Identifying the English Language Skills Required by Non-native English Speaking Pilot Trainees during Flight Training

~ Needs Analysis and Its Implications for Training Future Generations ~

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Outline

• Growth in aviation worldwide
• Pilot shortage and how it affects pilot training
• Changes in pilot training and its impact on the language training needs of new pilots
• Case in Japan: Japan Civil Aviation College
• Case in Japan: Private universities
• English language skills required by non-native English-speaking pilot trainees during flight training
• Implications for training future generations
Pilot shortage and how it affects pilot training

Total Number: 5,686
(As of January 2013)

Private Universities: 0.6%

Civil Aviation College: 39.9%
Company: 34.3%
Self-Defence Force: 6.6%
Foreign: 6.9%
Private Universities: 11.8%
Others: 0.0%

Ministry of Land, Infrastructure, Transportation, and Tourism (2014)
Pilot shortage and how it affects pilot training

• Location
• Instructors
• Medium of instruction
• Language skills
• Intercultural competence
Pilot Training Case in Japan: Civil Aviation College

• Miyazaki Campus (Miyazaki)
• Obihiro Campus (Hokkaido)
• Sendai Campus (Miyagi)
• Age
• After finishing 2 years of college
• 24-month (2-year) course
• 202 hours of flight training

http://www.kouku-dai.ac.jp/
Pilot Training Case in Japan: Civil Aviation College

- Location: Japan
- Instructors: Japanese, experienced
- Medium of instruction: Japanese
- Intercultural competence
Pilot Training Case in Japan: Private Universities

• Tokai University
• Private university (7 campuses)
• 28,209 students
• 19 departments, 75 courses
• School of Engineering (6,016 students)
• Course of Aviation, Department of Aeronautics and Astronautics (197 students)
• Age

(as of May 2018)

https://www.tokai.ac.jp/about/number/num_student/
Pilot Training Case in Japan: Private Universities

- University of North Dakota (UND)
- Department of Aviation at the John D. Odegard School of Aerospace
- Dean
- Chief Flight Instructor
- Assistant Chief Flight Instructors
- Instructors
- Aerospace Foundation

(as of May 2018)
Pilot Training Case in Japan: Private Universities

- TOEFL® (iBT) 69 (as of 2018)
- GPA 2.5 minimum
- Aeronautical radio operator
- Commercial pilot license
- Instrument flight certificate
TOEFL® (iBT)

• administered via the internet

• measures your ability to use and understand English at the university level

• evaluates how well you combine your reading, listening, speaking and writing skills to perform academic tasks

• prepares you for the academic English requirements of a university

• test questions combine reading, listening, speaking and writing skills just as in an academic classroom

https://www.ets.org/toefl/ibt/about
TOEFL® (iBT)

- Reading Section (Score of: 0-30)
- Listening Section (Score of: 0-30)
- Speaking Section (Score of: 0-30)
- Writing Section (Score of: 0-30)
- Total Score (0-120)

https://www.ets.org/toefl/ibt/scores/
Pilot Training Case in Japan: Tokai University

- Location: Grand Forks, North Dakota State, U.S.A
- Trainees: Non-native speakers of English (mainly Japanese)
- Instructors: mainly American
- Medium of instruction: American English
- Intercultural competence
## Pilot Training Case in Japan

<table>
<thead>
<tr>
<th></th>
<th>Civil Aviation College</th>
<th>Tokai University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Japan</td>
<td>USA</td>
</tr>
<tr>
<td>Trainees</td>
<td>Japanese</td>
<td>Mainly Japanese</td>
</tr>
<tr>
<td>Instructors</td>
<td>Japanese</td>
<td>Mainly American</td>
</tr>
<tr>
<td></td>
<td>Experienced</td>
<td>Young</td>
</tr>
<tr>
<td>Medium of instruction</td>
<td>Japanese</td>
<td>English</td>
</tr>
</tbody>
</table>
English language skills required by non-native English-speaking pilot trainees during flight training

Survey on non-native English-speaking pilot trainees’ use of English

- Context
- Language
- Instructors
- Housing
- Flight training
- Ground school
English language skills required by non-native English-speaking pilot trainees during flight training

Survey on non-native English-speaking pilot trainees’ use of English

- Purpose
- Participants
- Materials
- Procedures
Trainees’ use of English ~survey results~

Q1. How useful were the intensive TOEFL preparation classes overall for you in terms of achieving your TOEFL score?
Q2. How useful were the intensive TOEFL preparation classes overall in terms of the skills you need for your flight training?

