The development of code-blending in deaf and hearing Kodas

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Thanks to

• Deaf families
• Students/transcribers:

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Bimodal language use

Definition:
• Utterance in which words and signs are combined.
• Phonology of word or sign does not have to be accurate but target must be identifiable.
• Proposition defines the type.
• Use of voice is not a criterion.

Four different types of combination possible
## Bimodal utterance types

<table>
<thead>
<tr>
<th>DUTCH</th>
<th>BLEND: Dutch-based</th>
<th>BLEND: Full</th>
<th>BLEND: Mixed</th>
<th>BLEND: NGT-based</th>
<th>NGT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUTCH</td>
<td>Dutch with signs</td>
<td>Same content in words and signs</td>
<td>Different content in words and signs</td>
<td>NGT with words</td>
<td>NGT No words</td>
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<td></td>
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<td></td>
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</table>
Examples of blends 1

1. dutchbased: proposition expressed fully in words with some signs

   MAN

   man    house  build

   the man is building a house

2. full – proposition expressed fully in both signs and words

   MAN    HOUSE    BUILD

   man    house    build

   the man is building a house
Examples of blends 2

3. **ngtbased** – proposition expressed fully in signs with some words

```
MAN  HOUSE  BUILD
build
```
the man is building a house

4. **mixed** – proposition expressed differently in signs and words

```
INDEXrabbit  RABBIT
sweet
```
That’s a sweet rabbit
Research questions

How bimodal is the language production of deaf and hearing children in interaction with their deaf mother and which types are used?

• What is the effect of hearing status of the child?
• What is the effect of input?
• What is the effect of age?
• What is the effect of language development in Dutch and NGT?
Method

• 3 deaf mothers + 3 deaf children (DC): Carla, Laura and Mark
• 3 deaf mothers + 3 hearing children (HC) Jonas, Alex and Sander
• age of children: 3;0 and 6;0
• NGT and Dutch used in spontaneous play situation
Short clips at 6;0

Mother and Laura   Mother and Sander
Results: amount of bimodality and effect hearing status

- Deaf 3;0
- Deaf 6;0
- Hearing 3;0
- Hearing 6;0

- Code-blending %
- NGT %
- Dutch %
Results: amount of bimodality and effect hearing status

DC increase, HC same but more NGT
Results: amount of bimodality and effect input

Mothers DC
- 3;0

Mothers DC
- 6;0

Mothers HC
- 3;0

Mothers HC
- 6;0

- Code-blending %
- NGT %
- Dutch %
Results: amount of bimodality and effect input

with DC is same, with HC more NGT
Input does not determine child output
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Results: type bimodality DC and DM

- 3;0 DC
- 6;0 DC
- 3;0 Mothers DC
- 6;0 Mothers DC

- Dutch Base L
- NGT Base L
- Mix
- Full
Results: type bimodality HC and DM

3;0 HC

3;0 Mothers HC

6;0 HC

6;0 Mothers HC
Effect of hearing status and input

**OUTPUT**
DC: NGT dominant in blends
HC: variety in blends, increase in NGT based

**INPUT**
With DC: NGT dominant in blends
With HC: variety in blends

Not clear who is influencing whom
Summary of developmental effects

• Children change
  – DC increase in bimodality and more NGT based in blends
  – HC bimodality the same, more NGT; increase in NGT based in blends

• Input change
  – with DC input stays the same
  – with HC more NGT and more NGT based in blends
Accounting for developmental changes

• Input does not seem to drive changes in children’s output

• Effect of language skills in Dutch and NGT?
## MLU of children at 6;0

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<tr>
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<th>MLU of signs in blends</th>
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<tbody>
<tr>
<td>Carla</td>
<td>1.71</td>
<td>2.43</td>
</tr>
<tr>
<td>Laura</td>
<td>2.00</td>
<td>2.83</td>
</tr>
<tr>
<td>Mark</td>
<td>1.30</td>
<td>3.60</td>
</tr>
<tr>
<td>Jonas</td>
<td>4.00</td>
<td>2.40</td>
</tr>
<tr>
<td>Alex</td>
<td>1.58</td>
<td>1.88</td>
</tr>
<tr>
<td>Sander</td>
<td>3.81</td>
<td>2.75</td>
</tr>
</tbody>
</table>
Conclusions

- MLU of DC in Dutch in blends is related to individual amounts of code-blending in general.
- MLU of HC in NGT in blends is related to individual amounts of NGT.
- Language ability appears to be the strongest factor in explaining developmental change in code-blending in the children.
- Mothers’ input is fine-tuned to this ability.
References


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