

Prosodic Constructions in English Dialog:

Form, Function, Learner Needs, and Teachability

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Focus: Prosody in Dialog

Non-native speakers are often weak in prosody.

The prosodic patterns involved in dialog and interaction are especially important for them.

- How does learners' prosody differ most from that of native speakers'?
- What are the specific differences?

Data: Casual Conversations

We collected matched corpora, 70 mins. each:

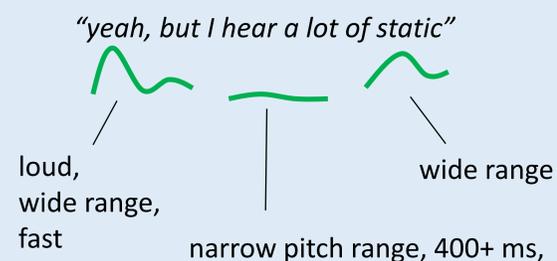
- dialogs between college-level Spanish-native learners and native English speakers
- native-native dialogs



Model: Prosodic Constructions

E.g. the Bookended Narrow Pitch Construction,

- Function: expressing contrast, complaints, contradiction, or grudging admiration
- Form:



Prosodic constructions are mappings from form to function.

They involve intonation and also energy, rate, timing, and articulation properties.

They may involve synchronized contributions by two participants.

Methods: PCA, Interpretation, and Statistics

1. Discover the prosodic constructions used by the native speakers.
2. Compute statistics on learners' uses of each.
3. Discover the prosodic constructions used by the learners.
4. Compare to the natives' constructions, in form and function.

We use Principal Components Analysis (PCA) over 176 prosodic features spanning 6-second windows, at 720,000 data points. This yields 32 patterns for English explaining 55% of the variance.

Findings: Some Non-Native Prosodic Deficits

The learners' prosodic behavior in these constructions was mostly indistinguishable from that of the native speakers. However there were ...

Differences in Form for the Swift Turn-Exchange Construction

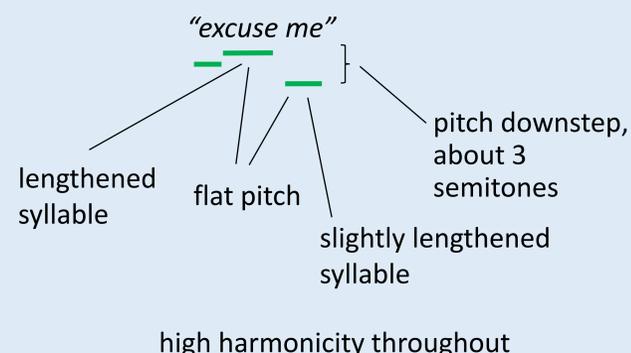
- Native Prosody: fast speaking rate at turn starts
- Learners' Prosody: no tendency to speed up at turn starts

Differences in Meaning, e.g. for the Explaining Construction

- Form: strongly low pitch over several seconds
- Natives' Function: explaining something factual
- Learners' Function: talk about family or personal preferences

Differences in Frequency of Use: Learners exhibited ...

1. Fewer uses of the Aggressive Engagement Construction (a half-second of increased intensity, starting with high pitch and ending creaky, common on *yeah, ah, ooh*, etc.)
2. More uses of the Easy Agreement Construction (a couple of fast, creaky, wide-pitch range words leading into a high-pitch region, such as a laugh)
3. Fewer uses of Late Pitch Peaks for invitations and offers
4. Fewer uses of the Downstep Construction (for social cuing)



Also a) different meanings for the Musing Construction (Form: low pitch with a short creaky region; Natives' function: musing about future plans, e.g. on *you know, like*; Learners' function: inviting co-construction of utterances), b) fewer exemplars of the Swift Turn Exchange Construction, c) fewer exemplars of the Back-channeling Construction, d) more uses of the Stalling Construction (a pause or filler such as *uh* between two regions of high intensity, wide pitch range, and creaky voice)

Teaching Techniques

- Teach one prosodic construction at a time.
- Diagram it as a temporal configuration of features.
- Give lots of examples.
- Have interaction-based practice, e.g. roleplay.

Observations

- Learners quickly see the value of working to extend their prosodic repertoire.
- Students can learn to detect, respond to, and produce prosodic constructions.

(These observations are based on my experience teaching four patterns: the Bookmarked Narrow Pitch Construction, the Downstep Construction for social cuing, The Backchanneling Construction (in Arabic) (using tools), and late pitch peaks for suggestions and offers.)

Summary

Prosodic constructions enable pinpointing some learners' deficits.

Prosodic constructions are teachable.

Open Questions

What are all the prosodic patterns of English? Of other languages?

How can we best teach them all?

References, Resources, etc.

Non-Native Differences in Prosodic-Construction Use. Nigel Ward and Paola Gallardo. *Dialogue and Discourse*, 8 (1), pp 1-30, 2017.

The Prosodic Patterns of English Dialog. Nigel Ward, Cambridge University Press, 2018.

Teaching Resources: <http://www.cs.utep.edu/nigel/patterns/>

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