PERSPECTIVES AND IMPLICATIONS OF LANGUAGE ISSUES OF NON-NATIVE SPEAKERS: A MORE SPECIALIZED ANALYSIS OF AB-INITIO PILOTS LEARNER LANGUAGE

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Perspectives

Issues (Part I)

Implications (Part II)

GOALS

→ discuss the most common language issues regarding structure and pronunciation extracted from a list based on ab-initio pilots' oral production, so to spot some specific language problems that should actually be addressed when designing curriculum, most specially, to the non-native English-speaking ab-initio pilots.

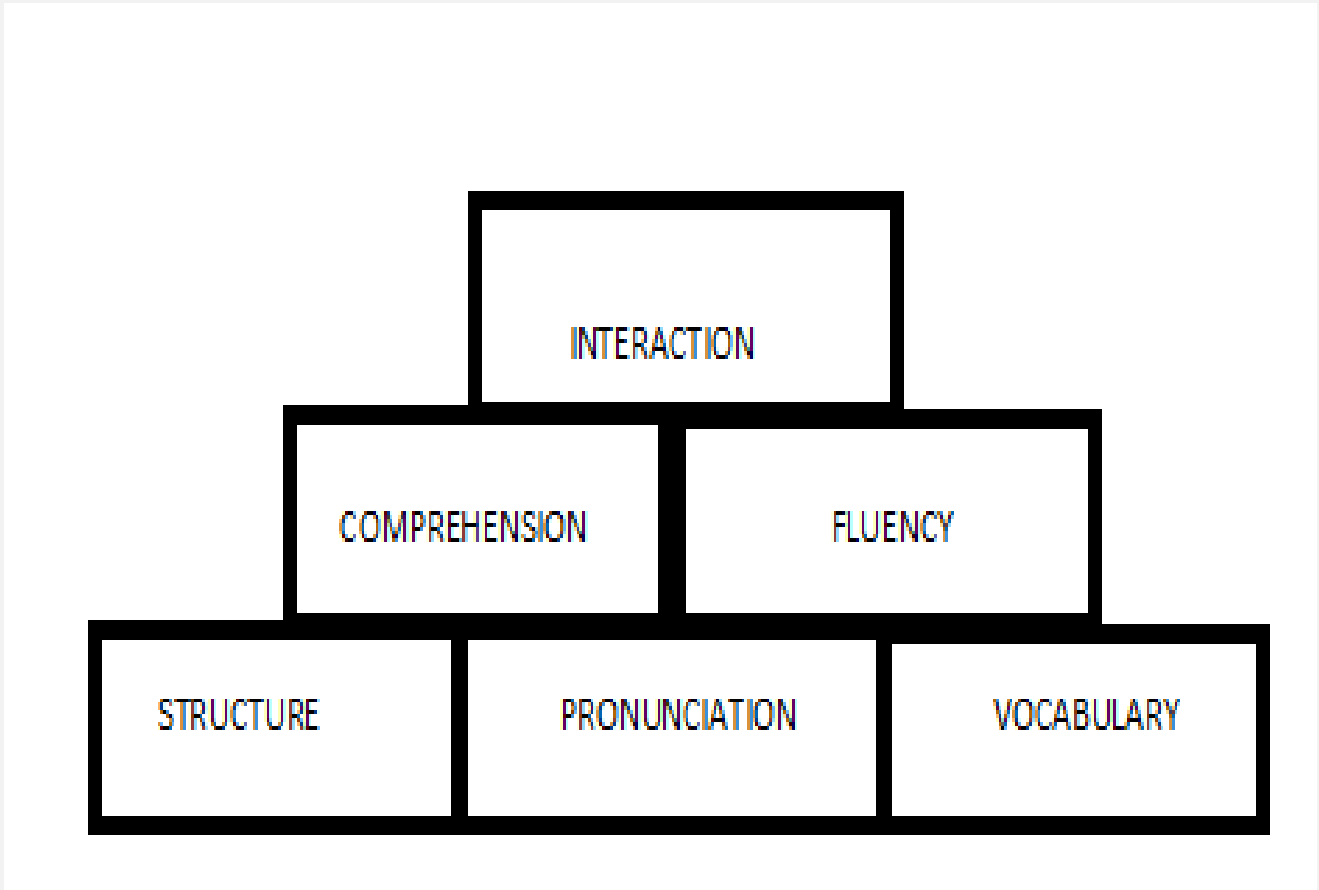
→ consider the implications of these issues within the scope of Language as a Human factor in Aviation Safety

PART I: ISSUES

- ICAO Skills (DOC 9835)

"Top skills" – Language Performance

"Bottom Skills" – Language Competence



A growing necessity of non-native English-speaking pilots in the market.

specialized training

- a more attentive look at the language acquisition process
- the elementary language problems

learner language → a powerful source of information

Aviation English Learner Corpus (AELC): language production of ab-initio pilots in the Aeronautical Science Program.

