Using Choice as a Writing Intervention to Investigate Gender Differences

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USING CHOICE AS A WRITING INTERVENTION TO INVESTIGATE GENDER DIFFERENCES

Nicole Nohelty
Carlos J. Panahon, Ph.D., Faculty Mentor
Presentation Overview

- Why We Looked into Writing Gender Differences
- 3 Previous Studies on the Topic
- Current Study and Results
- Implications
Currently there are 10-15% of all elementary aged students in the United States struggling to succeed in the areas of mathematics, reading, and writing (Eckert, Lovett, Rosenthal, Jiao, Ricci, & Truckenmiller, 2006).

Writing has been specifically identified as a neglected skill (National Commission on Writing, 2013).
Why Gender Differences

- Females are currently outperforming males in the area of writing (Berninger & Fuller, 1992)

- Differences in spelling, handwriting, accuracy, and rate of reading may lead to gender difference in writing (Berninger, Nielsen, Abbott, Wijsman, & Raskind, 2006)
## Rates of Improvement in Writing

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentile</th>
<th>Rate of Improvement Fall-Spring*</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd</td>
<td>55th</td>
<td>0.32-0.39</td>
</tr>
<tr>
<td>4th</td>
<td>55th</td>
<td>0.30-0.38</td>
</tr>
<tr>
<td>5th</td>
<td>55th</td>
<td>0.26-0.37</td>
</tr>
</tbody>
</table>

*Information was taken from AIMSweb ROI Growth Norms Table for Total Written Words
Methodology

• 5 Week Study – 10 Sessions
• Elementary School Classroom
  • Either Choice or No Choice writing sessions
• Alternating Treatment Design
• All Participants performed better during the choice condition
  • Total Words Written
EBD Class in General Education - 3rd grade Classwide

Total Words Written vs Sessions

- Choice
- No Choice
EBD Class in General Education - 4th Grade Classwide

Total Words Written

Sessions

Choice

No Choice
EBD Inclusion in General Education - Class 1

Total Words Written

Sessions

MINNESOTA STATE UNIVERSITY MANKATO
# Rates of Improvement

<table>
<thead>
<tr>
<th>Condition</th>
<th>Private School</th>
<th>Public School 3&lt;sup&gt;rd&lt;/sup&gt; grade</th>
<th>Public School 4&lt;sup&gt;th&lt;/sup&gt; grade</th>
<th>Inclusion Class #1</th>
<th>Inclusion Class #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice Sessions</td>
<td>3.83</td>
<td>2.56</td>
<td>2.00</td>
<td>1.50</td>
<td>2.42</td>
</tr>
<tr>
<td>No Choice Sessions</td>
<td>1.27</td>
<td>-0.24</td>
<td>-0.20</td>
<td>-0.96</td>
<td>-1.02</td>
</tr>
<tr>
<td>Average ROIs:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.26-0.39</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Current Study

- Examine the cumulative archival data of the previous three studies
- Look into gender differences by evaluating ROIs during choice and no choice session
- 25 Females
- 27 Males
Hypotheses

1. The Choice writing intervention will improve both male and female students’ total words written on the writing tasks compared to their academic productivity during no choice sessions.

2. The performance of female students in the area of writing will improve more than their male counterparts.
## Rates of Improvement

<table>
<thead>
<tr>
<th></th>
<th>Females</th>
<th>Males</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice</td>
<td>2.45</td>
<td>3.16</td>
</tr>
<tr>
<td>No Choice</td>
<td>-0.62</td>
<td>-0.41</td>
</tr>
</tbody>
</table>
Results - Choice

- A two-tailed, independent samples t-test indicates that male students have higher rates of improvement (M = 3.16, SD = 1.43), compared to female student’s rates of improvement (M = 2.45, SD = 0.97) during choice sessions. This difference was statistically significant, $t(50) = -2.059$, $p = .045$. 
Results – No Choice

- A two-tailed, independent samples t-test indicates that male students have lower rates of improvement (M = -0.41, SD = 3.33) compared to female student’s rates of improvement (M = -0.62, SD = 1.73), during the no choice sessions. This difference was not statistically significant, t(50) = -0.291, p = .772. Specifically, there was no significant difference in the rate of improvement between males and females during no choice sessions.
Weekly Total Words Written Counts

- F - Choice
- M - Choice
- F - No Choice
- M - No Choice
Implications

- When given the opportunity to choose, the rates of improvement are higher than expected
- Males are catching up to female counterparts
- There is a decreasing trend in the No Choice rates of improvement
  - Students like being able to choose their story starters
  - They are practicing poor skills and being reminded of how bad they are at writing
Future Research

- Currently we are running this study in a general education classroom
- Once males and females start at the same point who increases more?
- What is causing the decreasing trend in the No Choice condition?
Acknowledgements

- Dr. Carlos Panahon, Ph. D.
  - Faculty Mentor
- Samantha Steinman
  - Graduate Student Mentor
- Undergraduate Research Center
Questions?