Improved Reading Skills by Students in the Davenport Community Schools who used Fast ForWord® Products

ABSTRACT

Purpose: This study investigated the effects of the Fast ForWord products on the reading skills of students who used the products within the curriculum in a school setting during the 2007-2008 school year. **Results:** Students across all demographic groups achieved <u>significant improvements in their reading skills</u> as measured by grade equivalents and scaled scores on the ITBS and the ITED. Implementation support for students led to additional gains. <u>Students with individually strong implementations showed greater gains</u> from Fast ForWord participation on the ITBS/ITED test. **Study Design:** The design of this study was a multiple school study using nationally normed, standardized tests. **Participants:** Study participants were 516 students in first through eleventh grade that used Fast ForWord products in the Davenport Community Schools of Davenport, Iowa. **Materials & Implementation:** The reading skills of 516 participants were evaluated before and after Fast ForWord participation. Students in 1st through 8th grades were evaluated with the Iowa Tests of Basic Skills (ITBS) while students in 9th through 11th grades were evaluated with the Iowa Tests of Educational Development (ITED).

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 Davenport Community Schools were interested in evaluating the effectiveness of an optimal learning environment with a focus on early reading and cognitive skills as a way for improving reading skills of students in a school setting. In this study, commercially available computer-based products (Fast ForWord Language Basics, Fast ForWord Language,

Fast ForWord Language to Reading, Fast ForWord Literacy, Fast ForWord Literacy Advanced, Fast ForWord Reading Level 1, and Fast ForWord Reading Level 2) were used to evaluate the effectiveness of an optimal learning environment for improving the reading skills of students.

METHODS
Participants
Davenport, Iowa is a city located on the Mississippi River in Scott County, Iowa. At the time of the 2000 census, the population of Davenport was 98,359.

Davenport Community Schools is made up of 34 schools serving approximately 16,000 students. The student population is approximately 67% Caucasian, 20% African-American and 8% Hispanic. The mission of the Davenport Community School District is to enhance each student's abilities by providing a quality education enriched by their diverse community

Five hundred sixteen first through eleventh grade students had their reading skills assessed before and after Fast ForWord product use with the Iowa Tests of Basic Skills (ITBS) for first through eighth grades and the Iowa Tests of Educational Development (ITED) for ninth through eleventh grades. 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.

Materials

The Fast ForWord products are computer-based products that combine an optimal learning environment with a focus on early reading and cognitive skills. The products used in this study (Fast ForWord Language Basics, Fast ForWord Language, Fast ForWord Language to Reading, Fast ForWord Literacy, Fast ForWord Literacy Advanced, Fast ForWord Reading Level 1, and Fast ForWord Reading Level 2) include three 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.

Inside the Tummy[1]: Participants click and drag colored shapes into matching shape outlines in pre-defined patterns. This task helps participants improve fine motor skills, hand-eye coordination, and computer mousing skills.

Flying Saucer[1]: Participants identify sounds presented in a sequence, then click on graphic icons associated with those sounds to reproduce the sequence. This task builds auditory discrimination ability, auditory working memory, and sequencing skills.

Drag Racer[1]: Participants point and click on a (sometimes moving) graphic, then hold the mouse button down to hear a stream of identical sounds. Participants release the mouse button when there is a sound change. This task is designed to improve auditory discrimination and sustained auditory attention. It also develops mousing skills, and the

ability to withhold a response until an auditory cue is presented.

Circus Sequence[2], Trog Walkers[2], Sweeps[3] and Sky Rider[4]: 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 Farm[2] and Streams[4]: 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 Identification[2], Polar Cop[3], Treasure in the Tomb[3,] IDS[4], Meteor Ball[5] and Lunar Leap[5]: 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 Match[2], Bug Out[3,] Matches[4],and Laser Match[5]: 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 Words[2] and Cards[4]: 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.

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[1] Exercise from the Fast ForWord Language Basics product.

[2] Exercise from the Fast ForWord Language product.
[2] Exercise from the Fast ForWord Language to Reading product.
[3] Exercise from the Fast ForWord Literacy product.
[4] Exercise from the Fast ForWord Literacy Advanced product.

Language Comprehension Builder[2]: 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, improves understanding of syntax and morphology, and improves rate of auditory processing.

Block Commander[2]: 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[3], Stories[5] and Galaxy Theater[5]: Students follow increasingly complex commands, match pictures to sentences, and answer multiple-choice questions about stories that are presented aurally.

Bear Bags[5] and Bear Bags: More Lunch[6]: 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[6] and Magic Bird[6]: 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[6] and Fish Frenzy[7]: 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.