AELC (AVIATION ENGLISH LEARNER CORPUS)

- Learner Corpus

Granger (2002; 2010): "a yardstick to measure the distance between learner performance and target language"

Research with Learner Corpora makes it possible "to outline learner needs, teaching objectives and teachability, and what you are going to select or ignore"

- Learner Language

Ellis & Barkhuizen (2005): "the oral and written production of learners, ..., primary data for the study of L2 acquisition"

"competence can only be examined by some kind of performance"

- Potential – curriculum design – help students – improve Aviation Safety
- AELC: Based on lists organized from "debriefings" (assessment sheets) of students' oral performance (presentations and tests)

Student-Pilots – Aeronautical Science Program				
Level	AE I	AEII	AEIII	AEIV
Proficiency	Pre-Interm	Interm	Interm	Upper
Debriefings	258	142	254	127

LISTS – EX.: AE I

N	Structure	Type	N	Pronunciation	Type	N	Vocabulary	Type	Line
3	builded	InflOR	4	P<u>u</u>t / ʌ /	uS		simplificate		1
	It was necessary put	InfTO	4	Constr<u>u</u>ction /u/	uS		evolutioning		2
	Allow the water increase	InfTO	17	World /word/	LS		Parents (relatives)		3
	Ground level don't change	Infl3rd	3	Region /rɛdzən/	eS		The fly had to continue		4
5	The both	EWArt		Cons<u>u</u>mption /u/	uS		Are considerated		5
4	Depend of	WWP		Gr<u>o</u>wing /a/	oS		comparation		6
	You need construction	WWN	14	Lar<u>g</u>est /largest/	gS		The flys that were chosen		7

- Current status: 4 Lists, Word Files, STRUCT (53 types) & PRONUNC (26 types)
- Numbers → Preliminary Information

	AE I	AEII	AEIII	AEIV	TOTAL
STRUCT.	471	292	708	485	1956
PRONUNC.	317	144	263	51	775
Total of Debriefings	258	142	254	127	781

PERSPECTIVES

- Aim: 400 debriefings

- Prospective Research

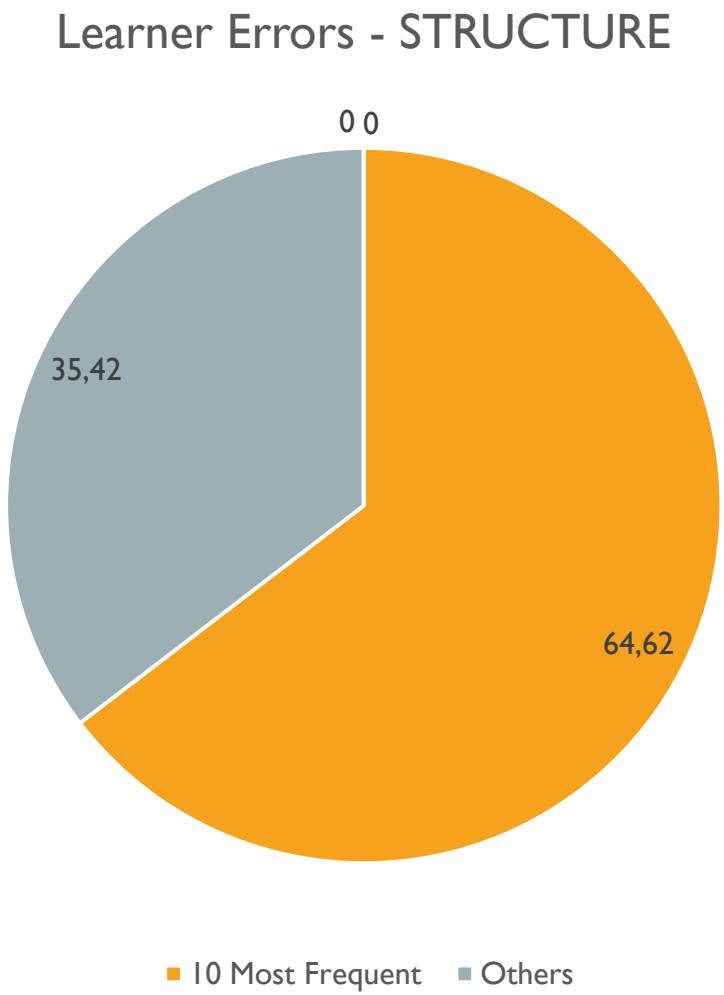
► Developmental Stages

► Comparative Studies with AE Corpora (CORPAC/PUCRS)

► Comparative studies with data from Brazilian pilots (joint Project with ANAC)

