assigned frequency.

The *Radio communication Regulations* specify that aeronautical radio communications are restricted to communications relating to:

- the safety and navigation of an aircraft;
- the general operation of the aircraft; and
- the exchange of messages on behalf of the public.

In addition, a person may operate radio apparatus only to transmit a non-superfluous signal or a signal containing non-profane or non-obscene radio communications.

**Pilots should:**

- (a) send radio messages clearly and concisely using standard phraseology whenever practical;
- (b) plan the content of the message before transmitting; and
- (c) listen out before transmitting to avoid interference with other transmissions.

*Message: Radiotelephony traffic generally consists of four parts: the call-up, the reply, the message and the acknowledgement. Example:*

**Pilot:** REGINA TOWER, (THIS IS) CESSNA FOXTROT BRAVO CHARLIE DELTA (OVER).

**Tower:** FOXTROT BRAVO CHARLIE DELTA, REGINA TOWER.

**Pilot:** REGINA TOWER, FOXTROT BRAVO CHARLIE DELTA, TEN SOUTH THREE THOUSAND FIVE HUNDRED FEET VFR LANDING INSTRUCTIONS

***Tower:*** BRAVO CHARLIE DELTA, REGINA TOWER, RUNWAY TWO SIX, WIND TWO THREE ZERO AT TEN, ALTIMETER TWO NINE NINE TWO, CLEARED TO THE CIRCUIT.

***Pilot:*** BRAVO CHARLIE DELTA.

The terms “this is” and “over” may be omitted, and if no likelihood of confusion exists, the call sign for the agency being called maybe abbreviated as follows:

***Pilot:*** TOWER, BRAVO CHARLIE DELTA, CONFIRM RIGHT TURN.

**Message Acknowledgement:** Pilots should acknowledge the receipt of all messages directed to them, including frequency changes. Such acknowledgement may take the form of a transmission of the aircraft call sign, a repeat of the clearance with the aircraft call sign or the call sign with an appropriate word(s).

***Tower:*** VICTOR LIMA CHARLIE, CLEARED TO LAND.

***Pilot:*** VICTOR LIMA CHARLIE.

***Tower:*** FOXTROT VICTOR LIMA CHARLIE, CONFIRM YOU ARE AT FIVE THOUSAND.

***Pilot:*** FOXTROT VICTOR LIMA CHARLIE, AFFIRMATIVE.

NOTE: The clicking of the microphone button as a form of acknowledgement is not an acceptable radio procedure.

## COMMUNICATIONS CHECK

Radio operators have a number of systems which are used to determine the strength and readability of radio transmissions. The numbers run from 1 to 5. The carrier signal strength is

represented by a range from 1 to 5. On a communication check if the following is received: "I read you 5 by 5" it would mean carriers are excellent in strength and the modulation readability is excellent. A reading of 3 by 3 would mean that both carrier signal and modulation were becoming marginal. A reading of 1 by 5 would be extremely weak but with excellent readability, on the other hand a reading of 5 by 1 would be loud but extremely poor modulation. Remember in this checks, the carrier signal number is given first and the modulation is second. These numbers, used properly, can tell the pilot very simple how he is being received or could be used to indicate how he is receiving someone else. In general aviation, the words used to describe excellent radio reception are "loud and clear". If the modulation is poor the words "low but garbled" would be used. If the carrier signal is poor, the words "weak but clear" would be utilized.

When a frequency is followed by a "G" this means the facility can receive only on this frequency and will transmit on some other frequency-122.5 G (receive only). If there is a "T" after this frequency, this means the facility transmits only and cannot receive on the frequency. When there is no designation, the frequency is a two way frequency. (A legend explanation is contained at the top of Communications Listing on all Jeppesen Enroute Navigation Charts).

The readability scale from one to five has the following meaning:

1. unreadable;
2. readable now and then;
3. readable with difficulty;
4. readable; and
5. perfectly readable.

The strength scale from one to five used in HF communications has the following meaning:

1. bad;
2. poor;
3. fair;
4. good; and
5. excellent.

Communications checks are categorized as follows:

*Signal Check* — if the test is made while the aircraft is airborne.

*Pre-flight Check* — if the test is made prior to departure.

*Maintenance Check* — if the test is made by ground maintenance.

**Pilot:** THOMPSON RADIO, CESSNA FOXTROT ALFA BRAVO CHARLIE, RADIO CHECK ON FIVE SIX EIGHT ZERO.

**Radio:** FOXTROT ALFA BRAVO CHARLIE, THOMPSON RADIO, READING YOU STRENGTH FIVE, OVER.

**Most common phrases used during procedures:**

Acknowledge: "Let me know that you have received and understood the message".

Affirmative: "yes".

Correction: "An error has been made in this transmission, the correct version is..."

Go ahead: "Proceed with your message".

How do you hear me: Self explanatory.

I say again: Self explanatory.

Negative: "That is not correct".

Out: "This conversation is over and no response is expected".

Over: "My transmission is ended and I expect a response from you".

Read back: "Repeat all of this message back to me".

Roger: "I have received all of your last transmissions"(To acknowledge receipt; shall not be used for other purposes).

Say again: Self explanatory.

Speak slower: Self explanatory.

Stand by: If used by itself it means, "I must pause for a few seconds". If the pause is longer than a few seconds or if "stand by" is used to prevent another station from transmitting, it must be followed by the ending "out".

That is correct: Self explanatory.

Verify: "Check with originator".

Words twice:

(a) As a request: "Communication is difficult, please say every phrase twice".

(b)As information: "Since communication is difficult, every phrase in this message will be spoken twice".

## EMERGENCY COMMUNICATIONS

An emergency condition is classified in accordance with the degree of danger or hazard present.

- **Distress** is a situation when safety is being threatened by grave and imminent danger and requires immediate assistance. The spoken word for distress is MAYDAY and is pronounced 3 times.
- **Urgency** is a situation where the safety of an aircraft or other vehicle or of some person on board or within sight is threatened, but does not require immediate assistance. The spoken word for urgency is PANPAN and is pronounced 3 times.

The first transmission of the distress call and message by an aircraft should be on the air-to-ground frequency in use at the time. If the aircraft is unable to establish communication on the frequency in use, the distress call and message should be repeated on the general calling and distress frequency (3023.5 kHz or 121.5 MHz), or any other frequency available, such as 2182 kHz and 5680 kHz, in an effort to establish communications with any ground or other aircraft station.

The distress call shall have absolute priority over all other transmissions. All stations hearing it shall immediately cease any transmission which may interfere with it and shall listen on the frequency used for the distress call.

Example of a Distress Message from an Aircraft:

*MAYDAY, MAYDAY, MAYDAY, THIS IS CFZXY, CFZXY, CFZXY, FIVE ZERO MILES SOUTH OF YELLOWKNIFE AT ONE SEVEN TWO FIVE ZULU, FOUR THOUSAND, NORSEMAN, ICING, WILL ATTEMPT CRASH LANDING ON ICE, CFZXY, OVER.*

Example of An Urgency Message Addressed to All Stations:

*PANPAN, PANPAN, PANPAN, ALL STATIONS, ALL STATIONS, ALL STATIONS, THIS IS TIMMINS RADIO, TIMMINS RADIO, TIMMINS RADIO, EMERGENCY DESCENT AT TIMMINS AIRPORT, ATC INSTRUCTS ALL AIRCRAFT BELOW SIX THOUSAND FEET WITHIN RADIUS OF ONE ZERO MILES OF TIMMINS NDB LEAVE EAST AND NORTH COURSES IMMEDIATELY, THIS IS TIMMINS RADIO OUT.*

#### **ATC Frequency Change Procedures.**

1. The following phraseology will be used by controllers to effect a frequency change:

#### **EXAMPLE-**

*(Aircraft identification) contact (facility name or location name and terminal function) (frequency) at (time, fix, or altitude).*

**NOTE-**

*Pilots are expected to maintain a listening watch on the transferring controller's frequency until the time, fix, or altitude specified. ATC will omit frequency change restrictions whenever pilot compliance is expected upon receipt.*

2. The following phraseology should be utilized by pilots for establishing contact with the designated facility:

(a) When operating in a radar environment: On initial contact, the pilot should inform the controller of the aircraft's assigned altitude preceded by the words "level," or "climbing to," or "descending to," as appropriate; and the aircraft's present vacating altitude, if applicable.

