The Effects of an Early Writing Intervention with Preschool Dual Language Learners

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University of California Santa Barbara
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Context of Study

• Young DLLs
• Quality learning experiences
• School readiness
Banking on Writing

- Reading over writing (Vernon & Ferreiro 1999)
- Proponents of early writing: children gain understanding through inventing spelling and analyzing own speech, thus gaining knowledge of reading (Aram & Biron, 2004)
- Intentional exposure to writing provides foundation for literacy (Catts & Kamhi, 2005)
- Children naturally interested in figuring out the written world
Print Knowledge

• Print knowledge has been found to be moderately correlated with decoding and reading comprehension (NELP, 2005).

• Highly correlated to word development in reading (Mason, 1980) and in writing (Levin, Share, & Shatil, 1996; Purcell-Gates, 1996).

• A longitudinal study found that children’s print knowledge at the end of kindergarten served as a powerful predictor of their reading performance in the first grade (Tunmer, Nesdale, & Wright, 1987).

• Children who do not have basic literacy skills, such as print knowledge, may not be ready to benefit from higher-level instruction in elementary grades (Lonigan, 2003).
Early writing in which children intentionally begin to experiment and explore the world of print to convey meaning has not been sufficiently explored in preschool dual language classrooms (International Reading Association, 2005)
Study Questions

Did the intervention have any effect on early **writing** and **print** knowledge outcomes in **English** and **Spanish** at the end of the first year?

Were any effects maintained at the beginning of kindergarten?
Participants

• Sample: 76 (year 1), 43 (year 2)
• 39 girls and 37 boys
• Age M 4.7 SD .26
• All Spanish-speaking dual language learners
## Descriptive Statistics

### Year 1

<table>
<thead>
<tr>
<th>Intervention Group</th>
<th>Vocabulary level</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control</strong></td>
<td>lower</td>
<td>3.61</td>
<td>2.35</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>higher</td>
<td>4.68</td>
<td>2.57</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>4.11</td>
<td>2.47</td>
<td>30</td>
</tr>
<tr>
<td><strong>Treatment</strong></td>
<td>lower</td>
<td>5.20</td>
<td>2.25</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>higher</td>
<td>8.05</td>
<td>2.58</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>6.93</td>
<td>2.80</td>
<td>28</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>lower</td>
<td>4.26</td>
<td>2.40</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>higher</td>
<td>6.53</td>
<td>3.06</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5.47</td>
<td>2.97</td>
<td>58</td>
</tr>
</tbody>
</table>
### Descriptive Statistics

**Dependent Variable:** concepts of print test kindergarten english

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Treatment</td>
<td>5.67</td>
<td>1.826</td>
<td>12</td>
</tr>
<tr>
<td>Low Treatment</td>
<td>5.88</td>
<td>2.167</td>
<td>8</td>
</tr>
<tr>
<td>High Control</td>
<td>4.44</td>
<td>2.506</td>
<td>9</td>
</tr>
<tr>
<td>Low Control</td>
<td>3.85</td>
<td>2.115</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>4.88</td>
<td>2.233</td>
<td>42</td>
</tr>
</tbody>
</table>
Group Assignment

Paired on the basis of their raw vocabulary scores (English and Spanish) and randomly assigned to experimental and control conditions
<table>
<thead>
<tr>
<th></th>
<th>Treatment Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Vocabulary</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Lower Vocabulary</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>
There were no statistically significant differences between the children who left the study and those who remained in kindergarten.
Methodology

• 10 weeks, 2 visits per week
• Instructional Model
  • Story Reading
  • 30 minute activity
  • Treatment: Literacy activities + Print and writing experiences
• Control: Hands-on activities related to story
Language of Instruction

• First visit in Spanish (new topics/concepts introduced)
• Follow-up visit in English (new vocabulary in English)
<table>
<thead>
<tr>
<th>Construct</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary</td>
<td>PPVT-R (Dunn &amp; Dunn, 1997), TVIP-R (Dunn, Padilla, Lugo, &amp; Dunn, 1986)</td>
</tr>
<tr>
<td>Print Knowledge</td>
<td>Clay (1995)</td>
</tr>
<tr>
<td></td>
<td>Escamilla, Andrade, Basurto, &amp; Ruiz (1996)</td>
</tr>
<tr>
<td>Early Writing</td>
<td>WRITE Task (Matera &amp; Gerber, 2007)</td>
</tr>
<tr>
<td>Home Literacy Behaviors</td>
<td>La Patera Questionnaire</td>
</tr>
<tr>
<td>Classroom Environment</td>
<td>ELLCO (EDC, 2002)</td>
</tr>
</tbody>
</table>
Sample Curriculum

• Concept of directionality
• Print carries a message
• Letters are different than numbers
• Letters in words can be identified
• Adding a new ending to to a storybook
• Making mailboxes, post office signs, movie sequence with a script
Instructional Sequence
Findings- Year 1

- Analyses of variance demonstrated that the treatment group had statistically significant gains compared to the control group in English and Spanish writing.
Findings- Year 1 cont.

• There was a statistically significant relationship between children’s initial vocabulary skills and treatment on English writing.
Findings - Year 2

- Analyses of variance demonstrated that the treatment group had statistically significant gains compared to the control group in English and Spanish writing after two months of kindergarten instruction.
Writing- English

Estimated Marginal Means of MEASURE_1

- Time 1: Estimated Marginal Means
  - Treatment group:
  - Control group:

- Time 2: Estimated Marginal Means
  - Treatment group:
  - Control group:

Legend:
- recode_group
- control
- treatment
Writing - Spanish

Estimated Marginal Means of MEASURE_1

- Estimated Marginal Means
- Time
- Recode group
- Control
- Treatment
Print Knowledge- Year 1 & 2

• Analyses of variance indicated that all children in the study had statistically significant gains in print knowledge in English, although the difference between means for groups in kindergarten did favor the treatment group (p = .08)
Print Knowledge (English)

Estimated Marginal Means of MEASURE_1

- recode_group
  - control
  - treatment

<table>
<thead>
<tr>
<th>Time</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEASURE_1</td>
<td>3</td>
<td>5</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Estimated Marginal Means
Missing Data

• Because of large attrition in the second year, an exploratory analysis was performed to examine what the results would have looked like after 2 months of kindergarten instruction if children had remained in the study.

• The results showed a statistically significant effect for Group \([F (3, 72) = 3.56, p = .018]\).
Summary of Findings

• Children in the treatment group performed significantly better than children in the control group in measures of English and Spanish writing in preschool and after 2 months of kindergarten instruction.

• Children’s vocabulary level predicted English writing skills.
Implications for Practice

• Instructional practices in Head Start classrooms with children who are dual language learners should include ample possibilities to explore the world of print, writing and the rules of the written word (in English and Spanish).
Study Citations

• Matera, C. (under review). Longitudinal outcomes for preschool dual language learners Receiving writing instruction.
¡Muchas Gracias!

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