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Aviation English for Flight Training

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Aviation English for Flight Training



Jennifer Roberts
Aviation English Specialist
College of Aeronautics
Embry-Riddle Aeronautical University, Worldwide

Embry-Riddle Aeronautical University

- Fully-accredited, independent, non-profit university
- Three campuses: **Daytona Beach, Florida, Prescott, Arizona, and Worldwide**
 - 32,000 students
- Oldest (1926) and most prestigious aviation-related university in the world
- More than 70 undergraduate and graduate degrees + Professional Education

Worldwide Campus:

- 130 campuses all over the world
- Classroom-based, real-time virtual classrooms, online





Jennifer Roberts

- MA Applied Linguistics and ESL, Georgia State University
- Teaching Experience:
 - Three university Intensive English Programs (IEPs)
 - Tsinghua University (China)
 - Guangzhou University (China)
 - University of Mataram (Indonesia)
 - Embry-Riddle Aeronautical University
- Aviation English Specialist: design and teach programs for aviation English both locally and worldwide

Today's Agenda

1. Define aviation English
2. Explore an accident
3. Expand our definition of aviation English
4. Aviation English for Flight Training
5. Other ERAU aviation English programs



What is Aviation English?



Radiotelephony

Doc 9432
AN/925



Manual of Radiotelephony

Approved by the Secretary General
and published under his authority

Fourth Edition — 2007

International Civil Aviation Organization

2.1 INTRODUCTION

Radiotelephony (RTF) provides the means by which pilots and ground personnel communicate with each other. The information and instructions transmitted are of vital importance in the safe and expeditious operation of aircraft. Incidents and accidents have occurred in which a contributing factor has been the use of non-standard procedures and phraseology. The importance of using correct and precise standardized phraseology cannot be overemphasized.



“While ICAO standardized phraseology has been developed to cover many circumstances, **it cannot address all pilot and controller communication needs.**”

- ICAO Document 9835

Avianca 52: 1990

- Bogotá → New York
- Boeing 707
- Ran out of fuel on approach to JFK (three holding patterns)
- 65 of 149 passengers, and 8 of 9 crew members, were killed
 - 73 total fatalities
- National Transportation Safety Board (NTSB): **emergency was not declared properly** and ATC did not understand how serious the problem was



Avianca 52: 1990

“Twice in these moments, the crew told controllers that they were running low on fuel. **But they did not declare an emergency**, nor did they object to their newly assigned route, which although it was a tighter circle than the first approach, still took them out over the Long Island Sound.

‘Did you tell them we have an emergency?’ the pilot asked his co-pilot, who was handling communications with the controllers.

‘I told them **we're low on fuel**,’ he answered.”