► Suggestions/ Contributions to curriculum design - ICAEA RG

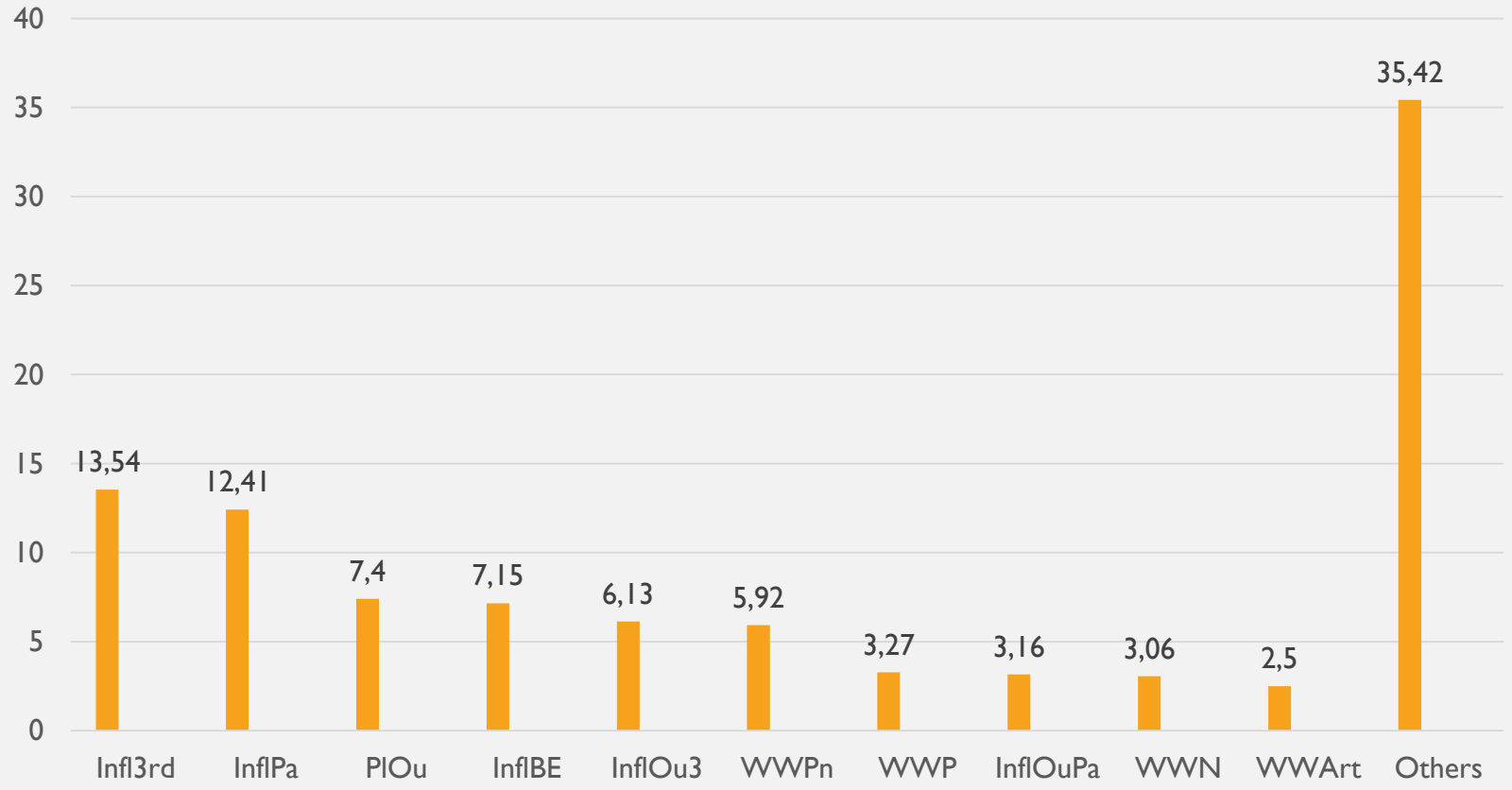
STRUCTURE


Learner Errors - STRUCTURE
0 0
35,42
64,62
10 Most Frequent
Others

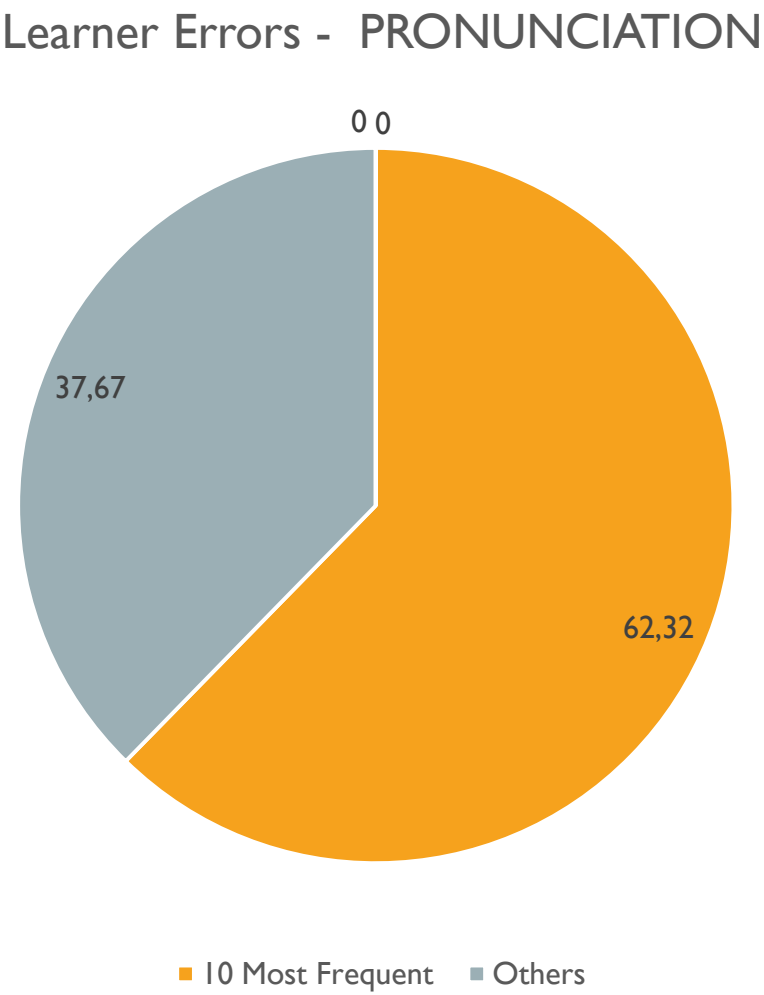
STRUCTURE: ERRORS PER LEVEL

Order	CODE	AEI	AEII	AEIII	AEIV	TOTAL
1	Infl3rd	73	32	55	105	265
2	InflPa	16	25	160	42	243
3	PlOu	45	32	47	21	145
4	InflBE	37	24	53	26	140
5	InflOu3	42	24	26	28	120
6	WWPn	46	23	20	27	116
7	WWP	16	7	23	18	64
8	InflOuPa	14	15	31	2	62
9	WWN	3	6	30	21	60
10	WWArt	11	14	18	6	49
	Total					1264
53	Total of Occurrences	381+90 =471	246+46 =292	638+71 =708	445+40 =485	1956
	Total of Debriefings	258	142	254	127	781

10 MOST FREQUENT ERRORS (STRUCT.) – TYPES