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[5] Exercise from the Fast ForWord to Reading Level 1 product.
[6] Exercise from the Fast ForWord to Reading Level 2 product.

Quail Mail[6]: 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[6] and Leaping Lizards[7]: 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[6] and Dog Bone[7]: 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[7]: 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.

Assessments:
Students were assessed before and after Fast ForWord product use with the Iowa Tests of Basic Skills (ITBS) or the Iowa Tests of Educational Development (ITED). Pretests were administered in spring of 2007 and post-tests were administered in spring of 2008.

Iowa Tests of Basic Skills (ITBS): The ITBS are part of the Iowa Statewide Testing Program for grades K-8. They are nationally standardized achievement tests whose scores can be used to compare the performance of students tested locally with the performance of students tested in the national sample. The Reading and Language sections focus on vocabulary, word analysis, reading comprehension, listening, and grammar skills.

Iowa Tests of Educational Development (ITED): The ITED are part of the Iowa Statewide Testing Program for grades 9-12. They are nationally standardized achievement tests whose scores can be used to compare the performance of students tested locally with the performance of students tested in the national sample. The Reading and Language sections focus on vocabulary, reading comprehension, grammar and revision skills.

RESULTS
Implementation 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 and attendance level).

During the 2007-2008 school years, Davenport Community Schools used the 30-, 40-, 50- and 90-Minute protocols for the Fast ForWord products. These protocols call for students to use the products for 30, 40, 50 or 90 minutes a day, five days per week for six to sixteen weeks. See Table 1 for detailed product use.

Figure 1 shows the average daily progress through the Fast ForWord Language 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 product fewer than the number of days shown, percent complete is maintained at the level achieved on their final day of product use. Progress through the other Fast ForWord products was similar to what is shown in Figure 1.

	Number of Students	Days Participated	Number of Calendar Days	Percent Complete	Participation Level	Attendance Level
Fast ForWord Language Series						
Fast ForWord Language Basics	340	3.52	5.86	95.8%	94.5%	81.4%
Fast ForWord Language	313	50.8	126.7	88.8%	97.8%	66.8%
Fast ForWord Language to Reading	240	43.6	105.8	65.6%	99.5%	74.3%
Fast ForWord Literacy	161	34.2	90.3	81.9%	86.0%	61.4%
Fast ForWord Literacy Advanced	134	33.5	88.8	64.2%	80.5%	62.4%
Fast ForWord Reading Series						
Fast ForWord Reading Level 1	52	11.3	28.1	56.6%	95.1%	74.9%
Fast ForWord Reading Level 2	54	16.4	52.1	57.6%	98.5%	73.6%
Total Fast ForWord Product Use	516	80.2	201.9			

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 calendar days between start and finish, the percentage of product completed, the participation level and the attendance level. Total values reflect the average total number of days that students used products. Note: Students often use multiple products.
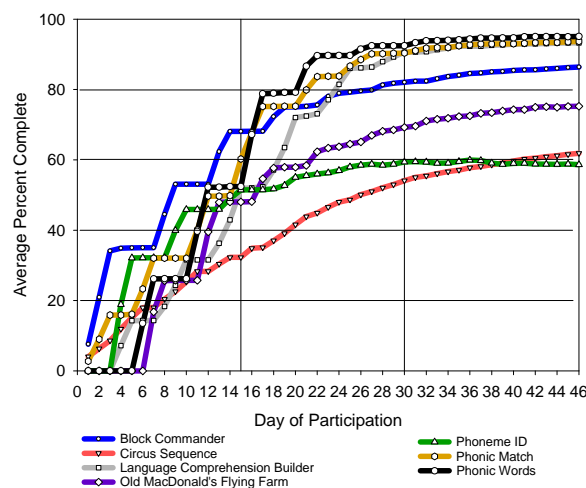

Figure 1. Average daily progress through the Fast ForWord Language product exercises. Results from 376 students are shown.

Implementation Level by School

There was significant variation in the Fast ForWord implementation fidelity at the schools in the Davenport School District. Implementation fidelity comprises three measures: completion, attendance, and participation. Completion is the average percentage of the product content completed. Participation is the actual number of product use minutes on a participation day relative to the planned number of product use minutes (e.g., using a product for 45 minutes under a 50 minute protocol is 90% participation). Attendance is the percentage of

planned product use days in a given week that the student actually used Fast ForWord products (e.g., using Fast ForWord products three days out of a five day week is 60% attendance).