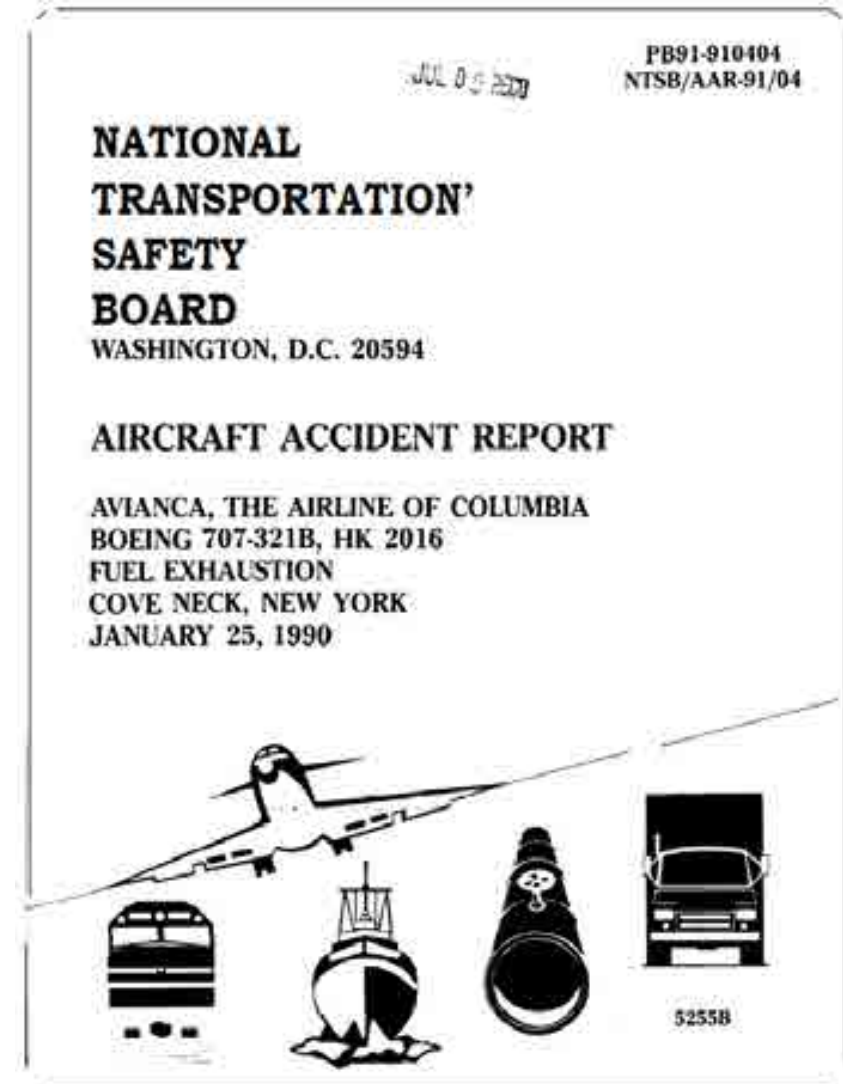


	Captain	First Officer		ATC
		FO to Captain	FO to ATC	
2124:06	Digale que estamos en emergencia. (Tell him that we are in an emergency.)			
2124:08			That's right to one eight zero on the heading and ah we'll try once again we're running out of fuel	
2124:17	Que dijo. (What did he say?)			
2124:18		Maintain two thousand feet one eighty on the heading I already told him that we intend to try again because now we can't.		
2124:22	Digale que estamos en emergencia. (Tell him that we are in an emergency.)			
2124:25	Did you tell him?			
2124:28		Yes sir. I already told him.		
2126:35				And Avianca zero five two heavy ah I'm going to bring you about fifteen miles northeast and then turn you back on for the approach. Is that fine with you and your fuel?
			I guess so thank you very much	
2130:32				Avianca five two climb maintain three thousand
2130:36			Ah negative sir we just running out of fuel we okay three thousand now okay	

National Transportation Safety Board

Aircraft Accident Report

1. The flightcrew **did not adequately communicate its increasingly critical fuel-situation** to the controllers who handled the flight.
2. The first officer, who made all recorded transmissions to U.S. controllers, **was sufficiently proficient in English to be understood** by air traffic control personnel.
3. The first officer incorrectly assumed that his request for priority handling by air traffic control had been understood as a request for emergency handling. **The captain experienced difficulties in monitoring communications between the flight and air traffic control.**
4. The controllers' actions in response to AVA052's requests were proper and responsive to a request for priority handling. **They did not understand that an emergency situation existed.**