**EXAMPLE-**

1. *(Name) CENTER, (aircraft identification), LEVEL (altitude or flight level).*
2. *(Name) CENTER, (aircraft identification), LEAVING (exact altitude or flight level), CLIMBING TO OR DESCENDING TO (altitude of flight level).*

**NOTE-**

*Exact altitude or flight level means to the nearest 100 foot increment. Exact altitude or flight level reports on initial contact provide ATC with information required prior to using Mode C altitude information for separation purposes.*

When operating in a non-radar environment:

(1) On initial contact, the pilot should inform the controller of the aircraft's present position, altitude and time estimate for the next reporting point.

**EXAMPLE-**



*(Name) CENTER, (aircraft identification), (position), (altitude), ESTIMATING (reporting point) AT (time).*

**(2)** After initial contact, when a position report will be made, the pilot should give the controller a complete position report.

**EXAMPLE-**

*(Name) CENTER, (aircraft identification), (position), (time), (altitude), (type of flight plan), (ETA and name of next reporting point), (the name of the next succeeding reporting point), AND (remarks).*

At times controllers will ask pilots to verify that they are at a particular altitude. The phraseology used will be: "VERIFY AT (altitude)." In climbing or descending situations, controllers may ask pilots to "VERIFY ASSIGNED ALTITUDE AS (altitude)." Pilots should confirm that they are at the altitude stated by the controller or that the assigned altitude is correct as stated. If this is not the case, they should inform the controller of the actual altitude being maintained or the different assigned altitude.

**CAUTION-**

***Pilots should not take action to change their actual altitude or different assigned altitude to the altitude stated in the controllers verification request unless the controller specifically authorizes a change.***

**Radio Frequency Outage.** ATCs normally have at least one back-up radio receiver and transmitter system for each frequency, which can usually be placed into service quickly with little or no disruption of ATC service. Occasionally, technical problems may cause a delay but switchover seldom takes more than 60 seconds. When it appears that the outage will not be quickly remedied, the ATC will usually request a nearby aircraft, if there is one, to switch to the affected frequency to broadcast communications instructions. It is important, therefore,

that the pilot wait at least 1 minute before deciding that the ATC has actually experienced a radio frequency failure. When such an outage does occur, the pilot should, if workload and equipment capability permit, maintain a listening watch on the affected frequency while attempting to comply with the following recommended communications procedures:

1. If two-way communications cannot be established with the ARTCC after changing frequencies, a pilot should attempt to recontact the transferring controller for the assignment of an alternative frequency or other instructions.

2. When an ATC radio frequency failure occurs after two-way communications have been established, the pilot should attempt to re-establish contact with the centre on any other known ATC frequency, preferably that of the next responsible sector when practicable, and ask for instructions. However, when the next normal frequency change along the route is known to involve another ATC facility, the pilot should contact that facility, if feasible, for instructions. If communications cannot be re-established by either method, the pilot is expected to request communications instructions from the appropriate dependence to the route of flight.

## **POSITION REPORTING**

The safety and effectiveness of traffic control depends to a large extent on accurate position reporting. In order to provide the proper separation and expedite aircraft movements, ATC must be able to make accurate estimates of the progress of every aircraft operating on an IFR flight plan.

### **a. Position Identification.**

- When a position report is to be made passing a VOR radio facility, the time reported should be the time at which the first complete reversal of the "to/from" indicator is accomplished.

- When a position report is made passing a facility by means of an airborne ADF, the time reported should be the time at which the indicator makes a complete reversal.
- When an aural or a light panel indication is used to determine the time passing a reporting point, such as a fan marker, Z marker, cone of silence or intersection of range courses, the time should be noted when the signal is first received and again when it ceases. The mean of these two times should then be taken as the actual time over the fix.
- If a position is given with respect to distance and direction from a reporting point, the distance and direction should be computed as accurately as possible.
- Except for terminal area transition purposes, position reports or navigation with reference to aids not established for use in the structure in which flight is being conducted will not normally be required by ATC.

#### **b. Position Reporting Points.**

DAC regulations require pilots to maintain a listening watch on the appropriate frequency and, to furnish position reports passing certain reporting points. Reporting points are indicated by symbols on en route charts. The designated compulsory reporting point symbol is a solid triangle ▲ and the "on request" reporting point symbol is the open triangle △. Reports passing an "on request" reporting point are only necessary when requested by ATC.

#### **c. Position Reporting Requirements.**

- **Flights along airways or routes.** A position report is required by all flights regardless of altitude, including those operating in accordance with an ATC clearance, over each designated compulsory reporting point along the route being flown.

- **Flights Along a Direct Route.** Regardless of the altitude or flight level being flown, including flights operating in accordance with an ATC clearance, pilots shall report over each reporting point used in the flight plan to define the route of flight.
- **Flights in a Radar Environment.** When informed by ATC that their aircraft are in "Radar Contact," pilots should discontinue position reports over designated reporting points. They should resume normal position reporting when ATC advises "RADAR CONTACT LOST" or "RADAR SERVICE TERMINATED."

**NOTE-**

*ATC will inform pilots that they are in "radar contact":*

*(a) when their aircraft is initially identified in the ATC system; and*

*(b) when radar identification is re-established after radar service has been terminated or radar contact lost. Subsequent to being advised that the controller has established radar contact, this fact will not be repeated to the pilot when handed off to another controller. At times, the aircraft identity will be confirmed by the receiving controller; however, this should not be construed to mean that radar contact has been lost. The identity of transponder equipped aircraft will be confirmed by asking the pilot to "ident," "squawk standby," or to change codes. Aircraft without transponders will be advised of their position to confirm identity. In this case, the pilot is expected to advise the controller if in disagreement with the position given. Any pilot who cannot confirm the accuracy of the position given because of not being tuned to the NAVAID referenced by the controller, should ask for another radar position relative to the tuned in NAVAID.*

**d. Position Report Items:**

Position reports should include the following items:

- Identification;

- Position;
- Time;
- Altitude or flight level;
- Type of flight plan (not required in IFR position reports made directly to ATC or approach control);
- ETA and name of next reporting point;
- The name only of the next succeeding reporting point along the route of flight; and
- Pertinent remarks.

### **Radar vectors**

Controllers may vector aircraft within controlled airspace for separation purposes, noise abatement considerations, when an operational advantage will be realized by the pilot or the controller, or when requested by the pilot. Vectors outside of controlled airspace will be provided only on pilot request. Pilots will be advised as to what the vector is to achieve when the vector is controller initiated and will take the aircraft off a previously assigned non radar route.

### **Holding**

Whenever an aircraft is cleared to a fix other than the destination airport and delay is expected, it is the responsibility of the ATC controller to issue complete holding instructions (unless the pattern is charted), an EFC time and best estimate of any additional en route/terminal delay.

If the holding pattern is charted and the controller doesn't issue complete holding instructions, the pilot is expected to hold as depicted on the appropriate chart. When the pattern is charted, the controller may omit all holding instructions except the charted holding

Direction and the statement *AS PUBLISHED*; e.g., *HOLD EAST AS PUBLISHED*. Controllers shall always issue complete holding instructions when pilots request them.








When no delay is expected, the controller should issue a clearance beyond the fix as soon as possible and, whenever possible, at least 5 minutes before the aircraft reaches the clearance limit.

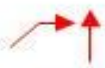





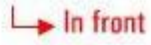




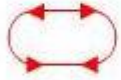


Pilots should report to ATC the time and altitude/flight level at which the aircraft reaches the clearance limit and report leaving the clearance limit.





