
**RECOGNIZING THE ROLE OF
COMMUNICATION AS A HUMAN FACTOR:
PERSPECTIVES FROM EMPIRICAL RESEARCH IN
APPLIED LINGUISTICS**

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**APPLIED LINGUISTICS
& ESL (ALES)**

GOALS & OBJECTIVES

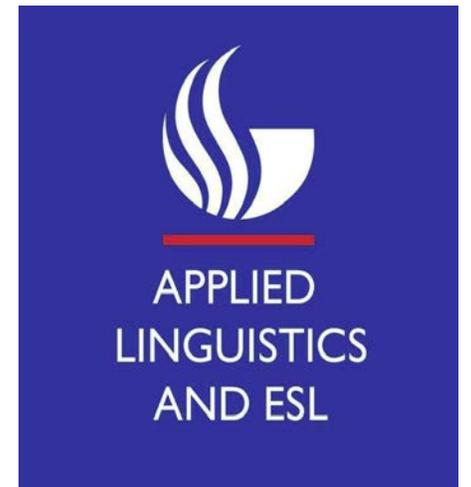
- The focus of this presentation is to strategically apply insights from the academic fields of **Applied Linguistics, English for Specific/Occupational Purposes, and Intercultural Communication** to describe and examine the complex set of issues related to **English as a human factor** in global aviation.

GOALS & OBJECTIVES

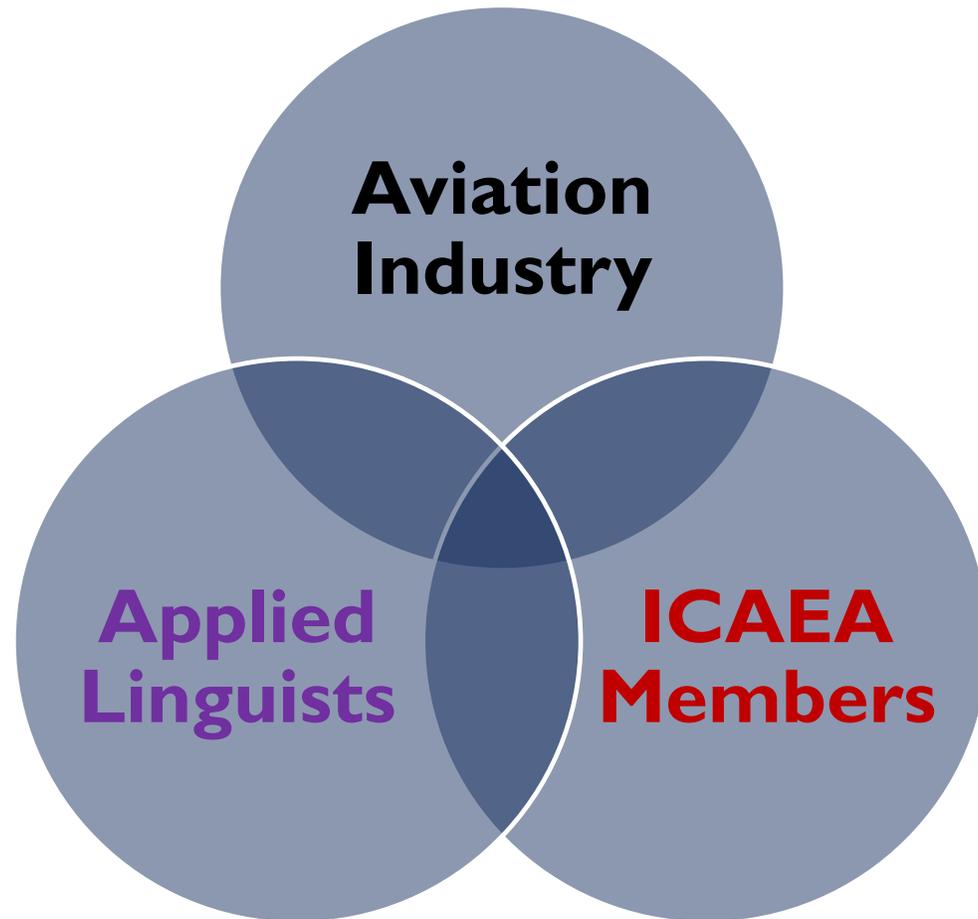
- To explore and connect **emerging research approaches** in **AL/ESP/ICC** and their **pedagogical applications** beneficial to aviation English practitioners and their learners.

GEORGIA STATE UNIVERSITY

DEPARTMENT OF APPLIED LINGUISTICS AND ESL



OPPORTUNITIES FOR COLLABORATION



WHAT WE CAN PROVIDE IN APPLIED LINGUISTICS

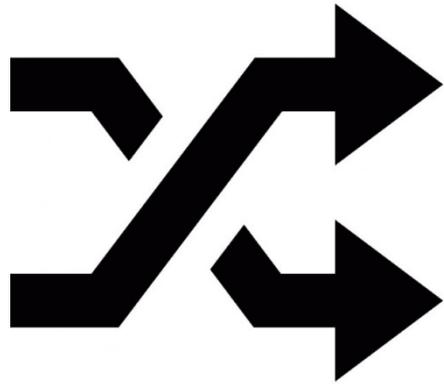
- Methodologists, discourse analysts, transcriptionists, interviewers
- Program developers, materials designers
- Assessment experts, test developers, test administrators
- **[Graduate students: research assistants]**

RESEARCH IN ESP/EOP

- Studies in the subfields of **English for Specific Purposes (ESP)** and **English for Occupational Purposes (EOP)** have increasingly utilized extensive empirical data and innovative research approaches.
- A survey of articles in many recent issues of *English for Specific Purposes Journal* or the *Journal of English for Academic Purposes* shows that linguistic descriptions of professional/academic varieties of English have been based in quantitative data such as corpora (Biber, Reppen, & Friginal, 2010)

LANGUAGE-CULTURE CONNECTION

What is Culture?



My Specialization

CORPUS LINGUISTICS

**Methodology and
Applications**

CORPUS LINGUISTICS

- is a **research approach** in the study of spoken and written discourse, supporting **empirical, frequency-based investigations of naturally occurring language-in-use.**

Biber, Reppen, and Friginal (2010)

CORPUS LINGUISTICS

- A research approach for describing language **use**:

How do speakers and writers across various demographics or registers actually use the **vocabulary and **grammar** resources available in a language?**