5. The first officer, who made all recorded radio transmissions in English, never used the word "Emergency," even when he radioed that two engines had flamed out, and **he did not use the appropriate phraseology** published in United States aeronautical publications to communicate to air traffic control the flight's minimum fuel status.



Avianca 52: 1990

	FO → ATC	ATC
2130:32		Avianca five two climb maintain three thousand
2130:36	Ah negative sir we just running out of fuel we okay three thousand now okay	

- In Spanish, “to have just done” something can be expressed as “Acabar de:”
 - “Acabo de llegar en casa.” = I have just arrived home.
 - “Acabamos de terminar combustible.” = We have just run out of fuel.
- However, in English, the word “just” has several meanings...

“We just running out of fuel”

Specificatory: “Just” can be used to show that something occurred right before:

“We have just had lunch.”

“We have just lost all four engines.”

Restrictive: “Just” can be used to indicate a small amount of something:

“You have just one chance to pass.”

“We are just five minutes away.”

Emphatic: “Just” can be used to emphasize a point:

“That is just what I mean.”

“That is just fine.”

Depreciatory: “Just” can be used to minimize, or make less serious, a fact:

“I’m just kidding.”

“He just has his private pilot license.”

“We just running out of fuel”

- The controller would have had to guess what grammatical **meaning** the FO was trying to express...

- His **structure** was “**we just running out of fuel**”

- Did he mean,

- “We **are just running** out of fuel.” (*Depreciatory*)

...or did he mean...

- “We **have just run** out of fuel.” (*Specificatory*)

Depreciatory: The use of “just” can minimize a fact:

“I’m just kidding.”

Specificatory: “Just” can be used to show that something occurred right before:

“We have just had lunch.”

ICAO's Response

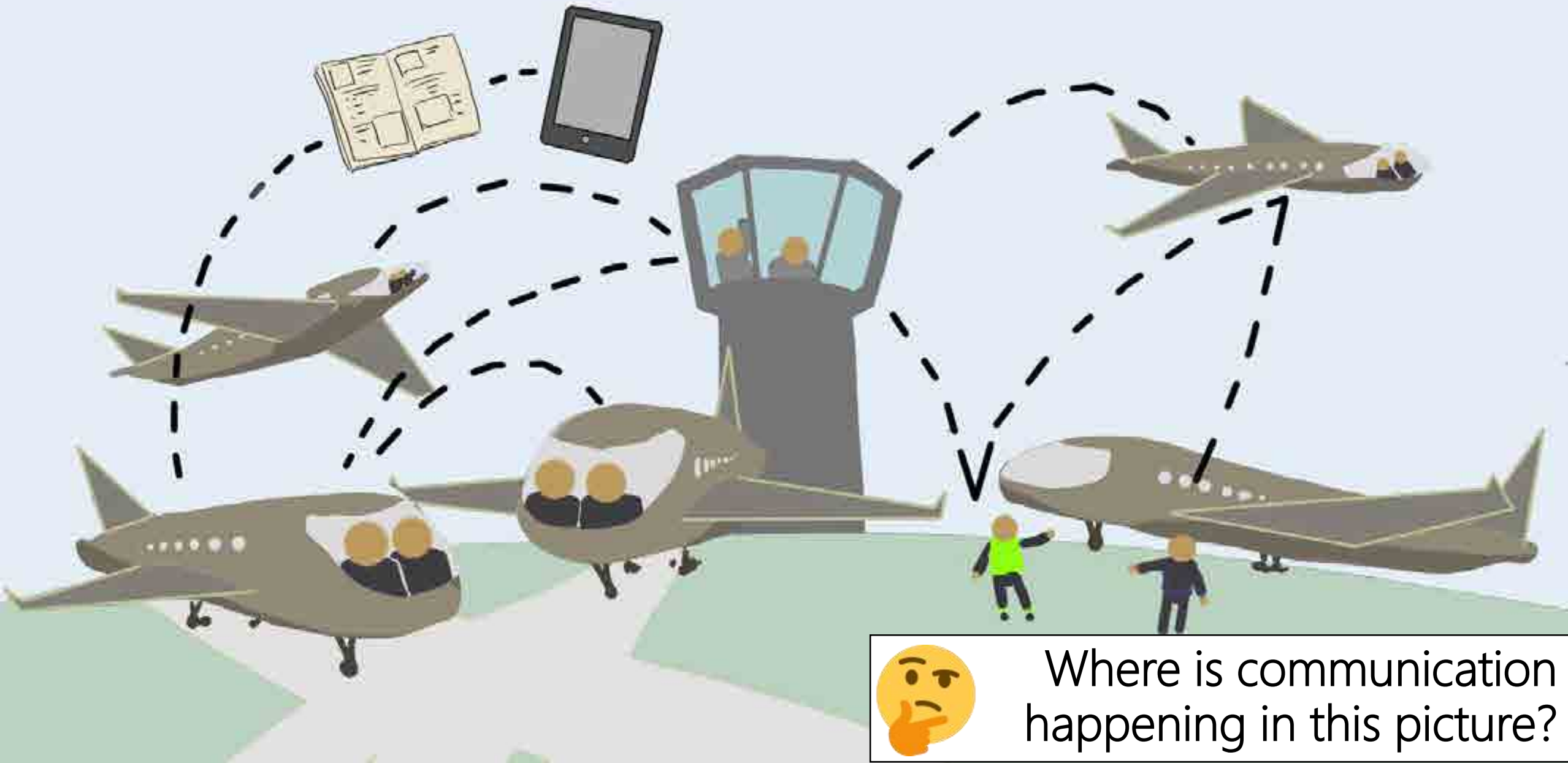
- Establishment of Language Proficiency Requirements
- Operational Level 4: “minimum level acceptable to ensure safe operations” for pilots or controllers operating in international environments

