Intonation in Medical Discourse: Combining Research and Teaching

ACTA 2012

Dr Dana Chahal, Victoria University
Olga Maxwell, University of Melbourne
Outline

Intonation
• Research
• Teaching practice

Language and Communication Skills Program
• Medical context
• Focus on intonation teaching

Strengths of Approach
• Teaching
• Bridging the gap between research and teaching

Challenges and Further Research
Intonation

Linguistically meaningful pitch modulation
Part of a language’s general prosodic system

Linguistic Functions
• Grammar (e.g. sentence types)
• Information Structure
• Speech acts

Paralinguistic Functions
• Emotion and attitude
• Speaker identity

Re-emerging interest in teaching intonation
• Important research on intonational phonology
• Research findings not always reflected in teaching practice/materials

(Mennen 2006; Grice and Bauman 2007)
Intonational Research

Despite some universal features, systematic variation

- Typologically diverse languages
- L1 intonation transfer

http://accent.gmu.edu/browse_atlas.php
Intonational Research

Significant differences in language varieties

• e.g. Well established Englishes (e.g. British; American; Australian English)
• Regional varieties
• World Englishes (e.g. Indian English; IE)

http://accent.gmu.edu/browse_atlas.php

Integral relationship with discourse (context-dependency)

- Speech event
  - e.g. conversation versus medical interview

- Speech event components
  - e.g. introducing & ending topics
  - e.g. turn-taking
  - e.g. isolated sentences versus larger discourse units

E.g. see references cited in Dalton and Seidlhoffer (1994)
Intonational Research

AM: the current accepted model of intonational phonology

Autosegmental-Metrical models (AM)

L+H*
L+!H*
L-L%

British School models (BSM)

*B* N

He ought to have asked me first.
AM Models: Components

1. Prominence
2. Phrasing
3. Tonal alignment
4. Pitch range modification

TUNE MEANING
(COMPOSITIONAL)
AM Models: Prominence and Phrasing

So your gravestones, is my canoes.
AM Models: Pitch Range

Pitch range modification, reset & declination

So your gravestones, is my canoes.
So your gravestones, is my canoes.
Importance of Tonal Alignment

A: Only crazy people work on intonation

B: Mary does intonation.

Figure 18. F0 contour for two utterances of the sentence Mary does intonation, produced as hypothetical responses to the proposition that Only crazy people work on intonation.
AM Models: Summary

Pitch movements analyzed into H or L targets

1. Prominence
   • Accent location
   • Accent tone type (H*; L+H*; L*+H; L*)

2. Phrasing
   • Phrase location
   • Phrase strength (iP; IP)
   • Phrase tone type (L-L%; H-H%; L-H%; H-L%)
AM Models: Summary

3. Tonal alignment

4. Pitch range modification

Phonetic detail critical to analysis

Arvaniti & Garding 2007, Wichmann 2000
# Teaching and Research

## Research
- Typologically different languages
- Different language varieties
- Discourse and speech contexts
- AM models of intonational phonology

## Teaching Practice/Materials
- Focus on English
- Standard American or British English
- Generic
- Isolated reading sentences
- Everyday conversation
- BSMs of intonational phonology

Ladd 2008; Levis and Pickering 2004
Our Study

Aims to integrate intonation research with teaching practice
  • Particularly the AM model of intonational phonology

Reports on a Language and Communication Skills Program
  • Targeting International Medical Graduates (IMGs) working as psychiatrists in Melbourne hospitals.
  • Aimed at providing IMGs with the language and communication skills necessary for conducting effective psychiatric interviews in the AusE context (NWMHS project funded by RANZCP)
  • Focus on pronunciation teaching (intonation using AM)
Participants and Structure

Participants:
- 16 IMGs
- Main L1s: South Asian languages (Sinhalese, Hindi, Malayalam, Kannada, Bengali)
- Majority: Indian and Sri Lankan English
- ESL; Proficient speakers (High IELTS scores)
- English not used at workplace prior to arrival to Australia
- Length of residence: 6 months to 2.5 years

Program Structure:
- 8 sessions (2 hrs each); 2 parallel groups (6-8 participants)
- Psychiatrist involved in group sessions (role-plays and feedback)
- Psychiatric interview materials checked by Senior Psychiatrist
- Individualized follow up sessions (4-6)
Program Curriculum

Psychiatric Interview Stages
- Introduction
- Data Gathering Process
- Mental state examination
- Treatment plan
- Closure

Psychiatric Interview Skills
- Empathy & building rapport
- Questioning & transitioning
- Interview management
- Negotiating plan
- Case formulation

Language and Communication Skills
- Grammar
- Vocabulary
- Pronunciation

Language Focus

Role Plays
**Intonation Teaching Approach**

**SELECTION**

- AM model and relevant components
  - Prominence: accent location & type
  - Phrasing: phrase location & type
  - Tonal alignment
  - Pitch range modification

- World Englishes (IE) and expected L1 transfer
- AusE variety as used in the medical context
Intonation Teaching Approach

PROCESS: Exposure; Exercise; (Explanation)

LANGUAGE FOCUS TASKS (sentence level; practiced in pairs)
- list of sentences, marked for specific intonational features
- unmarked sentences
- scripting of own sentences

ROLE PLAYS (discourse level)
- based on interview stage/skill and intonation features covered
- short psychiatric interview scenarios (2-3 min preparation)
- role-played with an actor patient

Listening exercises (print and online) for own practice

Dalton and Seidlehoffer (1994)
Intonation Teaching Approach

Use of speech visualization software (e.g. PRAAT) as tool
- transforms auditory input into acoustic/visual representation
- Allows analysis and reinforcement of participant speech

Same utterance by
AusE speaker  IE speaker

Mary goes home.
Example

Interview
Stage: Introduction
Skill: Questioning

Relevant Intonation Features
1. Phrase tone type (Wh-questions)
2. Pitch range modulation
Example

Interview
Stage: Eliciting symptoms
Skill: Questioning

Relevant Intonation Features
1. Accent location
2. Pitch range modulation
I will explain to [you] what I’m going to do today.
Example

Interview Skill: Expressing Empathy

Relevant Intonation Features

1. Strength of phrase
2. Phrase tone type
3. Tonal alignment (Accent location and pitch range)
Current Approach: Strengths

Teaching of intonation based on AM

- Breaks down important intonational meanings into localized events
  - Accents
  - Phrases

- Includes important phonetic detail
  - Tonal alignment
  - Pitch range modification

- Auditory as well as visual-technological tools
Current Approach: Strengths

Integrating research with teaching practice

Language Varieties
• World Englishes; AusE

Discourse and Context-Dependency
• Spoken language in psychiatric interviews

Intonation Models
• AM as the current acceptable theoretical model of intonation
• Current research & literature on intonational variation in different languages use AM
  • Comparisons between L1 and L2
  • Potential L1 transfer effects can be identified

Mennen 2006; Levis and Pickering (2004)
Challenges & Further Research

Challenges: Extensive training required for teachers

- AM as phonological model
- Analysis F0 traces
- Use of acoustic software

Further research into:
- AM application to teaching
- Evaluation of pronunciation progress
 References


Olga Maxwell:  olga.maxwell@gmail.com
Dana Chahal:  dana.chahal@vu.edu.au