

Improved Reading Skills by Students in Todd County School District who used Fast ForWord® Products

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ABSTRACT

Purpose: This study investigated the effects of the Fast ForWord products on the reading skills of elementary school students who used the products in a sequential manner within the curriculum in a school setting. **Study Design:** The design of this study was a single school quasi-experimental study using nationally normed tests. **Participants:** Study participants were fourth graders of Native American descent who were attending Rosebud Elementary School in Rosebud, South Dakota. Students were from two comparable classrooms with one class using the Fast ForWord products and the other serving as the comparison group. **Materials & Implementation:** Following staff training on the Fast ForWord products, one classroom of students used the products during the 2004 – 2005 school year. Student reading ability was assessed with the Reading portion of the Scantron Performance Series and the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) at the beginning and end of the study, and between products. **Results:** On average, the Fast ForWord group's improvements were significantly greater than the comparison group's on both the Scantron Performance Series and DIBELS assessments. After product use, students who used the Fast ForWord products had higher oral reading fluency rates than the comparison group and greater accuracy on grade-appropriate material.

Keywords: South Dakota, public elementary school, rural district, Native American, quasi-experimental study, comparison group, Fast ForWord Language, Fast ForWord Language to Reading, Fast ForWord to Reading 1, Fast ForWord to Reading 2, Fast ForWord to Reading 3, Scantron Performance Series, Dynamic Indicators of Basic Early Literacy Skills (DIBELS).

INTRODUCTION

Numerous research studies have shown that cognitive and oral language skills are under-developed in struggling readers, limiting their academic progress (Lyon, 1996). University-based research studies reported the development of a computer software product that focused on learning and cognitive skills, and provided an optimal learning environment for building the memory, attention, processing and sequencing skills critical for reading success (Merzenich et al., 1996; Tallal et al., 1996). This prototype of the Fast ForWord Language software showed that an optimal learning environment and focus on early reading and cognitive skills resulted in dramatic improvements in the auditory processing and language skills of school children who had specific language impairments (Merzenich et al., 1996; Tallal et al., 1996) or were experiencing academic reading failure (Miller et al., 1999). The Todd County School District was interested in evaluating the effectiveness of an optimal learning environment with a focus on early reading and cognitive skills as a way for improving the reading achievement of students in a school setting. They were interested in the incremental benefit resulting from sequentially focusing on cognitive skills, auditory processing and oral language, followed by a focus on cognitive skills, auditory processing and early reading skills, followed

by a focus on cognitive skills and reading skills. In this study, commercially available computer-based products (Fast ForWord Language, Fast ForWord Language to Reading, Fast ForWord to Reading 1, Fast ForWord to Reading 2 and Fast ForWord to Reading 3) were used to evaluate the effectiveness of this approach for improving the reading achievement of elementary school students.

METHODS

Participants

The Todd County School District is a pre-Kindergarten to twelfth grade district serving approximately 2,000 students in twelve schools. The Todd County School District includes the Rosebud Sioux Reservation in south-central South Dakota. Rosebud Elementary, one of the Reservation's elementary schools, chose to use the Fast ForWord products during the 2004 – 2005 school year.

Rosebud Elementary has a student population of over 300 in pre-Kindergarten to fifth grade. Ninety-nine percent of the students are of Native American descent and 95% are eligible for free or reduced price lunches. Rosebud Elementary has a school-wide Title I program.

All 29 of the fourth graders who took part in this study were of Native American descent. Study participants came from two comparable classrooms; one class (14 students) used multiple Fast ForWord products sequentially and the other class (15 students) served as a comparison group. Students were evaluated with the Reading assessment portion of the Scantron Performance Series before and after the Fast ForWord group used each product. They were also assessed on the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) three times - roughly before the Fast ForWord group starting using the products, after completion of the Fast ForWord Language product, and after students had finished the Fast ForWord Language to Reading and one or more Reading series products. School personnel administered the assessments and reported scores for analysis.