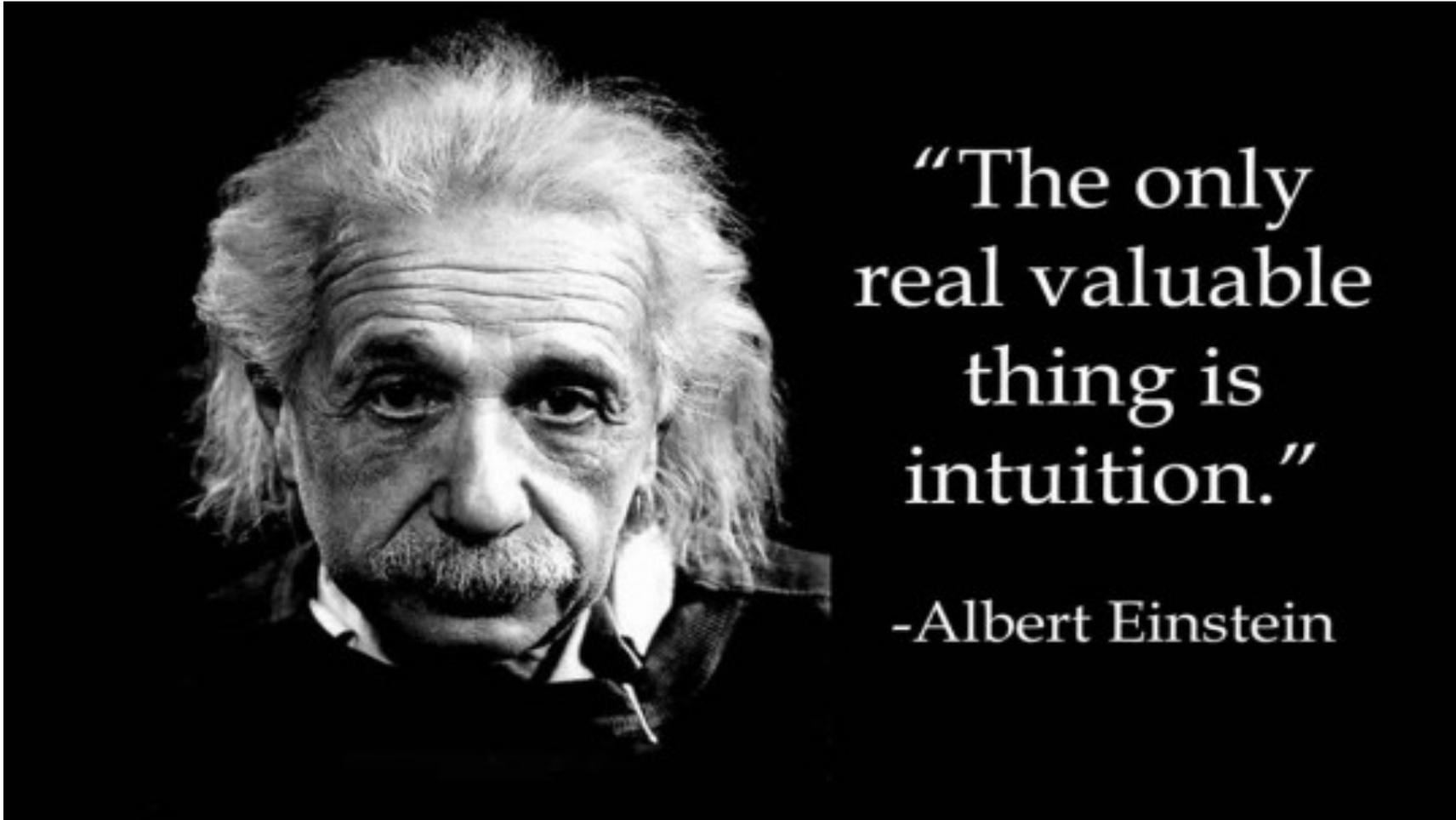
- **What is a CORPUS?**

- ▣ A large, principled collection of 'natural' texts stored on computer
- ▣ A corpus should '**represent**' particular language varieties or *registers* (e.g., conversation or newspaper articles, textbooks)
- ▣ Design and size are important: texts must be sampled from particular target registers

SAMPLE QUESTION

- Which specific words to include when illustrating a grammatical feature that describe verbs for an English (American) conversation lesson? Think about foreign students who are in their first semester in a U.S. university: level-I English class, oral communication, focusing on informal conversation in English.
- The value of FREQUENCY: What are the most common lexical verbs in conversation?

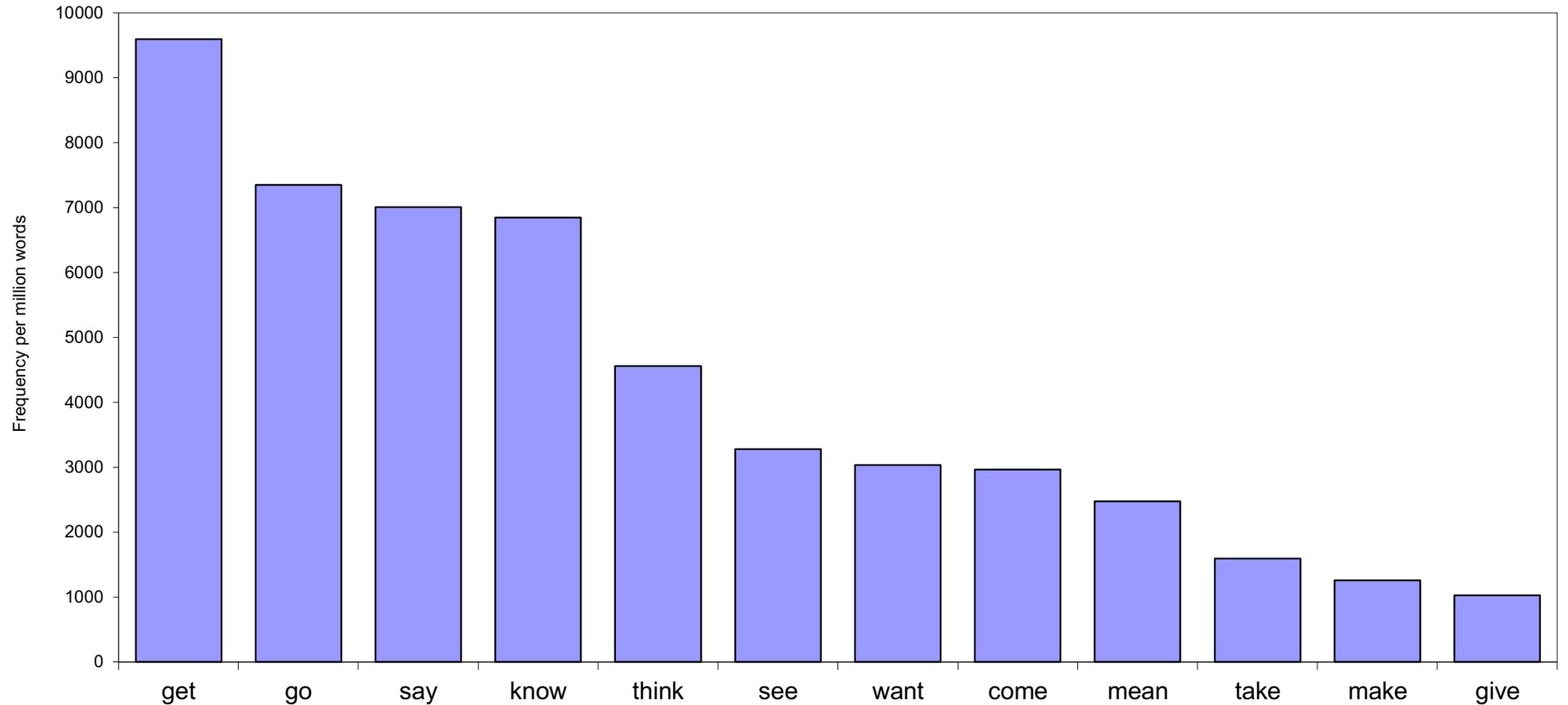
FOLLOW YOUR INSTINCTS



"The only
real valuable
thing is
intuition."

-Albert Einstein

**The 12 most common lexical verbs in AmE
conversation occur in over 50% of spoken data**



SOME MEANINGS OF GET IN CONVERSATION

Obtaining something (activity):

*See if they can **get** some of that bread.*

Moving to or away from something (activity):

***Get** in the car.*

Causing something to move (causative):

*Jessie **get** your ticket here.*

*We ought to **get** these wedding pictures into an album.*

Causing something to happen (causative):

*Uh, I **got** to **get** Max to sign one, too*

*It **got** people talking again, right?*

Changing from one state to another (occurrence):

*So I'm **getting** that way now.*

Understanding something (mental):

*Do you **get** it?*

LANGUAGE FOR SPECIFIC PURPOSES

- Language use is mediated by *register*
- That is, notions like ‘**common**’, ‘**rare**’, and ‘**typical**’ are usually not meaningful for general English.
- Rather, language features and patterns are typical of particular registers.

