Bilingualism and SLI

LING419_20NOV08
The intersection of bilingualism and SLI

• Theoretical issues:
  – Accounts of SLI need to circumscribe the clinical population only
  – Particular implications for processing vs. representational theories because “dual input, one mind”

• Applied issues:
  – Differential diagnosis of SLI in multilingual settings
  – Advice to parents about educational choices for children with SLI (i.e., French immersion)
Different Kinds of Bilingual Children
Do you want some juice?

Regarde comme ce chien est tellement cute!

Go get your fireman truck

Bois ton jus

juice truck
Bilingualism Versus Second Language Acquisition

- Developing bilingualism in childhood
  - simultaneous = 2 L1s before age 3-4
  - sequential = L2 after age 3-4
- Early bilinguals vs. late bilinguals
  - childhood vs. adulthood

✓ Most children in the world grow up experiencing two languages either simultaneously or sequentially.
Majority/Minority Status

• **A majority ethnolinguistic community** is one where the language is widely used and valued, and thus, has high social status and is associated with socioeconomic power and typically has institutional support from governments.

✓ Speakers of mainstream English in most parts of the United States and Canada form a majority ethnolinguistic community.

✓ French-speakers in Quebec are a majority ethnolinguistic community. In Alberta they are a minority community.
Majority/Minority Status

- A minority ethnolinguistic community is one where the language is less widely spoken and valued and, thus, has lower social status, may be associated with less or no socioeconomic power, and may receive less or no institutional support.

- Examples of minority ethnolinguistic communities would be speakers of Cantonese (Chinese) in Canada and the United States, Spanish-speaking children in some parts of the U.S., or Turkish-speaking children in Germany.

- French speakers in Alberta are a very high status minority; a minority/majority. Continuum
## Different Kinds of Bilingual Children

<table>
<thead>
<tr>
<th>Simultaneous Bilinguals</th>
<th>Majority Group</th>
<th>Minority Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>- both lang = majority</td>
<td>- one/both lang = minority</td>
<td></td>
</tr>
<tr>
<td>- bilingual community</td>
<td>- family bilingualism</td>
<td></td>
</tr>
<tr>
<td>Ex: Fr-Eng bilingual in Montreal or Ottawa</td>
<td>Ex: Arabic-Eng; newcomer families</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Language Learners (sequential bilinguals)</th>
<th>Majority Group</th>
<th>Minority Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>- L1 = majority; L2 = minority</td>
<td>- L1 primary lang at home</td>
<td></td>
</tr>
<tr>
<td>- L2 = lang of school</td>
<td>- L1 = minority; L2 = majority, lang of school</td>
<td></td>
</tr>
<tr>
<td>Ex: Fr immersion for Eng L1</td>
<td>Ex: Newcomer families; ESL/ELL/EAL</td>
<td></td>
</tr>
</tbody>
</table>
Why Are L2/Bilingual and Minority/Majority Important?

- L2/bilingual = time on task with the languages; context of learning
- Minority/majority = input and use opportunities; ultimate attainment/outcomes
L2 Compared With SLI
Overlap between L2 and SLI

• L2 children (5-8 yrs) make similar errors in their L2 as monolingual age peers with SLI

  – All have problems with auxiliary verbs and direct object clitics
  – None have problems with definite article or prepositions
  – L2 = SLI in % correct use

• French SLI profile fits L2 French at this age
Paradis & Colleagues

• Paradis (2005); Paradis & Crago (2005); Paradis, Rice, Crago & Marquis (2008)

• **Purpose**: Document oral language development of Eng L2 (ESL) children over time and compare to SLI
  – Tense morphology measures same as used by Rice and colleagues
Paradis and Colleagues: Participants

<table>
<thead>
<tr>
<th>Age</th>
<th>9MOE</th>
<th>15MOE</th>
<th>21MOE</th>
<th>29MOE</th>
<th>34MOE</th>
</tr>
</thead>
<tbody>
<tr>
<td>5;6</td>
<td>6;0</td>
<td>6;4</td>
<td>6;10</td>
<td>7;3</td>
<td></td>
</tr>
</tbody>
</table>

