Bridging the English-ASL Reading Gap: Student Miscue Analyses Over Two Years

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Rationale for the study

• Most D/HH students have hearing parents
  ▫ Many parents do not use sign/ASL fluently or consistently in the home.

• Literacy delays
  ▫ Without a fluent primary language, English literacy is an enormous instructional challenge.
  ▫ Most D/HH students never achieve beyond 4th grade

• Students with additional learning needs
  ▫ GRI: 39.3% of students have additional conditions
    • Mental retardation: 8.7%
    • Other health impairments: 5.2%
Study Focus

- Case study of a student who fits above criteria
  - Parents do not use sign language at home
  - IQ of 81
  - Health issues: feeding tube and ongoing nursing care at home is diminishing

- Study procedure
  - Reading miscue analysis to investigate patterns of growth
    - 3rd and 5th grades
Methodology

• Participant
  ▫ African American student
    • Struggles with academic work and classroom communication skills
    • Is far below her two student peers, one of whom has Deaf parents and the other whose parents sign regularly.

• School District
  ▫ Uses an ASL philosophy for communication and instruction
  ▫ Teachers
    • None has had CAEBER training
    • One had Fairview training
Procedure

• Consent
  ▫ Mother gave consent for videotaping & follow-up

• Procedure
  ▫ Participant chose books or indicated interests
    • Had not read titles before
    • Interests includes make-believe stories, Justin Bieber, her family, and bubble gum.

• Analysis
  ▫ Review video until all miscues accurately recorded
  ▫ Examine for patterns
  ▫ Compare with retelling (comprehension) score
  ▫ Examine patterns across two years
Theoretical Foundations

- K. and Y. Goodman
  - All readers have mismatches between text and oral reading
    - Miscues are “windows” into the sociopsycholinguistic processes used for meaning making
    - Miscues evaluated for semantic and syntactic appropriateness
      - Good readers make fewer disruptions of meaning
  - Identify each reader’s pattern of meaning making

- Weaver
  - Miscues can lead to re-evaluations of individuals previously thought to be nonproficient
Miscue results:

- Third Grade: Words = 278  Grade = 1.8
  - Reading
  - Retelling
  - Miscue Text
  - Scored Results

- Fifth Grade: Words = 267 (630 total)  Grade = 5.5 (4.9 total)
  - Reading  Book
  - Retelling
  - Miscue Text
  - Scored Results
## Miscue results

### 3<sup>rd</sup> grade Summary

- **94.8% accuracy**
  - **FS**: giant, bar, huge, behind; as = OK
  - **Omissions**: a, of, and, was
  - **Substitutions**: could/THINK, stepped/TAKE-TURN
  - **Additions**: started home/START GO HOME
  - **ASL**: cool/NEAT, lake/AREA, said/TALK+, too/ALSO, right/CORRECT, turned/TAKE-TURN, slipped/SPLASH, saved/SAVE-MONEY
  - **Unusual**: don’t/FORGOT + spe = “don’t”
  - **Self-corrections**: Every week the/EACH/EVERY-WEEK TO, gave/HAVE, sent/?, back/BACK HOME

### 5<sup>th</sup> grade Summary

- **86% accuracy**
  - **FS**: names, budgets, experimental, laboratory, beakers, pots, company, centuries, Greeks, sap, mastic, introduced, substance, exciting, gestured, toward, kettles, containing, experiment, perhaps, possible
  - **Omissions**: the, were, was, to, into, could, of, been, for, and, cure, ho-hum, gum, that, blowers, on, it, said, this, still, [possessive]
  - **Substitutions**: Philadelphia/PITT, factory/FANTASY, space/SPEED, settlers/STEEL, sticky/STICK, world/WORLD, around/ALL, CHEW(ers), SOME-THING
  - **Additions**: there
  - **ASL**: balance/SCALE, secret/TOPIC
  - **Unusual**: lab (decoded this)
  - **Self-corrections**: had/MY/had
Comprehension results

