

English for Air Traffic Control: Development and Implementation

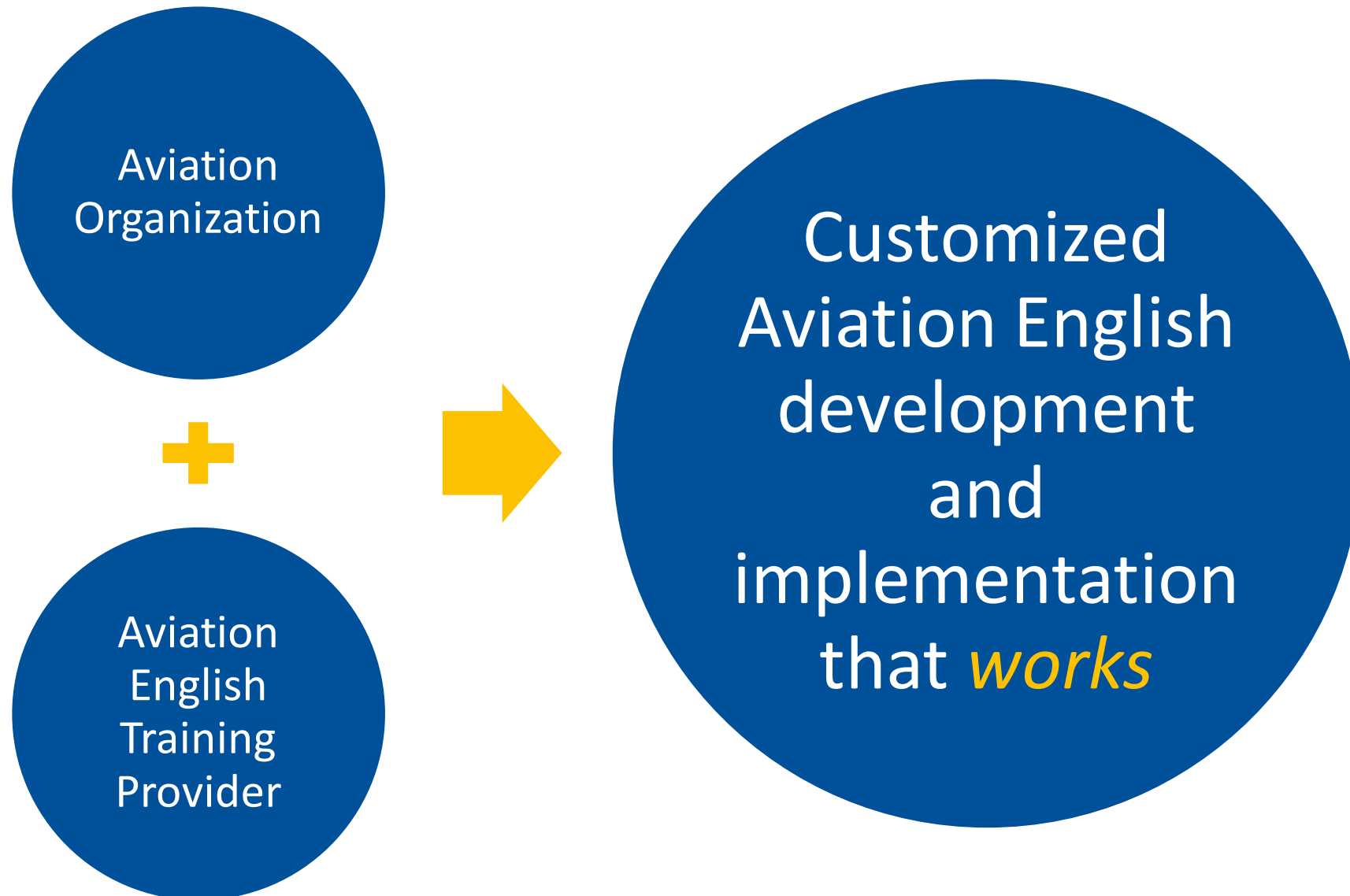
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EMBRY-RIDDLE
Aeronautical University



A Partnership Approach





English for Air Traffic Control: Development

Development Considerations

Operational

- Reasonable time commitment for *working* **air traffic controllers**
- Realistic expectations regarding students' shiftwork
- Relevant topic/content choices for profession, language level, experience, etc.

