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Combining Forces: Utilizing Expertise from Applied Linguistics and Flight Instruction for Better ATC Communications

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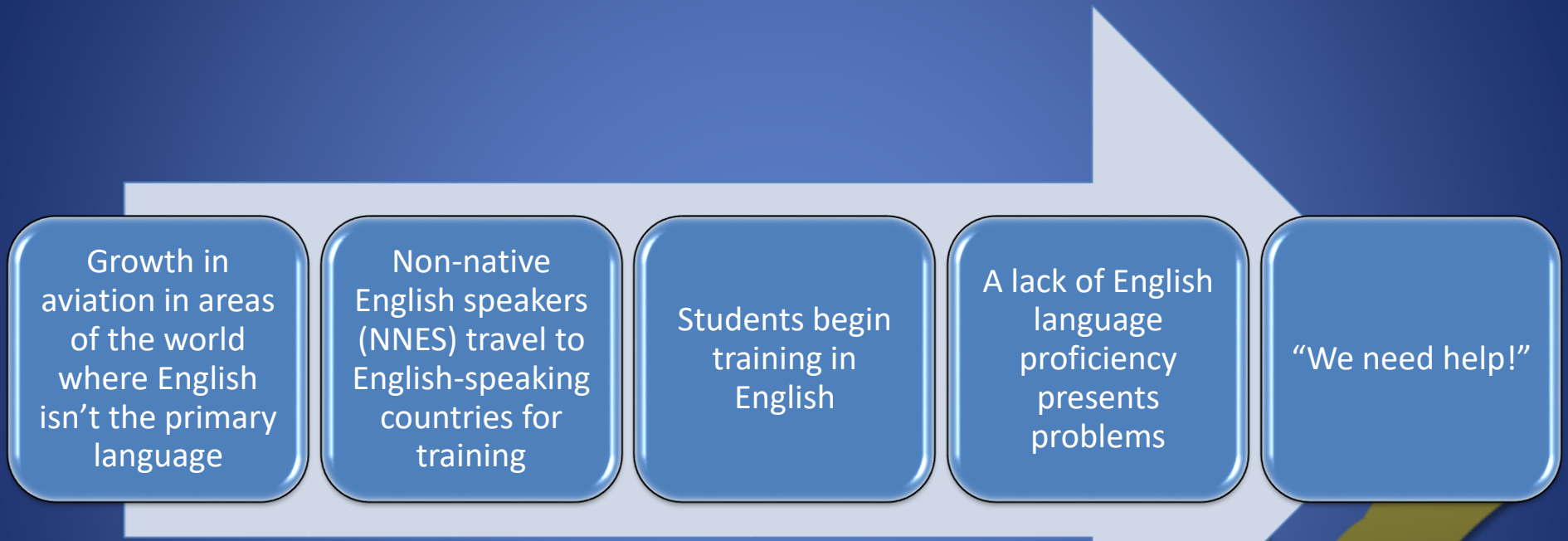
Flight Training Process



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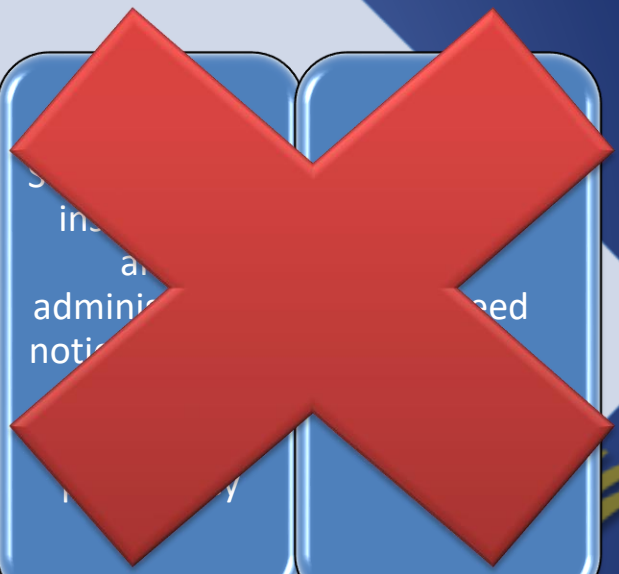
Growth in aviation in areas of the world where English isn't the primary language

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

Students are tested and <u>trained</u> in English language skills needed for flight training

Students begin training in English



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

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Students are tested and 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 Communications: English for VFR Flight

- Short-course (four hours/week, six weeks)
- Students:
  - Self-enrolled
  - Identified by CFIs
  - Pre-flight in university's Intensive English Program
- Co-taught by a Certified Flight Instructor and an Aviation English Instructor

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Course Summary

This course is designed to help you learn the basic foundations of ATC communications for VFR flight, focusing on listening comprehension and speaking strategies. With a Certified Flight Instructor and an Aviation English Instructor, you will have the opportunity to practice ATC communications in the following areas:

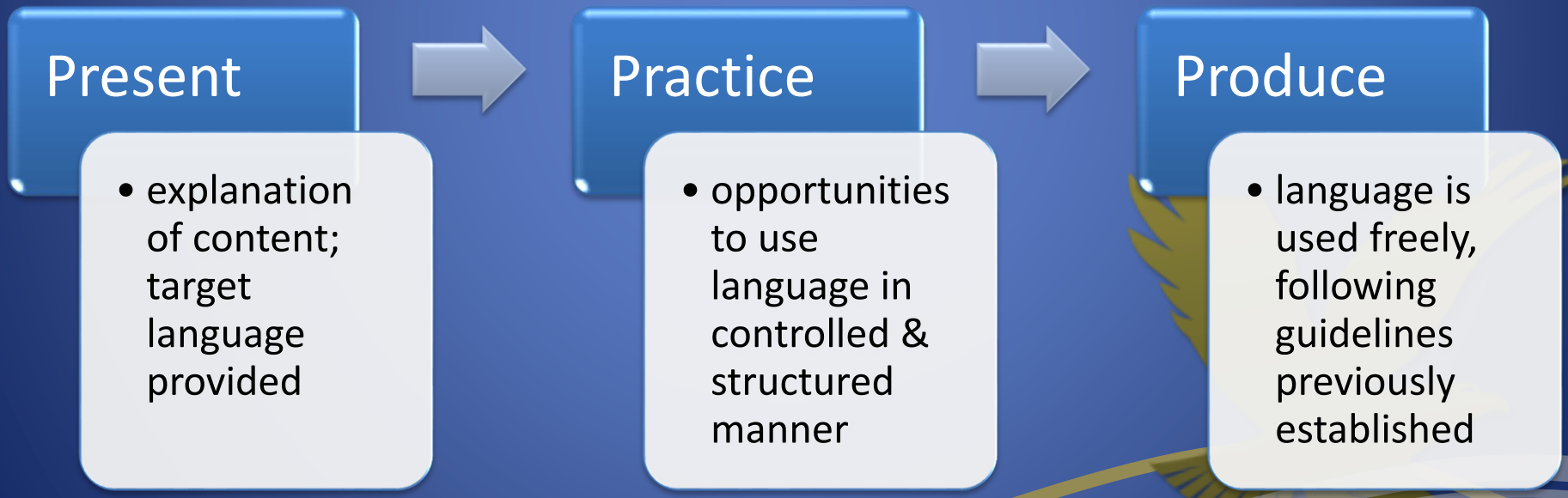
- Ground Operations
- Departure Operations
- Practice Area Operations
- Arrival Operations

Observer flights will reinforce the skills you learn in the classroom as well as introduce you to the flight training environment and facilities.

We know that learning to fly is your ultimate goal. Your ability to communicate will be a very important factor in reaching that goal. Therefore we encourage you to keep your goals in sight during this course and work to develop the language skills necessary to communicate effectively in your chosen career.