Table 2 shows the completion, participation, and attendance levels by school. Cells which are shaded green (and marked with a ↑) indicate good performance, cells shaded yellow (and marked with a •) indicate moderate performance, and cells shaded red (and marked with a ↓) indicate poor performance on the implementation fidelity component.

School	Completion	Participation	Attendance
Buchanan	70 % (•)	96 % (↑)	59 % (↓)
Fillmore	77 % (•)	100 % (↑)	80 % (•)
Jefferson	82 % (↑)	99 % (↑)	71 % (•)
KCE	83 % (•)	89 % (•)	66 % (•)
KCW	76 % (•)	80 % (↓)	61 % (↓)
Monroe	78 % (•)	99 % (↑)	67 % (•)
Washington	75 % (•)	97 % (↑)	81 % (↑)
Young	74 % (•)	83 % (•)	60 % (↓)
OVERALL	**78** % (•)	**94** % (•)	**67** % (•)

Table 2. Implementation fidelity by school. Cells which are shaded green (↑) indicate good performance, cells shaded yellow (•) indicate moderate performance, and cells shaded red (↓) indicate poor performance.

Table 2 indicates that most schools had good participation and moderate completion. However, several schools struggled with their attendance levels, with three schools averaging only about 3 days of use out of a 5 day/week usage protocol (60% attendance). Of the eight schools, Jefferson, Fillmore and Washington are doing the best job of implementing Fast ForWord.

This analysis indicates that some Davenport schools are successfully implementing the Fast ForWord products, but some schools are struggling in one or more dimensions of implementation fidelity. Ongoing improvements in the strength of implementation will drive improvements in reading outcomes.

Assessment Results

State assessment results were analyzed for all Fast ForWord students who had test results for both 2007 and 2008 ITBS/ITED test administrations and who used Fast ForWord products for at least five days before the 2008 ITBS/ITED test date (February 13th, 2008). These criteria were met by 516 Fast ForWord participants.

Results were reported in terms of scaled scores, grade equivalents and national percentiles for the Reading Vocabulary and Reading Comprehension subtests as well as the total Reading score.

A paired T-test was performed to analyze the performance improvements of Davenport Fast ForWord participants between the 2007 and 2008 tests. Table 3 shows the results of this analysis.

Fast ForWord students demonstrated significant improvements on both the ITBS/ITED Vocabulary and Comprehension subtests, and consequently on the Total Reading composite as well. Figure 2 shows the average overall grade equivalent improvements made by Fast ForWord students (all gains are statistically significant). Following Fast ForWord participation, students were performing near a level appropriate for their grade level. For these Title I schools with large populations of struggling readers, these average improvements are of both statistical and practical significance.

Analysis of the changes in the ITBS/ITED percentile scores – converted to Normal Curve Equivalents (NCEs) in order to facilitate proper analysis – revealed that students met (but did not exceed) the expected annual ITBS/ITED average gains in NCE units. This means that these students made significant learning gains between test administrations, but they did not change their overall position in the distribution of Iowa students.

Score Type	ITBS/ITED Component	2007 Average Score (pre-FFW)	2008 Average Score (post-FFW)	Average Gain	Conclusion
Scaled Score	Vocabulary	187.4	199.7	+ 12.3*	Significant Improvement
	Comprehension	190.9	202.2	+ 11.2*	Significant Improvement
	Reading Total	189.2	200.9	+ 11.7*	Significant Improvement
Grade Equivalent	Vocabulary	4.1	4.9	+ 0.8*	Significant Improvement
	Comprehension	4.4	5.1	+ 0.8*	Significant Improvement
	Reading Total	4.2	5.0	+ 0.8*	Significant Improvement

*Table 3. Overall performance improvement by Fast ForWord students between the 2007 and 2008 ITBS/ITED test. Results for 516 students are shown. *: p<0.001*
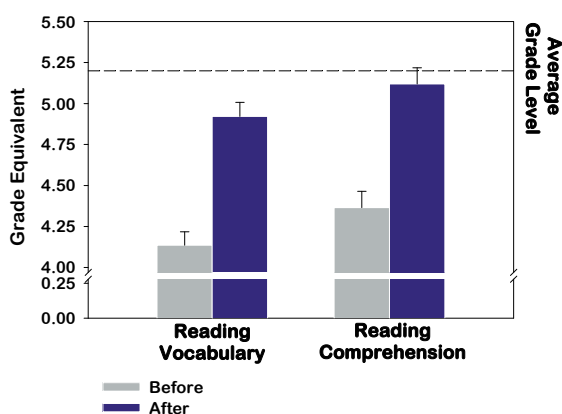

Figure 2. Grade Equivalents on the ITBS and ITED before and after Fast ForWord product use. Following product use, students made significant gains and were performing near a level appropriate for their grade. 516 students included.

