Mispronunciation:

Do they really think we eat lice?

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1. Introduction

Learners: Not confident in their pronunciation

- **Factors affecting intelligibility of EFL accent:**
  - Munro & Derwing (1999)
  - Piske, Mackay, & flea (2001)
  - Kashiwagi, Snyder, & Craig (2006)

- **L1 Japanese sound transfers:**
  - Kenworthy (1987)
  - Avery, & Ehrlich (1992)
  - Kachru (1992)
  - Cook (2000)
  - Jenkins (2000)
  - Murata, & Jenkins (2009)
1. Introduction

- L1 segmental sound transfer is responsible for misunderstandings more than twice the other causes (suprasegmental; speed of delivery; world knowledge; lexis; grammatical error, etc.) added together.

  (Jenkins, 2000: 57)

- In spite of the presence of the linguistic & extra-linguistic contexts, L1 transfer (sound substitution and conflation; consonant deletion (or elision); addition) regularly led to intelligibility problems.

  (Jenkins, 2000: 88)

⇒ Effects of the contextual information
The majority of subjects had claimed to find it easiest to understand English speakers from their own L1 backgrounds and most difficult to understand those from unrelated L1 backgrounds. (Jenkins 2000:34)

The errors reflecting the speaker/writer’s L1 are found to be problematic in communication with people with different L1s (Nakanishi 2007:91).

⇒ Combination of the speaker’s & listener’s L1
2. Research Question ①

① Effects of the contextual information

✧ NC (No context sentences)
  (ex) He has a big mouse (≠ mouth).

✧ WC (With context sentences)
  (ex) The cat ran after my mouse.

✧ FC (Fake context sentences)
  (ex) The dentist looked into my mouse.

⇒ 2009: “The word at the end of the sentence was...”
  2011: “What does the speaker mean?”

Any relation between Contextual info. and intelligibility?
2. Research Question ②

② Groups of different L1 speakers

- L1 users
  (Native speakers of English)
- L2 users
  (International users of English)
- E-major learners
  (English-major university students in Japan)
- Non E-major learners
  (Non English-major university students in Japan)

Any relation between English proficiency and intelligibility?
3. Method ①

**NC, WC, FC sentences (Globalvoice English)**

16 sentences (8 minimal pairs) × 3 context types = 48 sentences

<table>
<thead>
<tr>
<th>l/r</th>
<th>æ/ʌ</th>
</tr>
</thead>
<tbody>
<tr>
<td>s/f</td>
<td>ə:/ɜ:r</td>
</tr>
<tr>
<td>s/θ</td>
<td>ɔ:/ɔu</td>
</tr>
<tr>
<td>b/v</td>
<td>I/I:</td>
</tr>
</tbody>
</table>

ex. “mouse”
3. Method ②

Web-based Survey in 2009 & 2011

Participants can listen up to twice.

2009: “The word at the end of the sentence was...”
2011: “What does the speaker mean?”
3. Method (Inquiry)

Linguist list

http://linguistlist.org/issues/20/20-3964.html
http://linguistlist.org/issues/22/22-3255.html
4. Participants

**N of participants in 2009 and 2011**

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>User</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L1</td>
<td>77</td>
<td>52</td>
</tr>
<tr>
<td>L2</td>
<td>74</td>
<td>63</td>
</tr>
<tr>
<td><strong>Learner</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-major</td>
<td>100</td>
<td>56</td>
</tr>
<tr>
<td>Non E-major</td>
<td>86</td>
<td>123</td>
</tr>
<tr>
<td><strong>total</strong></td>
<td>337</td>
<td>294</td>
</tr>
</tbody>
</table>
4. E-users’ background

✧ Residence

2009: ENL(92), ESL(44), Japan(12)
2011: ENL(48), ESL(32), Japan(36)

✧ Length of stay in Japan

2009: Never(117), Visited(15), Stayed(4)
2011: Never(39), Visited(26), Stayed(17)