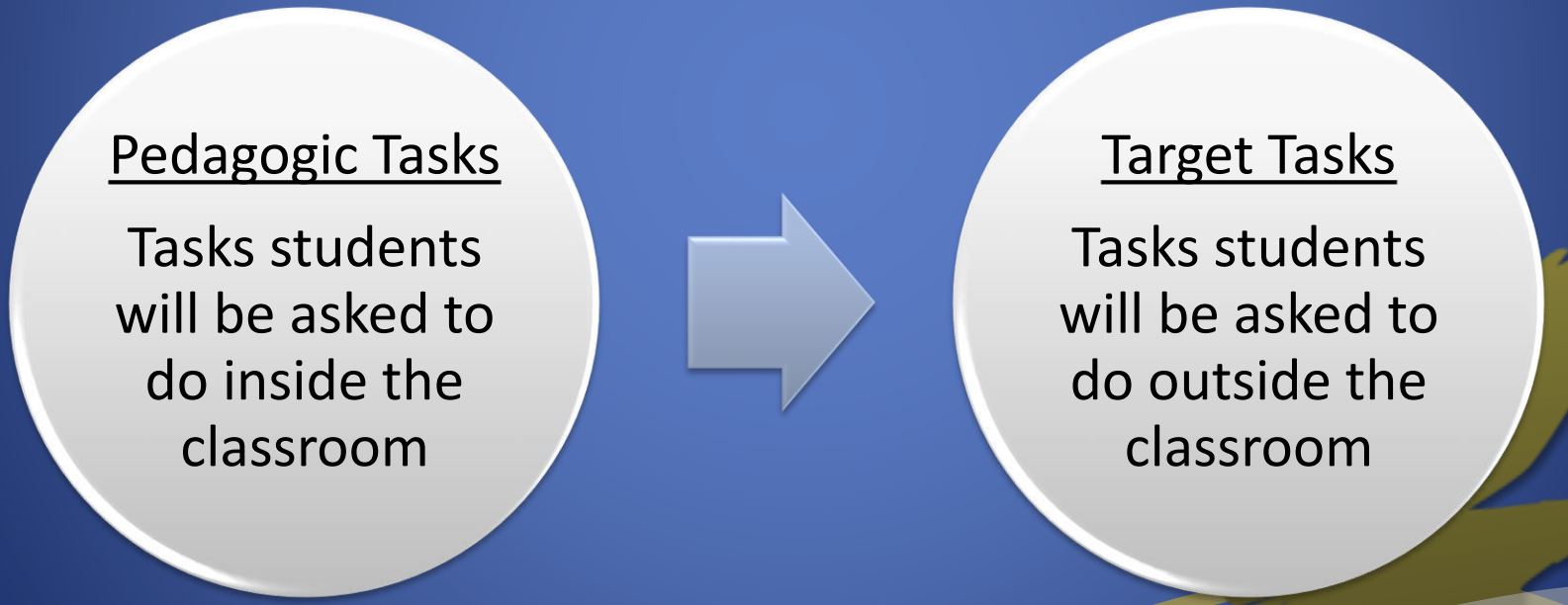
Communicative Language Teaching

Focus on interaction, fluency, and using language for a meaningful purpose



Task-based Language Teaching

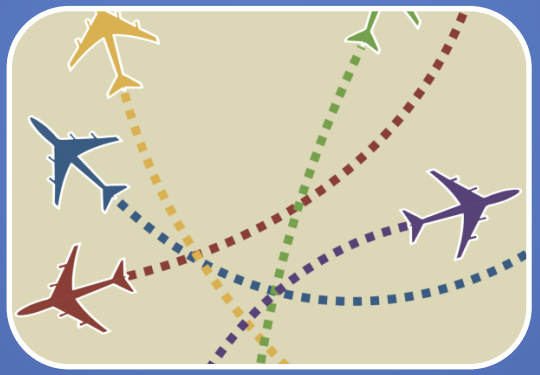
Utilizes tasks to accomplish a meaningful objective with a relationship to a goal outside the classroom



Content-based Language Teaching

Combines language learning with the learning of informational content

Relevant and Interesting



Cohesive

Handled by Instructors

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ICAO Document 9835: Manual on the Implementation of ICAO Language Proficiency Requirements

	Qualifications	
	Best	*Very Good*
1. Aviation language trainer, administrator and materials developer		
Language training academic qualifications[1]	Master's in Language Teaching • Teaching English as a Second Language (TESL, TESOL) • Applied Linguistics • Foreign Language Education or related field	• Bachelor's degree in foreign language training, or • Graduate diploma in TESL, etc., or • University degree + Extensive L2 or foreign-language training experience with clear evidence of commitment to field[2]
Language training experience	Aviation language programme 3+ years	• Aviation language programme • Language for specific purpose training • Language training in an accredited university or language school
Aviation communications	Pilot or controller experience	Radiotelephony familiarity (through aviation language apprenticeship or experience)[3]
Language learning materials development	Aviation language materials development with communicative or interactive approach	—
Language training administrative experience	Aviation language programme administration	Language training programme administration

	Qualifications	
	Best	*Very Good*
2. Language test development[4]		
Academic[5]	Master's in Language Testing Ph.D. in Applied Linguistics with specialization in language testing	Master's in Applied Linguistics + experience developing, and conducting research on, second/foreign language tests
Aviation	—	Radiotelephony familiarity
3. Subject matter experts		
Aviation communications	Professional, international, radiotelephony experience (professional pilot or controller)[6]	Highly experienced commercial or private pilots with international experience
4. Other possible aviation language team members		
Computer-aided training and instructional design[7]	Professional specialist academic qualifications	Extensive and proven specialist experience

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Dual Subject Matter Experts

	Aviation English Instructor	Certified Flight Instructor
Traditional Teaching Role	Enforce English-only classroom; facilitate confidence and risk-taking; write on the board, clarify, elaborate	Primary source of content (technical terminology, specifications of KDAB, phraseology)
Assessor Role	Formal and informal comprehension checks focus on accuracy; pre- and post-class oral interview assessing communicative ability and accuracy	
Organizer Role	Day-to-day lesson plans; sequencing of activities to follow CLT framework	Logistical knowledge of flight operations and sequencing
Materials Developer Role	Create interactive and communicative activities	Create role-play dialogues and glossary of terminology

Syllabus Design

- ICAO phonetic alphabet
- Automatic Terminal Information System (ATIS) Broadcasts
- Typical full-flight scenario:
  - Ground
  - Departure
  - Practice Area
  - Arrival