CORPUS METHODOLOGY

- Focusing on an iterative cycle which combines **computational approaches to data extraction and analyses**, and a progression of stages involving qualitative and interpretive techniques

Baker et al. (2008); Biber (1988, 2006); Gentil (2013)



Potential stage cycle for corpus-assisted textual analysis, adapted from Baker et al. (2008) and Friginal and Hardy (2014)

SPECIALIZED CORPORA

- **Outsourced Call Center Industry**
- **International Maritime Industry**
- **Multicultural Workplaces in the U.S.**
- **U.S. Health Care Industry** [Doctors/Nurses-Patients Interactions]
- **Hotel and Customer Service Industry**
- **Augmentative/Alternative Communication (AAC) in the Workplace**
- **U.S. Academia** [ITAs, Foreign-Born Professors-Students Interactions]

CORPUS-BASED RESEARCH APPROACHES

- Corpus design, tagging and annotation, processing
- Manual qualitative coding (NVivo, Atlas Ti)
- Distributional features, multiword units, keyword analysis
- **Multidimensional Analysis (MDA) (Biber, 1988)**
- **Semantic Analysis and other approaches, e.g., Linguistic Inquiry and Word Count (LIWC), Cluster Analysis**
- Various tests: tests for relationship and significance

WORKING WITH SPOKEN WORKPLACE CORPORA

- Involves **audio/video recording and transcriptions** of real-world, task-specific, spoken interactions.
- Often includes **manual coding or annotation of features** such as turn-taking, latching, dysfluencies, length of short and long pauses, repeats/anacoluthon.
- May also **focus on multi-modal and spatial mark-ups** of speakers and utterances in communicative contexts (e.g., Gu, 2007).

Call Center Outsourcing in the Philippines, India, and Latin American Countries



'Accent' matters: Philippines acquiring 70% of India call centers

By Camille Diola (philstar.com) | Updated April 7, 2014 - 10:23am

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MANILA, Philippines — Most voice and call center businesses in India are transferring to the Philippines due to Filipino workers' more "neutral" English accent, among other reasons, an Indian business group said.

The Associated Chambers of Commerce and Industry of India (Assocham) said that India is losing 70 percent of all incremental domestic business process outsourcing (BPO) businesses, particularly call centers, estimated to be worth \$30 billion in foreign exchange earnings.

CALL CENTER OUTSOURCING

“Outsourcing” is defined as “the contracting of a service provider to completely manage, deliver and operate one or more of a client’s functions (e.g., data centers, customer service call centers, networks, desktop computing and software applications)”

-- World Bank E-Commerce Development Report (2003)

Developments in satellite and fiber optic telecommunications and international business processing practices in the 1990s have paved the way for various services to be more transportable and fragmented, thereby simplifying the tasks involved in business operations and allowing them to be relocated more easily (Rodolfo, 2005).

RECENT TRENDS IN CUSTOMER SERVICE OUTSOURCING

- a. **Stable** call center operations in the Philippines, India, and other locations
- b. Changing **perceptions and attitudes** on call center services and communications (in the US)
- c. Continuing **language concerns** and challenges
- d. **Robocalls** for telemarketing?
- e. **Use of speech analytics and voice sentiment analysis**
- f. **US call centers in North and Central America**



Source: Becasoft [YouTube]

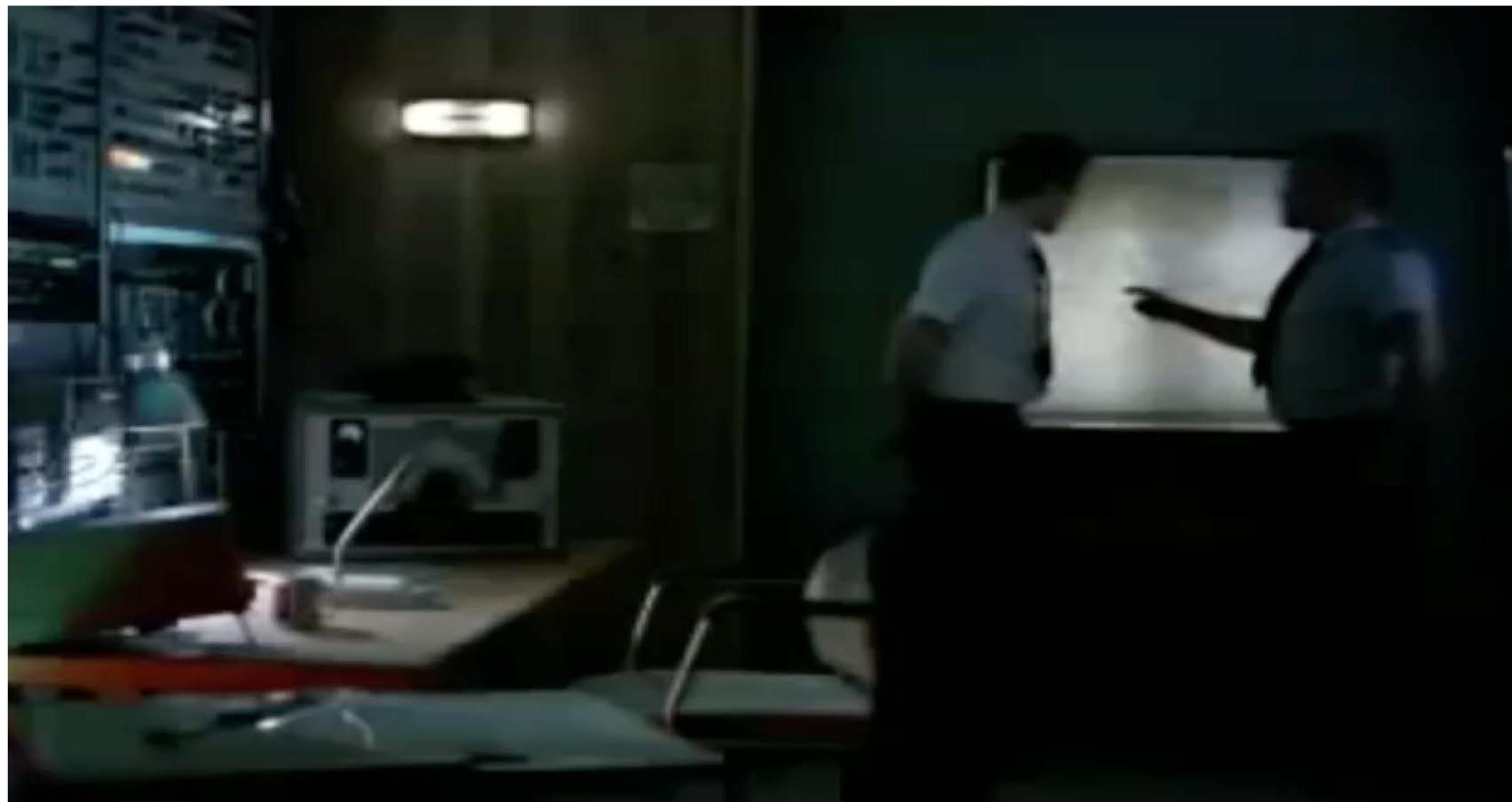


GLOBAL MARITIME INDUSTRY



Over the last 50 years, the Philippines has grown to become a leading global provider of maritime professionals and is subsequently considered to be the seafaring capital of the world (Cu, 2017). There are over **400,000 Filipino seafarers globally, serving in over 80,000 vessels (Ramos, 2016).**





POLICY IMPLICATIONS

The New York Times

Business Day

WORLD U.S. N.Y. / REGION BUSINESS TECHNOLOGY SCIENCE HEALTH SPORTS OPINION

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BUSINESS EDUCATION JAM
SEP 30-OCT 2

BUSINESS EDUCATION NEEDS

ON THE ROAD
English Skills a Concern as Global Aviation Grows
By JOE SHARKEY
Published: May 21, 2012

A FOREIGN tourist approached me in Times Square.



Chris Gash

“Please, where is ahhty-ahm?” he asked. At least, that’s what I heard, even when he slowly repeated the question. I was flummoxed until he took a bank card out of his wallet and made the motion of inserting it into an imaginary slot.

“Oh, A.T.M.!” I said, and pointed the way to the nearest one.

As he thanked me, the man seemed to speak English well enough. But his question had been incomprehensible to me because of his pronunciation — a short rather than long A, an accent on the first rather than last syllable of “A.T.M.”

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Poor English - a Threat to the Philippine Call Centers?

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DESPITE the Philippines is considered as one of the third largest English speaking countries in Asia yet the report released by the US State Department, in its " 7 Investment Climate Statement" this month cited that the "English language proficiency, while still better than in other Southeast Asian nations, is declining in the Philippines."

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English for the BPO/
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AUG. 11 -16, 2014
Katipunan Ave. Q.C.

