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GOAL

RQ1: Which specific non-native linguistic cues of CPAs influence the learning performance of non-native human learners?

RQ2: Which specific non-native linguistic cues influence attributed credibility and acceptance of CPAs by non-native human learners?

RQ3: How much does a linguistically credible CPA influence the learning performance in non-native educational contexts?

A REVIEW ABOUT THE DIALECT OF PEDAGOGICAL AGENTS IN DIFFERENT (SUB)CULTURES

Goal: To gain more insights into the effects of the variation of cultural design features in pedagogical agents' voice.

The structural inclusion criteria determined to locate studies that examine the use of pedagogical agents for learning:

- Study reported in English language
- Published in a peer-reviewed journal
- Has a quantitative approach
- Most importantly, the agent played a role in instruction
i.e. was at least one instance of the agent having an accent and that the agent provided instructions or information to a learner

The research questions relevant in the context:

1. Do pedagogical agents enhance learning when compared with non-agent systems?
2. How are the effects of learning with pedagogical agents moderated by the type of voice used?

Results:

- Only few controlled experiments conducted concerning pedagogical agents' accent or dialect
- The cultural matching of the pedagogical agent with the learner's agent needs more attention
- Several theoretical and practical implications, strengthen the route for future research

A COMPARISON OF TEXT SELECTION ALGORITHMS FOR SEQUENCE-TO-SEQUENCE NEURAL TTS

Goal: Investigating the effects of text selection algorithms on the quality of seq2seq neural TTS systems when they are used to create the training set.

Variation of training set sizes and selection approaches:

- 5-8 hours
- random selection, greedy selection

Objective evaluation was done with mel-cepstral distance.

Main result: Greedy selection was on almost always significantly better than random selection on all training set sizes.

- allowing usage of less training data
- allowing creation of shorter reading scripts



ACCENT ANALYSIS

comparing standard IPA with actual IPA and derive rules based on single IPA symbols: insertion (I), omission (O) and substitution (S)
→ ability to compare rules with those mentioned in literature
→ possibility to create “fingerprint” of an accent
→ calculating similarity between two accents

English	Phonemes	Phones	Rules	Occurrences (%)
how	h'au	h'au	Unchanged	52.63
how	h'au	x'au	S(h;x:1)	36.84
how	h'au	x'a	S(h;x:1), O(u;5)	7.89
how	h'au	h'a	O(u;4)	2.63

Figure 1: Excerpt word-wise accent analysis for pilot interview.

Rule	English	Phonemes	Phones	All Rules	Occurrences (%)
S(h;x)	how	h'au	x'au	S(h;x:1)	35.00
S(h;x)	who	h'u	x'u	S(h;x:1)	17.50
S(h;x)	he	h'i	x'i	S(h;x:1)	15.00
S(h;x)	how	h'au	x'a	S(h;x:1), O(u;5)	7.50
S(h;x)	hot	h'at	x'at	S(h;x:1)	5.00
S(h;x)	her	h'ə	x'ə	S(h;x:1)	5.00
S(h;x)	hated	h'etɪd	x'etɪd	S(h;x:1)	2.50
S(h;x)	heat	h'it	x'it	S(h;x:1)	2.50
S(h;x)	happier	h'æpiə	x'æpiə	S(h;x:1)	2.50
S(h;x)	has	h'æz	x'æz	S(h;x:1)	2.50
S(h;x)	holidays	h'ɒlɪd eɪz	x'ɒlɪd eɪz	S(h;x:1)	2.50
S(h;x)	history	h'ɪstəri	x'ɪstəri	S(h;x:1)	2.50

Figure 2: Excerpt rule-wise accent analysis for pilot interview.