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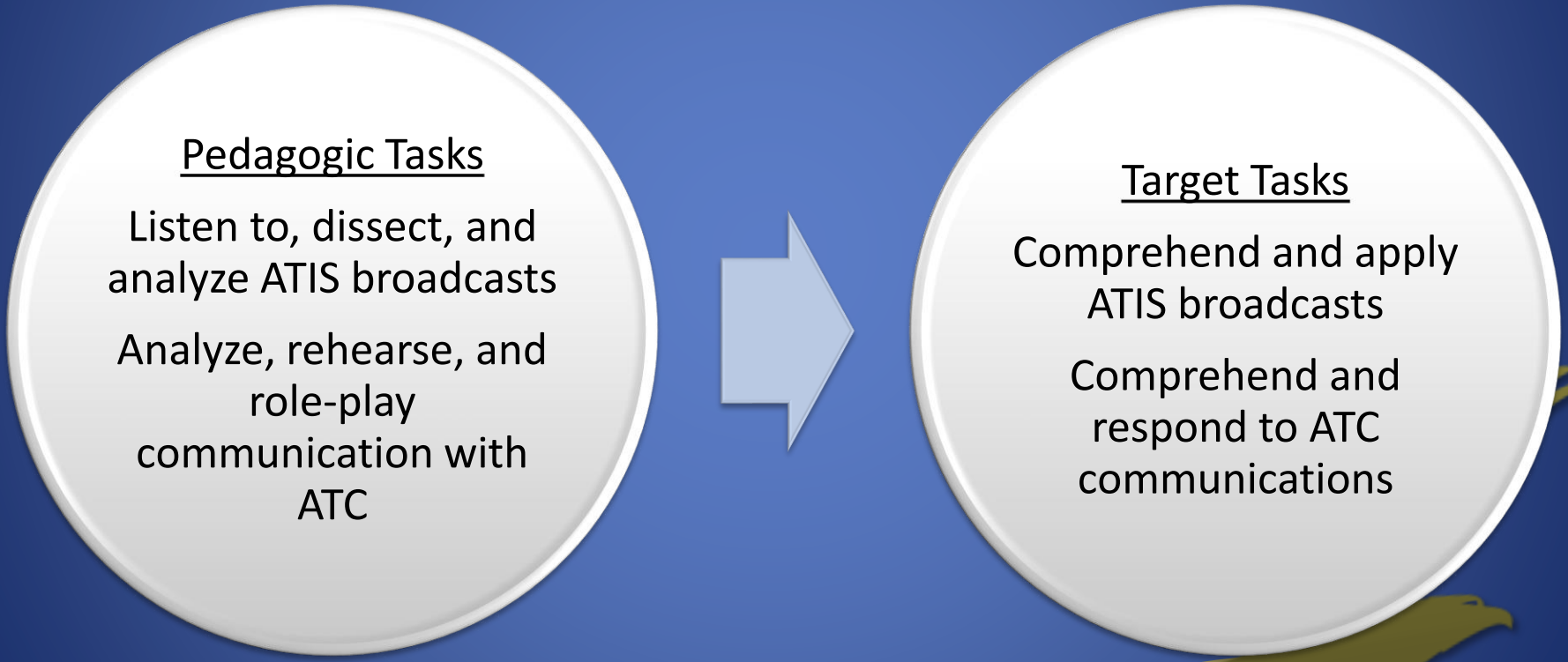
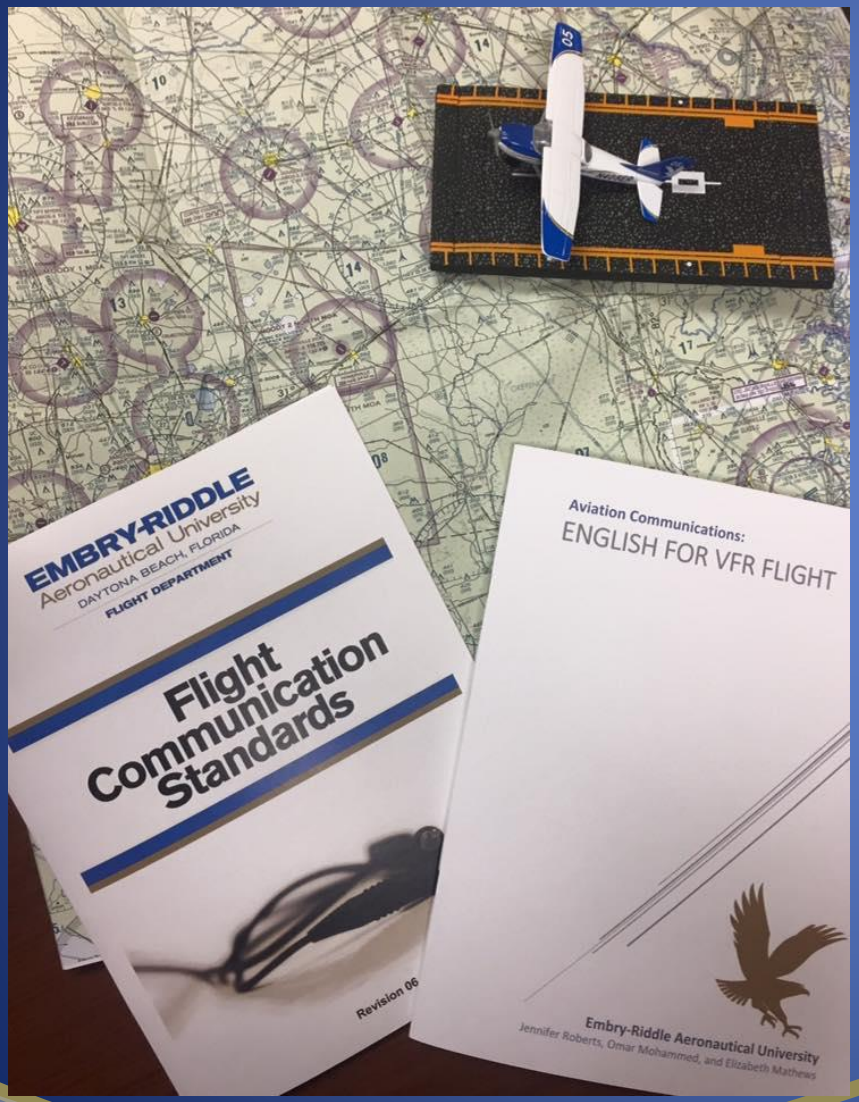
Task Design



