Does intensive L2 learning modify between-language interference in bilingual comprehension? Evidence from a longitudinal study with interlingual homographs

Joanna Durlik, Jakub Szewczyk, Zofia Wodniecka
Institute of Psychology, Jagiellonian University in Krakow

Background
Look at the pies! or interference
How do bilinguals resolve the interference?

L2 exposure & learning

Interlingual homographs in bilingual comprehension

Participants
- High school students, unbalanced Polish (L1)-English (L2) bilinguals
  - mean age = 16.3 y.o.
  - Experimental group: intensive exposure to L2, content lessons in L2 & L1
  - Control group: content lessons only in L1; L2 taught only as a foreign language

<table>
<thead>
<tr>
<th>Experimental group</th>
<th>Control group</th>
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<tbody>
<tr>
<td>N</td>
<td>34</td>
</tr>
<tr>
<td>Number of L2 lessons per week</td>
<td>15</td>
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</tbody>
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Task design & procedure
Task: Decide if presented pairs of English words are semantically related
based on Macizo, Bajo, Martin, 2010

<table>
<thead>
<tr>
<th>Condition</th>
<th>First pair</th>
<th>Second pair</th>
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<tbody>
<tr>
<td>Homograph</td>
<td>pies - cat</td>
<td>dog - collar</td>
</tr>
<tr>
<td>NoHomograph</td>
<td>pies - cat</td>
<td>neck - collar</td>
</tr>
</tbody>
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Indices
• First pair: INTERFERENCE INDEX
  RT: (Homograph) minus (NoHomograph)

• Second pair: INHIBITION INDEX
  RT: (Translation after Homograph) minus RT (Translation after NoHomograph)

Predictions
• Interference index > 0
• Inhibition index > 0
• For both groups both indices should decrease with each testing time due to increasing L2 proficiency
• Both indices should be smaller for the experimental group due to greater L2 exposure

Results
Mean RTs in three stages
Interference & inhibition effects in both groups in three testing times
Interference & inhibition effects and L2 proficiency in three testing times

Conclusions
1. The semantic verification task provides:
   - evidence for nonselective activation of L1 & L2 IHs meanings
   - lack of clear evidence for inhibition of relevant IHs meanings
   - lack of expected interaction between conditions in the 2nd and 1st pair suggests wider scope of inhibition than expected:
     of a whole semantic category rather that of a single concept

2. Time and group effects:
   - No differences between groups: possibly due to too small difference in L2 exposure between groups
   - No differences between stages: possibly due to too low L2 exposure and too small increase of L2 proficiency in both groups

3. Cross-language interference as a robust phenomenon not easily modified by increasing L2 proficiency or L2 exposure.

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Correspondence: joanna.durlik@uj.edu.pl