**NOTE-**





*In the event of two-way communications failure, pilots are required to continue with the approach.*

**INTERNATIONAL AERIAL SHORTHAND**

Above		Bearing	Br
After		Before	>
Airport	A	Below	
Alternate Instructions	( )	Bound	B
And advise	& Adv	Center	Ctr
Approach 	App	Clear through control zone	
Approach control	APC	Clear to enter control zone	
As published	APUB	Clear to enter control zone	 -Bound
At	@	Clearance void after Void time, Block of time	V<
Back course	BC	Cleared as filed	CAF

Clears	<b>C</b>	DME fix	<b>15, fix</b>
Climb and maintain		Due to	<b>Due to</b>
Contact	<b>Ct, K</b>	Each	<b>ea</b>
Cross		East	<b>E</b>
Cross airway		Enter control area	
Cruise	<b>Cr</b>	Expect further clearance time/location	<b>Ex</b>
Delay	<b>DLY</b>	Expected approach clearance -EAC	<b>EAC (Time)</b>
Depart control zone		Final	<b>F (leg)</b>
Departure	<b>DEP</b>	Flight level	<b>FL</b>
Descend and maintain		Flight plan route	<b>FPR</b>
For further clearance	<b>FFC</b>	In front	 <b>In front</b>
For radar vector	<b>RV</b> 	Intercept	
From	<b>Frm</b>	Intercept airway	
From over	<b>Frm, Ovr</b>	Jet	<b>J</b>
Hold	<b>H ( )</b>	Join or intercept airway	
Hold heading	<b>H (270 )</b>	Localizer back course	<b>LBC</b>
Holding pattern		Localizer only	<b>LCO</b>
If not	<b>Or, if not ( )</b>	Low frequency beacon located at middle marker	<b>LMM</b>
In back	 <b>In back</b>	Low frequency beacon located at outer marker	<b>LOM</b>
In bound	<b>IB</b>	Maintain	<b>M</b> 

Maintain runway heading	 RW HDG	Precision approach radar	PAR	Report reaching	Rr
Middle marker	MM	Procedure turn	PT	Report starting procedure turn	RP-SPT
Mls, miles	Mls, mls	Proceed direct	P 	Requests	Rqs!Atcr
Nondirectional beacon	NDB	Radial	090r	Reverse course	RC
North	N	Radio communications failure	RAD COM FAIL	Runway	RW
On course	PCRS	Range	R	Shuttle climb	S; 
Other traffic	OTH TRAF	Remain at/above	<u>ALTITUDE</u>	South	S
Out of control area		Reamain at/below	<u>ALTITUDE</u>	Squawk	SQ
Outbound	OB	Report leaving	RL	Stand by	Stby
Over (ident over the line)	<u>OCK</u>	Report passing	Rp	Surveillance radar	ASR

Take off direction	T- (direction)	VOR	
This frequency	This freq	Vortac	
Till / Until	/	West	W
To	To	While in controlled airspace	==
Tower	Z	While in controlled area	Airway ==
Track	TR	Within	> 20 <
Turn left	LT 		
Turn right	RT 		
VFR on top	<u>VFR</u>		
Via	Via		



# **MILITARY AIRCRAFT DRILLS**

## AIRCRAFT

### GROUND CONTROL FREQUENCY

#### TO REQUEST PERMISSION TO START ENGINES

1. Guayaquil Ground Control, Army 466, over.
3. Army 466, on military ramp, REQUEST START.
5. Roger Army 466, I will report ready to taxi.
7. Roger Army 466, start engines on present position.
9. Roger Army 466, start at 1720.
11. Roger Army 466 expects start at 2210.
13. Roger Army 466, start at discretion.
15. Affirmative Guayaquil, Army 466 is ready to start.
17. Roger, Army 466 slowing down engines.
19. Roger Army 466 cutting off engines.

## AERODROME CONTROL

### GROUND CONTROL

2. Army 466 Guayaquil Ground Control GO AHEAD.
4. Army 466, CLEARED START ENGINES, expect runway 03, wind 030 degrees, 10 knots, TEMPERATURE 25 degrees, QNH 1014 milibars, TIME 1716, REPORT READY TO TAXI.
6. Army 466, RUN UP ENGINES in present position.
8. Army 466, START AT 1720.
10. Army 466, EXPECT START AT 2210.
12. Army 466, START AT YOUR DISCRETION.
14. Army 466, are you READY TO START.
16. Army 466, SLOW DOWN ENGINES, Cessna 172, taxiing, (or landing, or taking off), BEHIND YOU.
18. Army 466 CUT OFF ENGINES.

## AIRCRAFT

### GROUND CONTROL FREQUENCY

#### TO REQUEST TAXI INSTRUCTIONS:

1. Quito Ground Control, Army 482, over.
3. Army 482, on military ramp, REQUEST TAXI INSTRUCTIONS, OVER.
5. Roger Army 482, cleared to holding point runway 35, VIA south taxiway, time 20.
7. Roger, Army 482, cleared to taxi VIA ALPHA, first turn to right until military ramp.
9. Roger Army 482, continue straight ahead, EXPECT Instructions.
11. Roger Army 482, follow to Varig in front.

- 
1. Cuenca Ground Control, Navy 212 request RUNWAY BACKTRACK.
  3. Roger Navy 212.
  5. Roger Navy 212 GIVING WAY TO Cessna.
  7. Roger Navy 212 taxing with caution.
  9. Roger Navy 212 cleared to taxi into holding bay runway 32.
  11. Roger Navy 212 VACATING RUNWAY.
  13. Roger Navy 212 EXPEDITING TAXI.
  15. Roger Navy 212 TAXING SLOWER.

## AERODROME CONTROL

### GROUND CONTROL

#### TAXI INSTRUCTIONS

2. Army 482 Guayaquil Ground Control GO AHEAD.
  4. Army 482, TAXI TO HOLDING POINT RUNWAY 35, VIA south taxiway, time 20.
  7. Army 482, TAXI VIA ALPHA, take first (or second) TURN TO right (or left) UNTIL military ramp.
  8. Army 482, CONTINUE STRAIGHT AHEAD, WE WILL ADVISE left (or right) TURN, taxiway CLOSED between third and fourth intersection BY MAINTENANCE.
  11. Army 482, FOLLOW TO Varig Airbus IN FRONT OF YOU.
- 
2. Navy 212 BACKTRACK APPROVED.
  4. Navy 212 GIVE WAY TO Cessna 402
  6. Navy 212 TAXI WITH CAUTION.
  8. Navy 212, TAXI INTO holding bay of runway 32.
  10. Navy 212, VACATE RUNWAY BY THE NEXT INTERSECTION TO YOUR left (or right).
  12. Navy 212, EXPEDITE TAXI Boeing 747 ON short final.
  14. Navy 212, CAUTION TAXI SLOWER Embraer next to commence taxi.

## AIRCRAFT

### GROUND CONTROL FREQUENCY

#### HOLDING

2. Roger AYM holding position.
4. Roger AYM holding to north of taxiway.
6. Roger AYM STOPPING.

#### TO CROSS A RUNWAY

1. Army 361, request CROSS RUNWAY 03
3. Roger Army 361, will report vacated.
5. Roger Army 361 expediting crossing.
6. Latacunga Ground, Army 361 runway vacated.

#### PREPARATION FOR TAKE OFF

1. Army 101, Request ATC CLEARANCE
4. Roger Army 101 cleared to Guayaquil, VIA flight plan route, climb and maintain FL 210, SID 2.
5. Roger, Army 101 READY, switching to tower frequency.

### TOWER CONTROL FREQUENCY

6. Quito Tower, Army 101
8. Roger 101, hold short 35.
10. Roger 101, taxi into position and hold.
12. Roger Army 101, after Boeing 727, line up and wait.

## AERODROME CONTROL

### GROUND CONTROL

#### HOLDING

1. HC - AYM, HOLD POSITION.
3. HC- AYM HOLD TO north OF taxiway
5. HC - AYM STOP IMMEDIATELY

#### TO CROSS A RUNWAY

2. Army 361, CROSS RUNWAY 03, REPORT VACATED.
4. Army 361, EXPEDITE CROSSING runway 03, TRAFFIC Piper Navajo ON final.

#### PREPARATION FOR TAKE OFF

2. Army 101, CLEARED TO Guayaquil, VIA FLIGHT PLAN ROUTE CLIMB AND MAINTAIN FLIGHT LEVEL 210, STANDARD INSTRUMENT DEPARTURE number two.
4. Army 101, WHEN YOU ARE READY CONTACT Quito tower frequency.

### TOWER CONTROL

7. Army 101 Quito Tower, HOLD SHORT RUNWAY 35
9. Army 101, TAXI INTO POSITION AND HOLD. Be ready FOR IMMEDIATE DEPARTURE.
11. Army 101, AFTER PASS Boeing 727 ON short final, LINE UP AND WAIT.