Implementation

Educators were trained in current and established neuroscience findings on how phonemic awareness and the acoustic properties of speech impact rapid development of language and reading skills; the scientific background validating the efficacy of the products; methods for assessment of potential candidates for participation; the selection of appropriate measures for testing and evaluation; effective implementation techniques; approaches for using Progress Tracker reports to monitor student performance; and techniques for measuring the gains students have achieved after they have finished using Fast ForWord products.

Students in the Fast ForWord group used multiple products in a sequential manner, beginning with the Fast ForWord Language product, progressing to the Fast ForWord Language to Reading product and then participating on the appropriate Fast ForWord Reading series product. Students were placed on the appropriate Reading product based on their Scantron Standards Item Pool (SIP) score after completing the Fast ForWord Language to Reading product.

Materials

The Fast ForWord Language, Fast ForWord Language to Reading, Fast ForWord to Reading 1, Fast ForWord to Reading 2 and Fast ForWord to Reading 3 products are computer-based products that combine an optimal learning environment with a focus on early reading and cognitive skills. The products include five to seven exercises designed to build skills critical for reading and learning, such as auditory processing, memory, attention, and language comprehension. While there are differences between the products, all help develop certain critical skills as detailed in the following exercise descriptions.

Circus Sequence¹ and Trog Walkers²: Students hear a series of short, non-verbal tones. Each tone represents a different fragment of the frequency spectrum used in spoken language. Students are asked to differentiate between these tones. The exercises improve working memory, sound processing speed, and sequencing skills.

Old MacDonald's Flying Farm¹: Students hear a single syllable that is repeated several times, and then interrupted by a different syllable. Students must respond when they hear a change in the syllable. This exercise improves auditory processing, develops phoneme discrimination, and increases sustained and focused attention.

Phoneme Identification¹, Polar Cop², and Treasure in the Tomb²: Students hear a target phoneme, and then must identify the identical phoneme when it is presented later. These exercises improve auditory discrimination skills, increase sound processing speed, improve working memory, and help students identify a specific phoneme. *Polar Cop* also develops sound-letter correspondence skills. *Treasure in the Tomb* also develops grapheme recognition.

Phonic Match¹ and Bug Out²: Students choose a square on a grid and hear a sound or word. Each sound or word has a match somewhere within the grid. The goal is to find each square's match and clear the grid. The *Phonic Match* exercise develops auditory word recognition and phoneme discrimination, improves working memory, and increases sound processing speed. The *Bug Out!* exercise develops skill with sound-letter correspondences as well as working memory.

Phonic Words¹: Students see two pictures representing words that differ only by the initial or final consonant (e.g., "face" versus "vase", or "tack" versus "tag"). When students hear one of the words, they must click the picture that matches the word. This exercise increases sound processing speed, improves auditory recognition of phonemes and words, and helps students gain an understanding of word meaning.

Language Comprehension Builder¹: Students listen to a sentence that depicts action and complex relational themes. Students must match a picture representation with the sentence they just heard. This exercise develops oral language and listening comprehension,

¹ Exercise from the Fast ForWord Language product.

² Exercise from the Fast ForWord Language to Reading product.

improves understanding of syntax and morphology, and improves rate of auditory processing.

*Block Commander*¹: In Block Commander, a three-dimensional board is filled with familiar shapes that students select and manipulate. The students are asked to follow increasingly complex commands. This exercise increases listening comprehension, improves syntax, develops working memory, improves sound processing speed, and increases the ability to follow directions.

*Start-Up Stories*²: Students follow increasingly complex commands, match pictures to sentences, and answer multiple-choice questions about stories that are presented aurally.

*Bear Bags*³ and *Bear Bags: More Lunch*⁴: In these exercises, the participant is asked to help Mama Bear sort words (on pieces of toast) into phoneme-based categories (in lunch bags). They develop phonemic awareness and decoding of single-syllable words. Bear Bags also develops understanding of alphabetic principles (phonics) and Bear Bags: More Lunch also develops grapheme/phoneme associations.