Level	Pronunciation	Structure	Vocabulary	Fluency	Comprehension	Interaction
Operational 4	Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding	Basic grammatical structures and sentence patterns are used creatively and are usually well controlled . Errors may occur, particularly in unusual or unexpected circumstances, but rarely interfere with meaning .	Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete, and work-related topics. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.	Produces stretches of language at an appropriate tempo . There may be occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction, but this does not prevent effective communication . Can make limited use of discourse markers or connectors. Fillers are not distracting.	Comprehension is mostly accurate on common, concrete, and work-related topics when the accent or variety used is sufficiently intelligible for an international community of users . When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.	Responses are usually immediate, appropriate, and informative . Initiates and maintains exchanges even when dealing with an unexpected turn of events. Deals adequately with apparent misunderstandings by checking, confirming, or clarifying .

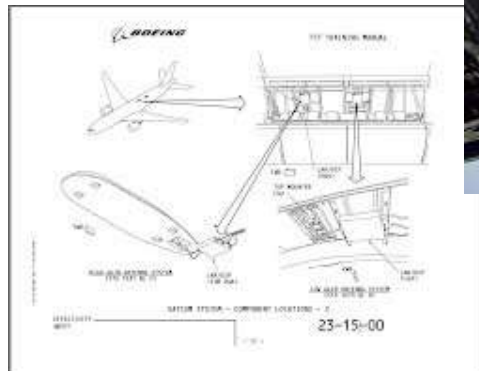


Pilot-Controller Communication

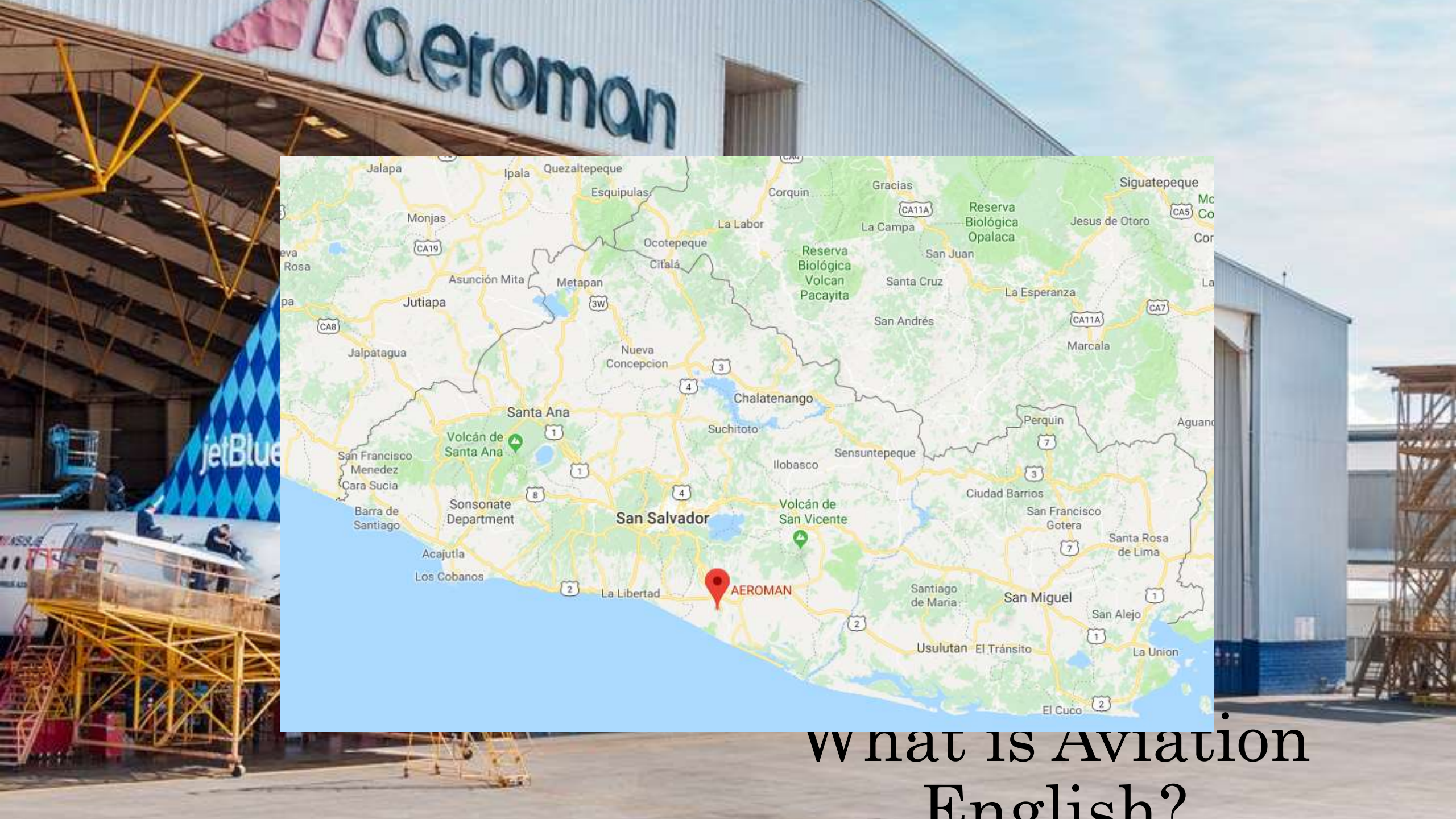
Aeronautical Communications



Where is communication happening in this picture?



Where Language Impacts Safety



What is Aviation
English?

What is Aviation English?

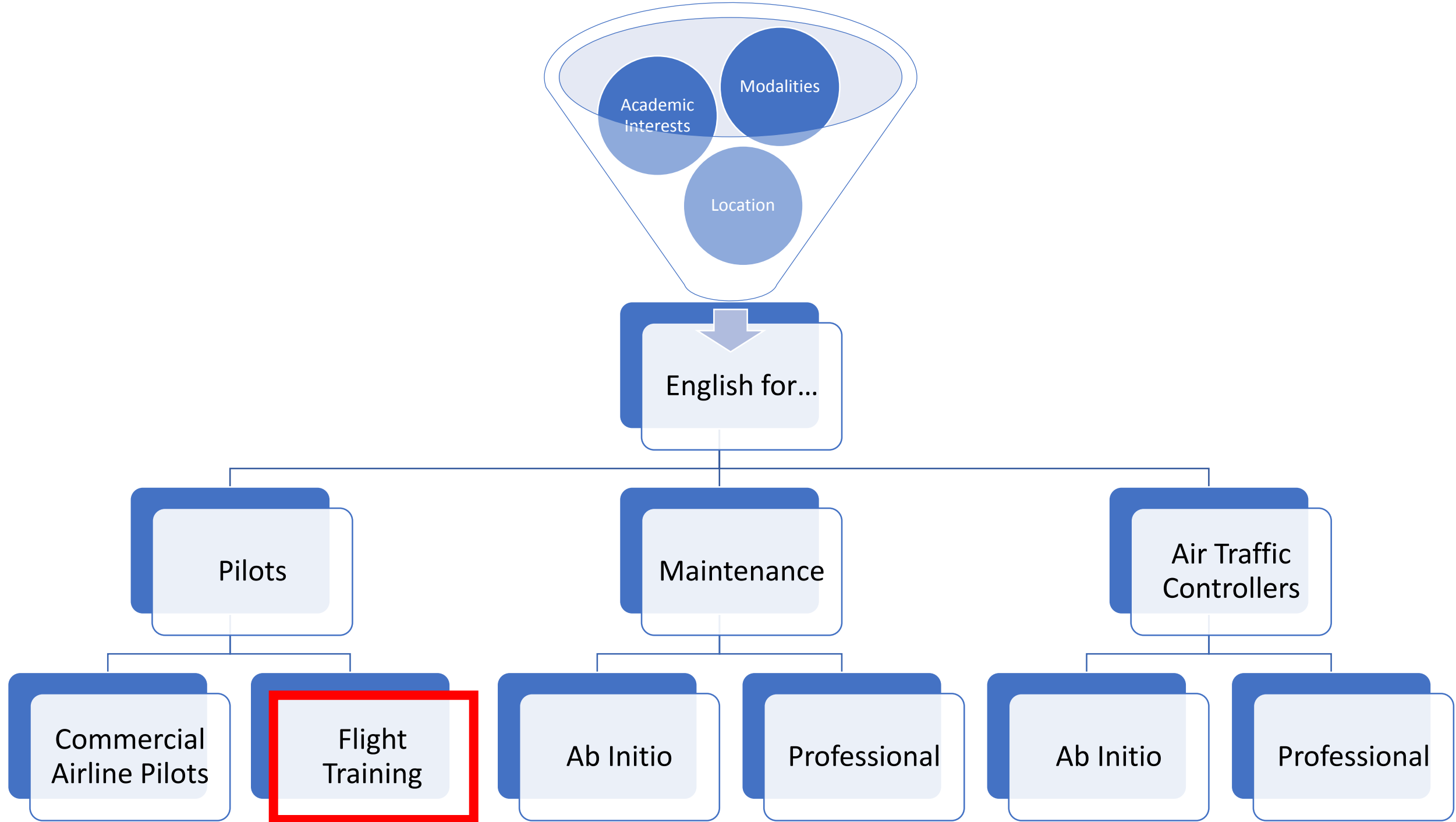




What is Aviation English?







