

**Sharing the Results**  
*A Format for Reporting Action Research*

Jason Maas  
Englewood Elementary School  
Sarasota County

**ABSTRACT**

An action research project assessing the effectiveness of phonological awareness curriculum with kindergarten students through DIBELS and CTOPP assessment measures. The results indicate the improvement of students' phonological awareness skills on most subset measures.

**CLASSROOM PROBLEM**

A number of kindergarten students at Englewood Elementary School (EES) enter school with poorly developed phonological skills, little to no understanding of the relationship between sounds and letters, and poor letter naming ability. Consequently, these students have difficulty acquiring the pre-reading skills that serve as valuable precursors in learning to read.

Goal: To improve the phonological awareness of eight kindergarten students, each of whom was targeted by their regular education teacher not necessarily for demonstrating poor phonological processing; but rather for lagging behind his or her peers in general reading skill development. The assumption of the researcher (based on numerous studies) was that phonological deficits were contributing to these students' struggles. To improve the situation, the eight students were given 15-20 minutes of group instruction, five days a week, using Marilyn Adams' text *Phonemic Awareness in Young Children: A Classroom Curriculum*. The EES first and second grade Reading Specialist, Mrs. Michaelene Brame, taught the small group classes.

**RESEARCH PROCESS**

1. Two students from each of the four kindergarten teachers' classes were identified in early January 2003 as good candidates for the proposed group, based on their relative low classroom standings in reading acquisition, and their difficulty making progress during the first semester on the regular curriculum.
2. The researcher, using DIBELS and CTOPP measures assessed seven of the eight students on January 21 and 22, 2003. \*One student was absent; therefore his CTOPP scores were obtained after the first four sessions of the group had been completed.
3. Data was collected for students after 16 weeks of PA instruction (January 21, 2003 – May 15, 2003). All post-test data was collected between May 15 and May 22, 2003

## DATA COLLECTION AND ANALYSIS

Accurate interpretation of any data without tests of significance is virtually impossible. Additionally, comparing growth on the two measures utilized in this study is difficult, as DIBELS yields raw scores and the CTOPP is based on standardized scores. Therefore the discussion at this point should be considered for what it is: very surface level interpretations. That being said, some useful information can be drawn from the existing “raw” data.

### DIBELS Summary and Interpretation

While scores varied from student to students, on average, growth (as noted by green font) was achieved in each of the three measures. The greatest average gain came on the Letter Naming Fluency (LNF) measure. The average gain on this measure was 8.7 points, with the greatest gain being 19 letters, and the smallest being 2 letters. The Initial Sounds Fluency (ISF) yielded the next highest average gain for the seven students, with each student averaging a gain of approximately six sounds and the largest gain being 14 sounds. One student did demonstrate a decline (as noted by red font) on one point on this measure, compared to pre-test scores. Finally the area that averaged the least overall growth in raw scores was the Phoneme Segmentation Fluency (PSF) area. The PSF area averaged an increase of approximately five phonemes per student. The largest gain on this measure was 23, which represented the largest gain of any student in any area; however two students demonstrated a decline in scores of three and five phonemes, respectively.

Individually, Student C made the largest overall DIBELS gains, with double-digit improvements in all three DIBELS areas. Student G also appeared to make nice progress, particularly in ISF and LNF. The remaining students appeared to make less overall progress, with one student, Student H, actually regressing or staying constant in two of the three areas.

<b>Kindergarten DIBELS – 5<sup>th</sup> Edition</b>									
	<b>ISF</b>		<b>Gain/ Diff.</b>	<b>PSF</b>		<b>Gain/ Diff.</b>	<b>LNF</b>		<b>Gain/ Diff.</b>
	<b>Pre</b>	<b>Post</b>		<b>Pre</b>	<b>Post</b>		<b>Pre</b>	<b>Post</b>	
<b>Student A</b>	2	12	+8	0	0	0	4	6	+2
<b>Student B*</b>	8	-	-	11	-	-	9	-	-
<b>Student C</b>	7	21	+14	0	23	+23	11	30	+19
<b>Student D</b>	17	21	+3	13	8	-5	0	13	+13
<b>Student E</b>	<1	4	+4	0	10	+10	2	5	+3
<b>Student F</b>	8	7	-1	4	12	+8	2	8	+6
<b>Student G**</b>	<1	12	+12	4	5	+1	3	19	+16
<b>Student H</b>	28	28	+0	5	2	-3	1	3	+2

\* This child transferred to another school prior to post-test data collection.

\*\* This child began receiving ESE services nine weeks into the intervention.