Pedagogical

- Goal of achieving ICAO Operational Level 4
- Focus on language skills, but also *communication* skills
- Manageable workload for teachers
- Thoughtful use of technology

Development Considerations: *Practical*



Synchronous



- Zoom classes with teachers
- Online meetings with ERAU Conversation Partners

Asynchronous



- Learning and practice activities via Canvas (LMS)
- Video submission assignments and discussions

Designing the Course

Step 1: Identify

- Language and communication skills and strategies
- Content Topics
 - Examples: Managing Wildlife Issues, Fatigue, UAS, In-Flight Fire Emergencies, Pilot Incapacitation, Landing Gear Problems, Human Factors
- Relevant Vocabulary
- Authentic examples (e.g. radiotelephony)
- Sequence

Step 2: Build

- Asynchronous
 - Online presentations (interactive teaching and learning)
 - Automatically-graded practice activities and quizzes (immediate feedback)
 - Teacher-graded activities (delayed, personalized feedback)
- Synchronous
 - Lesson plans (objectives, teaching materials, etc.)
 - Assessment tools (rubrics, comprehension checks, etc.)

Building the Asynchronous Course

Runway (n)

In some airports, there are parallel **runways** that have the same headings.

Turn

Card 1 of 20

a long strip of ground where airplanes take off and land

Turn

Card 1 of 20

0:00 / 0:06

- Stuck
- Fault
- Switch
- Check

2 / 4

AVE 1100 English for Air Traffic Control

[ATC AUDIO] DRONE SPOTTED AT DUBLIN AIRPORT! (H5P) ↗

Photo Credit: Foreflight ↗

5:49 / 7:16

English for Air Traffic Control Workbook



Why do we use a *paper* Workbook?

1. Students have something to write on while viewing content on a screen = **better user experience**
2. Student engagement and interaction with material = **take ownership for their own learning**
3. Students often associate workbooks or textbooks with official training = **increased face-validity**



Throughout the design and development process, all course content **must be** reviewed for operational accuracy and relevance by a

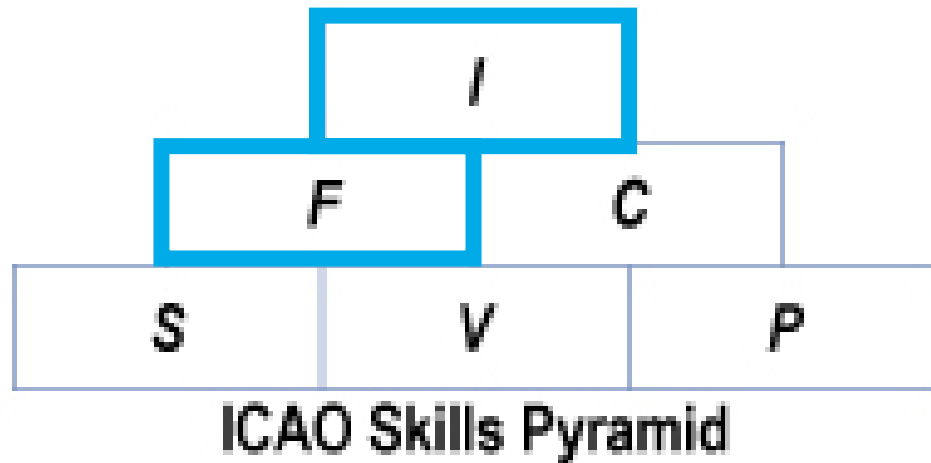
Subject Matter Expert (SME)

Program Structure



- ~325 students per year
- 5 teachers
- 13 sections/classes of 25 students each
- Each module contains
 - Teacher-graded assignments
 - Online learning and practice activities
 - Synchronous sessions...

How can we manage synchronous sessions?