Instructional Materials



Activity Types: ATIS

Airport	Info	Time	Wind	Visibility	Sky Conditions	Temp Dew Point	Altimeter	Expected Runway	Remarks

- Wind: *v. @ #*
- Visibility: *# SM*
- Sky Conditions: *few, sct, brkn, ovc, clr*

Airport:	Information:	Time:
Wind:	Visibility:	
Sky:		
Temp/Dew Point:	Altimeter:	
Expected Runway:	Remarks:	

Activity Types: Radio Communication

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 2,000 (too – thousand), information Sierra (See Air Rah)."

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 co range for many airports' ground control frequencies, the numbers prior to the decimal are sometir omitted.

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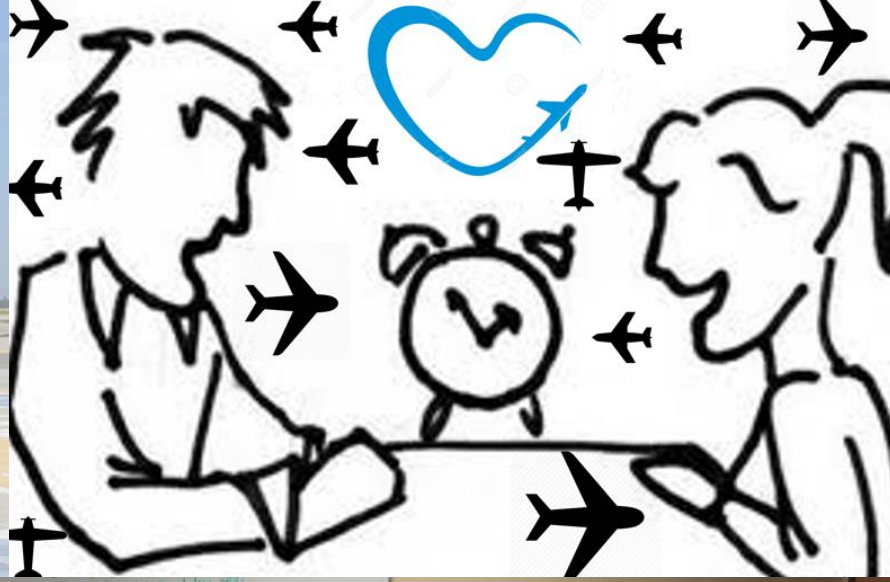
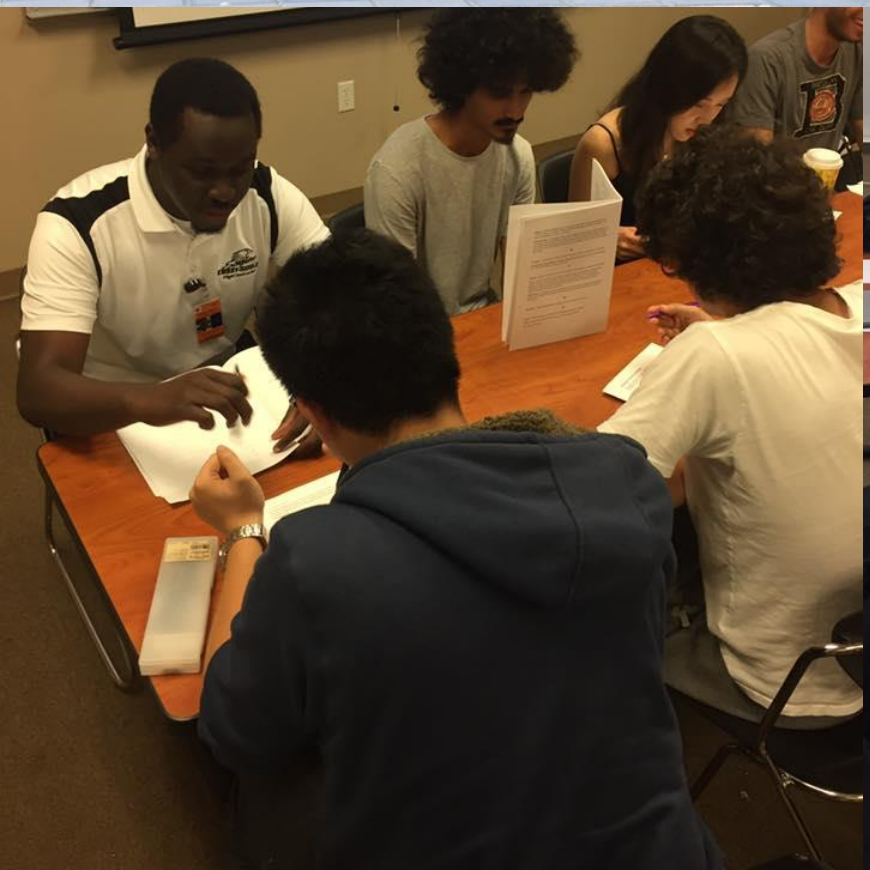
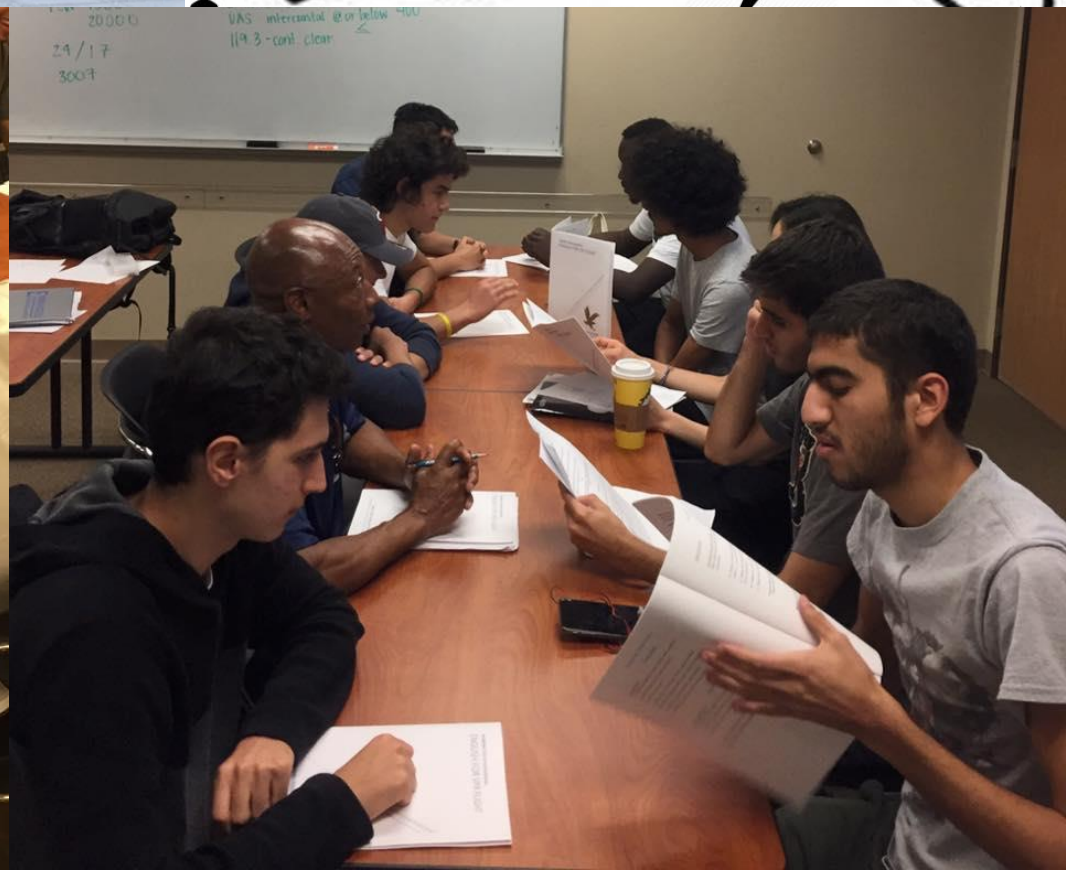
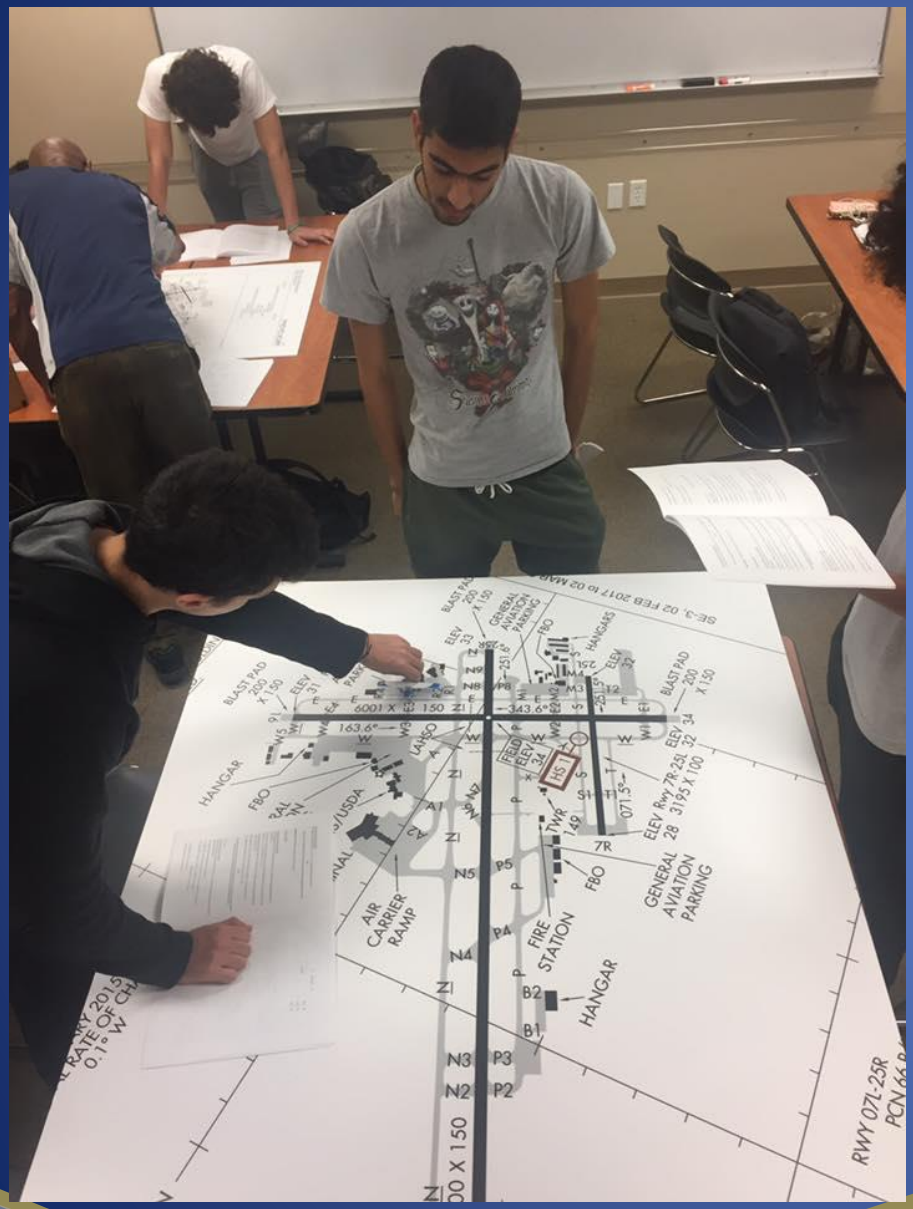
Clearance Delivery Speed Dating









