IMPACT OF DIRECT INSTRUCTION OF NONSENSE WORDS ON NONSENSE WORD FLUENCY CLS and WWR

By

Brendan Domingo

Submitted to
Educational Leadership Faculty
Northwest Missouri State University Missouri
Department of Educational Leadership
College of Education and Human Services
Maryville, MO 64468

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ABSTRACT

This study was completed to find if there is a significant improvement of nonsense word fluency using the instructional strategy of direct instruction on whole word nonsense word blending. Fluency is an important factor in reading comprehension. Through this investigation data supporting direct instruction in blending and not isolating consonant-vowel-consonant nonsense words was examined. After compiling and reviewing the findings of this study it can be concluded with 95% confidence that direct instruction of whole word nonsense blending provided no significant difference in scores on the DIBELS assessments. As a result of this research more time devoted to word attack and or segment and write or reading in context as a better prescription for students lacking in phonemic awareness and phonics.
INTRODUCTION

Background, Issues and Concerns

Over the course of the last twenty years a definitive push for early reading research has flooded the literary field. The importance of phonemic awareness and phonics instruction cannot be overlooked. While the importance of these two skills is validated by empirical evidence, there are still a number of practitioners who do not practice balanced literacy and neglect phonemic awareness and phonics. Many strides have been made to assess students and their preparedness for early reading. One test in particular is the DIBELS assessments. This assessment validates and takes data points on the five basic reading skills: phonemic awareness, phonics, accuracy and fluency, text comprehension, and vocabulary. Using the DIBELS assessment, one can evaluate the effectiveness of direct instruction in whole word recognition on Nonsense Word Fluency.

Practice under Investigation

The practice under investigation looks at the 2013-2014 DIBELS data. Through investigation and analysis, two groups were compared. Through this investigation one can determine whether direct instruction in blending and not isolating consonant-vowel-consonant nonsense words will yield a higher middle of the year score on their nonsense word fluency benchmarks.
School Policy to be Informed by Study

DIBELS assessments are given district-wide for all k-2 students. If a particular methodology shows marked improvement, then all teachers should be given the opportunity to extend the practice in their own classroom.

Conceptual Underpinning

Over the past twenty years, more and more research has been done on struggling readers. Recent research findings show that an approach to reading that emphasizes both comprehension and phonological awareness and code concepts leads to the greatest gains. Many struggling readers lack the foundational skills at the phonemic level. The lack fluency at the phoneme level impacts the rate of reading. Whole word reading fluency is a factor in comprehension. (Gillis, Lavalette, Bronstein, Lowe, Russa, Wilder, 2009) Students who are struggling may benefit from direct instruction and the implicit nature of direct instruction on phonemic awareness and phonics. Theoretically, students who receive direct instruction on the targeted skill- blending consonant-vowel-consonant words- should yield a higher score on the nonsense word fluency as compared to students who did not receive instruction.

Statement of the Problem

A lack of attention has been paid to an important piece of basic literacy development, phonemic awareness and phonics. This study will increase student achievement in literacy.
Purpose of the Study

Evaluate the effectiveness of direct instruction in whole word recognition on Nonsense Word Fluency.

Research Question(s)

Is there a significant difference in student achievement as measured by the DIBELS assessment between students receiving direct instruction of blending whole nonsense words compared to students not receiving direct instruction of blending whole nonsense words?

Null Hypothesis(es)

There is no significant difference in student achievement as measured by the DIBELS assessment between students receiving direct instruction of blending whole nonsense words compared to students not receiving direct instruction of blending whole nonsense words.

Anticipated Benefits of the Study

Nonsense Word Fluency has been identified as a strong predictor of future reading success. This study measures whether direct instruction of reading whole nonsense words without segmentation will yield a higher test result on our middle and end of the year benchmark assessments.
Definition of Terms

DIBELS: Dynamic Indicators of Basic Early Literacy Skills is a series of assessments designed by the university of Oregon that measures a student’s level of literacy knowledge based on developmentally appropriate skills.

NWF: Nonsense Word Fluency- Nonsense word fluency is an assessment given as a part of the dynamic indicators of basic literacy skills assessment. It measures the amount of correct letter sounds and whole words read in one minute.

ORF: Oral Reading Fluency- timed test that measures the amount of words read in one minute.

TRC: Text Reading Comprehension- Text Reading Comprehension is a measures of a students reading level based on a series of leveled books.

