A Comparison of Fluency Rates for American Indian, Latino, and Caucasian Students

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Overview

- Anticipation Guide
- Background
- Question
- Method
- Participants (Include what type of services)
- Analysis
- Results
- Discussion
- Future Research
Anticipation Guide

1) Students who are Latino and Caucasian perform similarly on reading fluency tasks.

2) Students who are American Indian and Latino perform similarly on reading fluency tasks.

3) Students who are American Indian, Latino and Caucasian perform similarly across grades K - 3.
Some research indicates that growth of ELs in ORF is similar to growth of non-ELs

- Graves, Plasoncia—Peinado, Dene & Johnson, 2005 (multiple languages)
- Wiley & Deon, 2005 (Hmong)
- Stage, Sheppard, Davidson, & Browning, 2000—70% American Indian, 18% Hispanic
- Baker & Good, 1994; 1995 (Hispanic)

However, Baker, Gersten, Haager, Dingle, & Goldenberg (in press) found that “Other Primary Language Group” and English-only students score similar on ORF, but that Spanish speakers score lower.
Research Question

What are the differences of fluency rates for American Indian, Latino, and Caucasian students in Reading First?
Method

Fluency Rates

- DIBELS

  Year 2 (2004-2005)
  - Letter Naming Fluency
    - Kindergarten (Fall, Winter, Spring)
  - Nonsense Word Fluency
    - First Grade (Fall, Winter, Spring)
  - Oral Reading Fluency
    - Second Grade (Fall, Winter, Spring)
    - Third Grade (Fall, Winter, Spring)
ASSESSMENTS

- **DIBELS (Kindergarten)**
  - Letter Naming Fluency (LNF)
  - The ability to produce letter names

*Here are some letters. Tell me the names of as many letters as you can…*

g   N   E   Y   R   I   V   d
h   z

N   d   x   S   C   n   j   H   s   P
DIBELS (First Grade)
– Nonsense Word Fluency (NWF)
  ▪ The ability to decode pseudowords with short vowels

...When I say ‘Begin’ read the words the best you can. Point to each letter and tell me the sound or read the whole word...

lin mus uk dov ov ____/13
pok bif dep os wav ____/14
DIBELS (Second & Third Grade)
– Oral Reading Fluency (ORF)

- The ability to read a passage with speed and accuracy in 1 minute

Please read this out loud. If you get stuck, I will tell you the word so you can keep reading…

I am so happy! I just found out I can be on the soccer team. We have our first practice on…
## Demographics

<table>
<thead>
<tr>
<th></th>
<th>American Indian</th>
<th>Latino</th>
<th>Caucasian</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td></td>
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<td>Male 50%</td>
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<tr>
<td></td>
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<td>31%</td>
<td>43%</td>
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<td>Disabilities 23%</td>
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<tr>
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<td>11%</td>
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</table>
Analysis

- 3 x 3 ANOVAs with repeated measures on the second factor
  - Race (American Indian, Caucasian, Latino)
  - Time (Fall, Winter, Spring)
  - Race x Time
  - Quadratic contrasts
<table>
<thead>
<tr>
<th></th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
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<tbody>
<tr>
<td>American Indian</td>
<td>8.91 (13.44)</td>
<td>27.94 (18.01)</td>
<td>40.75 (15.98)</td>
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<tr>
<td>Caucasian</td>
<td>11.22 (13.61)</td>
<td>28.40 (17.07)</td>
<td>42.12 (17.59)</td>
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<tr>
<td>Latino</td>
<td>3.45 (7.74)</td>
<td>19.61 (17.05)</td>
<td>34.34 (18.15)</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>M diff</td>
<td>p</td>
</tr>
<tr>
<td>---------------------------</td>
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</tr>
<tr>
<td>Main effect for Race</td>
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<tr>
<td>Tukey AI-C</td>
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<tr>
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<td>&lt;.0001</td>
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<tr>
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<tr>
<td>Quadratic contrast R*T</td>
<td>1.88</td>
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Kindergarten LNF (cont)