SYSTEMATIZING AND QUANTIFYING FEATURES OF CHINESE ENGLISH

Goal: identify most salient features of Chinese English, focusing on phonetic cues

- Systematized list of features accepted as:
Albrecht, S. (fc.). Current research on the linguistic features of Chinese English. World Englishes.
- Examples:
 - /ʌ/ pronounced as /ɑ/, /θ/ pronounced as /s/
 - Overlapping vowel length FLEECE & KIT
- Quantification workflow (work in progress)
 - Forced alignment using the Montreal Forced Aligner
 - Automated vowel formant measurements in Praat
 - Vowel plots generated in R
 - Hampel filtering of outliers
 - Lobanov normalization (speaker intrinsic, vowel extrinsic, formant intrinsic)
- Issues:
 - Forced alignment inaccurate
 - Pronunciation dictionary quality could be better
 - Many automated measurements vs. few manual measurements

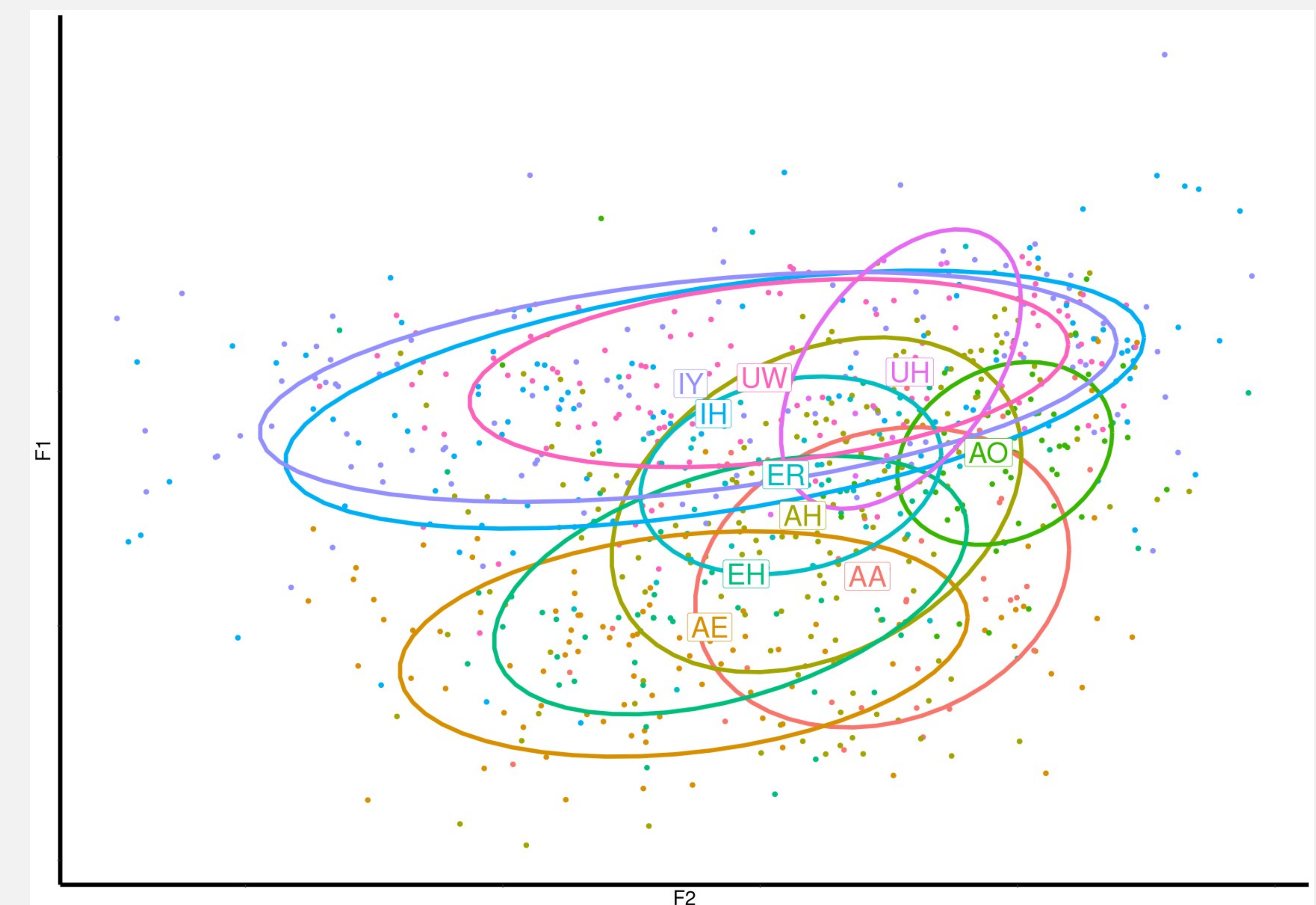


Figure 3: Vowel Space Plot of Pilot Test Subject