CLS: Correct Letter Sounds- the amount of correct letter sounds on the nonsense word fluency assessment

WWR: Whole Words Read- the amount of correct whole words blended on the nonsense word fluency assessment

BOY: Beginning of The Year- refers to scores taken fro the beginning of the year

MOY: Middle of The Year- refers to scored after second quarter

DI: Direct Instruction- general term for the explicit teaching of a skill-set using lectures or demonstrations of the material, rather than exploratory models such as inquiry-based learning.

Summary

In conclusion, nonsense Word Fluency has been identified as a strong predictor of future reading success. This study determines whether direct instruction of reading whole nonsense words
without segmentation will yield a higher test result on our middle and end of the year benchmark assessments.
Review of Literature

Pathways to reading is a phonemic awareness and phonics program implemented by a number of school districts. This study, done in 2010 by the Mid-continent Research for Education and Learning, studied the effect of Pathways to Reading training in the knowledge and skills necessary for teachers to teach beginning reading. The results indicated a positive relationship associating more advanced Pathways to Reading training with higher performance on a test of knowledge about teaching beginning reading. (Apthorp, 2010)

First grade is an important time in a young child’s life. First grade teachers are responsible for bridging the gap from the alphabetic principles of the world of sound towards real reading in context. In this research study, the efficacy of an intensive professional development focusing on phonemic awareness and phonics was conducted. The extensive amount of support and professional development, year-long PD featured weekly in-class support from highly knowledgeable mentors, in addition to an introductory 2-day summer institute and monthly workshops was linked to considerable gains based on a survey of teacher’s knowledge. (Gillis, Lavalette, Bronstein, Lowe, Russa, Wilder, 2009)

Over the course of the last twenty years a myriad of research has gone into identifying predictors of reading success. A student’s level of phonological skills has been identified as having a strong correlation to children’s word reading skills. This study broke phonological skills intro three groupings: phonemic awareness, rime awareness, and verbal short-term memory. Analyses of studies of unselected samples showed that phonemic awareness was the strongest correlate of individual differences in word reading ability and that this effect remained reliable after controlling for variations in both verbal short-term memory and rime awareness. The relationship between phonological skills and reading seems to be causal such that adequate
phonemic skills may be one prerequisite for learning to read effectively. These effects are essentially universal across the different alphabetic languages that have been studied. (Lervåg, Halaas, & Hulme, 2012).

This article compares two fluency-based assessments of letter-sound knowledge. Letter-Sound Fluency and Nonsense Word Fluency tests from DIBELS were used. The assessments were compared for predictive criterion-related validity at single points. This finding suggests that the scores from either LSF or NWF at a single point in time can be used as a valid predictor of beginning reading abilities in the spring of kindergarten. A second implication of the study showed that LSF was as predictive as NWF in the following grade. Grade one in the data sampled. These studies add further credence to the empirical evidence already studied. (Ritchey, 2008)

In this study, researchers contrast the validity of two early reading identifiers, word identification fluency and nonsense word fluency. To compare these two measures they contrasted the two measures against two tests, the Woodcock Word Identification and Woodcock Word Attack. This study supported the superiority of word identification fluency over nonsense word fluency. However, contrary to popular thinking, the scores on the Woodcock Word Attack were comparable. In terms of implications in the classroom because predictive validity with respect to end-of-year text-reading fluency and comprehension is stronger for word identification fluency than for nonsense word fluency word identification fluency provides a stronger basis for formulating screening decisions in October of first grade. (Fuchs, Fuchs, & Compton, 2004).
Research Methods

Research Design

In this experiment two groups of students with similar beginning of the year data on the DIBELS assessment were compared. The last years lowest 5 students based on DIBELS assessment were used as the control group. These students received no direct instruction and were given the same assessments. This year’s lowest 5 students based on DIBELS assessment served as the experimental group. The experimental group was provided 10 minutes of direct instruction prior to their reading group. The groups beginning of the year and middle of the year nonsense word fluency scores were analyzed. Nonsense word fluency is assessed as two separate data points. One set of data is labeled CLS. CLS represents the number of correct letter sounds read. The second set of data is labeled WWR or whole words read. The dependent variable in this study is the nonsense word fluency assessment. All students in this study will use the same nonsense word fluency assessment. The independent variable in this study is the 10 additional minutes of direct instruction on whole word nonsense word reading.