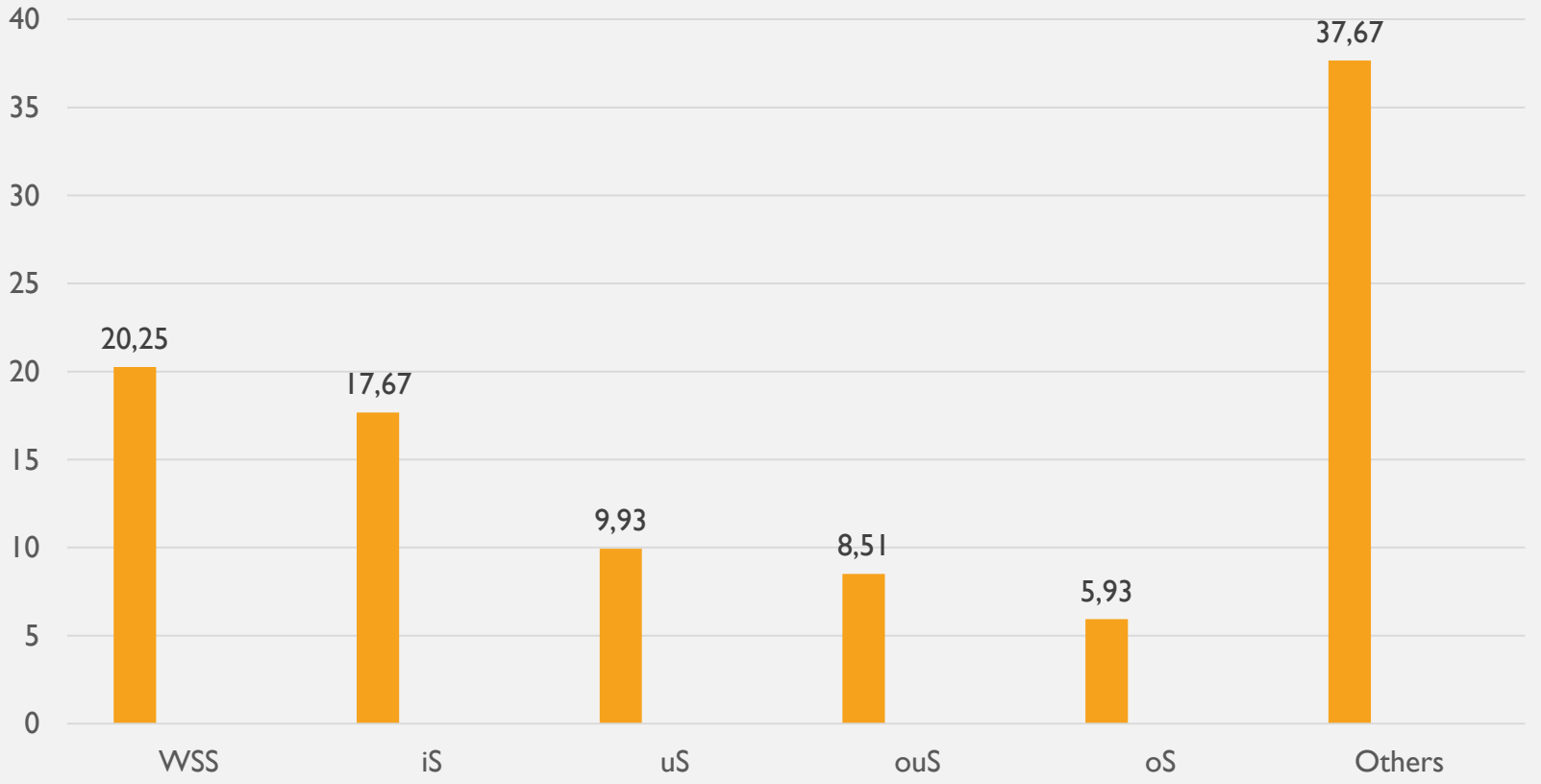
PRONUNCIATION



PRONUNCIATION – Most Frequent - Total of Errors per Level

Ord	CODE	AEI	AEII	AEIII	AEIV	TOTAL
1	WSS	71 22.39%	25 17.36%	48 18.25%	13 25.49%	157
2	iS	37 11.67%	32 22.22%	58 22.05%	10 19.60%	137
3	uS	30 9.46%	12 8.33%	32 12.16%	3 5.88%	77
4	ouS	19 5.99%	23 15.97%	19 7.22%	5 9.80%	66
5	oS	29 9.14%	7 4.86%	7 2.66%	3 5.88%	46
	TOTAL	186 58.67%	99 68.75%	164 62.35%	34 66.66%	483
	Others	131 41.32%	45 31.25%	99 37.64%	17 33.33%	292
	Total of Occurrences	317	144	263	51	775
	Total of Debriefings	258	142	254	127	781

5 MOST FREQUENT ERRORS (PRON.) – TYPES



Goal: To share challenges/ yearnings - CURRICULUM DESIGN

✈ Are you a....?