ENGLISH
IS THE KEY
TO SUCCESS



shipping our jobs away



COMMONALITIES

- English L1 and L2 speaker (**NNS vs. NS**) cross-cultural interactions
- **Miscommunication**, linguistic attitudes/perceptions, **power**, and **roles**
- **Performance evaluations [or assessment of quality of service]**
- Technology-mediated communication
- Globalized, multi-national industries

CURRENT CORPUS-BASED LIMITATIONS

- Smaller sample sizes, so far
- Contractual obligations with research data; corpora not often allowed to be shared with other researchers
- Restrictions: private assessment data, use of audio/video files, speaker information

**CORPUS
LINGUISTICS
&
Aviation English**



Cross-Cultural Features of International Aviation Discourse Domains

Language of air travel: How traffic control keeps you safe

By Claire Hu, for CNN
updated 7:28 AM EDT, Mon March 10, 2014



Nine instances of "pilot error" in Hong Kong last year are being investigated, but they rarely impact safety.

EXPLORATORY COMPARISONS

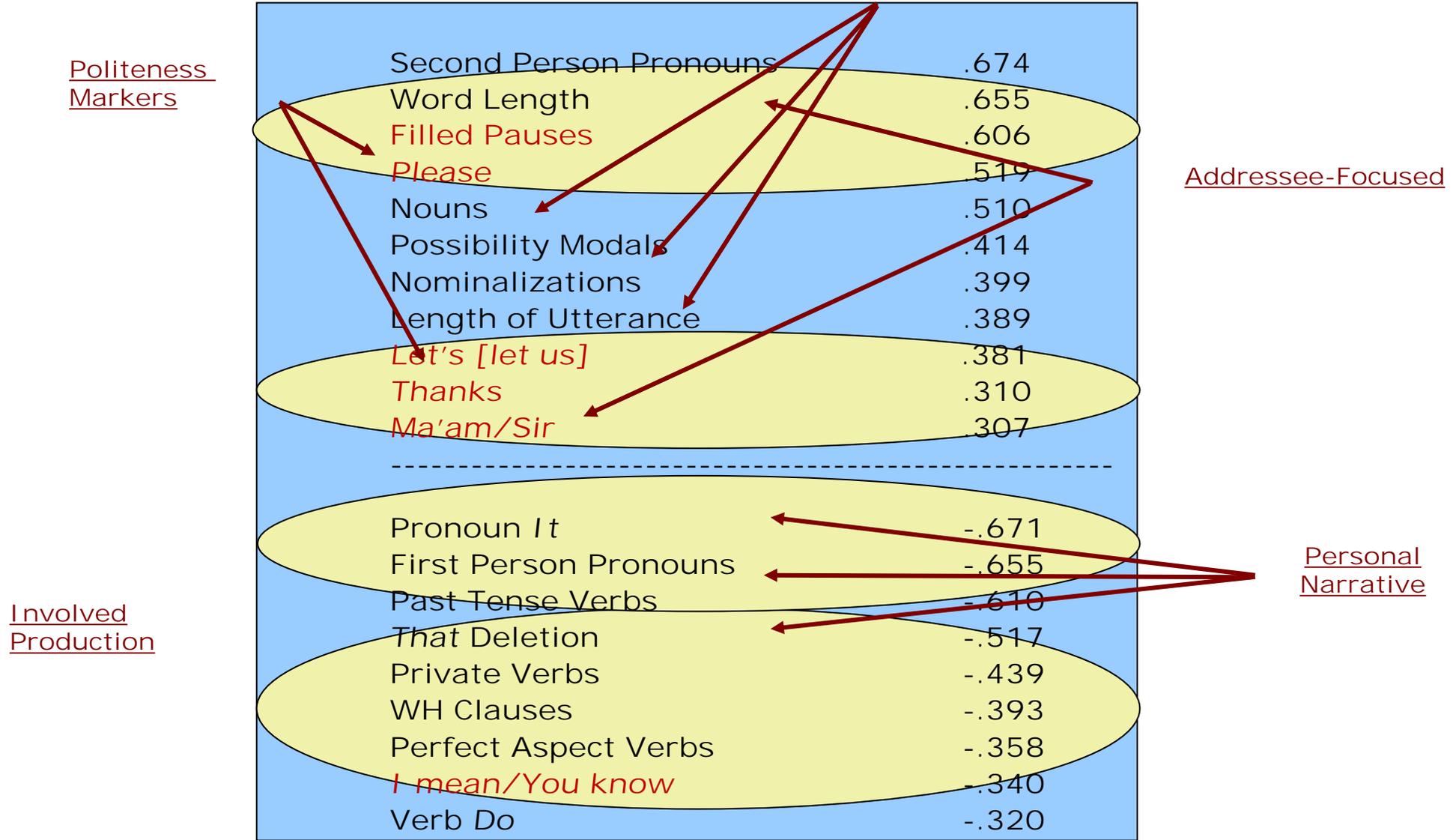
MULTIDIMENSIONAL ANALYSIS

To establish the co-occurrence of linguistic features in outsourced call center interactions and aviation language, and to compare the distribution of these co-occurring features across registers and speaker groups.

Factor analysis is a multivariate statistical procedure that identifies systematic co-occurrence patterns in a set of variables. Essentially, a factor analysis is a method of data reduction: it reduces a large set of variables into a smaller set of aggregated factors by determining which of these variables pattern similarly across the dataset (Tabachnick & Fidell, 2008)

Dimension 1

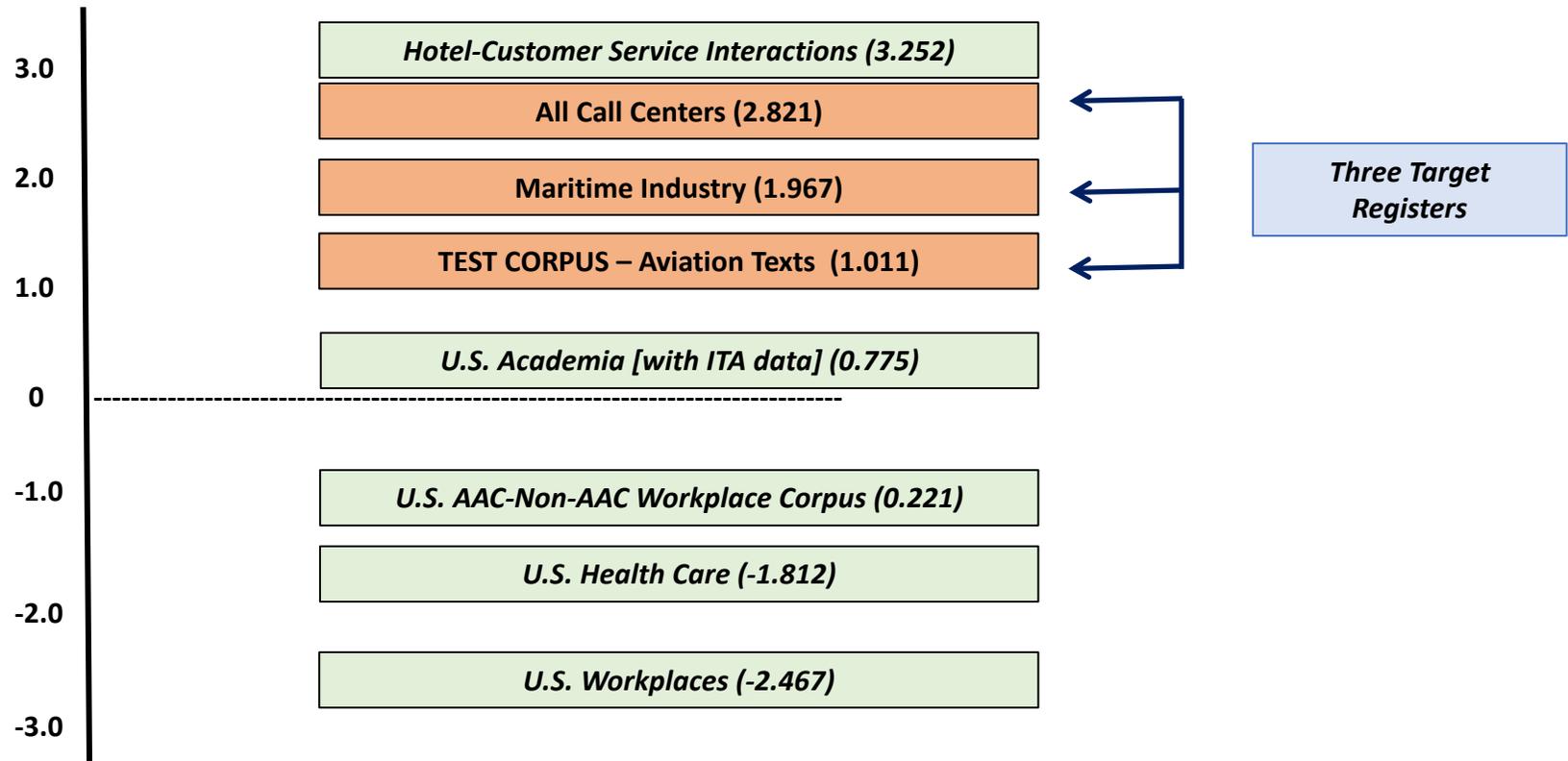
Markers of Elaboration and Information Density



