Introduction

- Writing is an important academic target for school age children, allowing for the uninterrupted expression of language which in turn supports simple and complex idea development.

- Writing is assessed annually for progress school age children, allowing for the uninterrupted expression of language which in turn supports simple and complex idea development.

- Hayes and Flower (1980) defined writing as a recursive process that includes planning, translating, and revising. Developmental research suggests:
  - Intermediate grade children may not yet attend to all three components of the writing process (Berincker & Swanson, 1994; Berincker et al., 1996).
  - Planning and Revision age effects are observed among 4th, 5th, and 6th graders (Whitaker et al., 1994).
  - Survey research found that writing instruction is conducted in a linear fashion, over extended periods of time (Gilbert & Graham, 2010).

- The purpose of the present investigation is to describe developmental differences between 4th (~9 years) and 6th (~11 years) grade students on a three day writing process protocol designed for this study that reflects the Hayes and Flower (1980) writing process model. The goals are:
  - To identify between group (4th and 6th Grades) and within group (drafts and final copies) differences.
  - To describe errors by grade between rough drafts and final copies.

Sample

<table>
<thead>
<tr>
<th>N = 59</th>
<th>4th Grade (n = 29)</th>
<th>6th Grade (n = 30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in Years*</td>
<td>9.62 (.49)</td>
<td>11.57 (.63)</td>
</tr>
<tr>
<td>Mother’s Years of Education</td>
<td>14.69 (1.75)</td>
<td>13.93 (1.61)</td>
</tr>
<tr>
<td>Girls : Boys</td>
<td>14 : 15</td>
<td>11 : 19</td>
</tr>
</tbody>
</table>

Procedures

- This data is a subset of data from a larger study evaluating the writing process in intermediate grade students.
- Writing samples were collected across three days, one for: 1) planning; 2) translating; and 3) revising.
- Language transcription techniques (Puranik et al., 2008; Wagner et al., 2001) were used to analyze writing samples.

Results

**Planning Measures**

<table>
<thead>
<tr>
<th># of Ideas, M (SD)</th>
<th>Complexity, M (SD) *</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th Grade</td>
<td>6th Grade</td>
</tr>
<tr>
<td>11.14 (5.13)</td>
<td>10.37 (5.55)</td>
</tr>
<tr>
<td>4.21 (.86)</td>
<td>3.67 (.84)</td>
</tr>
</tbody>
</table>

Wilks’ Λ = .90, F(2, 58) = 2.97, p = .06

| Rough Draft: Wilks’ Λ = .70, F(6, 52) = 3.71, p < .01, partial η² = .30 |
| Final Copy: Wilks’ Λ = .71, F(6, 52) = 3.55, p < .01, partial η² = .29 |

Discussion

- Children in this study appeared to be strong writers. Developmental differences between grades were observed for sentence complexity, and grammatical and mechanical accuracy.

  - 6th graders outperformed 4th graders on sentence complexity measures suggesting that the older group was able to produce more complex syntax and maintain this advantage from drafts (Cohen’s d = .85) to final copies (Cohen’s d = .73).
  - Significant differences were observed on grammatical (Cohen’s d = .63) and mechanical (Cohen’s d = .67) accuracy measures on final copies, with older students outperforming younger.

  - Across grades children produced significantly more sentences from rough drafts to final copies (Cohen’s d = .15) suggesting longer and perhaps more detailed and revised final copies.
  - Patterns of grammatical and spelling errors suggest similar errors made across grades; however, patterns between rough drafts and final copies suggest that children in this study made sophisticated edits, especially in terms of grammar.

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- Be sure to visit: http://blogs.shu.edu/awalt/
References


Whitaker, D., Berninger, V.W., Johnston, J., & Swanson, H.L. (1994). Intraindividual differences in levels of language in intermediate grade writers: Implications for the translating process. Learning and Individual Differences, 6(1) 107-130.