Flight Training

"Hi Jennifer! It's the same old story. International student begins flight training and cannot seem to grasp the material because of English proficiency."

Growth in aviation in areas of the world where English isn't the primary language

Non-native English speakers travel to English-speaking countries for training

Students begin training in English

A lack of English language proficiency presents problems

"We need help!"

Flight Training

Growth in aviation in areas of the world where English isn't the primary language

Non-native English speakers (NNES) travel to English-speaking countries for training

Students are trained in English language skills needed for flight training

Students begin training in English

Students might not notice a problem with their English skills until they are in a situation where they need help!

Students need help!

Flight Training

```
graph LR; A[Growth in aviation in areas of the world where English isn't the primary language] --> B[Non-native English speakers (NNES) travel to English-speaking countries for training]; B --> C[Students are trained in English language skills needed for flight training]; C --> D[Students begin training in English]; D --> E[Students are successful and complete flight training in a timely and costly manner];
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Growth in aviation in areas of the world where English isn't the primary language

Non-native English speakers (NNES) travel to English-speaking countries for training

Students are trained in English language skills needed for flight training

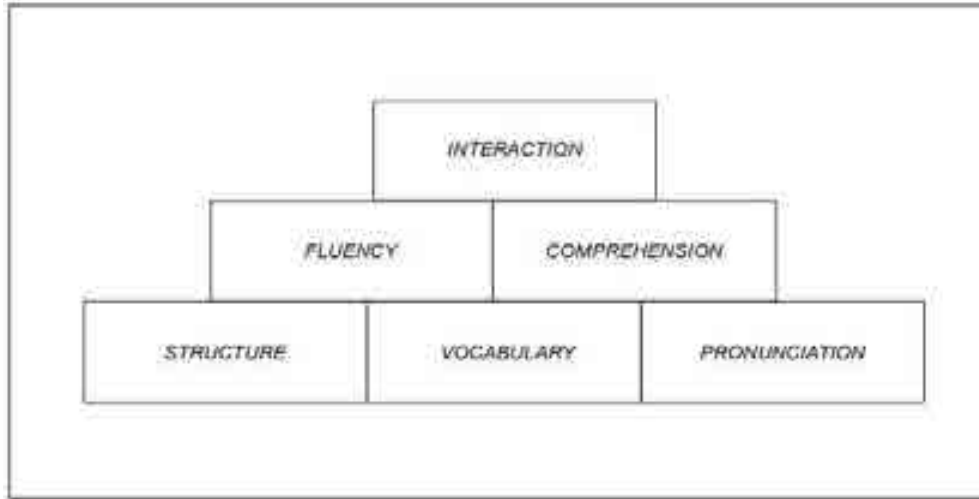
Students begin training in English

Students are **successful** and complete flight training in a timely and costly manner

Aviation English for Flight Training

1. Use English to learn about aviation.

- Focus on six ICAO skills:



- Develop speaking, listening, and even reading abilities

2. Use aviation to learn English.

- Foundational aviation knowledge:
 - Parts of an aircraft
 - Flight controls
 - Aerodynamics
 - Airports
 - Aviation weather
 - Human factors in aviation

Parts of an Airplane

1. Watch video; take notes
2. Review content of video through interactive games and activities
3. Work with four partners to dub over the original video



Posted by ERLI - Embry-Riddle Language Institute

213 Views

Press **Esc** to exit full screen



00:00:03

-2:36





GROUND OPERATIONS A

ATIS (132.875)

CLEARANCE DELIVERY (119.300)