*Magic Rabbit*³ and *Magic Bird*⁴: These exercises combine spelling and word-building practice with spelling patterns and word families commonly studied in 1st grade for *Magic Rabbit* and in 2nd grade for *Magic Bird*. The task is designed to emphasize the relationships between words by showing how one word can be turned into another by simply changing a single letter in any position. Using a click and drag interface, the participant must either select the missing letter to complete a partially spelled word or rearrange scrambled letter tiles to spell a word. These exercises develop spelling and sensitivity to letter-sound correspondences.

*Flying Fish*³ and *Fish Frenzy*⁴: In these exercises, a fishing pelican pronounces a word. Then a series of spoken and/or written words (on fish) fly across the pond and the participant clicks on the word when it matches the pronounced word. These exercises develop decoding skills, identification of sight words, and auditory memory.

*Quail Mail*³: In Quail Mail, a squirrel mail carrier pulls words out of a mailbag and the participant sorts them into different categories by clicking on the appropriate mailbox. This exercise encourages

flexibility during reading and automatic access to the various dimensions of vocabulary.

*Bedtime Beasties*³ and *Leaping Lizards*⁴: These exercises use the “cloze task,” in which a written and aurally presented sentence has a word missing. The participant must select the correct word to complete the sentence from four choices. Vocabulary skills and sentence comprehension are developed in these exercises.

*Buzz Fly*³ and *Dog Bone*⁴: In these exercises, the participant listens to a passage and answers comprehension questions relating to each passage. The questions are aurally presented and written, and the response choices are presented as pictures. Responses are presented as words or short phrases in *Dog Bone*. These exercises develop listening comprehension and working memory skills as measured by performance on multiple choice questions.

*Ant Antics*⁴: The participant will be presented with a picture and then asked to pick one of the four alternatives that best describes an aspect of that picture. This exercise improves vocabulary skills and sentence comprehension.

*Scrap Cat*⁵: In Scrap Cat, a series of words is visually presented and participants are asked to sort each word into the correct semantic, phonological, syntactic, or morphological category. For this exercise only, the participant can click a button to hear any word and see it defined. This exercise trains decoding, vocabulary, and word recognition skills.

*Canine Crew*⁵: In Canine Crew multiple words are presented together in a grid and participants are asked to find pairs that match on the basis of the current criterion. This criterion shifts from words that rhyme, to synonyms, to antonyms, to homophones, as the participant progresses. This exercise trains vocabulary, decoding, and automatic word recognition.

*Chicken Dog*⁵: Participants hear a word and see it partially spelled. They must complete the word by filling in the missing letter or letter group. Five options are always provided, including options that represent common visual and phonological errors. This exercise trains basic spelling patterns, letter-sound correspondences, and decoding.

*Twisted Pictures*⁵: Participants are presented with a variety of pictures and asked to select the sentence that

³ Exercise from the Fast ForWord to Reading 1 product.

⁴ Exercise from the Fast ForWord to Reading 2 product.

⁵ Exercise from the Fast ForWord to Reading 3 product.

most accurately describes each picture from among four alternatives. The descriptive sentences incorporate a wide range of syntactic structures. As the participant progresses, the sentences get longer and more difficult vocabulary is included. This exercise builds sentence comprehension by developing syntax, working memory, logical reasoning, and vocabulary.

*Book Monkeys*⁵: Participants read narrative and expository passages and answer comprehension questions about each passage. The multiple-choice questions demand that the participant use memory for literal detail, generation of inferences, or grasp of causal relationships to select the best answer from among four alternatives. This task develops paragraph comprehension, inferential and cause-and-effect reasoning, working memory, flexible reading, and vocabulary.

*Hog Hat Zone*⁵: In *Hog Hat Zone*, short passages from classic children's literature are presented, with occasional gaps in the text where words are missing. Participants are asked to fill in each gap with the correct word from among four alternatives. The missing words are morphologically important items such as pronouns, auxiliary verbs, and words with suffixes and prefixes. This task develops paragraph comprehension, complex morphology, flexible reading, and vocabulary.