**A I R C R A F T**

**TOWER CONTROL FREQUENCY**

**TO REQUEST TAKE OFF CLEARANCE**

1. Cuenca Tower Army 461, OVER
  
3. Army 461, READY FOR take off
  
  
  
  
  
  
  
  
  
  
5. Roger, Army 461 cleared for take off.
  
  
  
  
  
  
  
  
  
  
8. Roger, Army 461 holding, canceling departure.
  
  
  
  
  
  
  
  
  
  
10. Roger Army 461, ABORTING TAKE OFF.
  
  
  
  
  
  
  
  
  
  
12. Roger Army 461, cleared for take off, I will report airborne.

**AERODROME CONTROL**

**TOWER CONTROL**

**TAKE OFF CLEARANCE**

2. Army 461, Cuenca Tower GO AHEAD
  
  
  
  
  
  
  
  
  
  
4. Army 461, CLEARED FOR take off, wind 060 degrees 12 knots.
  
  
  
  
  
  
  
  
  
  
6. Army 461, TAKE OFF IMMEDIATELY OR VACATE THE RUNWAY.
  
  
  
  
  
  
  
  
  
  
7. Army 461, HOLD POSITION, CANCEL REPEAT CANCEL DEPARTURE DUE TO EMERGENCY.
  
  
  
  
  
  
  
  
  
  
9. Army 461, ABORT TAKE OFF, truck crossing the end of the runway WITHOUT CLEARANCE.
  
  
  
  
  
  
  
  
  
  
11. Army 461, NOW YOU ARE CLEARED FOR TAKE OFF, wind 070 08 knots. REPORT AIRBORNE.

## **A I R C R A F T**

### **TOWER CONTROL FREQUENCY**

#### **AFTER TAKE OFF**

2. Roger 459, will report reaching.
3. Guayaquil Tower Army 459, five miles OUT.
5. Roger Army 459, contact 119.3, good day.

### **APPROACH CONTROL FREQUENCY**

6. Guayaquil Approach, Army 459 with you.
8. Roger Guayaquil, after passing 9 thousand 7 hundred feet, RIGHT TURN HEADING 150
10. Roger, Army 459 track runway heading until 5 thousand.
12. Roger, army 459 continue on runway heading until GYV.
14. Roger Army 459, avoid flying over the city.
16. Roger Army 459 maintaining present heading.
18. Roger Army 459 climb heading 140, until 6 thousand.
20. Roger Army 459, climbing straight ahead via UG675.

## **AERODROME CONTROL**

### **TOWER CONTROL**

#### **AFTER TAKE OFF**

1. Army 459, AIRBORNE 35, CLIMB AND MAINTAIN one thousand feet, REPORT REACHING or five miles OUT.
4. Roger Army 459, CONTACT Guayaquil Approach on 119, 3 Good Day.

### **APPROACH CONTROL**

7. Roger Army 459 AFTER PASSING 9 thousand 7 hundred feet MAKE A RIGHT (Left) TURN HEADING 150.
9. Army 459, TRACK RUNWAY HEADING UNTIL reach 5 thousand feet.
11. Army 459 CONTINUE ON RUNWAY HEADING UNTIL Guayaquil VOR.
13. Army 459, AVOID FLYING OVER THE city.
15. Army 459, MAINTAIN PRESENT HEADING until further advice.
17. Army 459, CLIMB HEADING 140 degrees UNTIL REACHING AT LEAST 6 thousand feet.
19. Army 459, CLIMB STRAIGHT AHEAD VIA uniform golf 675

## AIRCRAFT

### TOWER CONTROL FREQUENCY

#### ENTERING AN AERODROME TRAFFIC CIRCUIT

1. Guayaquil Tower Army 001, 5 miles NORTH, 5 thousand feet, DESCENDING VFR REQUEST LANDING INSTRUCTIONS.
3. Army 001, roger I WILL REPORT.
4. Army 001 STARTING DOWNWIND LEG
7. Roger Army 001 number 2 to land, will report on base leg, runway 03.
9. Roger Army 001, making long approach. (Or extending downwind leg).
11. Roger army 001, holding over the east.
12. Guayaquil Army 001, request STRAIGHT IN APPROACH, runway 03.
14. Roger Army 001, go around and make traffic pattern.

## AERODROME CONTROL

### TOWER CONTROL

#### ENTERING AN AERODROME TRAFFIC CIRCUIT

2. Army 001, CLEARED TO ENTER THE LEFT TRAFFIC PATTERN, RUNWAY 03 WIND 060 degrees 14 knots, TEMPERATURE 23, QNH 1014 milibars, TRAFFIC IS Avro ON BASE LEG, REPORT starting downwind leg.
5. American 145, JOIN ON BASE LEG RUNWAY 03, WIND calm, TEMPERATURE 25, QNH 1013 milibars.
6. Army 001, NUMBER 2 TO LAND REPORT base leg.
8. Army 001 MAKE LONG APPROACH,( or extend downwind leg)
10. Army 001, HOLD OVER the east of the aerodrome, DUE TO meteorological conditions.
13. Army 001, UNABLE TO APPROVE STRAIGHT IN APPROACH, GO AROUND and make traffic pattern.

## AIRCRAFT

### TOWER CONTROL FREQUENCY

#### TO REQUEST LANDING INSTRUCTIONS

1. Salinas Tower Navy 201, REQUEST LANDING INSTRUCTIONS.
3. Roger, Navy 201 cleared to land
5. Roger, Navy 201, cleared touch and go.
7. Roger, Navy 201 for a short landing.
8. Salinas Navy 201, REQUEST EMERGENCY LANDING.
10. Roger Navy 201.
12. Roger Navy 201 looking, we will report traffic in sight.
14. Roger Salinas VISUAL CONTACT NEGATIVE

#### AFTER LANDING INSTRUCTIONS

2. Roger, Air Force 803 switch to 121.9.

### GROUND CONTROL FREQUENCY

3. Guayaquil Ground Control Air Force 803, request taxi instructions.
5. Roger, Air Force 803, vacating runway by next intersection right. (or left).
7. Roger, Air Force 803 expediting.
9. Roger Air Force 803 stand by.
11. Roger, Air Force 803 turn first left and hold position.
13. Roger Air Force 803, Via bravo to parking area.
15. Roger Air Force 803, following instructions.

## AERODROME CONTROL

### TOWER CONTROL

#### LANDING INSTRUCTIONS

2. Roger Navy 201 CLEARED TO LAND, WIND 180 degrees 08 knots.
4. Navy 201 CLEARED TOUCH AND GO
6. Navy 201 make a short landing
9. Navy 201 EMERGENCY LANDING APPROVED, NO KNOWN TRAFFIC
11. Navy 201 REPORT TRAFFIC IN SIGHT
13. Navy 201, REPORT VISUAL CONTACT.

#### AFTER LANDING INSTRUCTIONS

1. Air Force 803, ON THE GROUND AT 25 CONTACT Guayaquil ground control ON 121.9.

### GROUND CONTROL

4. Roger Air Force 803, VACATE ACTIVE RUNWAY BY THE NEXT INTERSECTION ON your right (or left).
6. Air Force 803 EXPEDITE VACATING RUNWAY.
8. Air Force 803 STAND BY FOR INSTRUCTIONS.
10. Air Force 803 MAKE (or TURN) FIRST LEFT (or right) AND HOLD POSITION ON INTERSECTION.
12. Air Force 803 TAXI VIA bravo TO overnight parking area.
14. Air Force 803, FOLLOW THE SIGNALMAN INSTRUCTIONS.



## A I R C R A F T

### APPROACH / DEPARTURE FREQUENCY

#### TO REQUEST DEPARTURE INSTRUCTIONS

1. Amazonas Approach, Army 207, over.
3. Army 207, AIRBORNE AT 15, STANDARD INSTRUMENT DEPARTURE number 1, I WILL REPORT 7 DME at / or above 5 thousand feet CLIMBING, OVER.
6. Amazonas Approach, Army 207, 7 DME.
7. Roger, Army 207 turn right heading 020 for airway.
9. Roger Army 207, track 087 to AMV at or above 15 thousand.
11. Roger Army 207 after reaching 15 thousand course 001 to Tejar.
12. Amazonas Approach, Army 207 REQUEST VMC CLIMB from FLIGHT LEVEL 080 TO FLIGHT LEVEL 150..

#### HOLDING INSTRUCTIONS

1. Quito Approach , Army 503, over
3. Army 503 over Mindo, flight level 220, REQUEST INSTRUCTIONS.
5. Roger Army 503, hold on 330 radial QIT, at 6 DME, FL 210, inbound 150, turns left.
7. Roger Army 503, expects approach time at 31.
9. Roger Army 503, cleared to QIT, descend 17 thousand, will report commencing procedure.

## A P P R O A C H C O N T R O L S E R V I C E S

### APPROACH CONTROL

#### DEPARTURE INSTRUCTIONS

2. Army 207, Amazonas Approach GO AHEAD.
4. Army 207 , roger REPORT 7 DME.
6. Roger Army 207, TURN RIGHT (or left) HEADING 020 FOR intercept airway.
8. Army 207, track 087 DEGREES MAGNETIC TO AMV VOR CROSSING AT or ABOVE 15 thousand feet, BEFORE PROCEEDING IN COURSE.
10. Army 207, AFTER REACHING ( or PASSING) 15 thousand feet SET COURSE 001 DIRECT Tejar.
13. Roger Army 207, CLEARED VMC CLIMB MAINTAINING OWN SEPARATION.