Dim 1: Addressee-Focused, Polite and Elaborated Information vs. Involved and Simplified Narrative

Dimension 1 Scale: Register Comparison

ADDRESSEE-FOCUSED, POLITE, AND ELABORATED INFORMATION

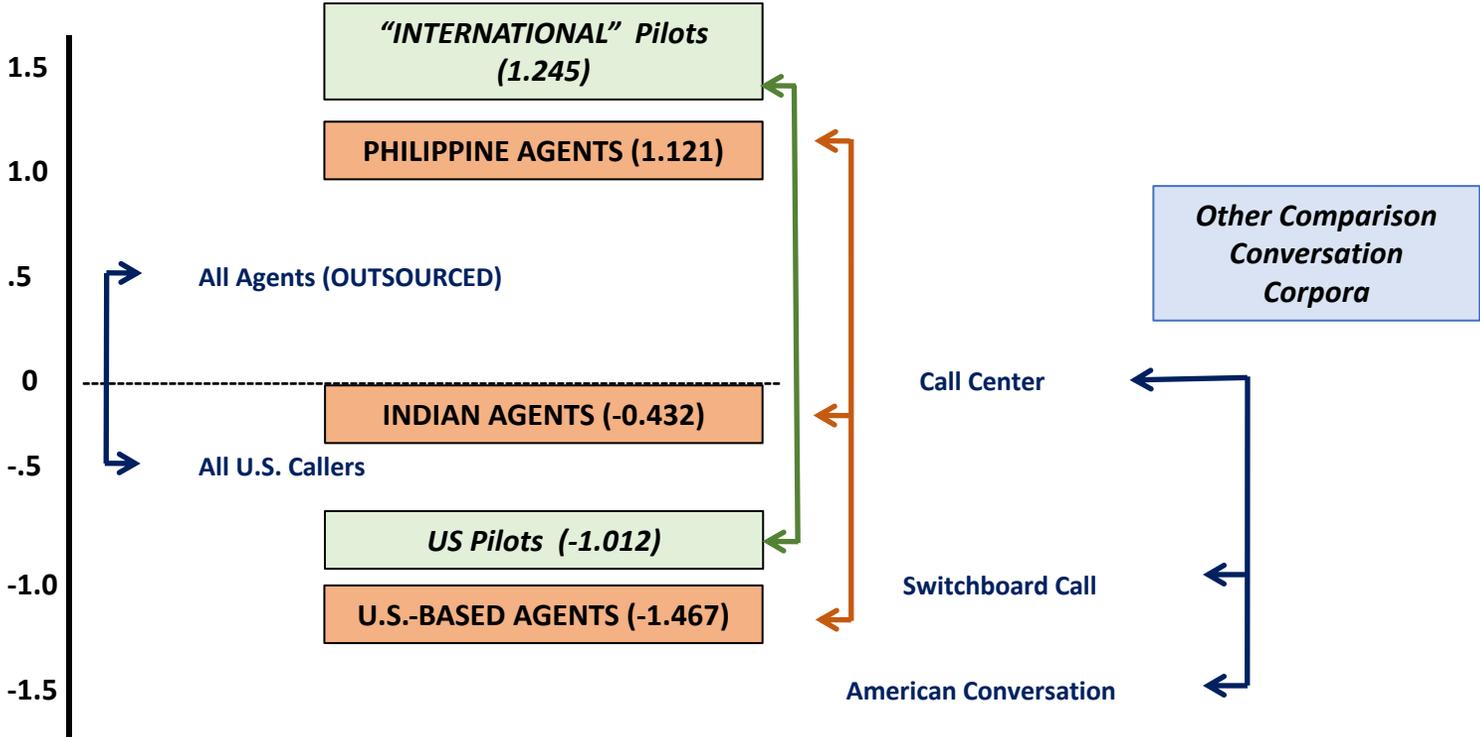


Data Standardized [z-scores]

INVOLVED AND SIMPLIFIED NARRATIVE

Dimension 1 Scale: Call Centers and Aviation

ADDRESSEE-FOCUSED, POLITE, AND ELABORATED INFORMATION

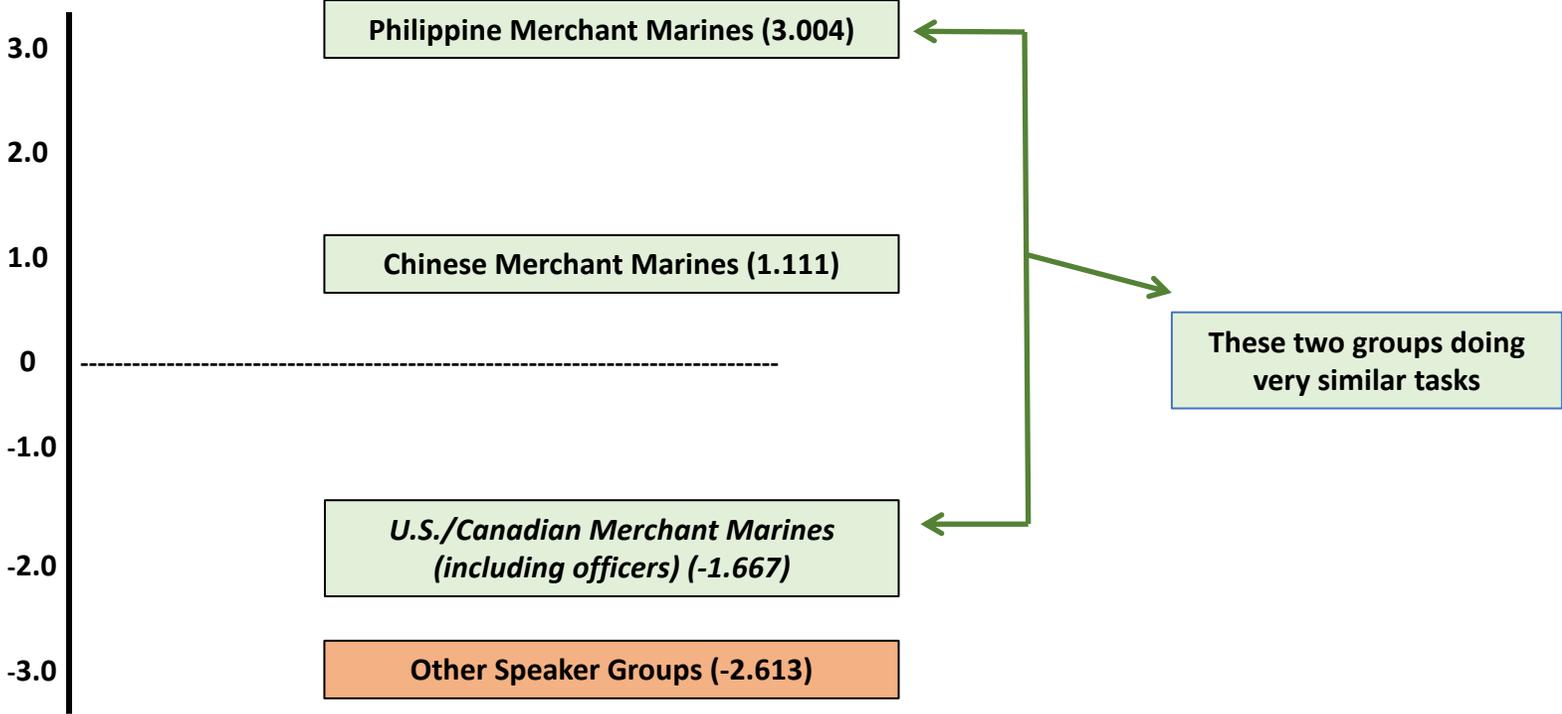


Data Standardized [z-scores]

