How do we learn vowels?

1. Vowels

A word on vowels

2. Design

The Control Condition

3. Results

Ceiling effect?

Pre-test Response Patterns

Post-test Performance
A word on vowels

Scatterplot adapted from Yang (2012)
Learning by Listening

/i/ vs. /ɪ/

Yes! And adults do it, too.

Infants doing Statistics? Really?!

And: words help!
How can we test this?

Training

Test: Categorization

“Aligned” Condition

“Control” Condition

Hypothesis:
Learners in the “Aligned” condition will perform better at test.
Creating Stimuli

1. Record several tokens “thoss”
2. Extract vowels
3. Resynthesize vowels to match the stimulus grid
The Aligned Condition

"thoss"  "vot"  "pok"

"dop"  "gogz"  "skod"
The Control Condition

- "thoss"
- "vot"
- "pok"
- "dop"
- "gogz"
- "skod"
Procedure

Training

Test: Categorization
Before training: Pre-test
Individual Performance

Pre-test

Post-test

...color indicates response: left/right
Group Results

Post-test Performance

Aligned Condition

Control Condition
Ceiling effect?

Pre-test Response Pattern

Post-test Performance
Group Results (revisited)

Post-test Performance

Pre-test Response Patterns

<table>
<thead>
<tr>
<th>Aligned</th>
<th>Control</th>
<th>Chance</th>
<th>F2</th>
<th>Uniform</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
If I did this again...

3 things to try:

- Increase spread of F1 – to make it more compelling for categorization
- Change categorization task – possibly a same/different task?
- Target F1

Thanks for listening!