Assessments

Students were evaluated with the Reading portion of the Scantron Performance Series and the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) throughout the study.

Scantron Performance Series: The Scantron Performance Series assessment is a standards-based, norm- and criterion-referenced computer-adaptive measurement that assesses and tracks student academic growth. It adapts to a student's instructional level by changing the difficulty of questions based on previous answers. It can also measure different academic assessments of individual state standards. The Reading portion of this assessment is appropriate for students in grades 2 – 12.

Results on the assessment can be reported in terms of several different formats, including scaled scores or a Standards Item Pool (SIP) score. SIP scores express the probability of a student correctly answering each item within the item pool for his/her enrolled grade level. For example, a student with a SIP score of 85 is expected to correctly answer 85% of the items aligned for the standards of his grade level.

Dynamic Indicators of Basic Early Literacy Skills (DIBELS): The DIBELS are standardized, individually administered measures of early literacy development designed to monitor the development of pre-reading and early reading skills. Skills assessed range from phonemic awareness to phonics to fluency. The appropriate skills for measuring with the DIBELS vary with the grade of the students. For students in the second grade and beyond, the appropriate measure is Oral Reading Fluency, which is a standardized test of

accuracy and fluency. The Retell Fluency measure, which was also used in this study, assesses comprehension and the ability to extract meaning from text. It is an optional measure that is used to provide a comprehension check of Oral Reading Fluency.

The Institute for the Development of Educational Achievement, in accordance with the Reading First legislation, recognizes the DIBELS as an appropriate assessment for measuring improvement in the reading skills of children in early elementary school.

Analysis

Scores were reported in terms of scaled scores, percentiles and a Standards Item Pool (SIP) score for the Performance Series. Scaled scores and SIP scores were analyzed using a repeated measures analysis of variance (ANOVA). For the DIBELS, scores were reported in terms of raw scores and analyzed using a repeated measures multivariate analysis of variance (MANOVA). All analyses used p-value of less than 0.05 as the criterion for identifying statistical significance.

RESULTS

Participation Level

Research conducted by Scientific Learning shows a relationship between product use and the benefits of the product. Product use is composed of content completed, days of use, and adherence to the chosen protocol (participation level). During the 2004 – 2005 school year, Rosebud Elementary chose to use the 50-Minute Fast ForWord Language and Fast ForWord Language to Reading Protocols and the 48-Minute Fast ForWord to Reading 1, Fast ForWord to Reading 2, and Fast ForWord to Reading 3 Protocols which call for students to use the products for 48 or 50 minutes a day, five days per week for eight to twelve weeks. All of the students used both the Fast ForWord Language and Fast ForWord Language to Reading products before participating on a Fast ForWord Reading product. Two students used two Reading products between the third and fourth assessments with one completing both the Fast ForWord to Reading 1 and Fast ForWord to Reading 2 products and one completing the Fast ForWord to Reading 2 and Fast ForWord to Reading 3 products. Detailed product use is shown in Table 1.

Figures 1 to 3 show the average daily progress through the Fast ForWord Language, Fast ForWord Language to Reading and Fast ForWord to Reading 2 product exercises for students who had scores available for analysis. The final day shown is determined by the maximum number of days that at least two-thirds of the students participated. For students who used the products fewer than the number of days shown, percent complete is maintained at the level achieved on their final day of product use.

	Number of Students	Days Participated	Number of Calendar Days	Percent Complete	Participation Level
Fast ForWord Language	11	35	60	65%	85%
Fast ForWord Language to Reading	11	47	97	64%	66%
Fast ForWord to Reading 1	4	na	na	na	na
Fast ForWord to Reading 2	8	20	38	70%	72%
Fast ForWord to Reading 3	1	na	na	na	na

Table 1. Usage data showing the number of students who used each Fast ForWord product along with group averages for the number of days participated, the number of days between start and finish, the percentage of product completed and the participation level. Due to the small number of students who used the Fast ForWord to Reading 1 and Fast ForWord to Reading 3 products, usage data for these products are not shown.