- Possibility: All students from one section join a single session
 - Impossible due to varied shiftwork schedules
 - Class size is too large for meaningful work on fluency and interaction
- Ideal scenario:
 - Small groups
 - Flexibility and variety in class times offered
 - Utilization of technology to manage scheduling

Managing Synchronous Sessions



[This Photo](#) by Unknown Author is licensed under [CC BY-NC](#)

- Solution:
 - One hour per week
 - Students sign up via online booking system at the beginning of the module (times can change week to week)
 - Three formats
 - One small class with any teacher (10 students)
 - One small(er) class with assigned teacher (4-5 students)
 - Two Conversation Partner Program meetings (2 students with one Conversation Partner)

Conversation Partner Program (CPP)

- Partners are current Embry-Riddle students (most are student pilots or air traffic controllers)
- What happens in a CPP meeting?
 - Questions about the module topic
 - Radiotelephony role plays
 - Open conversation
 - Language proficiency assessment preparation
- Benefits:
 - International relationship building
 - Huge confidence booster
 - Improve interaction skills





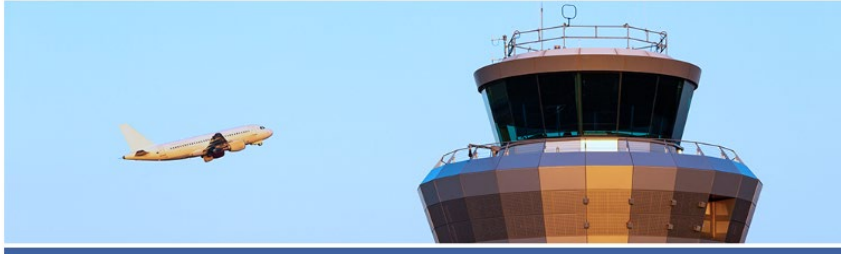
English for Air Traffic Control: Implementation

Course Delivery: First Language (L1) Support

English for Air Traffic Control

AVE
1100

English for Air Traffic Control



Summary

Begin Course → Modules

 [Help with Technology](#) - Este link é específico para alunos brasileiros do curso English for Air Traffic Control (EATC). O envio deste formulário gerará um tíquete/relatório de TI que será endereçado pelas equipes da ERAU no Brasil.

Contact Information

Instructor:

Course Introduction

How do I use Canvas?

How do I navigate Canvas?

Watch this video to learn how to navigate Canvas (07:45/ERAU):



Review the Portuguese version of the [AVE 1100 Course Syllabus \(PDF\)](#). ↓

[Minimize File Preview](#)

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ZOOM



AVE 1100 English for Air Traffic Control Online Course Syllabus

Modalidade do Curso

Online (Canvas e Zoom meetings)

Materiais exigidos para o curso

English for Air Traffic Control (EATC) Workbook

É um curso com dois objetivos - melhorar a proficiência em inglês e melhorar o conhecimento do conteúdo sobre conceitos do controle de

Tráfego Aéreo do ICAO Pré-operacional Nível 3,

com professores
com parceiros de conversação
com feedback de professores

Aviation English Instructors

Language Teaching

- Certifications or degrees
- Experience teaching online
- Experience teaching internationally
- Familiarity with or experience in English for Specific Purposes (ESP)

Aviation Familiarity

- Operational experience (e.g. Private Pilot's License)
- Academic degrees or professional certifications
- Enrollment in ground school
- Work with SMEs
- Participation in aviation conferences and events



Utilizing the Aviation English Teacher in English for Air Traffic Control



Video Activity - Student Experience

Introduction to
a Topic + Prompt

Activity Instructions

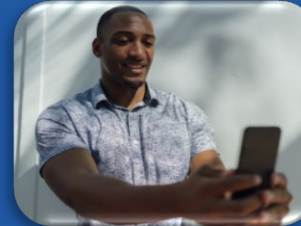
Make a **video post** in which you answer the following questions:

1. How can you explain fatigue in your own words?
2. How does fatigue affect you in your personal life?
3. How could fatigue affect ATCOs and aviation safety?
4. How does sleeping well help you do your job?