✧ L2 users’ first language

2009: German(21), Russian(9), Spanish(9), Chinese(6), Dutch(5), etc.
2011: Chinese(10), Spanish(8), Portuguese(7), Dutch(5), Italian(5), Japanese(5), etc.
4. E-learner’s background

- Non E-major learners’ majors
  - Business administration
  - Human science
  - Economics
  - Law

- Means of TOEIC scores

<table>
<thead>
<tr>
<th>Year</th>
<th>E-major</th>
<th>Non E-major</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$sd$</td>
</tr>
<tr>
<td>2009</td>
<td>630.2</td>
<td>115.3</td>
</tr>
<tr>
<td>2011</td>
<td>752.8</td>
<td>83.4</td>
</tr>
</tbody>
</table>
## 5. Result (Overall)

### Means of “correct” answers (Full marks=16)

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th></th>
<th>2011</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WC</td>
<td>NC</td>
<td>FC</td>
<td>WC</td>
<td>NC</td>
</tr>
<tr>
<td>L1</td>
<td>15.7</td>
<td>15.7</td>
<td>15.0</td>
<td>15.9</td>
<td>14.2</td>
</tr>
<tr>
<td></td>
<td>(0.5)</td>
<td>(0.5)</td>
<td>(1.2)</td>
<td>(0.3)</td>
<td>(2.3)</td>
</tr>
<tr>
<td>L2</td>
<td>15.4</td>
<td>14.9</td>
<td>13.7</td>
<td>14.8</td>
<td>13.6</td>
</tr>
<tr>
<td></td>
<td>(1.0)</td>
<td>(1.7)</td>
<td>(2.6)</td>
<td>(1.7)</td>
<td>(2.2)</td>
</tr>
<tr>
<td>E-major</td>
<td>12.5</td>
<td>11.0</td>
<td>9.0</td>
<td>12.1</td>
<td>9.9</td>
</tr>
<tr>
<td></td>
<td>(2.0)</td>
<td>(2.6)</td>
<td>(3.0)</td>
<td>(1.7)</td>
<td>(2.6)</td>
</tr>
<tr>
<td>Non E-major</td>
<td>10.3</td>
<td>8.6</td>
<td>7.2</td>
<td>8.7</td>
<td>8.4</td>
</tr>
<tr>
<td></td>
<td>(2.2)</td>
<td>(1.9)</td>
<td>(2.1)</td>
<td>(2.1)</td>
<td>(1.5)</td>
</tr>
</tbody>
</table>
5. Result (Reliability, ANOVA)

✧ **Cronbach’s α**

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2011</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>WC</td>
<td>.75</td>
<td>.80</td>
<td>.79</td>
</tr>
<tr>
<td>NC</td>
<td>.82</td>
<td>.73</td>
<td>.79</td>
</tr>
<tr>
<td>FC</td>
<td>.85</td>
<td>.85</td>
<td>.87</td>
</tr>
</tbody>
</table>

✧ **Two-way layout ANOVA**

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>7560.02</td>
<td>3.00</td>
<td>2520.01</td>
<td>373.89</td>
<td>4189.34</td>
<td>3.00</td>
<td>1396.45</td>
<td>114.96</td>
</tr>
<tr>
<td>誤差</td>
<td>2244.43</td>
<td>333.00</td>
<td>6.74</td>
<td>439.00</td>
<td>3522.81</td>
<td>290.00</td>
<td>12.15</td>
<td></td>
</tr>
<tr>
<td>Context</td>
<td>845.32</td>
<td>1.69</td>
<td>500.33</td>
<td>165.78</td>
<td>3174.26</td>
<td>1.35</td>
<td>2357.03</td>
<td>246.25</td>
</tr>
<tr>
<td>Group*Context</td>
<td>228.52</td>
<td>5.07</td>
<td>45.09</td>
<td>14.94</td>
<td>706.85</td>
<td>4.04</td>
<td>174.96</td>
<td>18.28</td>
</tr>
<tr>
<td>誤差</td>
<td>1698.03</td>
<td>562.62</td>
<td>3.02</td>
<td>3738.26</td>
<td>390.55</td>
<td>9.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>12576.32</td>
<td>905.37</td>
<td></td>
<td></td>
<td>15331.52</td>
<td>688.94</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 5. Result (Comparison)