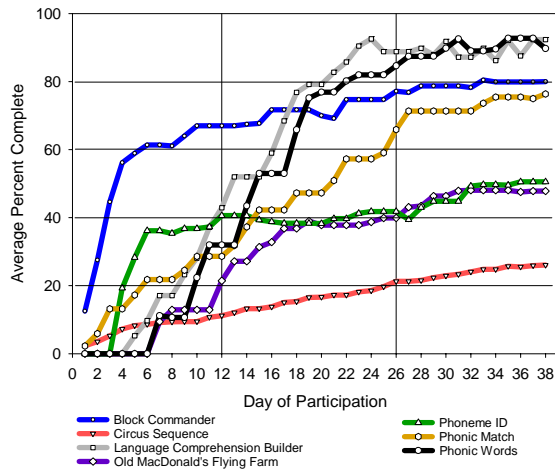


Figure 1. Average daily progress through the Fast ForWord Language product exercises. Results from 11 students are shown.

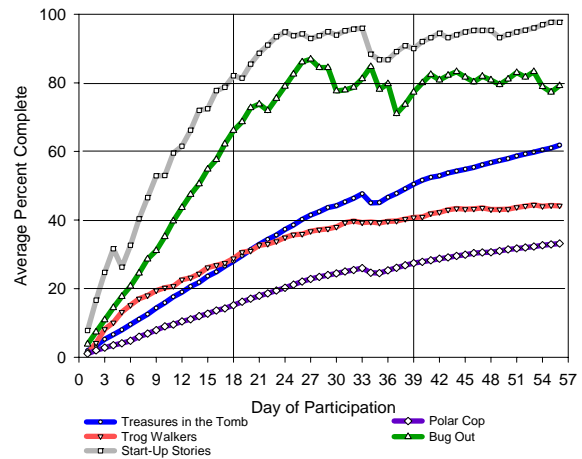


Figure 2. Average daily progress through the Fast ForWord Language to Reading product exercises. Results from 11 students are shown.

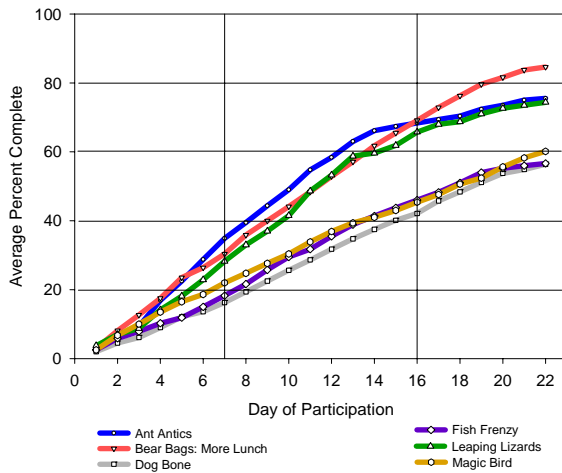


Figure 3. Average daily progress through the Fast ForWord to Reading 2 product exercises. Results from 8 students are shown.

Assessment Results

Scantron Performance Series: Reading: All students were assessed before the Fast ForWord group began participation. Students were assessed a second time after the Fast ForWord group had completed the Fast

ForWord Language product and assessed a third time after completion of the Fast ForWord Language to Reading product. The final assessment occurred after the Fast ForWord group had finished participating on their final product(s).

Students were assessed between each product. On occasion, the actual assessment occurred a few days before or after students switched products. The comparison group was assessed when the bulk of the students switched.

Of the 29 students in this study, Scantron Performance Series scores from 21 students (11 in the Fast ForWord group and 10 in the comparison) were available for analysis. Data were analyzed using an ANOVA with group as a 2-level factor and time as a 4-level factor.

