

Improved Reading Skills by Students who used Fast ForWord[®] to Reading 3

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ABSTRACT

Purpose: This study investigated the effects of the Fast ForWord to Reading 3 product on the reading skills of children who used the product within the curriculum in a school setting. **Study Design:** The design of the study was a multiple site experimental study. **Subjects:** Study participants were 112 children in the third grade with a mean age of 9 years and 3 months. The students were from a suburban public school in Oklahoma and an urban public school in Texas. Seventy students used the Fast ForWord to Reading 3 product and the other 42 served as a control group. **Materials and Implementation:** Following staff training on the Fast ForWord to Reading 3 product, 70 children used the Fast ForWord to Reading 3 product for an average of 18 hours over an average period of 26 calendar days. To evaluate performance, student skills were measured with the reading/language arts subtests of the Terra-Nova Survey Plus. **Results:** The statistical analysis indicated that, on average, there were significantly greater improvements in subtest scores in the Fast ForWord group than in the control group.

INTRODUCTION

Early laboratory tests of a prototype of a computer-based product combined an optimal learning environment with a focus on early reading and cognitive skills. The results were dramatic improvements in the auditory processing and language skills of elementary school children who had specific language impairments (Merzenich et al., 1996; Tallal et al., 1996) or were at-risk for academic failure (Miller et al., 1999). In this study, a commercially available computer-based product (Fast ForWord to Reading 3) was used to evaluate the effectiveness of improving the reading skills of children.

METHODS

Participants

One hundred and twelve third graders from schools in Oklahoma and Texas participated in this study. Seventy of these students used the Fast ForWord to Reading 3 product and the other 42 served as a control group. All had been rated on an academic achievement scale by their teachers. The scale ranged from 1 for "poor" to 5 for "superior" with 3 being "average." The Fast ForWord group had an average score of 2.59 and the control group averaged 3.19.

Implementation

Educators were trained in current and established findings on the neuroscience of 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 candidates for participation; the selection of appropriate measures for testing and evaluation; effective implementation techniques; approaches for monitoring student performance; and techniques for measuring the gains

students have achieved after they have finished using the product.

Materials

All of the study participants except those students in the control group used the Fast ForWord to Reading 3 product, a computer-based product combining an optimal learning environment with a focus on early reading and cognitive skills, used in conjunction with the school curriculum. The product includes six exercises designed to build skills that are critical for reading and learning, such as auditory processing, memory, attention, and language comprehension.

Scrap Cat: Students are asked to sort a series of visually-presented words into the correct semantic, phonological, syntactic, or morphological categories. For this exercise only, students can click a button to hear any word and see it defined. This exercise develops decoding, vocabulary, and word recognition skills.

Chicken Dog: Students hear a spoken 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, with foils representing common visual and phonological errors. This exercise develops basic spelling patterns, letter-sound correspondences, and decoding.

Canine Crew: Students are asked to match pairs of words within a grid. Grid size increases as the student develops mastery, and the matching criterion shifts from rhyming words to synonyms, antonyms, and, finally, homophones. This exercise develops

vocabulary, decoding, and automatic word recognition.

Twisted Pictures: Students are presented with a series of pictures and visually-presented sentences. They are asked to select the most accurate description of each picture from the four accompanying sentences. The descriptive sentences incorporate a wide range of syntactic structures. As the student 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: Students read narrative and expository passages and answer comprehension questions about each passage. The multiple-choice questions demand that the student uses memory for specific details, to generate inferences, or to grasp causal relationships. The student selects the best answer from among four alternatives. This task develops paragraph comprehension, cause-and-effect reasoning, working memory, flexible reading, and vocabulary.

Hog Hat Zone: In Hog Hat Zone, short passages from classic children's literature are presented, with occasional gaps in the text where words are missing. Students are asked to fill in each gap with the correct word from among four alternatives. The missing words are grammatically 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 in the study had their reading skills evaluated before and after they used the Fast

ForWord to Reading 3 product. School personnel administered reading and language arts subtests of the Terra-Nova Survey Plus. Three subtests, Vocabulary, Word Analysis, and Spelling were used.