After obtaining the ATIS, contact clearance delivery to obtain the appropriate departure instructions.

P: "Daytona Clearance, Riddle 405, requesting VFR departure to the north practice area at 2,000 (two-thousand), information Sierra (See Air Tab)."

C: "Riddle 405, Daytona Clearance, maintain VFR at or below 2,000, departure frequency 125.8, squawk 0132."

P: "Riddle 405, VFR at or below 2000, departure frequency 125.8, squawk 0132."

C: "Riddle 405, read back correct, contact ground 121.9 for taxi."

NOTE

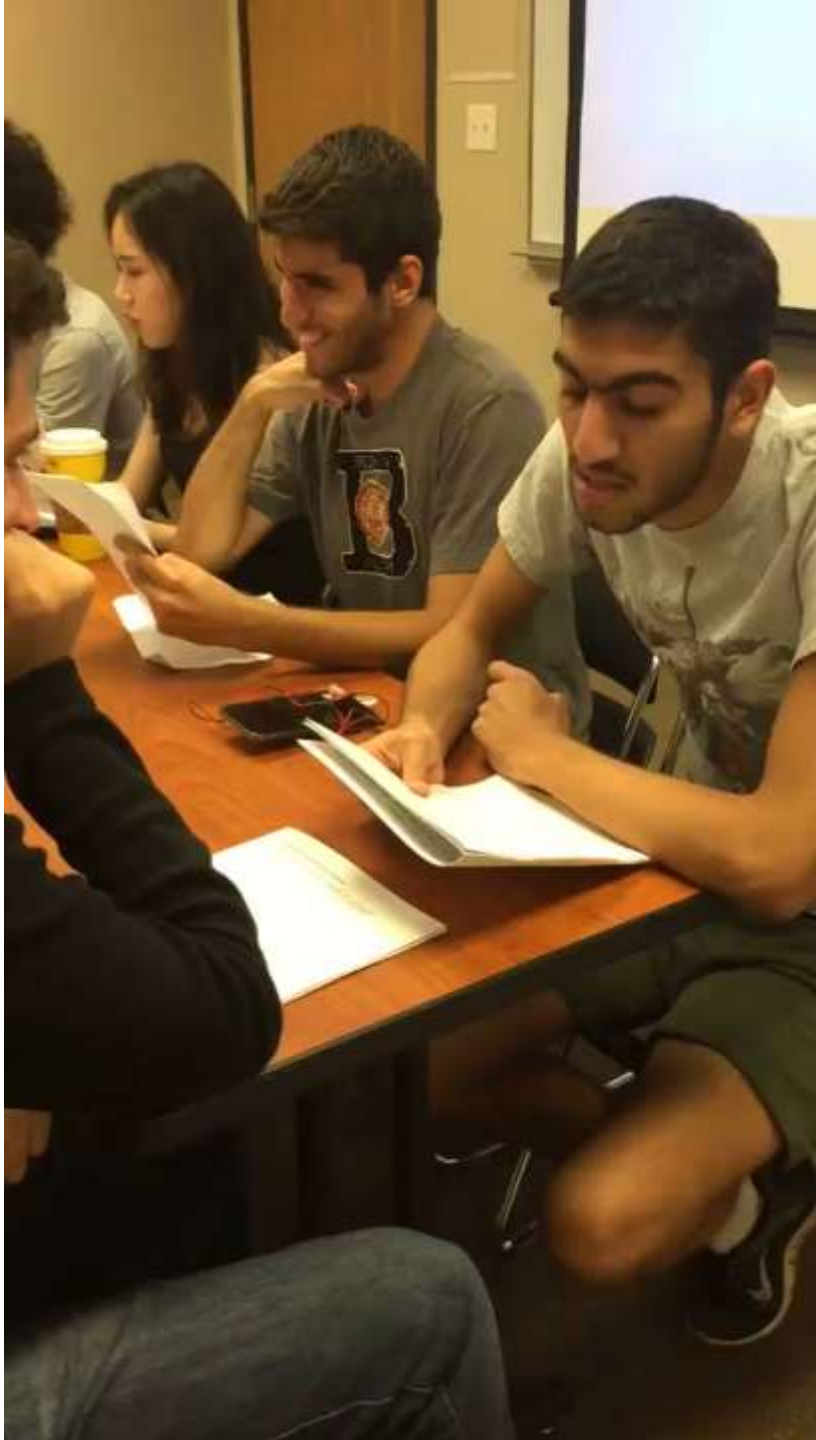
Clearance delivery may abbreviate the ground frequency as "ground point niner." Since 121.XX is a common range for many airports' ground control frequencies, the numbers prior to the decimal are sometimes omitted.

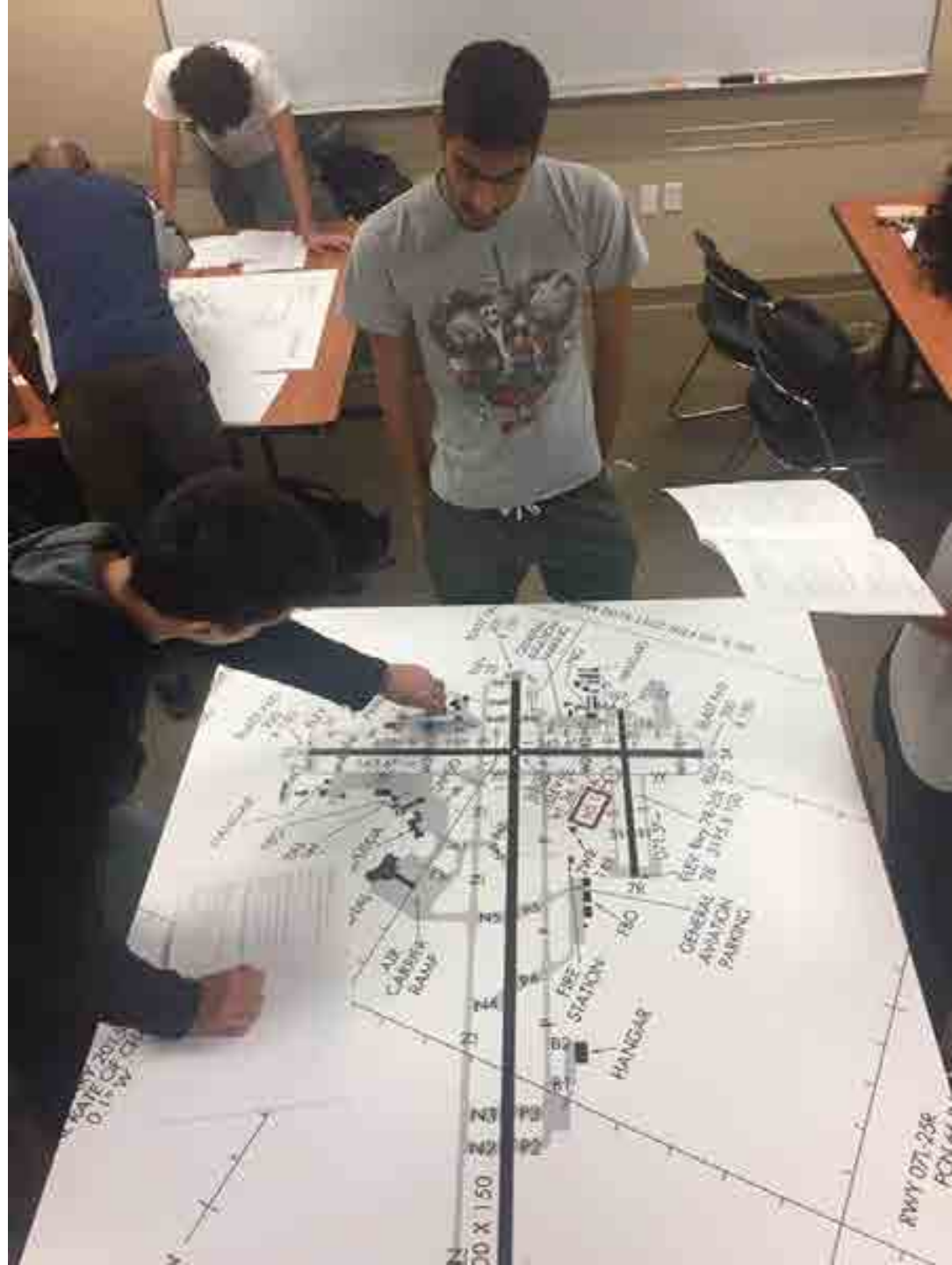
Radio Communication



Pilots: close your books!
Controllers: use your books (A or B)

Pilots: close your books!
Controllers: close your books!

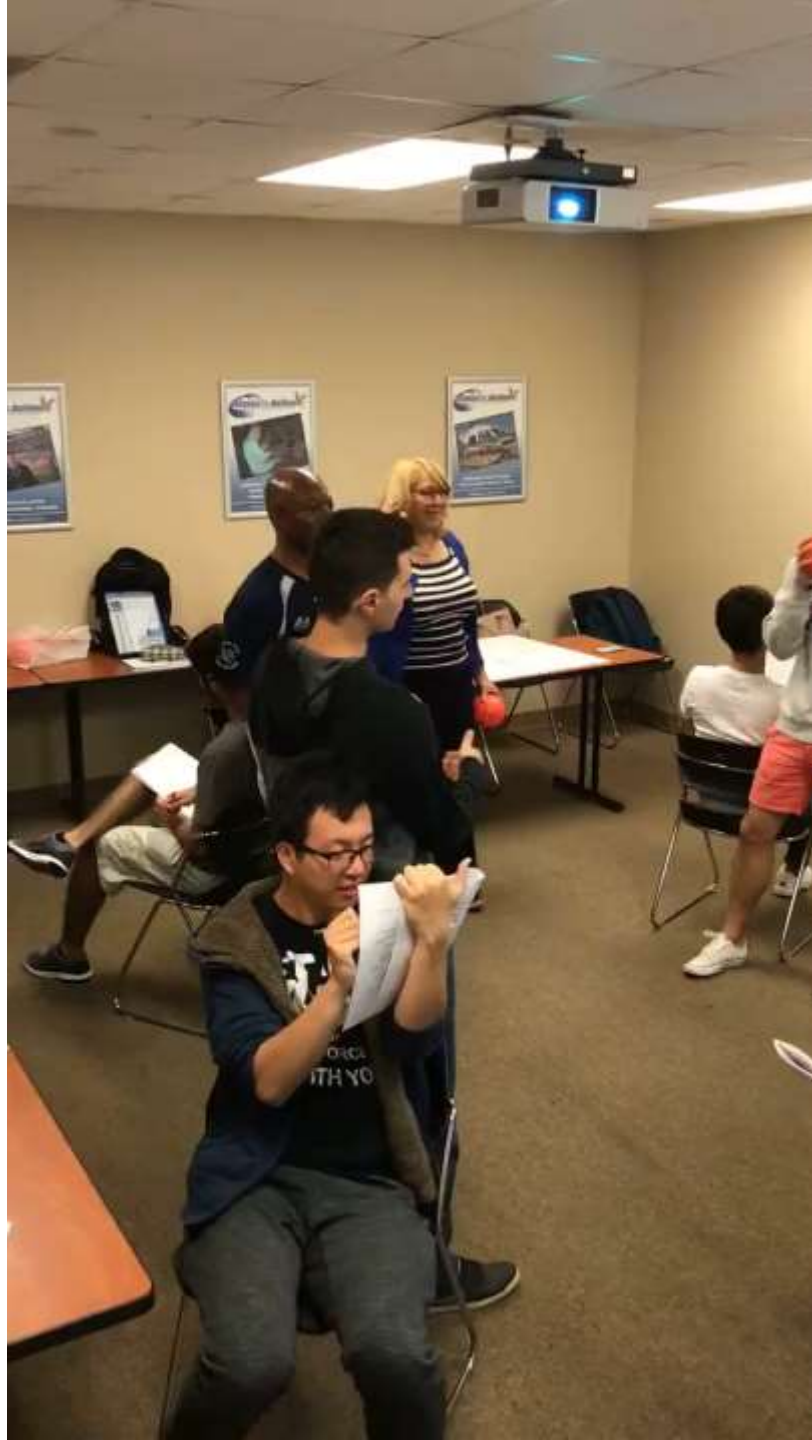




Radio Communication

- Create a more accurate representation of a “flight deck” in the classroom
- Increase “workload”
- Method:
 - Toss basketballs around the room
 - Play LiveATC.net
 - Stand back-to-back to prevent non-verbal cues and eye contact





Aviation English for Flight Training

- Four-week, 120 hour, **intensive** aviation English course
 - 6 hours per day, 5 days per week
- Miami campus: 5600 NW 36h St., Suite 110
- June 4 – June 29 (four weeks)
- Classes meet: 0900 – 1600 (one hour for lunch)
- Fee: \$2,500
- Register: proed.erau.edu/Englishflight



Aviation English for Flight Training

- Who should take this course?
 - Non-native English speakers **before beginning flight training**
 - Enter flight training prepared and confident
 - Non-native English speakers who have begun flight training, but are struggling with language proficiency
 - Gain the skills needed to avoid higher costs and a longer time in training



Aviation English for Flight Training

- Many flight schools want to admit more international students
 - This is a solution for providing language training!
 - Aviation is growing rapidly in areas of the world where English is not the first language...
 - Flight schools must send students back to their countries with adequate English language proficiency



Other ERAU Courses and Programs: Aviation English for Flight Training Online

- Five Courses:
 1. The Five Basic Parts of an Airplane
 2. The Aircraft Engine
 3. Aviation Weather
 4. Aerodynamics
 5. Airports