Results indicate that, while there was no significant change in scores over time or between the groups, there was a significant difference in improvement between the two groups (Table 2).

Post-hoc analyses of variance for each group show that the Fast ForWord group made significant improvements over time ($F=11.28$, $df=3$ and 8 , $p=0.003$), while the control group did not ($F=3.43$, $df=3$ and 7 , $p=0.081$). Table 3 and Figure 4 show the SIP scores for the Fast ForWord and comparison groups at the four test times. The Fast ForWord group had a SIP score of 56 at the time of final testing which corresponds to a probability of correctly answering 56% of the items aligned for the fourth grade level. In contrast, the comparison group's SIP score did not substantially change.

No significant differences in improvement were found between Fast ForWord students who used the Fast ForWord to Reading 1 product versus the Fast ForWord to Reading 2 product after they completed the Fast ForWord Language and Fast ForWord Language to Reading products.

Analyses on the scaled scores revealed that while there were no significant changes in scores over time or between the groups, there was a significant difference in improvement between the two groups (Table 4). Post-hoc analyses of variance for each group indicate that the Fast ForWord group made significant improvements over time ($F=8.48$, $df=3$ and 8 , $p=0.007$), while the control group did not ($F=2.11$, $df=3$ and 7 , $p=0.187$). Table 5 and Figure 5 show the scaled scores for the Fast ForWord and comparison groups at the four test times. No significant differences in improvement were found between Fast ForWord students who used Reading 1 versus Reading 2 after they completed Language and Language to Reading.

	F	df	p-value
Time	2.58	3, 17	0.09
Group	0.72	1, 19	0.41
Time x Group	8.74	3, 17	0.00*

Table 2. Results of an ANOVA revealed significant differences in the improvements between the Fast ForWord group and the comparison group. * $p<0.05$.

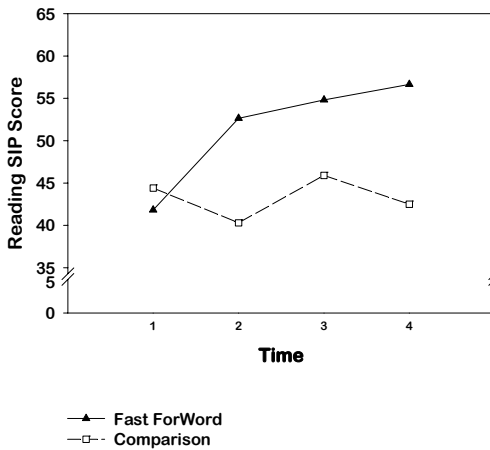


Figure 4. On average, the Fast ForWord group outperformed a comparison group in reading skills after product use. Results from 21 students are shown: 11 in the Fast ForWord group, 10 in the comparison group.

Time	Fast ForWord			Comparison		
	n	Mean	SE	n	Mean	SE
1	11	41.82	7.06	10	44.40	8.98
2	11	52.64	7.00	10	40.30	6.87
3	11	54.82	6.36	10	45.90	7.01
4	11	56.64	5.46	10	42.50	7.84

Table 3. Students who used the Fast ForWord products significantly outperformed a comparison group in measures of reading ability.

	F	df	p-value
Time	2.84	3,17	0.07
Group	0.82	3,17	0.38
Time x Group	5.19	1,19	0.01*

Table 4. Results of an ANOVA revealed significant differences in the improvements between the Fast ForWord group and the comparison group. * $p<0.05$.