Subgroup Analyses

Results were also analyzed for a variety of student subpopulations. The subgroups analyses divided the students by Gender, Ethnicity, IEP status, ELL/LEP status, Low SES classification, Gifted and Talented status, and 2008 Grade Level.

The subgroup analyses indicated that the significant average improvements demonstrated by Fast ForWord participants were experienced consistently across all subgroups. Each subgroup made significant gains in both scaled scores and grade equivalents for Reading Vocabulary, Reading Comprehension, and Total Reading. The lone exception was the 6th grade group, whose improvements on the Comprehension subtest lagged behind those of the other grades. Though this may be due to some variation in the Fast ForWord experience for 6th grade Davenport students, it is more likely that due to simple random chance associated with performing multiple tests on these data. As in the overall analysis, the average percentile scores for these participants did not change; they maintained their position in the distribution of Iowa students.

The improvement trends observed for the overall group of Fast ForWord participants were also observed for all subgroups large enough for meaningful analysis.

Responder Analysis

Though the average Davenport Fast ForWord participant did not experience a change in their percentile ranking, a large subset of Fast ForWord participants *did* experience improvements in their average percentile scores, meaning that they improved their position in the distribution of Iowa students. In order to ascertain which factors were associated with this positive response to Fast ForWord participation, a simple responder analysis was performed on the data.

Participants were divided into two groups using a median split on their Normal Curve Equivalent (NCE) improvements between the 2007 and 2008 ITBS/ITED tests. The split point was -2 NCEs; the participants with NCE improvement values above the median were classified as "strong responders," and those with values below the median were classified as "average responders." For the purpose of this analysis, 259 participants were strong responders and 257 students were average responders.

In general, strong responders were those participants who improved or maintained their position in the distribution of Iowa students. A stepwise binary logistic regression procedure showed that strong responders were statistically more likely to have had good Fast ForWord implementations than average responders (p<0.05). This means that students with strong implementations (independent of their school's implementation strength) were statistically more likely to show benefit from Fast ForWord participation on the ITBS/ITED test. This further supports the notion that implementation fidelity and student support are necessary component for maximizing Fast ForWord success at both the building and the individual levels.

Subgroup	Category	N	Analysis Conclusion
Gender	Male	269	*Statistically significant average improvements.* Both genders made statistically similar gains.
	Female	247	
Ethnicity	Caucasian	198	*Statistically significant average improvements.* Caucasian, Hispanic/Latino, and Black/African American ethnicities made statistically similar gains.
	Hispanic or Latino	104	
	Black or African American	203	
IEP	IEP	89	*Statistically significant average improvements.* IEP and non-IEP participants made statistically similar gains.
	Non-IEP	427	
ELL/LEP	ELL/LEP	54	*Statistically significant average improvements.* ELL/LEP and non-ELL/LEP participants made statistically similar gains.
	Non-ELL/LEP	462	
Low SES	Low SES	475	*Statistically significant average improvements.* Low SES and non-Low SES participants made statistically similar gains.
	Non-Low SES	41	
Gifted & Talented	G&T	59	*Statistically significant average improvements.* Gifted & Talented and non-Gifted & Talented participants made statistically similar gains.
	Non-G&T	457	
2008 Grade Level	3rd	57	*Statistically significant average improvements.* All grades made statistically similar gains (except for 6th graders – see text above).
	4th	139	
	5th	154	
	6th	52	
	7th	50	
	8th	57	

Table 4. Conclusions from subgroup analysis of Davenport students. Results from 516 students are shown. Groups with fewer than 20 students, including students in Program 504, students of other races, and students in grades outside 3rd – 8th, were too small for meaningful analyses and are not included.

Ongoing Research: Longitudinal Analysis
Davenport Schools provided ITBS/ITED scores for Fast ForWord participants from the 2006, 2007, and 2008 test administrations with the goal of beginning a longitudinal analysis of these students' performance improvements while using Fast ForWord products. In the previous analysis, 516 Fast ForWord participants met the inclusion criteria (i.e., had test scores for 2007 and 2008, and used Fast ForWord products for at least five days prior to the 2008 test administration). Of those 516 students, 369 also had complete 2006 ITBS/ITED test scores. Of those 369 students, 172 were classified as strong responders (see the previous analysis).