- Self-paced, with comprehension quizzes and final activities which are graded by an instructor





Other ERAU Courses and Programs: Embry-Riddle Language Institute (ERLI)

- Intensive English Program for university-bound students
- Aviation-related courses (Aviation Topics and English for VFR Flight)
- Complete program = admitted to ERAU
- Semester-long courses
- erli@erau.edu






Aviation Topics

- History of ERAU 
- Parts of an Airplane 
- Flight Controls 
- Four Forces of Flight 
- Airplane Design and Considerations
- Fields of Aerospace Engineering 

Content Sources:

1. Subject Matter Experts
2. Embry-Riddle Training Materials
3. Facility Tours



- Air Traffic Control 
- Important Organizations
- Human Factors in Aviation 
- Crew Resource Management
- Accident Investigation 
- Airport Operations 



Observing an ERAU Class

1. Research ERAU classes in Campus Solutions
2. Email professors
3. Attend class
4. Summarize experience

Last Wednesday, I observed one class at Embry Riddle Aeronautical University called Macroeconomics in order to **improve my listening skill and knowledge**. This course was explained by the professor _____ who is an excellent teacher. **Firstly, I had some difficulties to understand** and to listen because the professor was using **a lot of academic words** and it was my first time to listen to him. But, after twenty minutes, I began to listen and **understand what he was teaching**.

"I wasn't expecting that I will like this experiment... I learned many things in this lecture, and **I wish if I can observe this class again**. I used to watch in YouTube education movies or some episodes about Robots and unmanned aircrafts, but it was first time to observe lecture about this subject. The professor was well prepared and he has a good background about this kind of operation. Moreover, **I had chit-chat with him after the class**, and I found out he is a pilot and he still flies aircraft. **I really like the idea of observe classes, and I will start to request to observe more classes**. Thank you"



INTERNATIONAL CONFERENCE

Managing Communication as a Factor in Aviation Safety

The ICAO LPRs – Have we just scratched the surface?

- The effect of language and culture on communication as a human factor
- The language needs of the wider aviation professions
- Incorporating communication strategies into best practices for training and testing

9 - 11 May 2018

ERAU Daytona Beach
Florida, USA

hosted by

EMBRY-RIDDLE
Aeronautical University