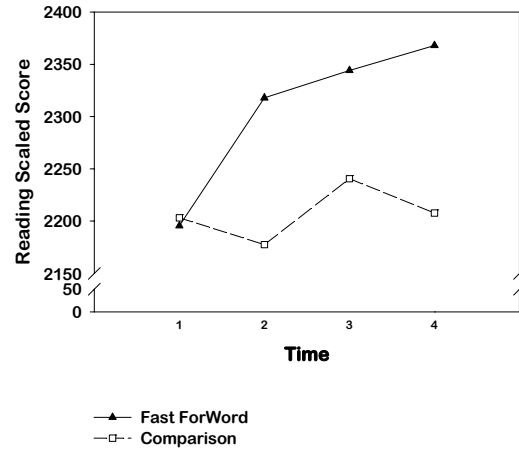


Figure 5. An analysis of scaled scores revealed that the Fast ForWord group's improvements were greater than the comparison group's after Fast ForWord participation. Results from 21 students are shown: 11 in the Fast ForWord group, 10 in the comparison group.

Time	Fast ForWord			Comparison		
	n	Mean	SE	n	Mean	SE
1	11	2195.64	82.93	10	2203.1	112.89
2	11	2317.91	74.73	10	2177.5	81.14
3	11	2344.18	64.49	10	2240.6	81.28
4	11	2369.09	54.49	10	2207.7	88.19

Table 5. Students who used the Fast ForWord products significantly outperformed a comparison group in measures of reading ability.

In treatment studies, there is sometimes a concern that attrition from the treatment group causes inflated estimates of the treatment effect. Two other analyses were performed to address this concern. Data from all 29 students were analyzed using mean value replacement for missing data (the average score across both groups is substituted for a student’s missing score). Analyses leaving out the third test (the test after the Fast ForWord group completed the Fast ForWord Language to Reading product) were run as well, because most of the missing data for the Fast ForWord group was from this test. Both analyses resulted in the same conclusions reported above.

Dynamic Indicators of Basic Early Literacy Skills (DIBELS): Students took the DIBELS assessment three times during the 2004 – 2005 school year—in September, December and May. These dates correspond roughly to the times before the Fast ForWord group starting using the products, after completion of the Fast ForWord Language product, and after students had finished the Fast ForWord Language to Reading and one or more Reading series products.

Scores of the Oral Reading Fluency and Retell Fluency measures were available for 21 students (12 in the Fast ForWord group and 9 in the comparison). Data were analyzed using a multivariate analysis of variance (MANOVA) with group as a 2-level factor, test as a 2-level factor, and time as a 4-level factor.

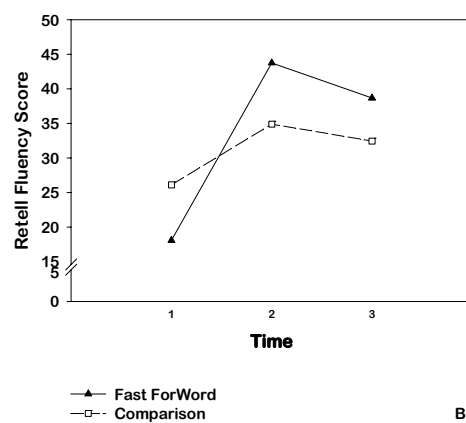
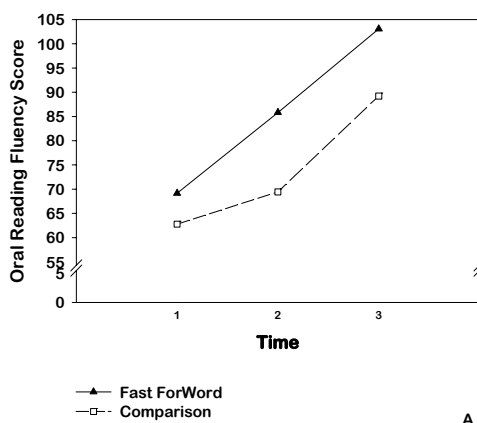
Results indicate that both groups improved their DIBELS scores over time, although improvements

were different on the two measures. As with the Scantron assessment results, there was a significant interaction effect between time and group. This means that the larger improvements over time for the Fast ForWord group are significantly different from the improvements in the control group. The test by time by group interaction was not significant, so the impact of Fast ForWord participation was not due to improvements on just one of the two test measures (Table 6).