<b>CTOPP</b>									
	<b>PACS</b>		<b>Gain/ Diff</b>	<b>PMCS</b>		<b>Gain/ Diff</b>	<b>RNCS</b>		<b>Gain/ Diff</b>
	<b>Pre</b>	<b>Post</b>		<b>Pre</b>	<b>Post</b>		<b>Pre</b>	<b>Post</b>	
<b>Student A</b>	79	87	+8	73	88	+15	85	82	-3
<b>Student B**</b>	89	-	-	103	-	-	97	-	-
<b>Student C</b>	89	94	+5	85	85	+0	103	106	+3
<b>Student D*</b>	87	98	+11	76	73	-3	N/A*	82	N/A*
<b>Student E</b>	85	94	+9	103	103	+0	109	103	-6
<b>Student F</b>	94	100	+6	82	97	+15	91	91	+0
<b>Student G***</b>	91	94	+3	85	91	+6	97	100	+3
<b>Student H*</b>	87	87	+0	82	79	-3	N/A*	N/A*	N/A*

\* Due to an inability to complete the second subtest of the RNCS cluster, no data were available for this student.

\*\* This child transferred to another school prior to post-test data collection.

\*\*\* This child began receiving ESE services nine weeks into the intervention.

### **PROFESSIONAL REFLECTION**

Accurate interpretation of the data without tests of significance is virtually impossible. Additionally, comparing growth on the two measures utilized in this study is difficult, as DIBELS yields raw scores and the CTOPP is based on standardized scores. Therefore, the discussion at this point should be considered for what it is: very surface level interpretations. That being said, some useful information can be drawn from the existing “raw” data. First, a summary of the DIBELS results:

#### DIBELS Summary and Interpretation

While scores varied from student to student, on average, growth was achieved in each of the measures. The greatest average gain came on the Letter Naming Fluency (LNF) measure. The average gain on this measure was 8.7 points, with the greatest gain being 19 letters and the smallest gain being two letters. The Initial Sounds Fluency (ISF) yielded the next highest average gain for the seven students, with each student averaging a gain of approximately six sounds and the largest gain being 14 sounds. One student did demonstrate a decline of 1 point on this measure, compared to pre-test scores. Finally, the area that averaged the least overall growth in raw scores was the Phoneme Segmentation Fluency (PSF) area. The PSF area averaged an increase of approximately 5 phonemes per student. The largest gain on this measure was 23, which represented the largest gain of any student in any area; however two students demonstrated a decline in scores of three and five phonemes, respectively.

Individually, Student C made the largest overall DIBELS gains, with double-digit improvements in all three DIBELS areas. Student G also appeared to make nice progress, particularly in ISF and LNF. The remaining students appeared to make less overall

progress, with one student, Student H, actually regressing or staying constant in two of the three areas.

### CTOPP Summary and Interpretation

As would be expected, given the nature of the CTOPP and its standardized scores, overall gains appear to be less substantial on the CTOPP than on the DIBELS measures. However, statistical analysis could prove that the CTOPP gains, although smaller in raw data, actually hold more significance. Of the three CTOPP composite scores, the Phonological Awareness Composite Score (PACS) is of most interest to this researcher; due to the PACS direct relationship to the research question, the instructional treatment, and the DIBELS measures. The other two cluster areas, while certainly related to reading growth, appear to be less related to the instructional treatment, the desired effects, and the DIBELS assessment. Based on this line of thinking, it is pleasant to report that the greatest average gain among the seven students came on the PACS, with an average gain of six standardized points (or no change from pre-test). Of the seven students, three made gains that moved them from the “Low Average” range to the “Average” range; one moved from “Below the Average” range to the “Low Average” range; two stayed in the “Average” range, and one remained in the “Low Average” range. All classifications are based on information provided in the CTOPP manual.

Following the PACS, the area of next highest growth on the CTOPP was the Phonological Memory Composite Score (PMCS). Students averaged gaining around four standardized points in this area, with the largest gain being 15 points and the least being a regression of three standardized points. Individually, two students made gains that moved them from “Low Average” to “Average” range; one moved from “Well below Average” to “Low Average”; one who regressed stayed “Well below Average”, while the other dropped from “Low Average” to Well below Average.” One student, Student E, remained in the “Average” range on both administrations. Finally, the least amount of average growth on the CTOPP was obtained on the Rapid Naming Composite Score (RNCS). This is not expected, as the treatment was not designed to incorporate rapid naming. In fact, on average, the students’ performance actually declined by four points. The largest gain (by two students) was three points, while the remaining students either registered the same scores as on the pretest, or regressed three to six points.

It is interesting to note that in comparing individual growth between the two measures, different students were “gain leaders” on each measure. While Student C appeared to make the most gains on the DIBELS measures, he was not one of the “leaders” on the CTOPP. Student F and Student A appeared to have the greatest CTOPP gains, based on simply totaling their raw scores across the three CTOPP areas. Once again, however, without statistical analysis, these comparisons are purely speculative in nature.

Previous studies have found correlations between the CTOPP and DIBELS, and this study did show positive growth for most students on most measures. This consistent growth further supports previous studies that suggest CTOPP and DIBELS are measuring the same construct. However, based on the “raw” scores included in this report, it appears

as though the magnitude of growth for an individual student should not necessarily be assumed equal from one measure to the other.

Finally, regarding the treatment, initial signs appear to point to the efficacy of using Adam's text with small groups of kindergarten children for 15-20 minutes on a daily basis. Based on initial scores, gains were made by most students in every area. It remains to be seen whether these gains can be attributed to the Adam's curriculum more directly, or whether similar gains could have occurred by chance (without any treatment).