Investigating the Relationship between Hesitation Phenomena and L2 Accentedness

Ralph Rose
<rose@waseda.jp>
Waseda University Faculty of Science and Engineering
Tokyo, Japan

Accents 2011
Łódź, Poland

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Overview

- Background
- Cross-linguistic Corpus of Hesitation Phenomena
- Results
- Discussion
Hesitation Phenomena

- Delay in message transfer (Mahl 1956; Maclay and Osgood 1959; Rochester 1973; Ragsdale 1976; Griffiths 1991)
- Silent pauses (>100-500ms)
- Filled pauses (uh, um)
- Corrections
- Repeats
- Prolongations/Lengthenings
HP and L2 Development

- Not much explicit work on how learners develop L2 hesitation patterns.

- Depend on fluency development literature (Trofimovich and Baker 2006; Kormos and Dénes 2004; Riazantseva 2001; Pinget 2011)

- Dominant fluency characteristics: speech rate, length of runs, phonation time, syllable duration, pause duration
L2 Accent Development

- Kang 2010 – accentedness and comprehensibility
- Munro and Derwing 1998, 2001 – accentedness and speech rate

Prominent features
- Pitch range
- Speech rate
L2 Accent and L2 Fluency

- Difficult for raters to distinguish (Freed 1995)
- Accentedness ratings influenced by fluency features (Munro and Derwing 2001)
- Listeners can distinguish (Bond et al 2008)
- Objectively distinct (Pinget 2011)
Fundamental Research Questions

- What is the developmental trajectory of L2 learners' hesitation patterns?
- How are accent and fluency related in L2 development?
Cross-linguistic Corpus of Hesitation Phenomena (CCHP) – Pilot Phase

- **Purpose:** gather L1&L2 speech samples
- **Participants:** 10 Japanese college students
- **Elicitation tasks:** reading aloud, picture description, topic narrative
- **Demographic info:** age, gender, L2 proficiency information (TOEIC score)
- **Annotation:** 2 transcribers (Japanese), 1 checker
- **Rating tasks:** 16 experienced EFL teachers rated speech samples for accentedness & fluency
Speech Rate

F(1,38) = 70.9, p<0.001

F(1,38) = 15.4, p<0.001
Length of Runs

- $F(1,38) = 15.8, p<0.001$
- $F(1,31) = 1.18, n.s.$

**Graphs:**

1. Scatter plot for FLU_RATING_AVG and MEAN_LENGTH_RUNS with a linear trend line.
2. Scatter plot for ACC_RATING_AVG and MEAN_LENGTH_RUNS with a linear trend line.
Silent Pause Duration

F(1,38) = 48.8, p<0.001

F(1,38) = 9.6, p<0.005
Filled Pause Duration

F(1,31) = 1.0, n.s.

F(1,31) = 0.2, n.s.
Filled Pauses: ε (ja) to θ (en)

F1

F(1,17) = 0.7, n.s.

F2

F(1,17) = 5.6, p<0.05
Filled Pause F1

\[ F(1,31) = 2.7, \text{ n.s.} \]

\[ F(1,31) = 5.4, \text{ p}<0.05 \]
Gender

- $F(1,38) = 10.4$, $p<0.005$

- $F(1,38) = 21.3$, $p<0.001$
## Summary of Fluency/Accent Findings

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Fluency vs. Accent in CCHP

- Fluency and accent ratings very highly correlated
  $(r=0.73, \ p<0.001)$

- Yet, some clear distinctions
  - Fluency
    - Length of runs
    - Silent pause duration
  - Accent
    - Filled pause F1
    - Gender
Hesitation Phenomena and Accent

- Speech rate affects accent ratings (as in Munro and Derwing 2001; contra Pinget 2011)

- Filled Pause
  - FP rate no change
  - F1 increase, F2 no change

- No effect of other hesitation phenomena
Further Work

- Gather more demographic information.
  - Living/study abroad experience
  - More accurate L2 proficiency measure(s)
- Get fluency and accent judgments independently.
- Get a soundproof booth!
Summary

- CCHP shows results parallel to other studies of Fluency: speech rate, pause duration, length of runs, and gender are significant factors.

- Fluency and accent ratings are highly correlated but most distinguishable on length of runs and filled pause F1.

- Speakers with higher accent ratings show increased F1, no change for F2.

- CCHP design can provide a useful window on the development of L2 fluency and accent.
References