#### HOLDING INSTRUCTIONS

2. Army 503, Quito Approach GO AHEAD.
4. Army 503, HOLD ON THE 330 RADIAL OF Condorcocha VOR, FREQUENCY 115,3 AT 6 DME, AT FLIGHT LEVEL 210, INBOUND TRACK 150, TURNS left, EXPECT FURTHER CLEARANCE AT 1420.
6. Army 503, DELAY NO DETERMINED aerodrome below minimum meteorological conditions, EXPECT APPROACH TIME AT 31.
8. Army 503, CLEARED TO Condorcocha VOR DESCEND to 17 thousand feet, NO DELAY EXPECTED, REPORT OVER THE VOR commencing VOR/ILS INSTRUMENT APPROACH RUNWAY 35.

## AIRCRAFT

### APPROACH / DEPARTURE FREQUENCY

#### TO REQUEST APPROACH INSTRUCTIONS

1. Quito Approach, IGM 628, OVER
3. IGM 628, OVER Pacto, FLIGHT LEVEL 210, ESTIMATED Condorcocha VOR AT 10, REQUEST INSTRUCTIONS.
5. Roger IGM 628 maintaining holding pattern at FL 200.
7. Affirmative IGM 628 IS FAMILIAR WITH VOR / ILS APPROACH runway 35.
7. Roger IGM 628, cleared to QIT, 17 thousand, runway 35, will report commencing approach.
9. Roger IGM 628 AT 44 COMMENCING APPROACH.
11. Roger IGM 628, will report ON procedure turn.
12. Quito Approach IGM 628 on procedure turn.
14. Roger IGM 628 will report runway IN SIGHT.
15. Quito Approach IGM 628 RUNWAY IN SIGHT.
17. Roger IGM 628, switching to 118.3, good day.

## AERODROME CONTROL

### APPROACH CONTROL

#### APPROACH INSTRUCTIONS

2. IGM 628, Quito Approach GO AHEAD.
4. IGM 628, MAINTAIN HOLDING PATTERN AT FLIGHT LEVEL 200, traffic Boeing 727 on instrument departure.
6. IGM 628 ARE YOU FAMILIAR WITH VOR / ILS runway 35 APPROACH PROCEDURE FROM Condorcocha VOR?
6. Roger, IGM 628, NOW CLEARED TO Condorcocha VOR, DESCEND TO 17 thousand feet, NO DELAY EXPECTED, MAKE VOR / ILS INSTRUMENT APPROACH, LANDING RUNWAY 35, WIND 340 degrees 6 knots, TEMPERATURE 12 degrees, QNH 1027 milibars, REPORT OVER THE VOR COMMENCING APPROACH.
8. IGM 628, START APPROACH AT 44
10. IGM 628, REPORT PROCEDURE TURN.
13. Roger IGM 628, REPORT RUNWAY IN SIGHT OR STARTING MISSED APPROACH.
16. Roger IGM 628, switch to Quito Tower on 118.3, good day.

**A I R C R A F T**

**APPROACH / DEPARTURE FREQUENCY**

**MISSED APPROACH INSTRUCTIONS**

1. IGM 628, VISUAL CONTACT NEGATIVE STARTING MISSED APPROACH
  
3. Roger IGM 628, will report over Ascazubi NDB.
4. Quito Approach IGM 628, OVER ZUI.
  
6. Roger IGM 628 climbing to 17 thousand and joining the holding pattern.
  
8. Roger IGM 628, will report 15 DME QIT outbound.
9. Quito Approach IGM 628, reaching 15 DME from QIT outbound.
  
11. Roger IGM 628, will report turning INBOUND.
  
12. IGM 628 turning INBOUND.
  
14. Roger IGM 628, cleared for straight in approach runway 35, will report runway in sight.

**A E R O D R O M E C O N T R O L**

**APPROACH CONTROL**

**MISSED APPROACH INSTRUCTIONS**

2. IGM 628, cleared to Ascazubi NDB, CLIMB TO 14 thousand feet, report over ZUI.
  
5. Roger IGM 628, CONTINUE CLIMBING to 17 thousand, MAKE A RIGHT TURN to JOIN HOLDING PATTERN.
  
7. IGM 628REPORT 15 DME OF Condorcocha VOR OUTBOUND.
  
10. Roger, IGM 628, report turning INBOUND
  
13. Roger IGM 628, continue STRAIGHT IN APPROACH runway 35, report runway IN SIGHT or STARTING MISSED APPROACH.

## AIRCRAFT

### RADAR CONTROL FREQUENCY

#### IDENTIFICATION OF AIRCRAFT

1. Guayaquil Approach, Army 101, OVER.
3. Roger Army 101 turning left, heading 150.
5. Army 101 HEADING 200, FLIGHT LEVEL 120  
MANTAINING.
7. Roger Army 101, maintain FL 060 and  
contact 118,3.
9. Roger Army 101, leaving ROGEN heading 330  
to MNV.
11. Roger Army 101, turning left FOR DELAY.
13. Roger Army 101, turning heading 300 for  
avoiding traffic.
15. Roger Army 101, making all turns rate one.
17. Roger army 101, turning right.
19. Roger Army 101, continue present heading.
21. Roger Army 101, reassuming own  
navigation, direct to MNV.
23. Roger Army 101, switching to 122,7. good  
day.

## AERODROME CONTROL

### RADAR CONTROL SERVICES (Primary)

#### IDENTIFICATION OF AIRCRAFT

2. Army 101, FOR IDENTIFICATION TURN left  
ON HEADING 150 degrees.
4. Army 101 IDENTIFIED AT 35 miles TO nor  
east OF airport., REPORT HEADING AND  
LEVEL.
6. Army 101 IF RADIO CONTACT LOST  
MAINTAIN FLIGHT LEVEL 060 and  
contact Guayaquil tower on 118,3.
8. Army 101 LEAVE ROGEN heading 330 to  
Manta VOR.
10. Army 101, TURN left FOR DELAY
12. Army 101 HEADING 300 FOR AVOIDING  
UNKNOWN TRAFFIC AT 3 o'clock, 8  
miles.
14. Army 101, MAKE ALL TURNS RATE ONE  
or 2 degrees PER second, EXECUTE  
INSTRUCTIONS IMMEDIATELY UPON  
RECEIPT.
16. Army 101 YOUR TRAFFIC IS FAST  
MOVING, TURN right.
18. Army 101, CLEAR OF TRAFFIC continue  
present heading.
20. Army 101, REASSUME OWN NAVIGATION  
DIRECT TO Manta VOR, magnetic track  
322, distance 48 miles.
22. Army 101 WILL SHORTLY LOSE  
IDENTIFICATION CONTINUE WITH Manta  
Approach ON 122,7.
24. Army 101 IDENTIFICATION LOST , out of  
covering, CONTACT TO Manta Approach  
ON 122,7.

## AIRCRAFT

### RADAR APPROACH FREQUENCY

1. Guayaquil Approach, Army 165, OVER.
3. Army 165 request RADAR VECTORED FOR ILS approach runway 21
5. Roger Army 165, PREPARED FOR NDB approach.
  
7. Roger army 165.
  
9. Roger Army 165, intercept PAL NDB 15 miles, I WILL REPORT ESTABLISHED.
  
11. Roger Army 165, WILL REPORT RUNWAY LIGHTS IN SIGHT.
12. Guayaquil approach Army 165 have runway lights IN SIGHT.
  
14. Roger Army 165 switching 118, 3, good day.

## AERODROME CONTROL

### SURVEILLANCE RADAR APPROACH

2. Army 165, Guayaquil Approach, GO AHEAD.
  
4. Army 165, ILS APPROACH NOT AVAILABLE DUE TO localizer out of service, be PREPARED FOR NDB APPROACH.
  
6. Army 165, THIS WILL BE A SURVEILLANCE RADAR APPROACH RUNWAY 21, TERMINATING AT 2 miles FROM TOUCHDOWN, OBSTACLE CLEARANCE ALTITUDE 3 hundred feet, CHECK YOUR MINIMUM IN CASE OF GO AROUND.
  