Activity Requirements

This activity requires a 2-3 minute video post and at least one 1:2

Video Submission
from Learner



Feedback
from Instructor



Teacher Feedback

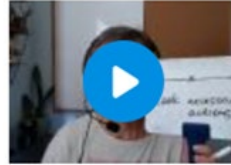
Assignment Comments

1.  Hello Bianca! It is good to be back. ✈️

Thank you so much for sharing your experience with us. How did the pilot manage to get the landing gear in place? maneuvering?

2.

Let's practice these words:




Some corrected structures:

The ATCO and the supervisor **TOOK** necessary actions
land safely (not "in safe")
to train **FOR** abnormal situations

3.



Student Reply Video

4.  Thank you so much for taking time to explain this to me. Like so many of you said, there are so many types of abnormal/unusual situations that can occur. Do you remember how we discussed Uncertainty Avoidance in the module on Cultural Influences? Yes, checklists & protocols can help us avoid uncertainty, but we still have to be able to adjust and act quickly in abnormal situation. And that's why training like you describes is so crucial.

Again, thank you for your engagement! You are doing so well in this course!

Personalized Teacher Feedback

A screenshot of a video player interface. On the left is a navigation sidebar with icons for Home, Summary, Announcements, Modules, Grades, People, New Analytics, Rubrics, Assignments, Discussions, Pages, Files, Collaborations, Quizzes, Outcomes, Hunt Library, Bookstore, and Chat. The main content area shows a list of video segments with play buttons and progress bars. The segment '9. Debris - If a rocket explodes during launch or liftoff, millions of pieces of debris can enter the airspace.' is highlighted with a yellow circle. Other segments include '10. Ensure', '11. Hazard', '12. Impact (s)', '13. Integrate', and '14. Launch (s)'. A video thumbnail of a man is visible in the top right corner. The video progress bar at the bottom shows 1:50 / 5:44.

A screenshot of a video player showing a woman wearing a headset and holding a white sign with handwritten text. The text on the sign reads: 'Work avoid', 'take traffic', 'late stop'. The video progress bar at the bottom shows 2:13 / 4:22.

A screenshot of a video player showing a woman wearing a headset and holding a white sign with the word 'controlled' written on it in blue marker. The video progress bar at the bottom shows 7:24 / 9:07.

A large yellow trapezoidal graphic containing various words. The words are arranged as follows: 'brief' (top left), 'crew' (top right), 'wind' (middle left), 'turn' (middle top), 'push' (middle right), 'gate' (lower middle left), 'shut' (lower middle top), 'oil' (lower middle right), 'check' (bottom left), 'sky' (bottom middle), 'ground' (bottom right), 'nose' (middle right), 'flap' (bottom left), and 'stop' (bottom right). A small video thumbnail of a woman is in the bottom right corner. The video progress bar at the bottom shows 0:41 / 7:07.

Teacher Announcements

How much time have YOU spent in traffic this week? I hope not too much. How much time do you think I spent in commute this week? Watch this announcement to learn about my commute time 😊




Urb
Air Mo

Vertisto
Vert + por




Hello Lena, I spent
10 min from

0:00 3:21

Hello Lena, I spent 10 min from house to work, I'm very lucky person. It's a great video, thanks.

 **Elena Ellingburg** 21 days ago  
10 minutes is a luxury, really. I am glad you don't have to spend too much time in commute.

I work at a internacional airport far from the city, i`ve spent 30 min from house to work.