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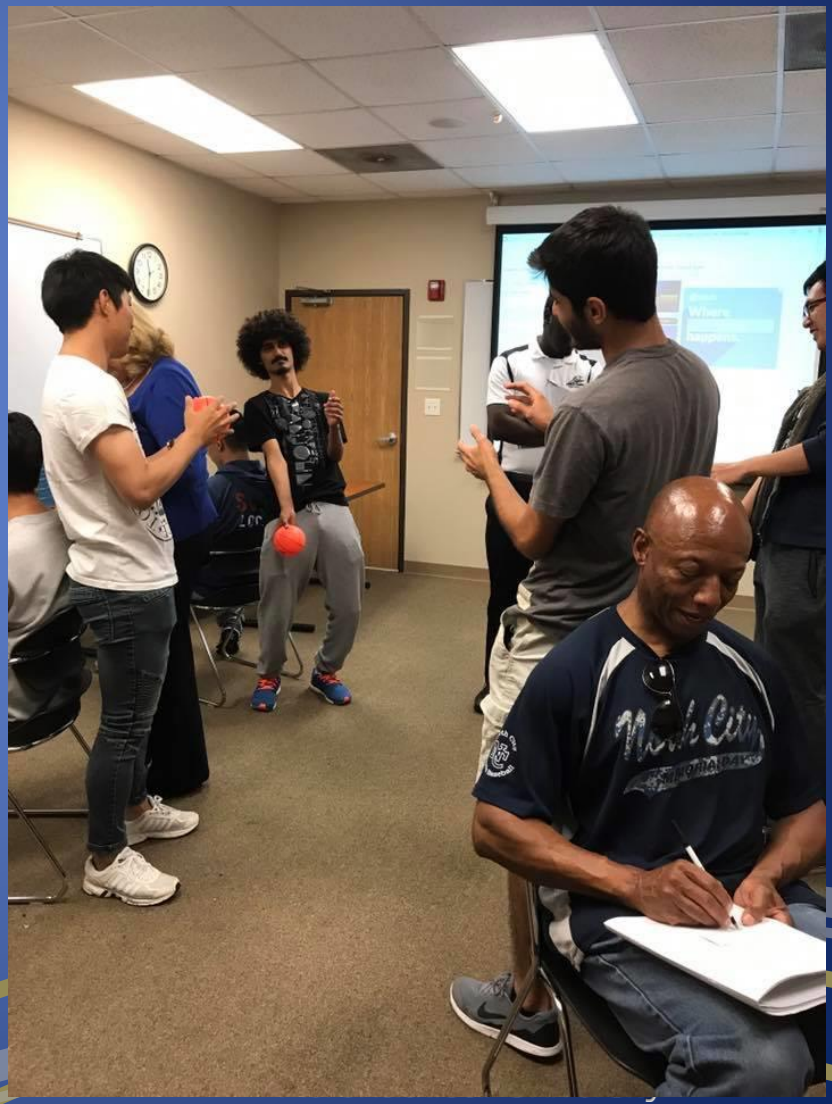
Activity Types: Radio Communication