INVOLVED AND SIMPLIFIED NARRATIVE

Dimension 1 Scale: Merchant Marines

ADDRESSEE-FOCUSED, POLITE, AND ELABORATED INFORMATION



Data Standardized [z-scores]

INVOLVED AND SIMPLIFIED NARRATIVE

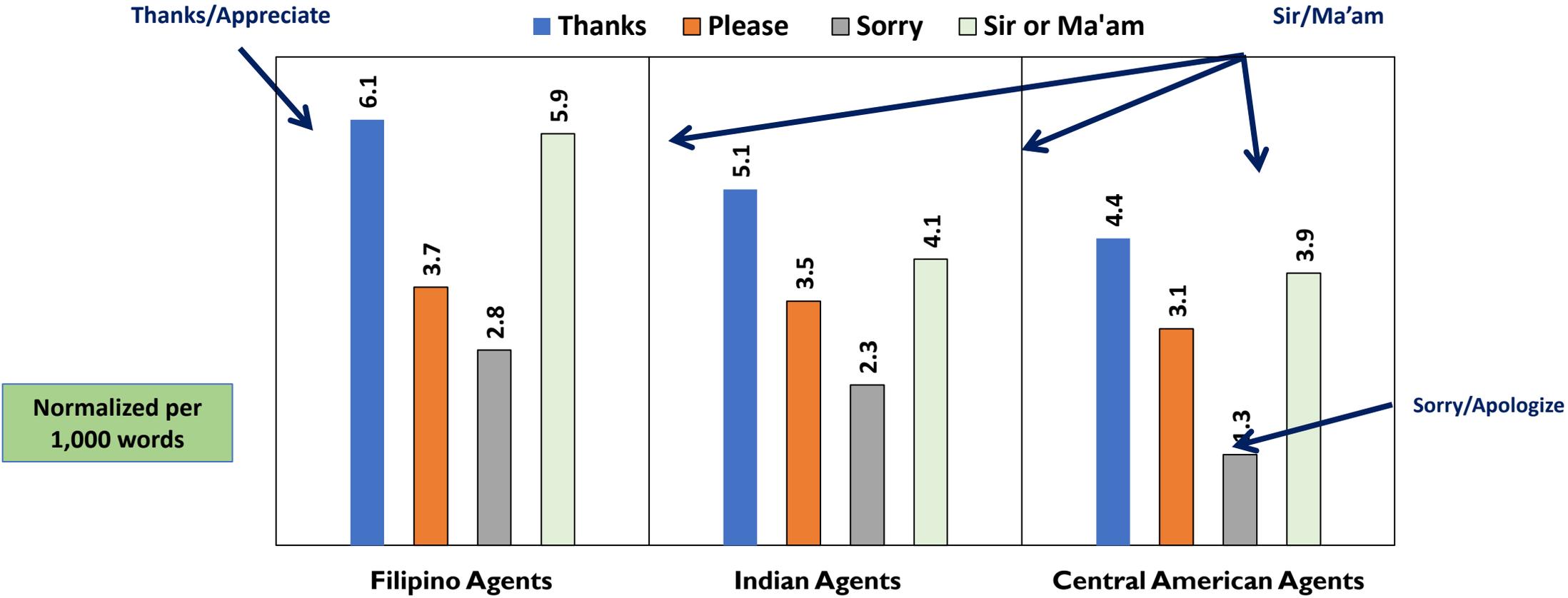


“Be Polite with Me”
VASAviation [www.liveatc.net]

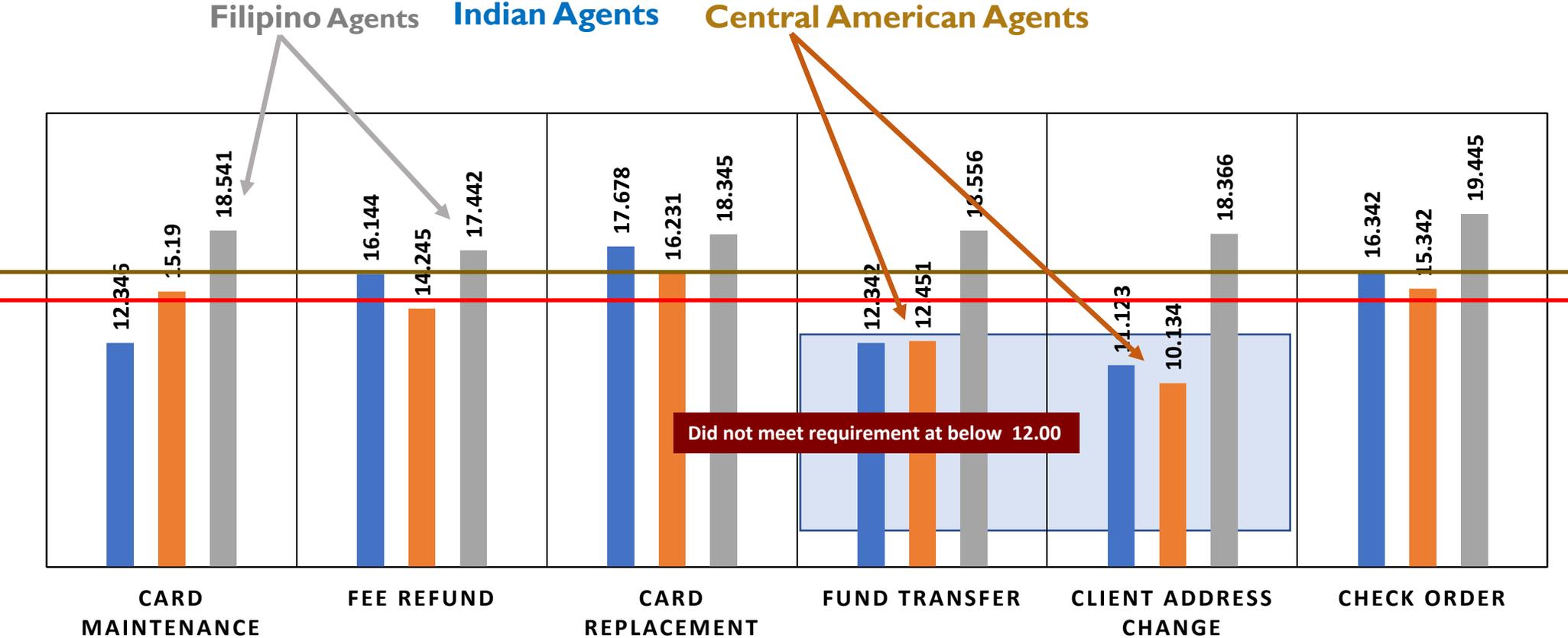
DON'T APOLOGIZE, JUST FIX IT

1. **Caller: [...] I can't sign in it says no internet connection**
2. **Agent: Uh-huh but sir may I uh have your name please before we start uh [inter]**
3. **Caller: Oh for god's sake it's the one you're showing**
4. **Agent: Ok sir I'm so sorry for that one**
5. **Caller: I can't sign in it says no internet connection**
6. **Agent: Ok I'm so sorry for the inconvenience sir have uh you're [inter] having right now**
7. **Caller: Don't apologize just fix it**
8. **Agent: Ok uhm but before I proceed uh sir may I have your approval to access your service record here at [company name]?**