<table>
<thead>
<tr>
<th></th>
<th>very useful</th>
<th>useful</th>
<th>somewhat useful</th>
<th>not very useful</th>
<th>not useful at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>27.7%</td>
<td>62.9%</td>
<td>7.4%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Q2</td>
<td>7.4%</td>
<td>44.4%</td>
<td>20.3%</td>
<td>11.1%</td>
<td>1.85%</td>
</tr>
</tbody>
</table>
Q3. How would you evaluate the following skills in terms of their usefulness to you for your flight training?

- Listening: 71.9% very useful, 24.5% useful, 3.5% somewhat useful, 0% not very useful, 0% not useful at all
- Speaking: 56.1% very useful, 26.3% useful, 17.5% somewhat useful, 0% not very useful, 0% not useful at all
- Reading: 15.7% very useful, 45.6% useful, 26.3% somewhat useful, 10.5% not very useful, 1.7% not useful at all
- Writing: 1.7% very useful, 47.3% useful, 22.8% somewhat useful, 24.5% not very useful, 3.5% not useful at all
Q5-a. What was the biggest challenge, language-wise that you faced at UND?
Q5-b. How did you overcome it?

<table>
<thead>
<tr>
<th>Challenge</th>
<th>How did you overcome it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication with the instructor</td>
<td>• Get used to it, practice in the same situation</td>
</tr>
<tr>
<td>Communication in general (Listening, Speaking),</td>
<td>• Listen again, practice, practice through talking with people</td>
</tr>
<tr>
<td>Listening and speaking during the flight training,</td>
<td>• Draw a picture</td>
</tr>
<tr>
<td>asking questions, keeping up with the speed, being polite,</td>
<td>(infer the meaning, use body languages, try to be friendly,</td>
</tr>
<tr>
<td>texting, understanding jokes, multi-tasking, making phone calls</td>
<td>learn polite expressions, use the internet English sites, think all in English,</td>
</tr>
<tr>
<td></td>
<td>make effort to communicate)</td>
</tr>
<tr>
<td>Air Radio Communication speed, noise</td>
<td>• Listen to the ATC site</td>
</tr>
<tr>
<td>Aural tests</td>
<td>• Practice with the instructor, or friends</td>
</tr>
<tr>
<td>Ground school</td>
<td>• Read the textbooks</td>
</tr>
<tr>
<td>Tests, listening comprehension</td>
<td>• Use IC recorders</td>
</tr>
<tr>
<td>Technical terms</td>
<td></td>
</tr>
</tbody>
</table>
Trainees’ use of English ~survey results~

Q5-c. What was the biggest non-language challenge that you faced at UND?
Q5-d. How did you overcome it?

• Acquiring flight skills
• Cultural differences
• Adjusting to the new environment
Q17. How do you communicate with your instructor?
Q18. What helps you communicate well with your instructor

- Texting
- Face-to-face
- Phone calls

What helps you communicate well with your instructor

- Using gestures, drawing pictures and diagrams, speak, build a good relationship
- Useful skills: Speaking, Listening, Writing (texting)
- Technical knowledge
- Translation apps, voice recognition apps
Q19. Do TOEFL skills help communicating during your training?

Do TOEFL skills help

- Listening: communication, listening comprehension during ground school (not for communication with the instructor), briefing and debriefing
- Speaking: communication, briefing and debriefing
- Reading: texting instructors, reading textbooks
- Writing: texting instructors, explaining thoughts
- Ground school
- Getting the overview, summarizing, inferencing
- Vocabulary
English language skills required by non-native English-speaking pilot trainees during flight training

• Skills to build human relationships with the instructors (English for General Purposes)

• Skills required during instruction (EGP)

• Communication skills (EGP)

• Intercultural competence

• Aviation English (English for Specific Purposes)
Implications for training future generations

• ESP + EGP
• Test preparation + Communication skills
• Language + Intercultural competence
Implications for training future generations

Communicative Competence (Canale and Swain, 1980)
- Grammatical Competence
- Discourse Competence
- Sociolinguistic Competence
- Strategic Competence
Implications for training future generations

- ESP + EGP
- Test preparation + Communication skills
- Language + Intercultural competence
- Teacher (instructor) training
- Teacher Talk
Implications for training future generations
Chaudron (1988): Teacher Talk

- Rate of speech
- Pauses
- Self-repeat
- Pronunciation
- Vocabulary use
- Degree of subordination
- More declaratives and statements
Implications for training future generations

• ESP + EGP
• Test preparation + Communication skills
• Language + Intercultural competence
• Teacher (instructor) training
• Teacher Talk