- Create a more accurate representation of a "flight deck" in the classroom & increase "workload"
  - Toss basketballs around the room
  - Play LiveATC.net of local ATC tower, TRACON
  - Stand back-to-back to prevent non-verbal cues and eye contact



Activity Types: Full-Flight Scenario

1. Pilot 1 asks for clearance from the Clearance Delivery Controller
2. Pilot 1 asks for taxi instructors from the Tower Controller while Pilot 2 asks for clearance
3. All acting as pilots will
    1. ask for clearance,
    2. receive taxi instructions,
    3. taxi to the runway,
    4. take off,
    5. communicate with other pilots in the practice area,
    6. contact approach to return to the airport,
    7. land,
    8. and taxi back to the ramp

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Activity Types: Observer Flights

- Hands-on experience of flight operations
- Each observer flight focuses on a different phase or aspect of the flight

Observer Flight #1

Ground and Departure Operations

This observer flight will help you in the development of proper ground and departure communication techniques. Pay close attention to the communications between the pilots and Air Traffic Control (ATC). If there are questions you are unable to answer, feel free to ask the pilot **after the flight is over. Do not ask any questions while the pilot is flying.**
You will need the following handouts: **1) Observer Flight #1, 2) KDAB Airport Diagram 3) ATIS Tables**

ATIS and Clearance

1. Complete the ATIS handout for both departure and arrival.
2. Squawk code: _____
3. Clearance altitude: _____
4. North or South practice area. (circle one)

Taxi and Takeoff Phases

1. Highlight the taxi instructions on the airport diagram.
2. Were there any **hold short** instructions and on what intersection?
3. Which runway did you takeoff from? Circle the runway.
4. After departure, where did the airplane fly? For example, shoreline southbound, shoreline northbound, etc.

Results

- Overwhelmingly positive
  - Progress in content knowledge and language skill development
- Reported high increase in confidence and feelings of preparedness for real-world flight training

Future Plans

- Walkie-talkies to physically separate ATC and pilots
- Actual recordings of flight deck communications utilized for learning
- Bring in other SMEs (ATC professionals)
- Use Flight Training Devices (FTDs) of ERAU

Recommendations

- Screen flight students *before* entering flight training to catch problems early on
- Remedies to language problems require careful and considerate training
  - EVFR is part of a larger solution which includes instruction and practice with other communicative situations such as
    - Debriefing with a CFI
    - Reporting technical problems
    - Receiving non-standard clearance from ATC

Thank you for your attention!

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- Muhammad Omar: omarm@my.erau.edu

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