( ) teacher/ trainer ( ) pilot ( ) ATC ( ) Tester/ rater

( ) Others

✈ How would you rate the following erros?

- Very Significant? (potentially threatening to Aviation Safety)
- Significant? (threatening to Aviation Safety)
- Not Significant (not threatening to Aviation Safety)

LANGUAGE OCCURRENCES

STRUCTURE	
Error Type	Example/ Occurrence
INFL3p (Inflection 3rd person)	"The airport have…" " where the procedure occur" " when the light touch the ground " "GRU airport know that" "The airport no have limits"
INFLPA (Inflection Past Simple)	"The pilot decides for…" "The company not participated" "He take the control" "We have to enter a holding pattern" "The airport not opened…"
PlOu (Plural Overuse)	"feets" " a lot of mens and womens" "17 millions peoples" "aircrafts" "some informations"

LANGUAGE OCCURRENCES

STRUCTURE	
Error Type	Example/ Occurrence
InflBE (Inflection BE)	"These programs is" "They was the first company" "How people is affected" " Some hubs which is far" "Operations was interrupted"
InflOu3rd (Inflection Overuse 3rdp)	"They goes" "They doesn't operate" "Problems occurs because…" "All the airlines that appears.." "They has the number"
WWPn (Wrong Word Pronoun)	"His operations are…" (the company's) "Your routes could be…"(the company's) "He collided with the mountain "(the plane) "Qantas bought … planes for her…" "Airports who have…"

LANGUAGE OCCURRENCES

STRUCTURE	
Error Type	Example/ Occurrence
WWP (Wrong Word Preposition)	"for save the company" "in the runway" "In this day" "Instead to say" "To be on Ryanair"
InflOuPa (Inflection Overuse Past)	"It started to came down" "The tower did not understood" "We could heard" "…Didn't found more…" "He started to took off"
WWN (Wrong Word Noun)	"Everyone can be more safety" "I will flight/ I didn't flight a lot" " I choice for this" "The company must management" "It's very danger if you"

LANGUAGE OCCURRENCES

STRUCTURE	
Error Type	Example/ Occurrence
WWArt (Wrong Word Article)	"The Fraport…" "A alternate" "the both aircraft" "The Ryanair airlines/ The Air China" "A airlines/ A Airbus"

LANGUAGE OCCURRENCES

PRONUNCIATION	
Error Type	Example/ Occurrence
WWS (Wrong Stressed Syllable)	Deve'lop(ed) Ins'trument Ma'nage Pa'ssengers 'control Moni'toring
iSound	Since /ɑɪ/ Crisis /ɪ/ Financial /ɪ/ Engines /ɑɪ/ ILS /ɪ/
uSound	Put /ʌ/ Push /ʌ/ Instructed /ʊ/ Occurred /ɪʊ/ Urgent /ɪʊ/

LANGUAGE OCCURRENCES

PRONUNCIATION	
Error Type	Example/ Occurrence
ouSound	South /oʊ/ Routes /oʊ/ Country /ɑʊ/ Source /ʌ/ Mountains /oʊ/
oSound	Lower /ɑʊ/ Other /oʊ/ Cost /oʊ/ Allow /oʊ/ Above /oʊ/

GROUP WORK

TASK 1 - 5 min ► Individually, go through the worksheet and complete your analysis. (VS/S/NS)

TASK 2- 5 min ► Get into groups of 4 or 5 people and "tag" yourself

2 different kinds of groups: "peers" & mixed

TASK 3 – 10 min ► Discuss with the group and come to a conclusion of 1 answer per group

TASK 4 – 5 min ► Individually, go through the worksheet again and complete your final analysis.

DISCUSSION

- Similarities/ differences among peers
- Similarities/ differences among mixed groups
- Have you changed your answers?