Selected "Politeness" Features



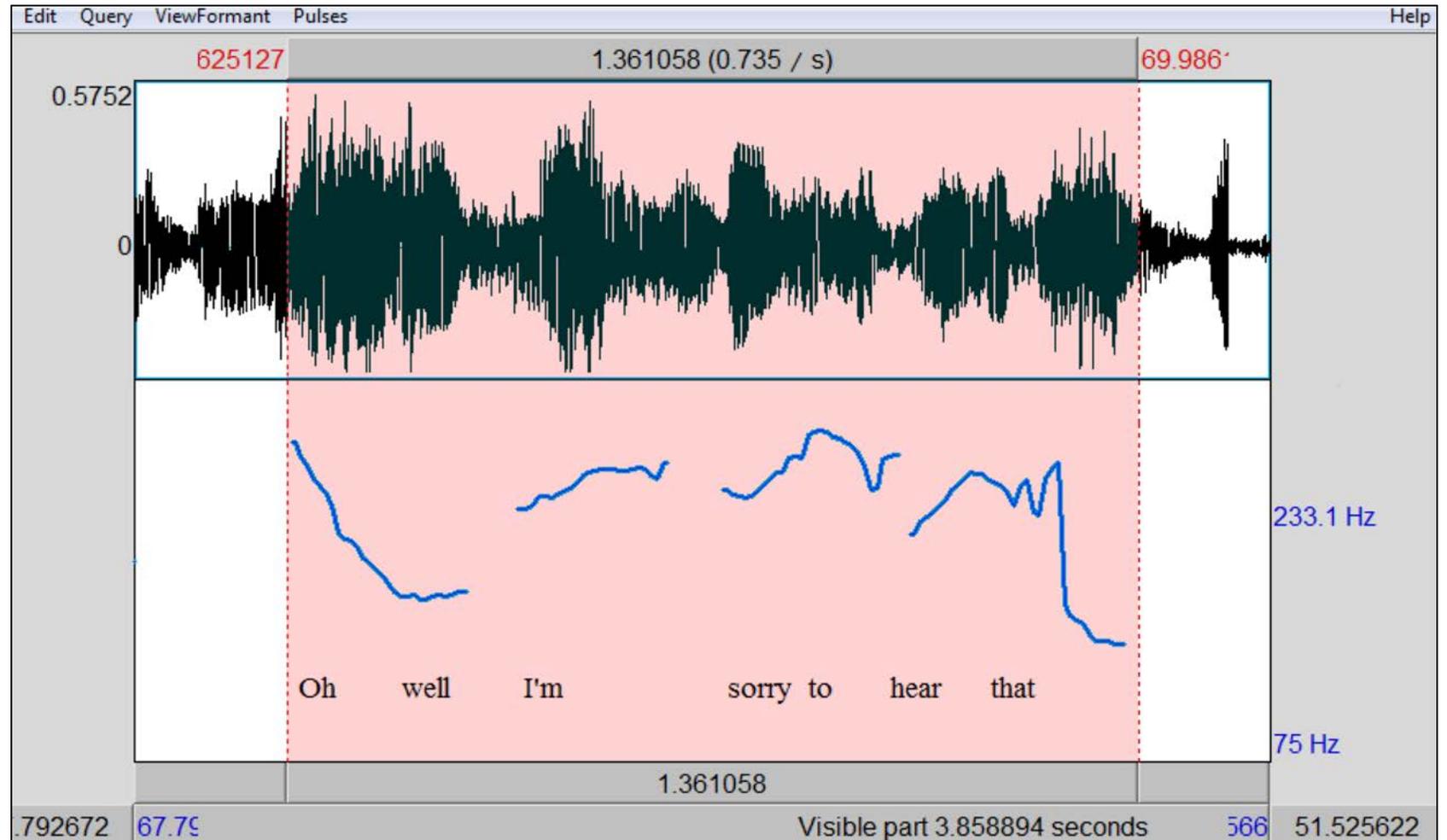
Agent Performance: Language and Service Scores Combined



Quality Assurance Evaluation Scale: 1 to 20 [20 highest score]

PITCH RANGE ANALYSIS

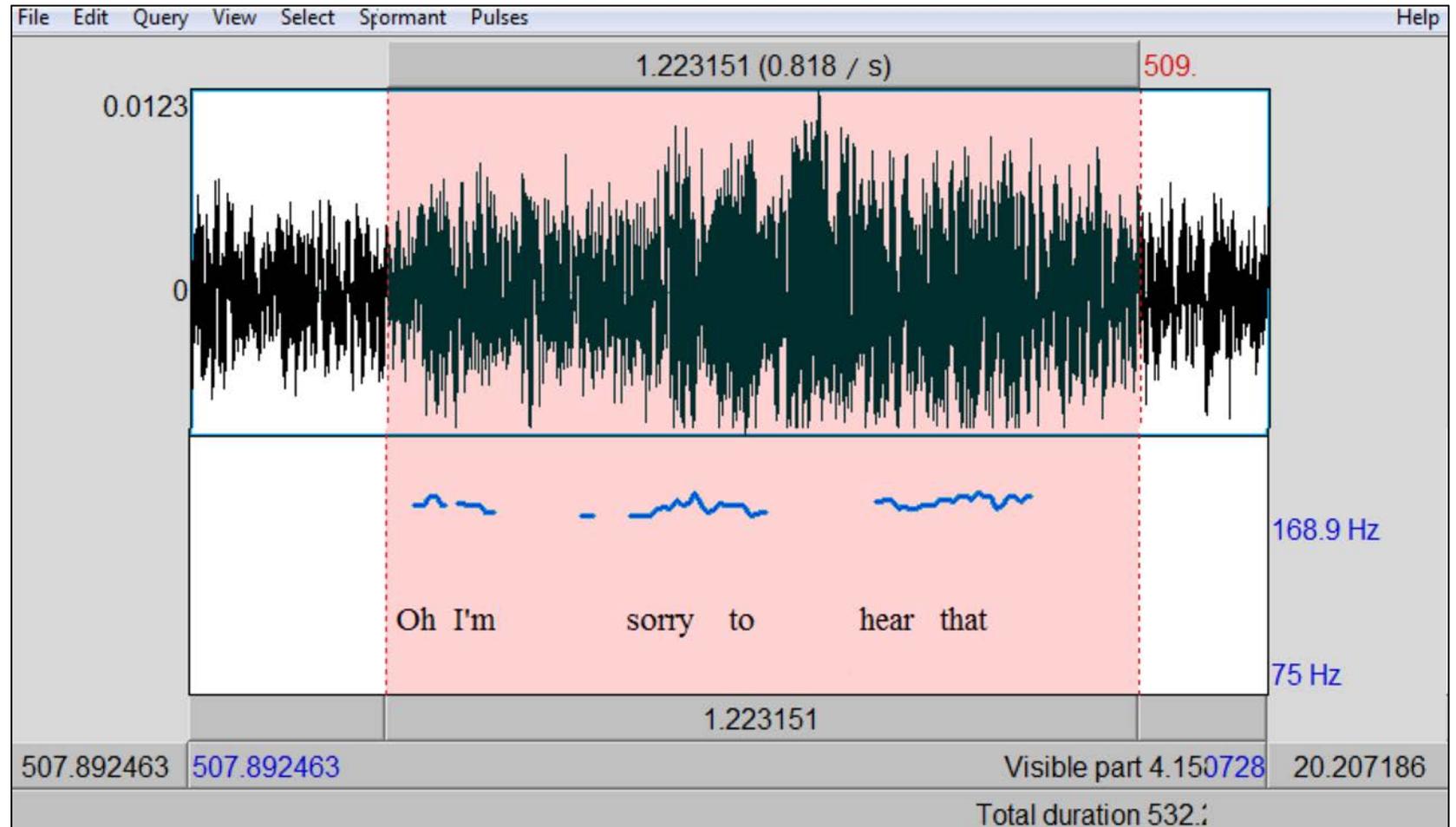
**EXAMPLE:
HIGHER
SCORING US
NURSE
(STAPLES, 2014)
PITCH RANGE ON
EMPATHETIC RESPONSE**