- **Retelling:** 3rd grade
  - Main characters
  - Main problem and solution
  - Retelling described the boy looking up at the giant, that he has big/tall—correct decoding
Comprehension results

• Retelling: 5th grade
  ▫ Main character and name
    • Confusion—man died
  ▫ Setting—1920s
  ▫ Main event and details
    • Making gum, giving it to children, pink gum, blowing bubbles
## Graphophonic Analysis

<table>
<thead>
<tr>
<th>3rd grade</th>
<th>5th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every week: 1. EACH 2. SC</td>
<td>Philadelphia: PITTSBURGH</td>
</tr>
<tr>
<td>Have: 1. GAVE 2. SC</td>
<td>Factory: FANTASY</td>
</tr>
<tr>
<td>Could: THINK</td>
<td>Space: SPEED</td>
</tr>
<tr>
<td>Himself: 1. MYSELF 2. SC</td>
<td>Settlers: 1. FS 2. STEEL</td>
</tr>
<tr>
<td></td>
<td>Sticky: STICK</td>
</tr>
<tr>
<td></td>
<td>World: WORD</td>
</tr>
<tr>
<td></td>
<td>Stomachache = STOMACH</td>
</tr>
</tbody>
</table>

- Beginning = 1
- Middle = 0
- End = 0
- SC = 3

- Beginning = 0
- Middle = 6
- End = 1.5
- SC = 1
**Semantic Analysis**

### 3rd grade

- **Additions**
  - Started home: START GO HOME

- **ASL Choice**
  - Cool (temp): COOL (neat)
  - Looking: SEARCH (OK)
  - Said: TALK+
  - Don’t: FINISH (sp = “don’t”)
  - Sang a song: SING++ (OK)
  - Too long: ALSO LONG
  - Turned (and ran): TAKE-TURN
  - Right (behind him): CORRECT
  - Stepped: TAKE-TURN
  - Slipped: SPLASH (0.5)
  - Saved (himself): SAVE-MONEY

### 5th grade

- **ASL Choice**
  - Owned: HAVE (OK)
  - Balance ($): SCALE
  - Could be going on: B-E HAPPEN (OK)
  - The big secret: BIG TOPIC (0.5)
  - Already been: FINISH (OK)
  - Ancient: BEFORE OR LONG-AGO
  - Could be: WILL (OK)
  - I was doing it: I DO-DO (OK)
Syntactic Analysis

<table>
<thead>
<tr>
<th>3rd grade</th>
<th>5th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sign Phrases</strong></td>
<td><strong>Additions</strong></td>
</tr>
<tr>
<td>▫ Cool, green forest: NEAT GREEN FOREST</td>
<td>▫ Was a factory: THERE WAS FANTASY</td>
</tr>
<tr>
<td>▫ Lake: AREA (missing identifier)</td>
<td>▫ Sign Phrases</td>
</tr>
<tr>
<td>▫ Back to the lake: 1. BACK HOME 2. SC</td>
<td>▫ Moved into the office next to: MOVE OFFICE NEXT</td>
</tr>
<tr>
<td>▫ The little boy saved himself: THE LITTLE BOY SAVE-MONEY HIMSELF</td>
<td>▫ Bubble gum blowers: BLOW-BUBBLE</td>
</tr>
<tr>
<td><strong>Omissions</strong></td>
<td>▫ Added a bit of this and a bit of that: ADD BIT BIT</td>
</tr>
<tr>
<td>▫ A of, and, was: ASL</td>
<td><strong>Omissions</strong></td>
</tr>
<tr>
<td></td>
<td>▫ A, of, was, were, to, been, that</td>
</tr>
</tbody>
</table>
Summary of Analysis