Table 5 shows the longitudinal performance of the 369 Fast ForWord participants and the 172 strong responders with complete ITBS/ITED data for 2006-2008. This table indicates that the performance of Fast ForWord students as a whole was statistically flat from the 2006 to the 2008 test administrations, with a slight uptick in the year preceding Fast ForWord implementation and a slight compensatory downtick in the first year of Fast ForWord participation. In contrast, the subset of participants classified as strong responders had a slight dip in their NCE levels in the year prior to receiving Fast ForWord, but then experienced a larger and statistically significant improvement in the first year of Fast ForWord participation. The end result was a statistically significant improvement in strong responders' average

Vocabulary, Comprehension, and Total Reading levels between the 2006 and 2008 ITBS/ITED tests. Figure 3 shows the contrasting trends for the 369 Fast

ForWord participants and the subset of 172 strong responders.

Analysis Group	ITBS/ITED Test Component	Average NCE Score			Analysis Conclusion (2006-2008)
		2006	2007	2008	
All Participants (n = 369)	Vocabulary	40.6	42.1	40.9	Maintained position relative to distribution of students from 2006-2008.
	Comprehension	44.9	45.4	43.6	Maintained position relative to distribution of students from 2006-2008.
	Reading Total	43.4	43.8	42.1	Maintained position relative to distribution of students from 2006-2008.
Strong Responders Subset (n=172)	Vocabulary	39.6	37.1	44.0	*Statistically significant average improvements*. On average, these students moved from the 31st to the 39th percentile.
	Comprehension	42.3	38.9	45.3	*Statistically significant average improvements*. On average, these students moved from the 36th to the 41st percentile.
	Reading Total	40.8	37.6	44.7	*Statistically significant average improvements*. On average, these students moved from the 33rd to the 40th percentile.

Table 5. Longitudinal performance of 369 Fast ForWord participants and 172 strong responder participants with scores available from the 2006, 2007, and 2008 administrations of the ITBS/ITED. Results are reported as NCEs.
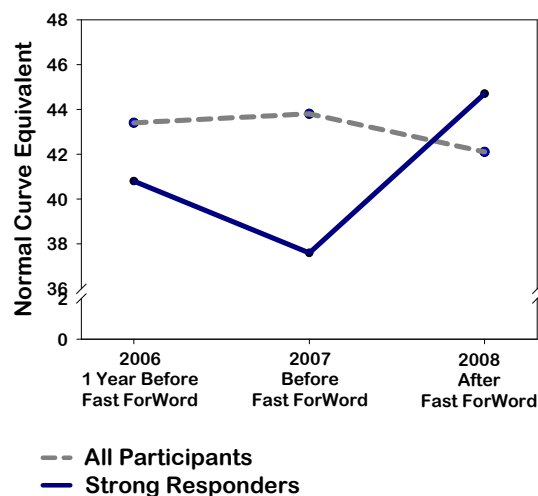

Figure 3. Three years of ITBS/ITED Total Reading scores (reported as NCEs) for 369 Fast ForWord participants and a subset of 172 strong responder participants. The srong responders subgroup made statistically significant improvements from 2006-2008, while the group of all participants was statistically flat from 2006-2008.

As future years of Fast ForWord data are collected, this analysis will be expanded. More years of data will ultimately lead to stronger conclusions about the effectiveness of Fast ForWord products in driving ITBS/ITED success in Davenport students. As demonstrated by the responder analysis, strong implementation of Fast ForWord protocols in

Davenport schools is likely to lead to greater statistically significant improvements in observed ITBS/ITED test results. This suggests that emphasis should be placed on improving implementation to convert more Davenport Fast ForWord participants into strong responders.

DISCUSSION

During the 2007-2008 school year, students in the Davenport Community Schools used Fast ForWord products. The struggling students who were part of this study ranged from 1st to 11th grade. Students across all ages and demographic groups achieved significant improvements in their reading skills following Fast ForWord product use, as measured by the Iowa Tests of Basic Skills (ITBS) and the Iowa Tests of Educational Development (ITED). Students' reading skills showed significant improvements in terms of reading grade equivalent and scaled scores. Additionally, students with individually strong implementations (independent of their school's implementation strength) were statistically more likely to show benefit from Fast ForWord participation on the ITBS/ITED test. These findings demonstrate that, within the Davenport Community Schools, 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 also provide a critical foundation for building reading and writing skills. The current study reflects significant improvements in reading comprehension, vocabulary, and total reading by students across demographic groups in the Davenport Community Schools after Fast ForWord product use. This study supports other studies demonstrating that using the Fast ForWord products strengthens students' foundational skills allowing them to benefit more from the classroom curriculum.

Notes:
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