8. Army 165, YOU WILL INTERCEPT PAL NDB TO 15 miles FROM TOUCHDOWN. REPORT ESTABLISHED
  
10. Army 165 , CLOSING SLOWLY FROM THE LEFT, 4 miles from TOUCH DOWN, ALTIUTUDE SHOULD BE 2 thousand 3 hundred feet REPORT RUNWAY LIGHTS IN SIGHT.
  
13. Roger Army 165, APPROACH COMPLETED contact Guayaquil tower on 118,3, good day.

## AIRCRAFT

### RADAR APPROACH FREQUENCY

1. Guayaquil Approach, Army 461, OVER.
3. Army 461 request RADAR VECTORED FOR PRECISION APPROACH runway 35.
5. Roger Army 461.
7. Roger army 461, right heading 045.
9. Roger Army 461, will report established on the localizer.
10. Army 461, established on the localizer.
12. Roger Army 461, Approaching glide path.
14. Roger Army 461, commencing descent now.
16. Roger Army 461, adjusting rate of descent..
18. Roger army 461, coming back to glide path.
20. Roger army 461, reassuming normal rate of descent..
22. Roger army 461, 2 miles from touch down.
24. Roger Army 461, switching to 118, 1, good day.

## AERODROME CONTROL

### PRECISION RADAR APPROACH

2. Army 461, Guayaquil Approach, GO AHEAD.
4. Army 461 THIS WILL BE A PRECISION MONITORED ILS APPROACH RUNWAY 35.
6. Army 461, TURN RIGHT heading 045, THIS TURN WILL TAKE YOU THROUGH localizer course axe.
8. Army 461, CLOSING SLOWLY FROM the left, report established on the localizer.
11. Roger Army 461 , SLIGHTLY left OF TRACK, APPROACHING GLIDE PATH.
13. Army 461, commence descent now at 1 thousand feet per minute, YOU ARE WELL ABOVE GLIDE PATH.
15. Army 461, ADJUST RATE OF DESCENT, STILL 5 hundred feet TOO HIGH.
17. Army 461, COMING BACK SLOWLY TO GLIDE PATH, RATE OF DESCENT IS GOOD NOW.
19. Army 461, RESUME NORMAL RATE OF DESCENT.
21. Army 461, 2 miles FROM TOUCHDOWN, ALTITUDE SHOULD BE 9 thousand 5 hundred feet.
23. Army 461, OVER RUNWAY THRESHOLD, RADAR SERVICE TERMINATED, contact Quito tower on 118, 1, good day.

# **Part IV**

# **EVALUATION TOOLS**

## **TEST OF ENGLISH FOR AVIATION (TOEFA)**

### **Introduction**

The Test of English for Aviation (TOEFA) has been developed to measure the competences in the English language of Pilots, Air Traffic Controllers and Aeronautical Station Operators, in the specific abilities of speaking and understanding this foreign language and according to the parameters settled down in the ICAO (International Civil Aviation Organization) rating scale for language proficiency and their holistic descriptors.

The previously mentioned aeronautical personnel, should demonstrate to the Civil Aviation Authority of the corresponding State, their ability to speak and to understand the language used for the radiotelephony communications; starting from November 27, 2003 for the case of Air Traffic Controllers and March 5, 2004 for Pilots of airplanes and helicopters.

Starting from March 5, 2008 the demonstration of these competences will be an obligatory requirement for the applicants and personnel that maintains a license of Pilot, Air Traffic Controller or Aeronautical Station Operator, as well as the respective periodic evaluations that will be carried out, according to the level reached by the one evaluated.

The minimum level of proficiency for the aeronautical personnel is the Operational Level (level 4), settled down in the ICAO Linguistic Competence Rating Scale.

Considering the importance of the aeronautical phraseology, the exam TOEFA also contemplates this aspect, for Pilots, Air Traffic Controllers and Aeronautical Station Operators.

### **Design of the Exam**

#### **Objective**



The exam is designed to measure the level of proficiency of the English language, in the abilities of **speaking and understanding**, at an agreed minimum level, of the aeronautical personnel that take part in the radiotelephony communications, with the purpose of contributing to the security and regularity of the air traffic in the international environment in which the personnel carries out the typical functions of their professions.

For this reason, there is a special emphasis in the use of the foreign language before the operational procedures, according to the holistic descriptors pointed out in the ICAO Linguistic Competence Rating Scale; although the level of theoretical and/or practical knowledge of the English aeronautical phraseology is also evaluated.

#### **Holistic descriptor 1: Pronunciation**

The evaluation is carried out by means of an interview, with open questions, so that the candidate demonstrates that he is able to make himself understood, with a dialect or accent intelligible for the aeronautical radio-communications. The pronunciation, rhythm and intonation are evaluated, as well as the grade of interference with the easiness of understanding.

#### **Holistic descriptor 2: Structure**

Considering that the abilities of the language that are evaluated are referred to the oral production of the English language, the practical application of the grammatical structures is evaluated, when the candidate answers to the questions formulated by the language tester, during the interview.

Consequently, the correct use of the pertinent grammatical structures is measured, as well as the structures of the sentences and the appropriate use of the functions of the language, according to the scenario in which they are used.

### **Holistic descriptor 3: Vocabulary**

This parameter is also evaluated through the interview. The extent and precision of the vocabulary used by the candidate is measured, with the purpose of communicating efficiently about the variety of familiar and not familiar topics that are used during the communication with the language tester. Also, it is evaluated the capacity of the candidate to use the appropriate vocabulary to manage successfully in unexpected circumstances.

### **Holistic descriptor 4: Fluency**

The fluency of the candidate to communicate is evaluated through the oral interactions with the tester, as well as the dialogues that are generated after listening to the audio cassettes. It is also evaluated the capacity of the candidate to make himself understood with detail and with natural fluency, as well as the stylistic effects, accent and conjunctions used to achieve an effective communication, about familiar, not familiar or unexpected situations.

### **Holistic descriptor 5: Understanding**

The candidates listen to dialogues and real communications of native speakers of the English language, from audio cassettes, and they explain to the language tester, using the foreign language, the scenario or situation that he/she has just listened to; with the purpose of measuring their grade of understanding of the language and of the linguistic

variants (dialects and accents) or tones that are intelligible for the international community of aeronautical users.

During the oral interaction that takes place between the candidate and the tester, after listening the tape, it is still evaluated the pronunciation, structure, vocabulary and fluency descriptors, to verify the competences and to obtain a more precise information about them.

### **Holistic describer 6: Interactions**

It is evaluated the capacity of the candidate to interact with easiness in unexpected situations, as well as its easiness to capture verbal and not verbal indications and to respond appropriately to them, by means of immediate, appropriate and informative answers that allow him to manage the relationship speaker/receiver efficiently, verifying, confirming or clarifying appropriately, when it becomes necessary.

The language **tester presents situations and unexpected scenarios** to verify the consistency and coherence of the answers of the candidate, according to the outlined scenario, what also allows the tester to confirm the capacity of the understanding of the candidate and his ability to interact appropriately.

### **Theoretical Evaluation of Aeronautical Phraseology**

The candidates (Pilots, Air Traffic Controllers and Aeronautical Station Operators) take a written test, with official aeronautical terminology that is used in the aeronautical radio-communications, with the purpose of measuring their grade of knowledge of aeronautical technical English.

The questions, of short-answer type items, correspond to instructions or terminology used by the Air Traffic Control Services and they are formulated in Spanish so that the candidates respond to them appropriately in English. Some definitions are also included in English that are answered by means of multiple-choice questions.

### **Practical evaluation of Aeronautical Phraseology**

This evaluation is only for Pilots and consists on the **dictation of four Air Traffic Control clearances**, using the Aeronautical English Phraseology, that are copied by the candidates and then read back immediately, one by one, to measure the accuracy of the read backs and the practical application of the knowledge and necessary tools for an efficient performance in the aeronautical radio-communications in English.

The clearances used are adapted from published Standard Instrument Departures Standard Arrivals or Route clearances, so pilots are familiar with the names of locations, radio navigation aids, routes or any other clearance element, according to the location where the examination is performed.

### **Scope and Depth of the TOEFA Exam**

The scope and depth of the TOEFA exam is in accordance with that specified by the requirements of Linguistic Competence of ICAO.

For this reason, the scope of the evaluation is given by those "abilities to speak and to understand" that are specified in the Annex 1: Licenses to Personnel.

The depth of the evaluation is defined by the Holistic Descriptors and the Standards for the Operational Level 4 of the ICAO Linguistic Competence Rating Scale.