- MOE = months of exposure to English
- 24 English L2 children from new Canadian families
- L1s: Farsi, Spanish, Romanian, Mandarin, Cantonese, Korean, Ukrainian, Arabic, Japanese
- Pre-kindergarten to grade 3 over course of the study; limited or no English L2 instruction in schools
Paradis and Colleagues: Procedures

- Spontaneous speech samples
- Receptive vocabulary size (PPVT)
- Elicitation probes (TEGI: Rice & Wexler, 2001)
  - Picture description (3SG & Past tense)
  - Question elicitation with stuffed animals and a puppet (BE and DO)
- Grammaticality judgment task (TEGI: Rice & Wexler, 2001)
  - Children asked to judge if speech of “moon guys” is “good” or “not so good”
- Narrative task (ENNI: Schneider, Hayward & Dubé, 2006)
Morphemes in Grammaticality Judgment Tasks

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>OI/Drop TNS</td>
<td>ungrammatical omission of a tense morpheme</td>
<td>tense</td>
<td>OI-BE: He Ø running away; He Ø behind the box</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OI-Lex: He want-Ø a drink</td>
</tr>
<tr>
<td>Bad AGR</td>
<td>ungrammatical subject-verb agreement</td>
<td>non-tense</td>
<td>He am way up here</td>
</tr>
<tr>
<td>Drop-ing</td>
<td>ungrammatical omission of [-ing]</td>
<td>non-tense</td>
<td>He is jump-Ø</td>
</tr>
</tbody>
</table>

NB: Grammatical targets also included in task
ELL/ESL = 9 MOE; TEGI = Test of Early Grammatical Impairment (Rice & Wexler, 2001)
ELL/ESL = 9 MOE; TEGI = Test of Early Grammatical Impairment (Rice & Wexler, 2001)
TC=tense composite (spontaneous speech); NTC=non-tense composite from spontaneous speech; EGC=Elicited Grammar Composite from the TEGI= Test of Early Grammatical Impairment (Rice & Wexler, 2001)
Grammaticality Judgements for Tense and Non-Tense Over Time

A-Prime

9MOE  15MOE  21MOE  29MOE  34MOE

OI/ DropTNS
BadAGR
MissING

TEGI = Test of Early Grammatical Impairment (Rice & Wexler, 2001)
Paradis & Colleagues: Results

• Gap in acquisition of BE vs. bound morphemes in production
  – Eng L2 children at 9 MOE = monolingual SLI with BE; < monolingual SLI for 3S-s and PAST-ed

• No Gap in acquisition of BE vs. bound morphemes in GJ task
  – Eng L2 = SLI

• Task effects in measuring bilinguals’ language
Paradis & Colleagues: Results

• Tense morphemes difficult to acquire over time
  
  but

• Tense < non-tense less pronounced
  – SLI = 3 years between plural [-s] and tense composite reaching 80-90% in production
  – Eng L2 = 8 months between plural [-s] and tense composite reaching 80-90% in production
  – SLI = gap between GJ for tense vs. non-tense over time
  – Eng L2 = very little difference in GJ scores for tense and non-tense over time
Theoretical Considerations

• L2 and SLI overlap in domain of tense: challenges for Disruption -within-Delay?
  – Maturational, domain-specific deficits - how can it affect L2?
• Unique L2 patterns, like BE vs, bound, and no gap between tense and non-tense, and task effects
  – L2 profile is not identical to SLI overall
Theoretical Considerations

- Fewer challenges for processing theory?

- “Weaker representations due to occasional incomplete processing of encountered morphemes are usually thought to be the functional equivalent of infrequent exposure to these morphemes” (Leonard, 1998, p. 252)

- So, both L2 and SLI have less exposure, and this leads to the same result

- But, the profile is not exactly the same…
Bilingual/L2 with SLI compared to TD Bilingual/L2
Do you want some juice?

Regarde comme ce chien est tellement cute!