3rd grade—278 words; 1.8 GL

- Graphophonic
  - 1 Beginning word error
    - Could/THINK, stepped
  - 3 SC
  - Errors are contextual
- Semantic
  - Very few are contextually inaccurate
- Syntactic
  - Used correct syntax even when inaccurate for this context
- 12 major, 5 minor miscues

5th grade—267 words, 5.5 GL

- Graphophonic
  - 6 Middle word errors
    - Confident error (STEEL)
    - Used meaningful context
  - 1 SC
- Semantic
  - Very few are contextually inaccurate
- Syntactic
  - More evidence of processing at phrase level
- 34 major, 7 minor miscues
Teacher interview comments

• After viewing 3rd grade reading
  ▫ Disappointed in use of PSE rather than ASL
    • She should have used more ASL
  ▫ Pleased at positive involvement with the story
    • Kept reading ahead to decode “giant”
    • Did not allow unknown words and FS to become barriers
Recent observations

- 5th grade changes
  - Fingerspelling
    - Decoded “lab” from FS of “laboratory”
    - FS many words but did not allow them to be a barrier
  - Use of ASL
    - Many more omissions of non-content and English tense words
    - Good use of context for ASL sign choices
    - More meaning-making (changes) at the phrase level
Teaching Strategies Used

• Consistent focus on meaning
  ▫ Fairview phrases
  ▫ Visualization
  ▫ Student interpretations and participation

• Conceptually accurate signing
  ▫ Fairview & identifying of English phrases
  ▫ English vs. ASL signing—sign choices based on meaning
Outcomes—2 years later @ 5th grade

- Student reading levels
  - Reading level growth of 1.8 to 3.8
  - Story selection at 5.5 GL @ 86%
- 2 grade levels of improvement in 2 years
  - Making typical progress
    - Barriers of IQ of 81 and no signing at home
  - She is potentially moving through the 4th grade barrier
- ASL utilization
  - Potential language-cognitive sleeper effects
  - Noticeably less sign-to-word reading
    - ASL classifiers: hat, dress, chewing
    - Reduced English-based mouth movements
Bilingual Research

- Bilingual readers evidenced developing grammatical sensitivities, found through their self-corrections (Goodman, Goodman, & Paulson, 2009).
- Skilled Latino/a readers used individual word translation strategically and only when needed; otherwise, cognitive load was excessive and a barrier to meaning-making (Jimenez et al., 1994a, 1994b).
  - Skilled readers are multi-strategic process such that individual word decoding, when needed, could be quickly reintegrated into the larger whole of the text.
- Older and more skilled Spanish bilingual students applied knowledge of Spanish and English to construct meaning from text (Prater (2009)
- Older and more experienced readers were more reflective and more sensitive to disconfirming cues, and more sensitive to grammatical structures and semantic patterns (Francis, 2004)
Miscue Analysis for Deaf Readers

• Miscues are close to an authentic and normal reading experience for readers as possible, with choice of material allowing flexibility in creating an optimal assessment across diverse learners (Goodman et al., (2009)).
  ▫ Miscue processes for readers with dialectical and bilingual differences (Goodman, 1994/2003; Goodman & Goodman, 2009; Goodman et al., 2009; Goodman et al., 2005).

• “It leads us to view as proficient many readers who otherwise would be perceived merely as nonproficient at word identification” (Weaver, 1998, p. 317).

• It is a practice that can reveal insights about D/HH reading processes, and greater depth of understanding for those who may be nonproficient readers by other measures.

• A better understanding of facilitative processes and factors will lead us to greater success in literacy achievement.
Conclusions

• D/HH students can make typical progress
  ▫ Additional disabilities need not be absolute
  ▫ May take 1-2 years for evidence of phrase-based meaning-making
    • Encourage student-focused interpretations and comparisons using phrase, sentence, & topic context
    • Use active student metacognitive involvement
    • Possible multi-year process of moving from word-level to phrase-level processing
Questions and comments?

- Meaning-focused reading
- Progress for those with other learning challenges

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References


