Improved English Language Skills by Students in the Deer Valley Unified School District who used Fast ForWord® Products: 2008 - 2009

ABSTRACT

Purpose: This study investigated the effects of the Fast ForWord products on the English language and early reading skills of elementary school students who used the products within the curriculum in a school setting.

Results: The students in this study were English language learners. At the beginning of the year, the Arizona English Language Learner Assessment (AZELLA) was used to evaluate the students' English skills which ranged from Pre-Emergent to Intermediate. By the end of the year, 79% of the Fast ForWord participants had increased their proficiency by one or more levels. No students were at Pre-Emergent or Emergent levels, and half the students had reached Proficient levels.

Study Design: The design of this study was a single school case study using a test of English language acquisition. **Participants:** Study participants were elementary school students who were English language learners in the Deer Valley Unified School District of Phoenix, Arizona.

Materials & Implementation: Following staff training on the Fast ForWord products, the students used the Fast ForWord products during the 2008-2009 school year and had their English proficiency and early reading skills evaluated before and after Fast ForWord participation with the Arizona English Language Learner Assessment (AZELLA) and/or Reading Progress Indicator.

Keywords: Arizona, elementary school, urban district, observational study, ELL, Title I, Fast ForWord Language Basics, Fast ForWord Language, Fast ForWord Language to Reading, Fast ForWord Reading Prep, Fast ForWord Reading Level 1, Arizona English Language Learner Assessment (AZELLA), Reading Progress Indicator.

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 Deer Valley Unified 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 to improve the English language skills of their students. In this study, commercially available computer-based products (Fast ForWord Language Basics, Fast ForWord Language, Fast ForWord Language to Reading, Fast ForWord Reading Prep, and Fast ForWord Reading Level 1) were used to evaluate the effectiveness of this approach for improving the English language skills of elementary school students[1].

METHODS
Participants
Headquartered in Phoenix, Arizona, the Deer Valley Unified School District serves more than 36,000 students from Phoenix and the surrounding area. In partnership with families and the community, the district's mission is to ensure that all students graduate with the knowledge, skills, and attitudes needed for success in a globally interdependent world.

During the 2008-2009 school year, one of the district's elementary schools, Constitution Elementary, used the Fast ForWord products and participated in the study reported here. Constitution Elementary is a Title I school serving children in Kindergarten through sixth grade. Approximately 62% of the students are Hispanic, 32% are White, and 5% are Black. Forty-nine percent of the students are eligible for free or reduced-price lunches.

This study focuses on 89 English language learners attending Constitution Elementary who used the Fast ForWord products during the 2008-2009 school year. Study participants were in kindergarten through sixth grade. Before and after Fast ForWord participation, students were assessed with the Arizona English Language Learner Assessment (AZELLA) and/or Reading Progress Indicator (RPI). **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. Each product includes several exercises designed to build cognitive skills critical for all learning, such as attention and memory. These exercises simultaneously develop academic skills critical for reading, such as English language conventions, phonemic awareness, vocabulary, and comprehension.

Some of the primary skills developed by these products are outlined on the next page in Table 1. More detailed descriptions of the exercises and learning modes within each product can be found online at http://www.scientificlearning.com .

Assessments
Before and after Fast ForWord participation, student reading and language skills were assessed with the Arizona English Language Learner Assessment (AZELLA) and/or Reading Progress Indicator (RPI).

Arizona English Language Learner Assessment (AZELLA): The AZELLA has five levels: preliteracy, primary, elementary, middle school, and high school. Preliteracy has four subject areas (listening, speaking, prereading, and prewriting) while the other levels contain five subject areas (listening, speaking, reading, writing, and writing conventions). Some questions are multiple choice while others require writing samples or short or long oral responses. Students receive scaled scores as well as the corresponding proficiency level: pre-emergent, emergent, basic, intermediate, proficient.

Reading Progress Indicator (RPI): Reading Progress Indicator is a computerized assessment designed to rapidly measure the impact of the Fast ForWord products. It assesses a student's early reading skills, including phonemic awareness, decoding, vocabulary, and comprehension.

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[1] Products used by fewer than 10% of the students are not included.

Primary Skills Product Name	Listening Accuracy & Auditory Sequencing	Auditory Word Recognition	English Language Conventions	Following Directions	Listening Comprehension	Phonological Skills / Phonemic Awareness	Phonics / Word Analysis	Fluency	Vocabulary	Reading Comprehension
Fast ForWord Language Basics	●									
Fast ForWord Language	●	●	●	●		●			●	
Fast ForWord Language to Reading	●		●	●	●	●	●		●	
Fast ForWord Reading Prep				●		●	●			
Fast ForWord Reading Level 1					●	●	●	●	●	●
Reading Assistant								●	●	●

Table 1: The Fast ForWord and Reading Assistant products work on numerous cognitive and early reading skills. The primary skills focused on by each product are noted in the table.

Analysis

AZELLA scores were reported in terms of scaled scores and proficiency levels. For RPI, scaled scores and normal curve equivalents were used to analyze the results. Data were analyzed using an analysis of variance (ANOVA) and paired t-tests. All analyses used a 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 and attendance levels). During the 2008 - 2009 school year, the Deer Valley Unified School District chose to use the 30-, 40-, and 50-Minute protocols. This protocol calls for students to use the product for 30, 40, or 50 minutes a day, five days per week for six to sixteen weeks. Kindergartners typically started with Fast ForWord Language Basics and then progressed to Fast ForWord Reading Prep and Fast ForWord Reading Level 1, time permitting. Older students started with the Fast ForWord Language product and then progressed to

Fast ForWord Language to Reading and the Fast ForWord Reading products, time permitting. Detailed product use is shown in Table 2.