 **Elena Ellingburg** 21 days ago  
30 minutes is not too bad, in my opinion.

Synchronous Classes



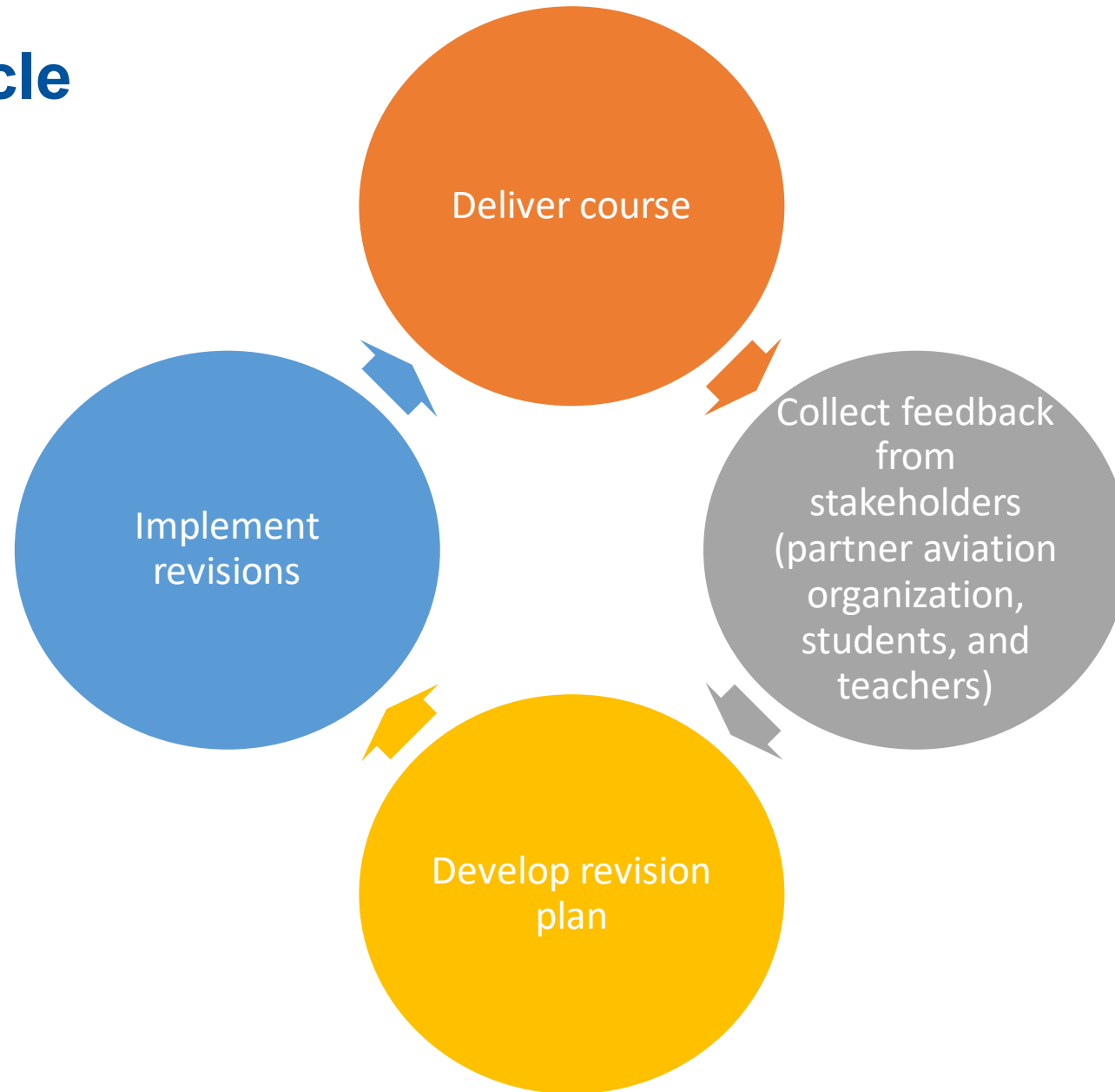
Rapport-building with students

More effective individualized feedback in asynchronous activities

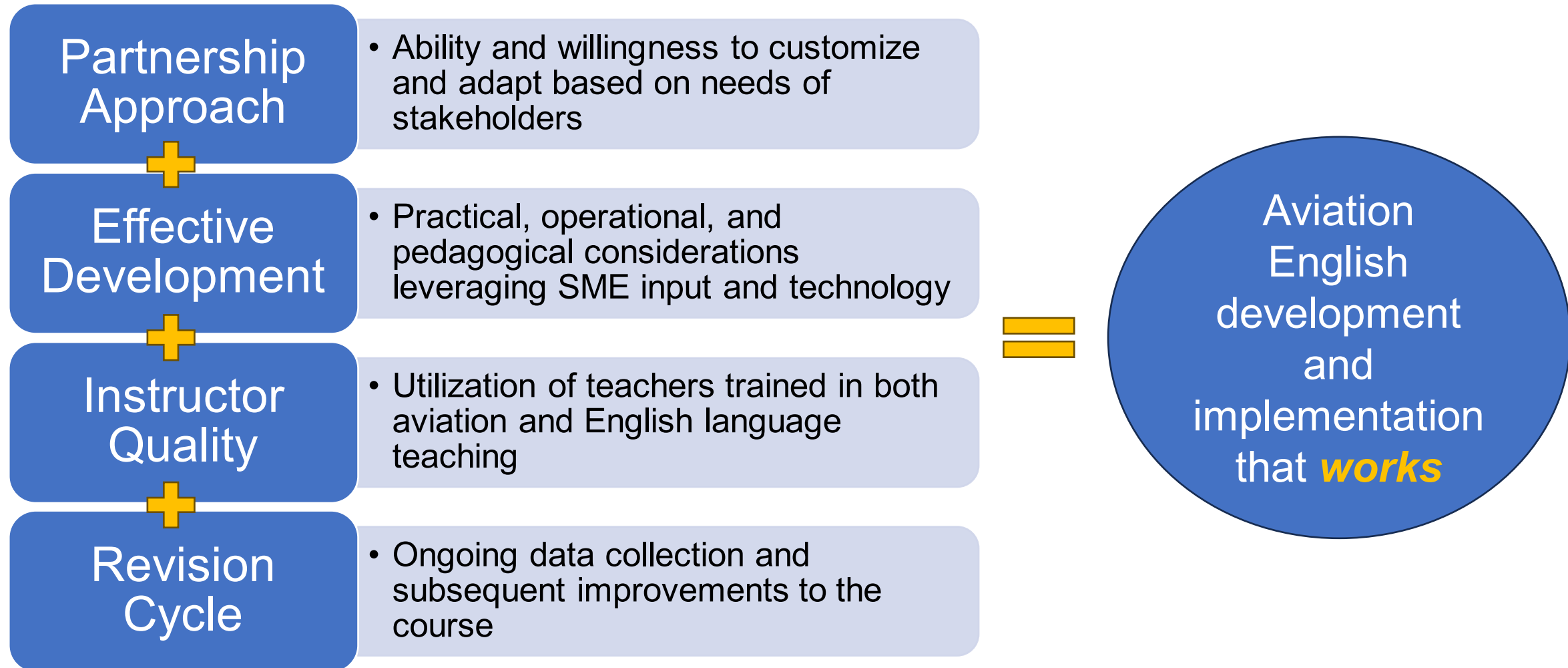
Opportunities for real-time interactions

Build students' confidence using English

Revisions Cycle



Commitment to Student Success



Sources

Babboni, C., & Quast, K. (2020). Pronunciation and aeronautical English: Brazilians' difficulties and possible routes to intelligibility. *The Specialist*. 41. DOI 10.23925/2318-7115.2020v41i4a3.

Estival, D., Farris, C., & Molesworth, B. (2016). *Aviation English : a Lingua Franca for pilots and air traffic controllers*. Routledge. <https://doi.org/10.4324/9781315661179>

ICAO. (2001). Annex 10 to the Convention on International Civil Aviation: Aeronautical Telecommunications (6th ed., Vol. 2). ICAO.

ICAO. (2010). Manual on the Implementation of ICAO language proficiency requirements. Doc 9835 AN/453 (2nd ed.) ICAO.

National Transportation Safety Board. (2010). Loss of thrust in both engines after encountering a flock of birds and subsequent ditching on the Hudson River, US Airways Flight 1549, Airbus A320-214, N106US, Weehawken, New Jersey, January 15, 2009. *Aircraft Accident Report NTSB/AAR-10/03*. Washington, DC.



THANK YOU!

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