- Issues → Perspectives

PART II: IMPLICATIONS

Analysis: "no context" (language/ situational)

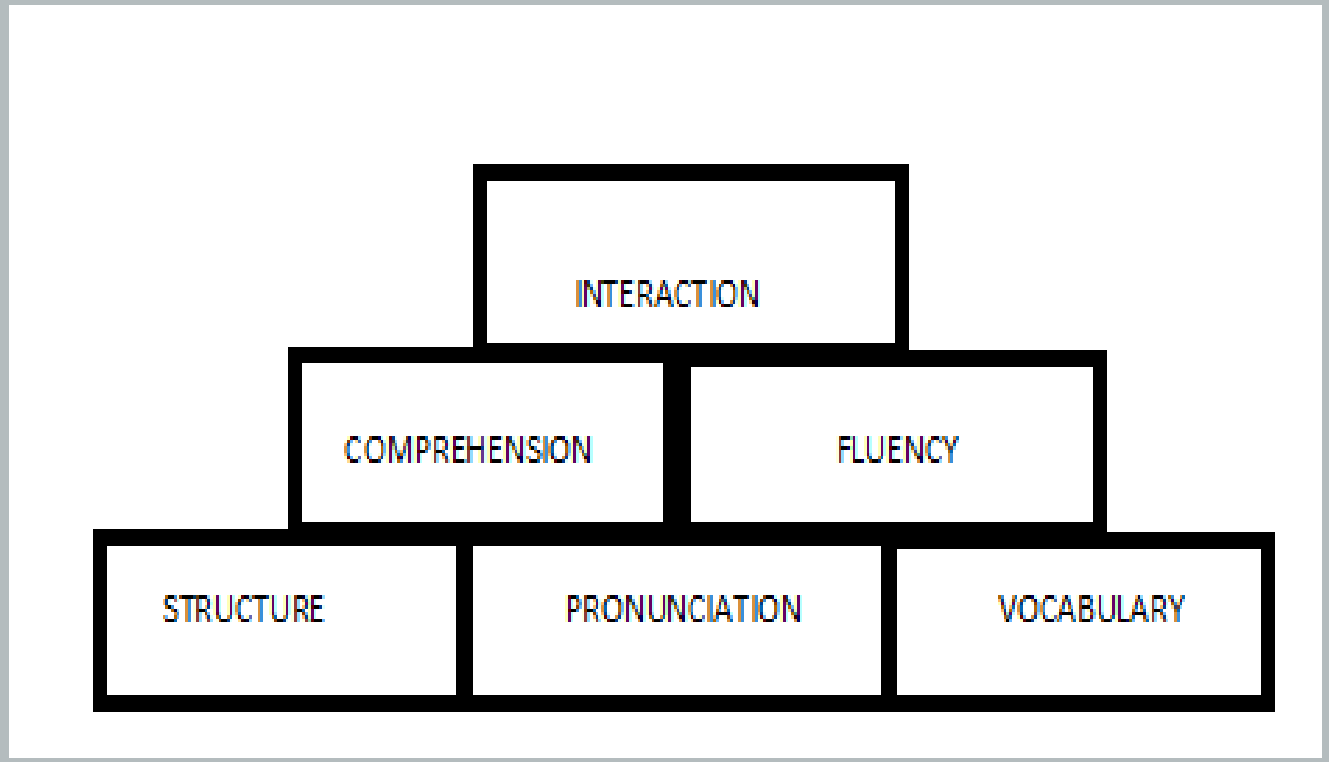
- **"we run out of fuel" – Avianca 052**

➡ In which context would that be ok?