Assessment Results

Arizona English Language Learners Assessment (AZELLA): Students were assessed with the AZELLA in the fall, prior to using the Fast ForWord products, and again in the spring, after using the Fast ForWord products.

Initially, all 89 students were English language learners with English skills ranging from Pre-Emergent to Intermediate. By the end of the year, none of the 89 students were Emergent or Pre-Emergent, and half of them (n = 44) were proficient in English. Table 3 and Figure 1 show how the students' English skills developed; of the 26 students who were Basic in the fall, 2 had not progressed by the spring, 17 had reached the Intermediate level, and 7 had become proficient. The yellow boxes indicate students who did not progress to the next level; the numbers above the yellow boxes indicate the number of students who improved. The two columns on the right show the overall number of students at each level in the fall and spring.

2008 – 2009 Product Use						
	Number of Students	Days Participated	Number of Calendar Days	Percent Complete	Participation Level	Attendance Level
Fast ForWord Language Basics	42	8	12	100	100	87
Fast ForWord Language	42	48	93	84	98	77
Fast ForWord Language to Reading	22	27	63	55	90	71
Fast ForWord Reading Prep	42	31	63	92	100	80
Fast ForWord Reading Level 1	23	18	35	31	76	73
Total	89	53.9	107.0	-	-	-

Table 2. Usage data showing the number of students who used the Fast ForWord products during the 2006 – 2007 school year, 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.

		Spring				
		Basic	Intermediate	Proficient	Fall	Spring
Fall	Pre-Emergent	2	1	1	4	0
	Emergent	4	2	0	6	0
	Basic	2	17	7	26	8
	Intermediate	0	17	36	53	37
	Proficient	0	0	0	0	44

Table 3. Results from 89 students are shown here with their English proficiency from the fall shown in rows, and their proficiency from the spring shown in columns. Students on the diagonal (yellow boxes) maintained their proficiency level between the fall and spring while students above the diagonal improved their proficiency level. The right two columns show that all the students moved out of the Pre-Emergent and Emergent levels and half of the students (n = 44) reached the Proficient level.
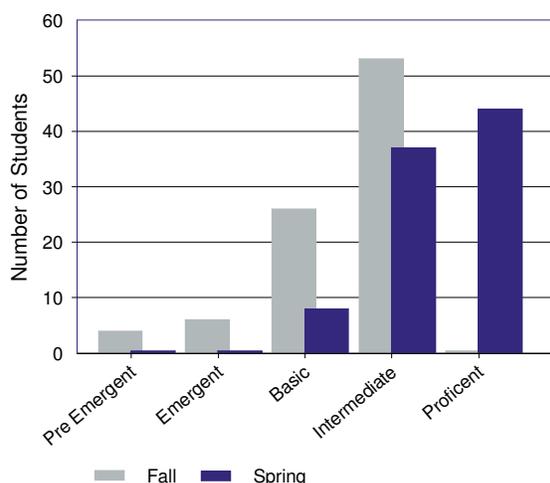

Figure 1. Students improved their English skills during the 2008-2009 school year. At the beginning of the year, 36 students in kindergarten through 6th grade were at the Basic level or below. By the spring, half the students were Proficient and many of the remaining were Intermediate.

Reading Progress Indicator (RPI): In addition to the AZELLA, RPI was used to evaluate the impact of the Fast ForWord products on students in the Deer Valley Unified School District who used the Fast ForWord products during the 2008 – 2009 school year. RPI was administered before and after each Fast ForWord product. Fifty-six students in kindergarten through sixth grade (mean grade level = 3.2) had valid pre- and post-participation scores and are included in the RPI evaluation. Of the students, 38 (68%) showed improvement.

The mean skill level of the students was initially 2.1 – more than one year below their grade level. Most of the students (66%) were initially in the Struggling category (below the 30th percentile). Following three months of Fast ForWord participation, the students' skills had improved and the number of students below the 30th percentile had dropped by 24%, from 37 students to 28.

DISCUSSION

During the 2008-2009 school year, a group of English language learners at Constitution Elementary School used the Fast ForWord products. According to Stollar, ELL students at the Pre-Emergent level typically improve their English skills rapidly, with 82% improving one or more levels within the first year. However, by the time students reach the Intermediate level, English acquisition slows dramatically with only 38% moving to Proficient after one year, and 46% moving to Proficient within two years (Stollar et al, 2009).

Of the 53 students who were initially at the Intermediate level, 68% moved to Proficient. Of the 36 students who were initially Basic or below, 94% moved up one or more levels with 22% making it to the Proficient level.

The improved English skills of these students was dramatic and shows that the Fast ForWord products, used in conjunction with a strong program in English acquisition, can help students acquire the English skills required for successful integration into schools in the United States.

CONCLUSION

English language and reading skills are critical for all students, impacting their ability integrate into classrooms in the United States and 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. After Fast ForWord use, students in the Deer Valley Unified School District made significant gains in their English language and reading skills. These results replicate other studies and demonstrate that using the Fast ForWord products strengthens students' foundational skills and better positions them to benefit from the classroom curriculum.

Notes:
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