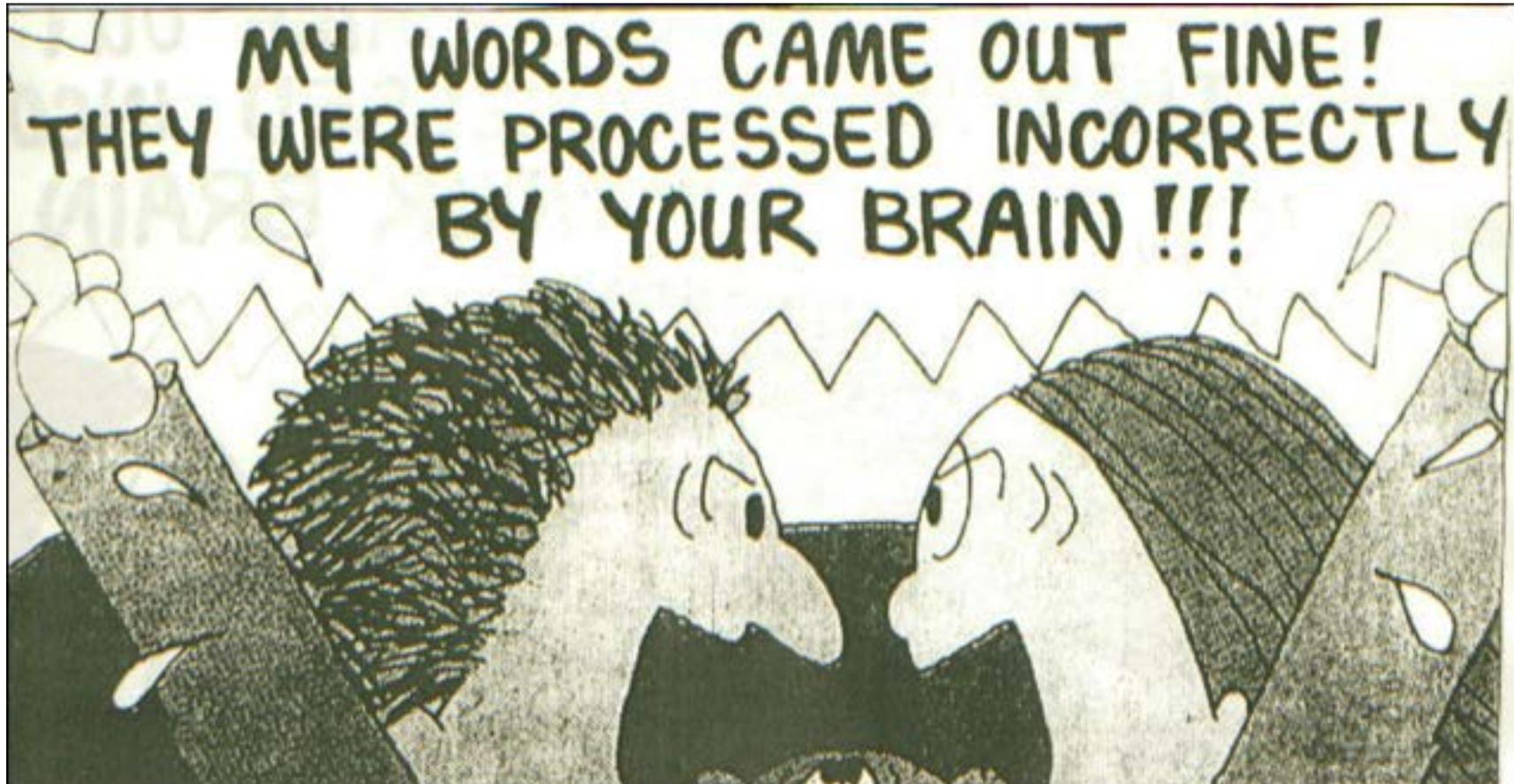
PITCH RANGE ANALYSIS

EXAMPLE: LOWER SCORING INTERNATIONALLY EDUCATED NURSE (STAPLES, 2014)

PITCH RANGE ON EMPATHETIC RESPONSE



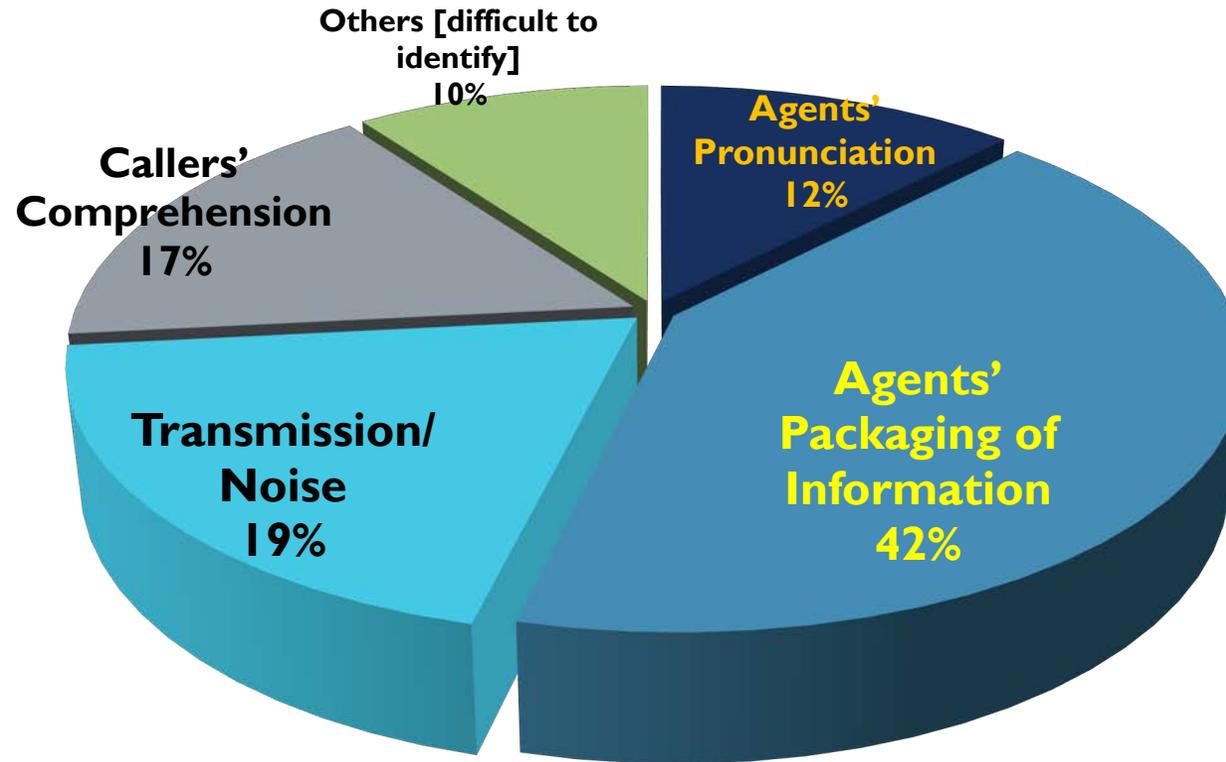
CROSS-TALK



Cross-Cultural (MIS)COMMUNICATION

FACTORS CAUSING CALLER CLARIFICATIONS

THIRD-PARTY ANALYSIS AND INTERPRETATION (FRIGINAL, 2011, 2014)



- Randomly selected 40% of total caller clarification sequences (400 samples)
- Two raters [mutual agreement]

SOME IMPLICATIONS

- Distributional patterns of lexico/syntactic features [across registers and speaker groups] have important theoretical implications for the study of language and culture in general, and the analysis of linguistic variation in particular.
- Corpora representing typical interactions provide data that are relevant not only in understanding the variety of English in this domain, but also in achieving a broader understanding of the dynamics of cross-cultural exchanges.
- Corpus data have useful application in the design and implementation of training programs.

AL/ESP/ICC Research Goals and Objectives

- To **describe** the **cross-cultural features** [and linguistic distributions] of language in global aviation.
- To **understand register variation** and the influence of sociolinguistic factors such as role/relationships, power, and identities to speakers in this communicative domain.
- To **explore practical and pedagogical implications:**
 - How to use CL data to aid performance assessment?
 - How to develop training materials?
 - Does a “native speaker norm” exist in this domain?
 - What are macro policy implications of results?



THANK YOU!
SALAMAT PO!

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