Tense markers
- Pres Perfect
- PresConitnuous
- Past
- Future

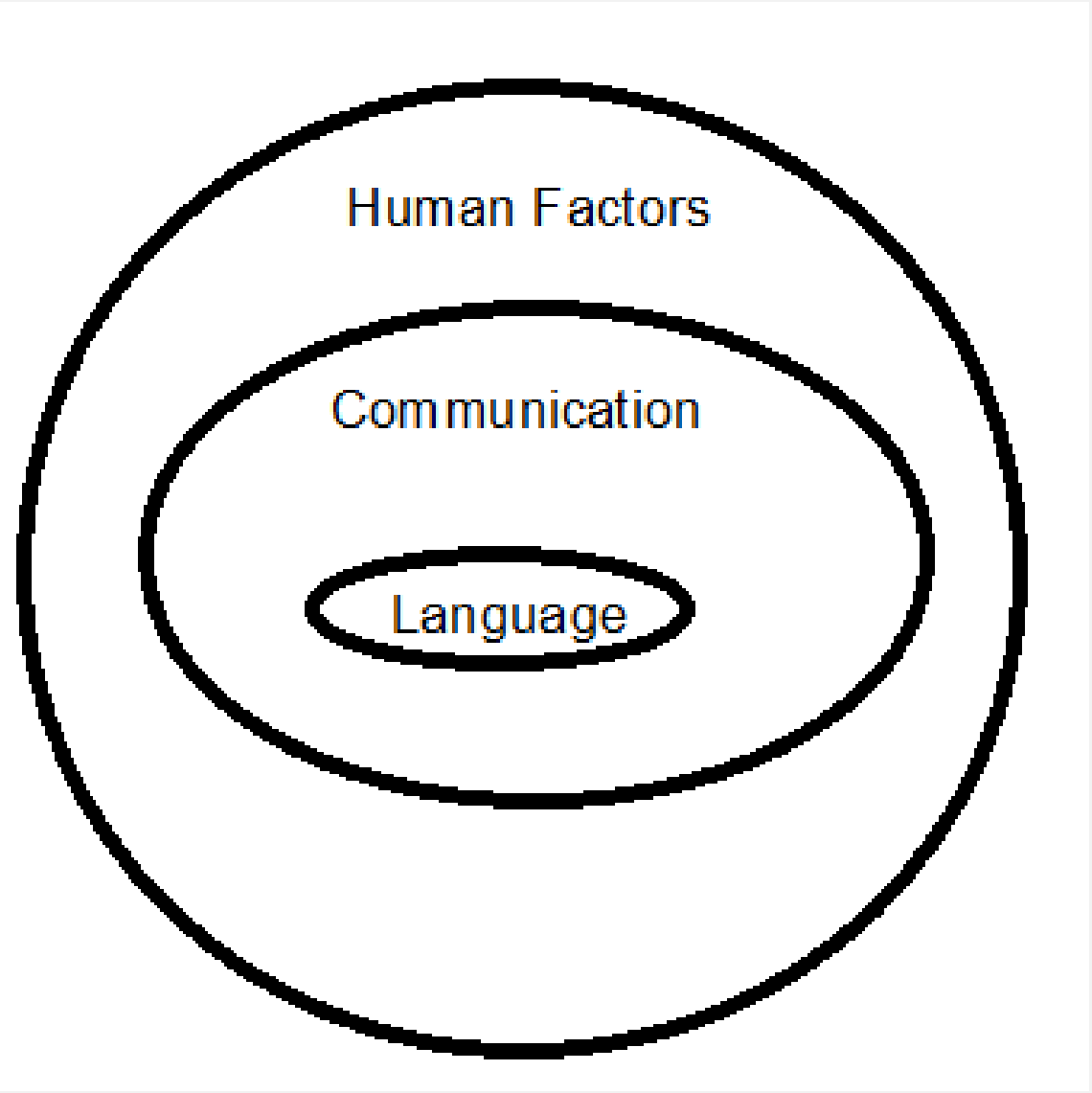
LANGUAGE

- English as an International Language (EIL) or English as a Lingua Franca (ELF)/ (EL2/ Non-Native Speakers)
- English as a First Language (EL1/ Native Speakers)
- Written/ spoken
- Skills:



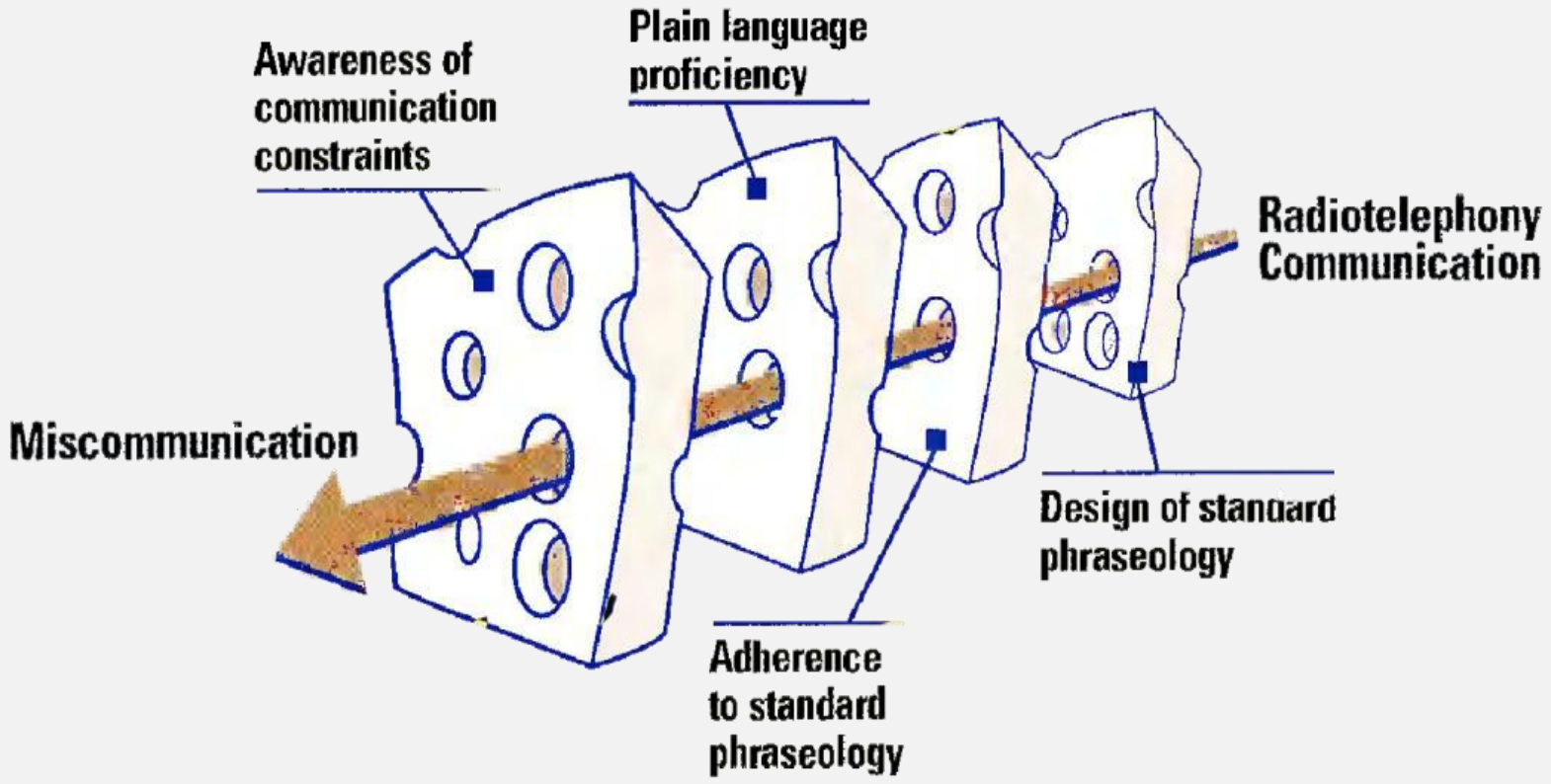
- Language: a fundamental component of communication
- Intrinsically associated to