	F	df	p-value
Time	51.67	2, 18	0.00*
Test	93.59	1, 19	0.00*
Group	0.87	1, 19	0.36
Time x Group	8.75	2, 18	0.00*
Test x Group	1.00	1, 19	0.33
Time x Test	37.66	2, 18	0.00*
Test x Time x Group	0.45	2, 18	0.65

Table 6. Fast ForWord students, on average, had significantly greater improvements than a comparison group. * $p < 0.05$.

Similar results were found when missing data were replaced with mean values and when the analyses were run considering only the first two tests, which had fewer missing scores. Analyses of the Fast ForWord group found no significant differences in improvement between students who used the Fast ForWord to Reading 1 product versus the Fast ForWord to Reading 2 product, so while the more advanced students were directed towards Reading 2 and the less advanced towards Reading 1, they all made similar improvements over time.



Figures 6A and 6B. On average, the Fast ForWord group outperformed a comparison group in reading skills as measured by the Oral Reading (Figure 6A) and Retell Fluency (Figure 6B) measures of the DIBELS. Results from 21 students are shown; 12 in the Fast ForWord group and 9 in the comparison group.

Table 7 and Figures 6A and 6B show the breakdown of the Oral Reading Fluency and Retell Fluency scores by group and time of assessment. The DIBELS uses

benchmark goals to set ranges of risk on academic performance. These ranges are “at risk”, “some risk” and “low risk” with “low risk” being the goal. The

benchmark goal for Oral Reading Fluency at the beginning of the year for a fourth grade student is a score of 93 or higher for “low risk” while a score of 71 indicates a student “at risk”. No benchmark goal for Retell Fluency is currently available.

Neither the Fast ForWord group nor the comparison group was meeting the ORF benchmark goal before

use of the Fast ForWord products; both groups were in the “at risk” range. For the end of the fourth grade year, a benchmark goal of 118 indicates “low risk” with a score of 96 and below being the “at risk” range. The Fast ForWord group improved to the “some risk” range while the comparison group stayed within the “at risk” range at the time of their final assessment.

Time	Oral Reading Fluency						Retell Fluency					
	Fast ForWord			Comparison			Fast ForWord			Comparison		
	n	Mean	SE	n	Mean	SE	n	Mean	SE	n	Mean	SE
1	12	69.17	7.51	9	62.78	9.32	12	18.08	2.78	9	26.11	3.37
2	12	85.83	8.33	9	69.44	8.35	12	43.75	3.4	9	34.89	4.41
3	12	103.08	10.32	9	89.22	9.3	12	38.67	3.67	9	32.44	4.17

Table 7. The Fast ForWord group had greater improvements than a comparison group, moving closer to the DIBELS benchmark goal for low risk while the comparison group stayed within the at risk range.

DISCUSSION

During the 2004 – 2005 school year, a group of fourth graders at Rosebud Elementary used the Fast ForWord products. Students in this study were divided into two groups depending on their classroom: one that used the Fast ForWord products while the other served as a comparison group. The Fast ForWord group made significantly greater improvements over time than the comparison group on both the Performance Series and the DIBELS assessments. The Fast ForWord group improved to an oral reading rate of 103 correct words per minute compared to 89 words per minute by the comparison group. Students who used the Fast ForWord products also, on average, improved their reading achievement each testing period as measured by the Scantron Performance Series. These findings demonstrate that, within Rosebud Elementary, an optimal learning environment coupled with a focus on cognitive and early reading skills can help students attain a higher level of reading achievement.

CONCLUSION

Language and reading skills are critical for all students, impacting their ability to benefit from instruction, follow directions and participate in class discussions. Strong linguistic skills provide a critical foundation for building reading and writing skills. After Fast ForWord use, students in the Todd County School District made significant improvements over time in their reading ability. This suggests that using the Fast ForWord products strengthened the students’ foundational skills and helped them benefit more from the classroom curriculum.

Notes:

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