- American Indian
- Latino
- Caucasian

Chart showing Kindergarten LNF from Fall to Spring with data points for American Indian, Latino, and Caucasian groups.
<table>
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<th>Spring</th>
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<td>29.89 (21.76)</td>
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<td>Caucasian</td>
<td>30.71 (25.16)</td>
<td>58.89 (28.85)</td>
<td>74.07 (32.40)</td>
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<tr>
<td>Latino</td>
<td>23.09 (18.34)</td>
<td>50.96 (25.81)</td>
<td>68.17 (30.27)</td>
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<td></td>
<td>F</td>
<td>M diff</td>
<td>p</td>
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<tr>
<td>--------------------------------</td>
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<td>&lt;.0001</td>
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<tr>
<td>Main effect for Time</td>
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<tr>
<td>Interaction effect</td>
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<tr>
<td>Quadratic contrast</td>
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<td>.616</td>
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</table>
Grade 1 NWF (cont)

American Indian
Latino
Caucasian
<table>
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<th></th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian</td>
<td>24.42 (25.15)</td>
<td>46.88 (33.05)</td>
<td>65.16 (35.02)</td>
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<tr>
<td>Caucasian</td>
<td>44.60 (31.77)</td>
<td>73.01 (40.37)</td>
<td>88.32 (39.05)</td>
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<tr>
<td>Latino</td>
<td>33.09 (26.44)</td>
<td>55.64 (35.49)</td>
<td>74.15 (37.22)</td>
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<tr>
<td></td>
<td>F</td>
<td>M diff</td>
<td>p</td>
</tr>
<tr>
<td>--------------------------</td>
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<tr>
<td>Main effect for Race</td>
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<tr>
<td>Tukey AI-C</td>
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<td>9.38</td>
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<td>&lt;.0001</td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>Winter</td>
<td>Spring</td>
</tr>
<tr>
<td>----------------</td>
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<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>American Indian</td>
<td>46.31 (30.29)</td>
<td>62.19 (31.56)</td>
<td>80.13 (36.36)</td>
</tr>
<tr>
<td>Caucasian</td>
<td>71.86 (40.10)</td>
<td>86.89 (41.40)</td>
<td>104.79 (38.71)</td>
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<tr>
<td>Latino</td>
<td>53.33 (36.08)</td>
<td>67.78 (39.04)</td>
<td>91.02 (39.66)</td>
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<td>Main effect for Race</td>
<td>F</td>
<td>M diff</td>
<td>p</td>
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<tr>
<td>Tukey AI-C</td>
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<td>.028</td>
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</table>
Results

- On the Kindergarten LNF, students who are American Indian or Caucasian scored similarly.
- Kindergarteners who are Latino scored significantly lower than students who are American Indian or Caucasian.
On the first-grade NWF, students who are American Indian or Caucasian scored similarly.

At the same time, first-graders who are Latino scored significantly lower than those who are Caucasian.
Results

- On the second-grade ORF, students who are Caucasian scored significantly higher than students who are American Indian or Latino.
- Second-graders who are Latino scored similarly to students who are American Indian.
- Caucasian students also made greater rates of growth than American Indian or Latino students.
Results

- On the third-grade ORF, students who are Caucasian scored significantly higher than students who are American Indian or Latino.
- Third-graders who are American Indian or Latino scored similarly.
- At the same time, students who are Latino made a greater rate of progress than students who are American Indian or Caucasian.
1) Students who are Latino and Caucasian perform similarly on reading fluency tasks.

2) Students who are American Indian and Latino perform similarly on reading fluency tasks.

3) Students who are American Indian, Latino and Caucasian perform similarly across grades K - 3.
Future Research

- Look longitudinally across years 1 through 5.
- Follow cohorts of students to determine additive effect of Reading First.
- Use growth curve modeling so curve characteristics can be predicted using demographic characteristics and instructional variables.
- Examine effect of ELL status for various racial/ethnic groups.
Questions