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>L1 user</strong></td>
<td>WC, NC&gt;FC</td>
<td>WC&gt;NC&gt;FC</td>
</tr>
<tr>
<td><strong>L2 user</strong></td>
<td>WC, NC&gt;FC</td>
<td>WC&gt;NC&gt;FC</td>
</tr>
<tr>
<td><strong>E-major</strong></td>
<td>WC&gt;NC&gt;FC</td>
<td>WC&gt;NC&gt;FC</td>
</tr>
<tr>
<td><strong>NonE-major</strong></td>
<td>WC&gt;NC&gt;FC</td>
<td>WC, NC&gt;FC</td>
</tr>
<tr>
<td><strong>WC</strong></td>
<td>L1, L2 &gt;Em&gt;NonEm</td>
<td>L1&gt;L2 &gt;Em&gt;NonE</td>
</tr>
<tr>
<td><strong>NC</strong></td>
<td>L1, L2 &gt;Em&gt;NonEm</td>
<td>L1, L2 &gt;Em&gt;NonE</td>
</tr>
<tr>
<td><strong>FC</strong></td>
<td>L1&gt;L2 &gt;Em&gt;NonEm</td>
<td>L2&gt;Em, L2&gt;NonE</td>
</tr>
</tbody>
</table>
5. Result (Chart)

![Chart showing data for 2009 and 2011]

- **2009**
  - WC: L1 user
  - NC: L1 user
  - FC: Non-E major learner

- **2011**
  - WC: L2 user
  - NC: E major learner
  - FC: Non-E major learner
5. Result (Learners’ proficiency)

- **Correlation: TOEIC & WC, NC, FC**

<table>
<thead>
<tr>
<th></th>
<th>2099</th>
<th></th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(r)</td>
<td>(p)</td>
<td>(r)</td>
</tr>
<tr>
<td>WC</td>
<td>.68</td>
<td>.00</td>
<td>.65</td>
</tr>
<tr>
<td>NC</td>
<td>.40</td>
<td>.00</td>
<td>.53</td>
</tr>
<tr>
<td>FC</td>
<td>-.02</td>
<td>.85</td>
<td>.18</td>
</tr>
</tbody>
</table>

- **Context Dependency rate (CD rate)**

= how much the learners depend on the contextual information when identifying segmental sounds.

= \((\text{WC-NC}) + (\text{NC-FC})\) = WC - FC
5. Result (Chart)

2009

- M of NC (%)
- CD rate (%)

2011

- M of NC (%)
- CD rate (%)

Chart showing trends over 2009 and 2011.
6. Discussion (RQ ①)

Any relation between Contextual info. & intelligibility? ⇒ YES.

2009: The word at the end of the sentence was…

2011: What does the speaker mean?

Any relation between Contextual info. & intelligibility? ⇒ YES.
6. Discussion (RQ ②-1)

Any relation between English proficiency and intelligibility?

⇒ YES.

2009: The word at the end of the sentence was...

2011: What does the speaker mean?

Any relation between English proficiency and intelligibility?

Interactions

L1 user

L2 user

E major learner

Non-E major learner
6. Discussion (RQ ②-2)

Higher NC score  
⇒ lower CD rate?

...but...  
Higher TOEIC ⇒ higher CD rate?

Higher NC score ⇒ lower CD rate?
7. Conclusion

① Contextual information can help even when segmental sounds are mispronounced.

② Although L1/L2 users can identify the sounds almost perfectly, they still refer to the contextual information.

③ False-beginner E learners may acquire the strategy to get the contextual information in utterances before they come to be able to identify the sounds.
References


