Opting out as a measure of meta-linguistic awareness in children

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Meta-linguistic awareness

Widely investigated in SLA (Schmidt 1990; Ellis 2003; Krashen 1981)
Primary language acquisition is often assumed to occur implicitly (Wijnen 2013)
Phenomenal (P) vs. access (A) awareness (Cleeremans 2008; 2011)
Typically measured using direct subjective methods (Timmermans & Cleeremans 2015)

Measuring meta-linguistic awareness

Verbal reports and confidence judgement task are inadequate
For young children, indirect objective methods might be necessary
Opt out paradigm (Hampton 2001), used to measure awareness in animals, seems suitable

Research Question

Can the opt out paradigm be adapted to a linguistic context as an indirect objective measure of meta-linguistic awareness?

Participants

26 Dutch speaking adults (18 females, \(M = 22.9\)); 48 Dutch speaking kindergartners (24 females, \(M = 5.5\))

Phase 1: learning a rule

Picture matching task
Sometimes Dutch nouns are replaced by a pseudoword
Replacement follows a correspondence rule:
A pseudoword receives the same determiner as the Dutch noun

Dutch has definite determiners (de or het) and indefinite determiners (een)

Training
Picture matching task with rewards
2 points for a correct answer
0 points for an incorrect answer

Test
Auditorily presented sentence with a blank screen
In het gras staat een ...
‘A ... is standing in the grass.’

Results

<table>
<thead>
<tr>
<th></th>
<th>Adults</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Definite</td>
<td>8.23</td>
<td>2.37</td>
</tr>
<tr>
<td>Indefinite</td>
<td>6.27</td>
<td>1.43</td>
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Adults detected the correspondence rule (\(OR = 2.20, 95\% CI = 1.21 \ldots 4.32, p = 0.019\))
Correspondence rule would be too difficult for the children

Phase 2: awareness of a rule

Training
Picture matching task with rewards
2 points for a correct answer
0 points for an incorrect answer

Test
Auditorily presented sentence with a blank screen
In het gras staat een...
‘A ... is standing in the grass.’
1 point for opting out
2 or 0 points for opting in
Move to the next item
Hear a full sentence and choose a picture

Results

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<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Definite</td>
<td>2.04</td>
<td>2.71</td>
</tr>
<tr>
<td>Indefinite</td>
<td>5.19</td>
<td>4.62</td>
</tr>
</tbody>
</table>

Adults were aware of the rule (\(OR = 11.07, 95\% CI = 1.86 \ldots 65.92, z = 2.696, p = 0.007\))
Every child opted out and opted in

Conclusion

The opt out paradigm seems suitable to tap into meta-linguistic awareness in children
Our next step is to combine the opt out phase with a miniature language learning phase, allowing children to adapt their strategic behavior to a learnable rule

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