Therefore, the candidates will demonstrate that they:

- 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 for the exchange of messages and to recognize and to solve misunderstandings, in a general or work-related context;
- d) manage successfully and with relative easiness the linguistic challenges presented by a complication or unexpected situation that occurs within the context of a routine work situation or communicative task with which they are familiar; and
- e) use a dialect or accent that is intelligible for the aeronautical community.

### **Demonstration of Competences**

The aeronautical personnel will demonstrate their competences in the English language for aeronautical communications, according to that specified in the amendments to the Annex 1: Licenses to Personnel, of ICAO, agreed in the Council of Air Navigation on March 5, 2003.

Consequently, the required minimum level is the one that corresponds to the Operational Level (level 4) of the ICAO Linguistic Competence Rating Scale. The TOEFA exam has been designed to evaluate the accomplishment of the ICAO levels of proficiency.

### **Scoring of the TOEFA Exam**

It is required for candidates to obtain as minimum the level 4 in all the holistic descriptors of the ICAO Linguistic Competence Rating Scale to pass the evaluation satisfactorily.

This is determined based on the performance of the candidates during the interview with the language tester, as well as their level of understanding of the material used to evaluate their level of understanding of the foreign language, based on that specified in each one of the levels of the ICAO Linguistic Competence Rating Scale and their holistic descriptors.

For the **theoretical evaluation** of Aeronautical English Phraseology in English **the minimum grade to pass is 80 over a possible total of 100 points.**

The **minimum passing grade of the practical evaluation of Aeronautical English Phraseology, for Pilots, is also 80 over a possible total of 100 points.** For each **error** made in the read back of the Air Traffic Control clearances, the **candidate is penalized with two points**; that is to say, he should not make more than 10 errors to obtain a satisfactory grade.

### **Duration of the TOEFA Exam**

The oral interview, including the part of understanding, by means of cassettes of audio, has an average duration of 20 minutes and is carried out in an individual way.

The theoretical evaluation of Aeronautical English Phraseology lasts 30 minutes as maximum and it can be administered individually or in groups.

The practical evaluation of ATC clearances is only administered for Pilots, and has an approximate duration of 10 minutes.

## TEST OF ENGLISH FOR AVIATION (TOEFA)

### DIAGNOSIS TEST

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#### FIRST PART

#### INTERVIEW (20 MIN)

*Good morning, my name is Johnny / Veronica and I'll be your evaluator today, please have a seat and I'm going to ask you some brief questions, ok?*

1. What's your name and rank?
2. Where are you from?
3. What do you like most airplanes or helicopters? Why?
4. How long have you been flying?
5. Did you ever receive Aeronautical Phraseology in Spanish during your initial training?
6. Have you ever attend to any Aeronautical Phraseology in English Course? Where? How long was it?
7. What do you think about receiving Aeronautical phraseology in English during pilot's initial training?

We are going to listen some recordings, after listening I'm going to ask you some questions, please respond with short answers, ok?

8. *“NEGATIVE Army 501, HOLD POSITION. EXPECT five minutes DELAY DUE TO Falcon behind of you.”*
  - *What is the aircraft callsign?*
  - *What was the main instruction that the pilot received?*
  - *What is the delay he has to expect?*
  - *What was the reason of the delay?*
9. *Army 482, CONTINUE STRAIGHT AHEAD, WE WILL ADVISE left TURN, taxiway CLOSED between third and fourth intersection BY MAINTENANCE.*
  - *What was the aircraft call sign?*
  - *Were he cleared to turn left?*

- *Is the runway closed due to maintenance?*

Now, we are going to listen a situation, after that you will have to tell me what the situation is, ok?

10. *PAN-PAN,PAN-PAN,PAN-PAN,Guayaquil Center Army Aviation 501 URGENCY, Flap asymmetry. Request stop climb at Flight Level 200 and vector for Holding, Fuel remaining 9 hours, 45 people on board.*

11. *Guayaquil Center, Army Aviation 101,Level 210,Request Turn Back to Quito, We have a sick passenger on board.*

Something is wrong with the following communications, try to find the error and explain what would be the correct version of it.

12. *Guayaquil this is army 001, maintaining flight level 010, request descent to 5 thousand feet.*

13. *Guayaquil Approach, this is army 001, turning back from the North West, 10 miles out 1 thousand five hundred feet, visual conditions, request landing instructions.*

14. *What would you be your advise to those cadets that are dreaming to be army pilots?*

15. *Your final message and your favorite quote?*

**THIS IS THE END OF THE FIRST PART**

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## SECOND PART

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### THEORETICAL EVALUATION (30 min)

#### WRITTEN TEST

#### I. READ BACK ALL THE INSTRUCTIONS GIVEN BY THE ATC AND / OR RESPOND WHEN APPROPRIATE.

Examples:

- **Army 610 report ready to taxi.**  
Roger, Army 610, I will report ready to taxi.
- **Army 502 are you maintaining runway heading? (negative)**  
Negative, Army 502 is maintaining heading 180.

#### EXERCISES:

1. **Army 461 are you ready for take off? (affirmative)**
2. **Army 322 how do you read me, over?**
3. **Army 322 are you squawking 2170? (negative)**
4. **Army 501 take off immediately or vacate the runway.**
5. **Army 466 radar service terminated, contact Guayaquil tower on 118, 3.**
6. **Army 503, are you maintaining flight level 080 at 34 miles from Guayaquil VOR? (Negative)**
7. **Army 101, are you ready for push and start? (negative)**
8. **Army 360, are you requesting clearance for army ramp or for air force ramp? (Army).**
9. **Army 203, taxi via main taxiway to runway 35, hold short.**
10. **Army 101 traffic twelve o'clock at 10 miles, opposite direction, TAME airbus, turn right heading 135, immediately.**
11. **Army 207 cross runway 30, traffic is holding in position, good night.**
12. **Army 467, turn right, hold short, runway 03, remain this frequency.**

13. Army 462, turn left heading 090, descend and maintain flight level 030.
14. Army 101, do you have the airport in sight? (negative)
15. Army 345 report and request change of level because of turbulence.
16. Army 503, how's your ride at flight level 180?
17. Army 501, proceed direct Dimin, resume own navigation
18. Army 610 taxi into position and hold.
19. Army 203 are you ready to copy clearance? (Affirmative)
20. Army 503, confirm are you declaring an emergency? (Affirmative)

**II. SELECT THE ONE ITEM THAT BEST MATCHES THE FOLLOWING  
TERMINOLOGY:**

**Ex. ABORT**

- Term used to advise people to go aboard the aircraft
- **To end a pre-planned maneuver. (take off, landing, etc)**
- I have received your communication and I will proceed as planned.
- Deactivate the transponder aboard.

**21. WILCO**

- I will communicate
- Not received
- **Message received, understood and will be complied.**
- I will transmit

**22. TRANSMITTING IN THE BLIND**

- Transmitting while flying in clouds
- Transmitting with no visual contact
- Transmitting only in AM band
- **Transmitting when ones believe the other station could receive the message.**

### 23. IDENT

- **Activate the transponder identification mode**
- Say your call sign
- Have you identified the airport?
- Term used when two aircrafts are identical.

### 24. NORDO

- **No radio**
- No Visual contact
- Flight on Nordic Areas
- No radar contact

### 25. HAVE NUMBERS

- I have received the ATIS information
- **I have received runway, wind and altimeter setting information only.**
- I have transmitted the numbers of my license
- I have transmitted the numbers of my call sign.

### 26. GO AROUND

- To make a turn to the left or to the right during the take off.
- To move on the airport using the taxiways.
- **To abort landing approach.**
- To go back to the gates.

### 27. BACK TAXI

- To come back to the airport after take off and taxi again.
- **Taxi an aircraft in opposite direction of the runway**
- To taxi backwards
- To abandon the active runway and go back to the taxiway.

## 28. ATIS

- **Pre recorded information about terminal area continuously transmitted.**
- Check point on a flight route
- Code name for a critical emergency.
- Name of an International Organization of aerial transport

## 29. ABEAM

- Code name for “as soon as possible”
- International Organization of Civil and military Aviation
- Code name for declaring a terrorist action in flight
- **90 degrees left or right from aircraft course**

## 30. ACKNOWLEDGE

- The whole knowledge about aviation that a pilot has.
- **Let me know you received my message**
- Have you the knowledge of the required information previous to flight.
- Code word for something “unknown”

**THIS IS THE END OF THE SECOND PART**

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## THIRD PART

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### PRACTICAL EVALUATION (10 min)

#### Practical Evaluation (10 min)

You are going to hear the dictation of **four Air Traffic Control clearances**, you will have to take notes if necessary and then you will have to read them back immediately.