Study Group Description

Direct instruction of blending consonant-vowel-consonant nonsense words was provided to the experimental group. These students are the lowest 5 performing students based on the DIBELS beginning of the year assessments. Instruction was implemented for both the first and second quarters of the academic year. The ethnic make-up of these students includes 4 girls and 1 boy.
80% of the students are White and 20% African American. All five students qualify for free or reduced lunch.

Data Collection and Instrumentation

Data points from student’s nonsense word fluency were used. The two group’s beginning of the year scores and middle of the year scores were compared.

Statistical Analysis Methods

A paired t-test analysis was used to compare the data between the control group and the experimental group. I will compare CLS and WWR and compare the p-value to the confidence interval to determine whether there was a statistically significant difference between the experimental and control group.
Findings

The results for each paired t-test are shown in tables 1 and 2. The confidence level was established at 95%. In order for the outcome to be statistically significant the p-value has to be equal or lesser than .05. The null hypothesis cannot be rejected.

Table 1

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>Mean D</th>
<th>t-test</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental (n=5)</td>
<td>20.6</td>
<td>1.6</td>
<td>.15</td>
<td>8</td>
<td>.88</td>
</tr>
<tr>
<td>Control(n=5)</td>
<td>22.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Significant when p>.05

The null hypothesis states there is no significant difference in student achievement as measured by the DIBELS assessment between students receiving direct instruction of blending whole nonsense words compared to students not receiving direct instruction of blending whole nonsense words. The finding from this research cannot reject the null hypothesis with 95% confidence. A 2-tailed paired t-test was performed on their scores on the correct letter sounds on NWF assessment from the beginning of the year to the middle of the year. The mean score for the experimental group was a 20.6. The mean score for the control was 20.6. The standard deviation between the two means is 1.6. The t-value equals .15 and the degree of freedom is equal to 8. The p-value is .88. The p-value is greater than the established confidence level of .05; therefore the null hypothesis cannot be rejected.
### Table 2

**t-Test Analysis Results for WWR Nonsense Word Fluency**

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>Mean D</th>
<th>( t )-test</th>
<th>df</th>
<th>( p )-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental (n=5)</td>
<td>8.8</td>
<td>2.2</td>
<td>.64</td>
<td>8</td>
<td>.53</td>
</tr>
<tr>
<td>Control (n=5)</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Significant when \( p > .05 \)*

The null hypothesis states there is no significant difference in student achievement as measured by the DIBELS assessment between students receiving direct instruction of blending whole nonsense words compared to students not receiving direct instruction of blending whole nonsense words. The finding from this research cannot reject the null hypothesis with 95% confidence. A 2-tailed paired \( t \)-test was performed on their scores on the whole words read NWF assessment from the beginning of the year to the middle of the year. The mean score for the experimental group was 8.8. The mean score for the control was 11. The standard deviation between the two means is 2.2. The \( t \)-value equals .64 and the degree of freedom is equal to 8. The \( p \)-value is .53. The \( p \)-value is greater than the established confidence level of .05; therefore the null hypothesis cannot be rejected.
Conclusions and Recommendations

The control group had surpassed the experimental group in both the CLS and WWR data points. The direct instruction provided had no significant impact on students’ ability to blend nonsense words. Both groups were given the same time of instruction with the only variable being the 10 minutes of isolated time devoted to blending nonsense words. Each session involved times for paired and independent work. Students monitored their progress by making growth charts. Each student did make progress in the number of whole words read. No students regressed or showed no progress. Despite outscoring the experimental group, the control group actually started at a slight deficit at the beginning of the year. As a result of my research, the null hypothesis was not rejected. Direct instruction of nonsense words while valuable may not be the best investment of time. There was no statistical significance in this practice.

While research from the conceptual underpinning show that the skill of nonsense word fluency has an impact on reading fluency, the practice of direct instruction of blending nonsense words did not lead to higher scores. The explosive growth in scores came from the control group. One student made a 54-point improvement and another student made a 31-point improvement in the number of sounds read. The findings of this study suggest that much more than just practicing blending sounds goes into the process of reading.

As a result of this research one would find more time devoted to word attack and or segment and write or reading in context as a better prescription for students lacking in phonemic awareness and phonics. While nonsense word fluency can be a predictor for future reading success, direct instruction of whole word blending will not yield a higher percentage on the DIBELS assessment. Further research into the relationship between whole word nonsense word reading
and text reading comprehension levels could help provide more insight on the impact on reading in context.
References


Melby-Lervåg, M., Halaas, L., & Hulme, C. (2012). Phonological skills and their role in

