**Written Discourse Coherence in Children with Language Learning Disabilities**

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**Introduction**

- Coherence is defined as the conceptual organization of discourse and can be divided into two types: global and local (Glaser & Deser, 1992).
  - **Global coherence** refers to how each utterance (sentence) relates to the topic, and
  - **Local coherence** refers to how each utterance (sentence) relates to the previous sentence.
- Coherence is a promising measure of writing quality because coherence:
  a) is concerned with how discourse is organized;
  b) demonstrates good reliability (Koutsofas, et.al., 2009);
  c) has been linked to quality of writing (Crosley & McNamara, 2010);
  d) can be analyzed in a quick and efficient manner.
- There are a variety of ways for assessing coherence in both spoken and written language samples of elementary school children; however, most of these approaches score samples as a whole unit and do so with varying degrees of reliability (Hapko et. al., 2003; Barzilay & Lapata, 2007; Duran et. al., 2007; Goldman, 2008; Garcia & Fidalgo, 2008; Greig et. al., 2008).
- Children with language-learning disabilities (LLD) produce writing samples that are rated poorer in quality than their peers with typical development (TD) (Koutsofas & Gray, 2008; McFadden & Gillam, 1996). Unfortunately, obtaining acceptable inter-rater reliability on these measures is difficult (Koutsofas & Gray, 2008).
- The purpose of the present investigation is to identify differences on global and local coherence measures in written narrative and expository samples between children who are LLD and children who are TD.
- The central **hypothesis** is that children with LLD will demonstrate poorer global and local coherence than children with TD because coherence is a linguistic skill and children with LLD have poorer language skills.

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**Sample**

<table>
<thead>
<tr>
<th>N = 50</th>
<th>TD (n = 25)</th>
<th>LLD (n = 25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in Years*</td>
<td>10.32 (.57)</td>
<td>10.79 (.68)</td>
</tr>
<tr>
<td>Mother’s Ed.</td>
<td>14.12 (1.19)</td>
<td>14.08 (1.84)</td>
</tr>
<tr>
<td>Girls:Boys</td>
<td>16:9</td>
<td>10:15</td>
</tr>
<tr>
<td>4th-5th</td>
<td>16:9</td>
<td>7:18</td>
</tr>
</tbody>
</table>

**Clinical Evaluation of Language Fundamentals**

- Core Language Score: 106.60 (10.59) vs. 80.52 (16.32)
- Handwriting Screening
  - Accuracy-Speed: TD = 77.02 (19.25), LLD = 67.26 (17.46)
  - Legibility*: TD = 54.30 (8.12), LLD = 43.20 (14.43)
- Length of Story in T-Units
  - Narrative*: TD = 17.67 (15.57), LLD = 11.13 (7.33)
  - Expository*: TD = 12.16 (6.94), LLD = 9.86 (5.47)
- Six-Traits Writing Rubric – Quality Rating
  - Narrative*: TD = 25.20 (5.64), LLD = 15.88 (5.45)
  - Expository*: TD = 22.72 (5.39), LLD = 14.60 (4.89)

* p < .05

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**Procedures**

- The data are a subset of data from a larger study examining reading efficiency and written discourse in children with and without LLD.
- Writing samples were:
  1) segmented into minimal terminable units (T-Units; Hunt, 1970);
  2) scored using the six-trait writing rubric; and,
  3) coded for global and local coherence using the following four point scales:

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**Results**

- This study assessed the utility of a 4-point global and local coherence rating scale on written narrative and expository samples produced by children with and without language-learning disabilities.
- There were no group or genre differences for global coherence ratings suggesting that across groups and genre, almost all T-units were related to the topic.
- In general, writing does not lend itself to off-topic sentences as demonstrated by this finding.
- The use of a prompt may have resulted in higher global coherence scores.
- Local coherence proved more variable between groups and by genre:
  - The LLD group proved significantly higher local coherence ratings across both genres suggesting that higher local coherence ratings may not be associated with language or quality of writing.
  - Expository writing resulted in significantly higher local coherence ratings than narrative suggesting that for expository writing T-units were more related to one another than for narrative.
  - The LLD group's higher local coherence ratings may have been the result of a redundancy of lexical ties, where writing is not expanded, thus resulting in higher local coherence scores.
  - Inter-rater reliability between scorers was high suggesting that this measure could be easily replicated by other researchers and clinicians.
  - Future studies should of coherence should examine:
    - Within group differences on spoken and written language across genres
    - Genre differences and various elicitation manners

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**Discussion**

- Many thanks to the students, families, schools, classrooms, and teachers who participated in this study
- Special thanks to the Undergraduate and Graduate Research Assistants from Arizona State University and Seton Hall University who worked on this project
- We wish to thank the School of Health and Medical Sciences and the Department of Speech-Language Pathology @ Seton Hall University for financial support of this project.
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References