- Clearance 1

*“Army 461, NOW YOU ARE CLEARED FOR TAKE OFF, wind 070 08 knots.  
REPORT AIRBORNE”*

- Clearance 2

*“ Army 001, CLEARED TO ENTER THE LEFT TRAFFIC PATTERN, RUNWAY 03  
WIND 060 degrees 14 knots, TEMPERATURE 23, QNH 1014 milibars, TRAFFIC  
IS Avro ON BASE LEG, REPORT starting downwind leg.”*

- Clearance 3

*“Army 503, HOLD ON THE 330 RADIAL OF Condorcocha VOR, FREQUENCY  
115,3 AT 6 DME, AT FLIGHT LEVEL 210, INBOUND TRACK 150, TURNS left,  
EXPECT FURTHER CLEARANCE AT 1420.”*

- Clearance 4

*“ Lan Ecuador 539, Cleared to the SEGU Airport, PELUE 2 departure, TOCAH  
transition, Radar vector WAVEY, as filed, maintain 5000, expect FL 310, 10  
minutes after, squawk 1710, victor the new ATIS .”*

**THIS IS THE END OF THE THIRD PART**

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## TEST OF ENGLISH FOR AVIATION (TOEFA)

### EVALUATION TEST

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#### FIRST PART

#### INTERVIEW (20 MIN)

1. Ok, just for the record I need your name again.
2. Have you completed the Aeronautical Phraseology in English course?
3. What do you think about it?
4. Do you believe it has improved your English skills? How?
5. Did you miss any lesson? Why?
6. Do you feel more confident to use English in your communications with ATC?
7. Are you planning to actually use aeronautical phraseology in English during your flights?
8. After your training in this subject do you consider it an important aspect for a pilot training? Why?
9. If you have received this subject during your initial training as a pilot, do you think you will have mastered it by now?

We are going to listen some recordings, after listening I'm going to ask you some questions, please respond with short answers, ok?

10. "ROGER Army 503, TOW APPROVED RUNWAY IN USE 35."
  - a. What is the aircraft callsign?
  - b. What was the main instruction that the pilot received?
  - c. What is the runway in use?
  
11. "Army 482, TAXI TO HOLDING POINT RUNWAY 35, VIA south taxiway, time 20."
  - a. What was the aircraft call sign?
  - b. Were he cleared to taxi into position and hold?
  - c. What is the active runway?
  - d. What is the checked time?

Now, we are going to listen a situation, after that, you will have to tell me what the situation is, ok?

12. *Army 461, HOLD POSITION, CANCEL REPEAT CANCEL DEPARTURE DUE TO EMERGENCY.*

13. *Army 001, HOLD OVER the east of the aerodrome, DUE TO meteorological conditions.*

14. *Army 101 IF RADIO CONTACT LOST MAINTAIN FLIGHT LEVEL 060 and contact Guayaquil tower on 118,3.*

I'm the pilot of the Army 466, I'm going to ask you a request, but something is wrong with it, explain what is wrong.

15. Quito tower, army 466 request tow from military ramp to main taxiway over.

16. Amazonas Approach this is army 466 requests vectoring for ILS approach runway 12.

17. **What is your opinion about the CBT? Was it useful?**

18. **Did class drills with military aircrafts examples make learning easier for you?**

19. **What do you suggest in order to improve the learning-teaching process for this subject?**

**THIS IS THE END OF THE FIRST PART**

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## SECOND PART

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### THEORETICAL EVALUATION (30 min)

#### WRITTEN TEST

#### I. READ BACK ALL THE INSTRUCTIONS GIVEN BY THE ATC AND / OR RESPOND WHEN APPROPRIATE.

Examples:

- **Army 610 report ready to taxi.**  
Roger, Army 610, I will report ready to taxi.
- **Army 502 are you maintaining runway heading? (negative)**  
Negative, Army 502 is maintaining heading 180.

#### EXERCISES:

1. **Army 322 are you ready for taxi? (negative)**
2. **Army 485 clear to start up engines?**
3. **Army 318 are you squawking 5444? (negative)**
4. **Army 321 taxi into position and hold.**
5. **Army 467 radar contact, 23 miles from Condorcocha VOR, report reaching 20 miles.**
6. **Army 101, are you maintaining flight level 090 at 14 miles from Monjas VOR?  
(Negative)**
7. **Army 501, are you ready for push back? (negative)**



8. **Army 316, are you requesting flight level 130 or flight level 310? (130).**
9. **Army 207, taxi via main taxiway, runway 12, hold short, intersection alpha.**
10. **Army 503 traffic one o'clock at 15 miles, opposite direction, American Airlines airbus, turn left heading 085, immediately.**
11. **Army 316 hold position, traffic is crossing active runway, expect further instructions.**
12. **Army 461, turn left, hold short, runway 12, remain this frequency.**
13. **Army 462, turn right heading 150, climb and maintain flight level 060.**
14. **Army 503, do you have the runway in sight? (affirmative).**
15. **Army 482 are you flying over the city? (Negative)**
16. **Army 101, how's your ride at flight level 180?**
17. **Army 207, proceed direct Rokax, resume own navigation**
18. **Army 620 after pass embraer in short final, line up and wait.**
19. **Army 349 did you copy clearance? (Negative)**

**20. Army 503, confirm are you declaring an urgency? (Affirmative)**

**II. SELECT THE ONE ITEM THAT BEST MATCHES THE FOLLOWING**

**TERMINOLOGY:**

**Ex. WILCO**

- I will communicate
- Not received
- **Message received, understood and will be complied.**
- I will transmit

**21. TRAFFIC IN SIGHT**

- The traffic is visible from the tower control.
- The traffic should be visible by now
- I can see the traffic now.
- I don't see the traffic

**22. CLEARANCE**

- I'm flying on the light of the day.
- Excellent meteorological conditions
- Excellent radio transmissions
- Authorization to do something.

**23. ROGER**

- I have received your last communication.
- Navigation aid (VOR).
- Code name for the ATC
- Aircraft callsign.

**24. SAY AGAIN**

- Repeat you last transmission
- Try again the landing approach
- Turn on the aircraft lights again
- Take the transmitter and say "again" for identification.

## **25. READ BACK**

- Read the information backwards.
- Repeat my last message.
- Code name for the active runway.
- Read the instructions while the aircraft is pushed back.

## **26. CONTACT**

- To touch the runway during the landing approach.
- To establish physical contact with other aircrafts.
- To establish communications with an ATC dependence.
- To go back to the gates and contact the airport manager.

## **27. MAY DAY**

- Code word for declaring an urgency.
- Code word for declaring an emergency.
- Code word when take off is performed at midday.
- To abandon the active runway by the central intersection.

## **28. HEAVY**

- Aircraft with a take off weight of or above of 255.000 pnds.
- When there is a lot of aircrafts in the taxiway.
- A very strong rain.
- Code name for declaring a hijack.

## **29. GO AHEAD**

- To take off before the preceding aircraft.
- To advance the aircrafts flying the aerodrome pattern.
- Code name for a extremely heavy aircraft.
- Proceed with your message.

## **30. TRAFFIC NO FACTOR**

- Code word for something “unknown”
- A numeric constant for traffic calculations.
- Described traffic is not a problem anymore.
- Traffic without the conversion factor from inches to milibars.

**THIS IS THE END OF THE SECOND PART**

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## THIRD PART

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### PRACTICAL EVALUATION (10 min)

#### Practical Evaluation (10 min)

You are going to hear the dictation of **four Air Traffic Control clearances**, you will have to take notes if necessary and then you will have to read them back immediately.

- Clearance 1

ROGER Army 503, TOW APPROVED RUNWAY IN USE 35.

- Clearance 2

Army 101 TAXI INTO POSITION AND HOLD. Be ready FOR IMMEDIATE DEPARTURE.

- Clearance 3

Army 482, CONTINUE STRAIGHT AHEAD, WE WILL ADVISE left TURN, taxiway CLOSED between third and fourth intersection BY MAINTENANCE.

- Clearance 4

Army 466, CLEARED START ENGINES, expect runway 03, wind 030 degrees, 10 knots, TEMPERATURE 25 degrees, QNH 1014 milibars, TIME 1716, REPORT READY TO TAXI.

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THIS IS THE END OF THE THIRD PART