  HUMAN FACTORS
- DOC 9683 – *"an understanding of the predictable human capabilities and limitations na the application of this understanding are the primary concerns of Human Factors."*
- *"time to work with the people"* (1st Edition, 1998)



LANGUAGE AS A HUMAN FACTOR

SOURCE: MELL (2004)



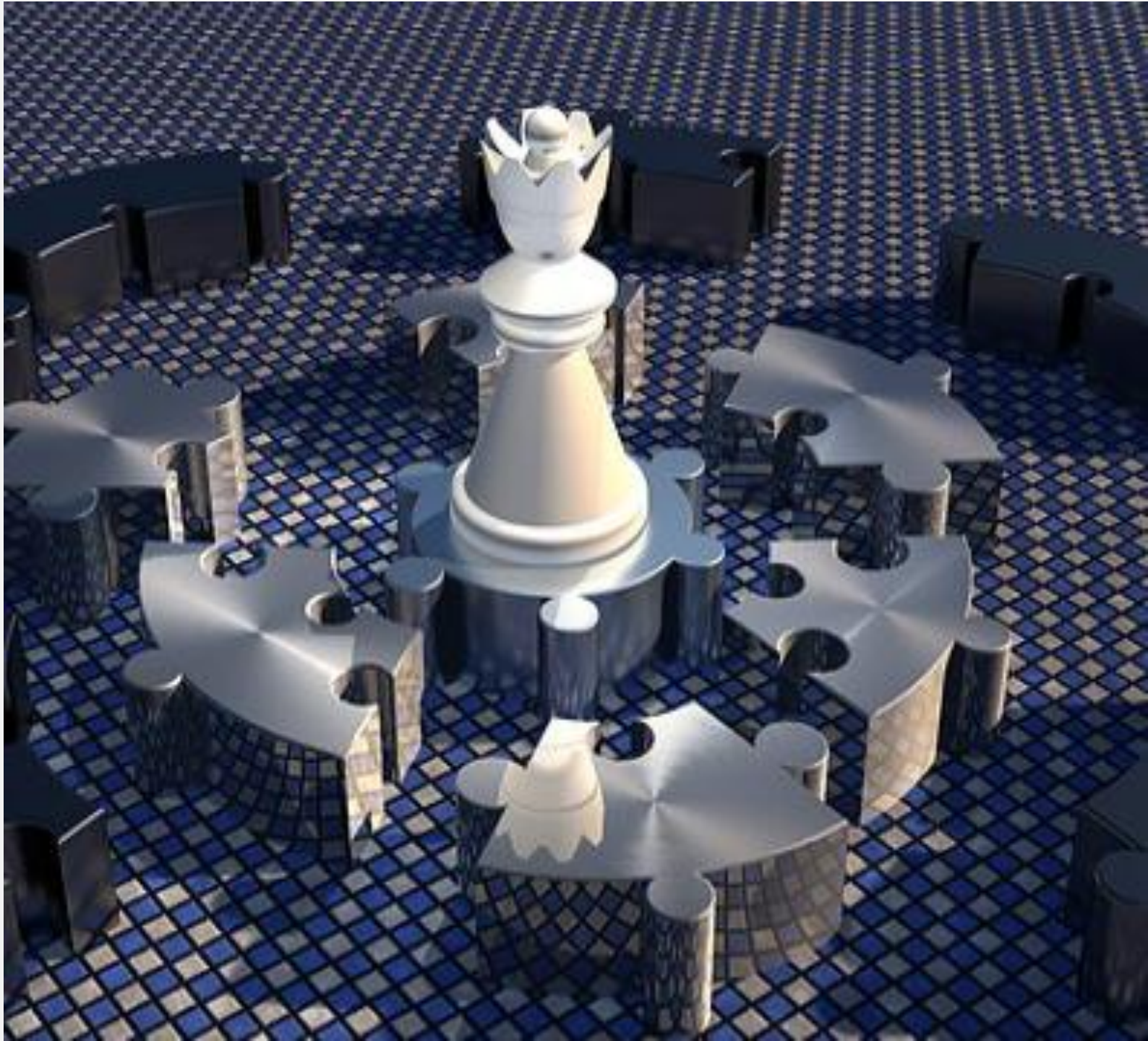
LANGUAGE AS A HUMAN FACTOR IN AVIATION SAFETY (LHUFT)

- Perspective of Analysis by Elizabeth Mathews - Taxonomy
- Research Center at Embry-Riddle Aeronautical University (ERAU, DAB, Fl, USA)
- "The Language as a Human Factor in Aviation Resource Center aims to support improved aviation safety through better understanding of the issues around language and culture in flight safety."
- https://commons.erau.edu/db-lhuft/

Transport Canada's Human Factors for Aviation: Advanced Handbook

"..At the heart of CRM is communication"

The role of the Applied Linguist in aviation – help the industry understand that at the heart of communication is Language.



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THANK YOU

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