for further information
www.icaea.aero



INTERNATIONAL CIVIL AVIATION ENGLISH ASSOCIATION

supporting the use of English for aviation safety

www.icaea.aero



Thank you!

Jennifer Roberts: roberj62@erau.edu

Register now:

<http://proed.erau.edu/courses/aviation-english-for-flight-training>



Embry-Riddle Aeronautical University – English for Flight Training Program

This four-week, 120-hour intensive English course utilizes authentic flight training materials to focus on the six language skills emphasized by the International Civil Aviation Organization (ICAO): Interaction, Comprehension, Vocabulary, Structure, Pronunciation, and Fluency.

Designed for students who do not speak English as their native language, this course is a great way to prepare for the high communicative demands of flight training, including communication with air traffic control during flight operations, with flight instructors both on the ground and in the flight deck, and with instructors and peers in the ground school classroom.

Learning Outcomes:

With an experienced language teacher, students study foundational topics related to flying to simultaneously build their aviation knowledge and to develop their language proficiency. Topics include aircraft systems, aerodynamics, airport operations, aviation weather and ATIS broadcasts.

Upon successful completion of this course, you will be able to:

- /// Understand basic aviation-related vocabulary and content as it pertains to flight training and the broader aviation context
- /// Interact with common, concrete aviation-related topics with accuracy, fluency, and clarity

- /// Use communicative strategies to exchange messages and to recognize and resolve misunderstandings
- /// Use relevant grammatical structures and sentence patterns creatively and in a well-controlled manner, as needed for flight training
- /// Use speaking and listening skills to communicate effectively with ATC during routine flight operations
- /// Understand and apply Automatic Terminal Information Service (ATIS) communications
- /// Understand the phases of a routine flight, including ground, departure, practice area, and arrival operations, along with their communicative demands

WHEN:

June 4-29, 2018 (4 weeks)

Classes meet: 9 a.m. – 4 p.m.
with an hour break Monday – Friday (120 hours total)

WHERE:

Miami Campus
5600 NW 36th St., Suite 110,
Miami, FL 33122

FEE:

\$2,500 (USD)
Course Registration Fee

Register today.

proed.erau.edu/englishflight