Go get your fireman truck

Bois ton jus

SLI

Processing deficit? Representational deficit?
French-English bilinguals with SLI

- Simultaneous bilinguals - longer exposure than L2
- Two high status, majority languages
- Paradis, Crago, Genesee & Rice (2003): Compare Fr-Eng bilinguals with SLI to monolinguals with SLI in each language, and TD controls
# Participants

<table>
<thead>
<tr>
<th></th>
<th>ECA</th>
<th>ELAN</th>
<th>ESLI</th>
<th>BSLI (E)</th>
<th>BSLI (F)</th>
<th>FSLI</th>
<th>FLAN</th>
<th>FCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>7;1</td>
<td>5;2</td>
<td>7;1</td>
<td>6;11</td>
<td>7;7</td>
<td>3;3</td>
<td>7;4</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>21</td>
<td>19</td>
<td>21</td>
<td>8</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>MLU</td>
<td>N/A</td>
<td>4.19</td>
<td>4.31</td>
<td>3.80</td>
<td>3.61</td>
<td>3.98</td>
<td>3.67</td>
<td>5.70</td>
</tr>
</tbody>
</table>
## Participants: Age Matching

<table>
<thead>
<tr>
<th></th>
<th>ECA</th>
<th>ELAN</th>
<th>ESLI</th>
<th>BSLI (E)</th>
<th>BSLI (F)</th>
<th>FSLI</th>
<th>FLAN</th>
<th>FCA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>7;1</td>
<td>5;2</td>
<td>7;1</td>
<td>6;11</td>
<td></td>
<td>7;7</td>
<td>3;3</td>
<td>7;4</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>21</td>
<td>19</td>
<td>21</td>
<td>8</td>
<td></td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>MLU</strong></td>
<td>N/A</td>
<td>4.19</td>
<td>4.31</td>
<td>3.80</td>
<td>3.61</td>
<td>3.98</td>
<td>3.67</td>
<td>5.70</td>
</tr>
</tbody>
</table>
## Participants: Language Matching

<table>
<thead>
<tr>
<th></th>
<th>ECA</th>
<th>ELAN</th>
<th>ESLI</th>
<th>BSLI (E)</th>
<th>BSLI (F)</th>
<th>FSLI</th>
<th>FLAN</th>
<th>FCA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>7;1</td>
<td>5;2</td>
<td>7;1</td>
<td>6;11</td>
<td>N/A</td>
<td>7;7</td>
<td>3;3</td>
<td>7;4</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>21</td>
<td>19</td>
<td>21</td>
<td>8</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>MLU</strong></td>
<td>N/A</td>
<td>4.19</td>
<td>4.31</td>
<td>3.80</td>
<td>3.61</td>
<td>3.98</td>
<td>3.67</td>
<td>5.70</td>
</tr>
</tbody>
</table>
Procedures

• Transcribed and coded spontaneous language samples
• Target morphemes:
  • English tense: 3S[-s], past [-ed], past-irreg, BE (cop) & (aux)
  • French tense: past-aux, fut-aux, v-stem/pres, copula
  • English non-tense: prog [-ing], PL [-s], prep [in/on]
  • French non-tense: prep [à/de], det (articles, possessives)
• Analyses: composite means of percent correct in obligatory context for tense and non-tense morphemes
Percent Correct English Tense Morphemes

NB: Bars = Ranges
Percent Correct English Non-tense Morphemes

CA
LAN
SLI
BSLI
Percent Correct French Tense Morphemes

![Graph showing percent correct French tense morphemes for different groups. The x-axis represents groups CA, LAN, SLI, BSLI, and the y-axis represents percentages from 50 to 100. The graph indicates varying levels of correct morphemes for each group.](image-url)
# Comparison of Homophonous Morphemes

<table>
<thead>
<tr>
<th></th>
<th>3SG [-s]</th>
<th>PL [-s]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESLI-MONO</td>
<td>86.5%</td>
<td>96.6%</td>
</tr>
<tr>
<td>ESLI-BIL</td>
<td>72.7%</td>
<td>92.5%</td>
</tr>
</tbody>
</table>
Contrast with Orgassa & Weerman (2008)

- Sequentials, not simultaneous Turkish-Dutch bilinguals
- Turkish = minority, low status language
- Lack of integration of Turkish community in mainstream Dutch society
- “Cumulative effect” of bilingualism and SLI could be due to external factors:
  - Not enough time to have learned Dutch
  - Not a positive, additive environment for full bilingualism
Theoretical Considerations

• Results from French-English bilinguals challenge for processing theories like generalized slowing hypothesis
  – How could bilinguals with SLI catch up to monolinguals with SLI by age 7 yrs?

• More compatible with representational theories like Disruption-within-Delay
  – Growth of finiteness under internal control/less vulnerable to dual input