Prosodic focus marking in L1 Bai–children learning Mandarin Chinese as L2
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1. Introduction

Focus: the part of a sentence that conveys new information on a topic (Valldvi & Engdahl 1996, Lambrecht 1996).
Focus is coded by prosodic cues in many languages: pitch and/or duration.

Prosodic focus marking in L1 Mandarin speaking children (Yang & Chen 2014)
- Age 4: start to use duration to differentiate focus from pre/post-focus, and pitch to differentiate focus from pre-focus.
- Age 8: use pitch and duration to differentiate focus from non-focus.

L1 Bai children: Bai children use Bai at home and learn Mandarin at school

Prosodic focus marking in monolingual adult speakers of Bai only duration
(Liu, Chen & Van de Velde 2014)

Research questions:
1. Do child L2 speakers of Mandarin mark focus prosodically? (focus)
2. Do they differentiate different focus types? (size and contrastivity)
3. Which prosodic cues do they use? (pitch or duration)
4. Which path do they follow to become native-like in their L2?

2. Methodology

2.1. Experimental materials
- 5 Focus conditions:
  - NF-i: narrow-focus on the subject noun in sentence-initial position
  - NF-m: narrow-focus on the verb in sentence-medial position
  - NF-f: narrow-focus on the object noun in sentence-final position
  - BF: broad focus
  - CF-m: contrastive-focus on the verb in sentence-medial position
- 80 SVO target sentences, four tones were systematically balanced in subject noun, the verb and the object noun
- Question-answer pairs are embedded in a picture-based game.

2.2. Data elicitation (Age 6-7: 343 usable trials; Age 9-10: 514 usable trials; Age 11-12: 576 usable trials)
Example: CF-m (contrastive focus) condition

3. Analysis and results

3.1. Acoustic analysis
- Acoustic measurements: pitch-max, pitch-min, pitch-range, duration.

3.2. Statistical analysis
- Comparisons:
  - Effect of focus: NF-m(focus) vs. NF-i (post-focus)
  - NF-m(focus) vs. NF-f (pre-focus)
  - Effect of focus type that differs in size: NF-m (narrow focus) vs. BF (broad focus)
  - Effect of focus type that differs in contrastivity NF-m (non-contrastive focus) vs. CF-m (contrastive focus)

3.3. Results

<table>
<thead>
<tr>
<th></th>
<th>Comparisons</th>
<th>Duration</th>
<th>Pitchrange</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age 6-7</td>
<td>Age 9-10</td>
<td>Age 11-12</td>
</tr>
<tr>
<td>Focus vs. Non-focus</td>
<td>NF-m vs. NF-i(post)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>NF-m vs. NF-f(post)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Contrastivity</td>
<td>NF-m vs. BF</td>
<td>interaction with tone (T3°)</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>NF-m vs. CF-m</td>
<td>interaction without tone (T4°)</td>
<td>✓</td>
</tr>
</tbody>
</table>

Figure 1. Mean duration (in ms) of BF (broad focus) vs. NF-m (narrow focus)
Figure 2. Mean duration (in ms) of CF-m (contrastive focus) vs. NF-m (non-contrastive focus)
Figure 3. Mean pitch range (in Hz) of NF-m (post-focus) vs. NF-m (narrow focus)

4. Answers to the research questions

1. Do child L2 speakers of Mandarin mark focus prosodically? (focus)
   Yes. Children from all age groups increase the duration of the verb on focus.
   The earlier mastery of the use of duration in L2 to distinguish narrow focus from non-focus suggests that duration as acute is easier to learn or (2) that the children benefit from positive L1 transfer.

2. Do they differentiate different focus types? (size and contrastivity)
   Not yet. Child L2 speakers from younger age groups (Age 6-7 & Age 9-10) only use duration to differentiate narrow focus from broad focus in T3 and T4.

3. Which prosodic cues do they use? Pitch and duration are used in different conditions by different age groups.

4. Which path do they follow to become native-like in their L2?
   The acquisition of prosodic focus marking in Mandarin is a gradual process in child L2. The youngest group of L2 Mandarin-speaking children not only struggle with the use of duration for distinguishing focus types that differ in size and contrastivity, but also have difficulty with the use of pitch for distinguishing focal constituent from post-focal constituent.

Acknowledgements: We are grateful to all the bilingual participants from Jinhe Primary School and to children’s parents for their cooperation. We also thank Shupeng Duan and teachers of Jinhe Primary School for their enthusiastic support for the fieldtrip, Anqi Yang, Anna Sara H. Romsen for their feedback. This study is supported by a scholarship from the Chinese Scholarship Council to the first author and a VIDI grant (2768-99-001) from the Netherlands Organisation for Scientific Research to the second author. Map is cited from Chinese government website: http://www.gov.cn