Terra-Nova Survey Plus: The Terra-Nova Survey Plus is a nationally standardized measure of academic achievement that assesses specific reading skills. In this study, the language and reading arts subtests (Vocabulary, Word Analysis, Spelling) were used.

Analysis

Dependent t-tests were conducted to determine whether the students who used the Fast ForWord to Reading 3 product were differentially affected from those who did not use the product. All analyses used a p-value of 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). The Fast ForWord to Reading 3 protocol used in this study called for students to use the product for 45 minutes a day, five days a week, for eight weeks. Each day, the students were to work on three of the six exercises for 15 minutes each. On average, the 70 students used the Fast ForWord to Reading 3 product for 18 hours over an average period of 26 calendar days in a period of 7 weeks. They achieved a participation level of 60% and completed an average of 44% of the product content (Table 1).

Number of Students	Average Hours Of Product Use	Average Number Of Calendar Days	Average Participation Level	Average Overall Percent Complete
70	18	26	60%	44%

Table 1. Usage data showing the number of students who used the Fast ForWord to Reading 3 product along with group averages for the number of hours of use, calendar days between start and finish, participation level and percentage of content covered.

Assessment Results

The Terra-Nova Survey Plus: The Vocabulary, Word Analysis, and Spelling subtests were used to assess student reading ability before and after participation in the Fast ForWord to Reading 3 product.

Following participation in the Fast ForWord to Reading 3 product, on average, students in the Fast ForWord group improved significantly more in their Vocabulary

score than students who did not use the product (Figure 1).

After participation in the Fast ForWord to Reading 3 product, students in the Fast ForWord group, on average, also had significantly greater gains in Word Analysis scores than students who did not use the product (Figure 2).

Average gains in Spelling showed improvement in both groups with no significant difference between the

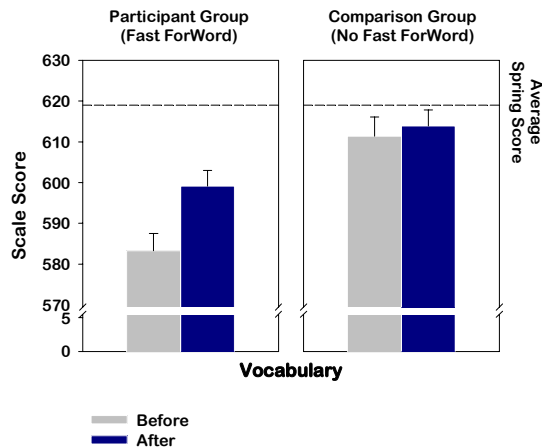


Figure 1. Scores on the Vocabulary subtest before and after participation in the Fast ForWord to Reading 3 product show that, on average, students in the Fast ForWord group had significantly greater improvements than students who did not use the product. The reference line shows the average score nationally for third graders in the Spring.

DISCUSSION

Results from this report include two groups of students: one group used the Fast ForWord to Reading 3 product and the other served as a control group. All study participants were assessed using the Terra-Nova Survey Plus before and after use of the Fast ForWord to Reading 3 product.

On average, following participation in the Fast ForWord to Reading 3 product, students in the Fast ForWord group made significantly greater improvements in their reading skills (vocabulary and word analysis) than students who did not use the Fast ForWord to Reading 3 product.

Students in the control group proved to have slightly superior reading abilities, a fact which further discussions with the schools helped clarify. One school had put students with low to low-middle reading abilities in the Fast ForWord group and compared them to the control group which was comprised of students with middle-high to high reading abilities. The Fast ForWord group, despite having lower reading abilities, showed higher gains on average than the control group. These findings demonstrate that an optimal learning environment coupled with a focus on cognitive and early reading skills, can help students attain a higher level of academic achievement.

two groups.

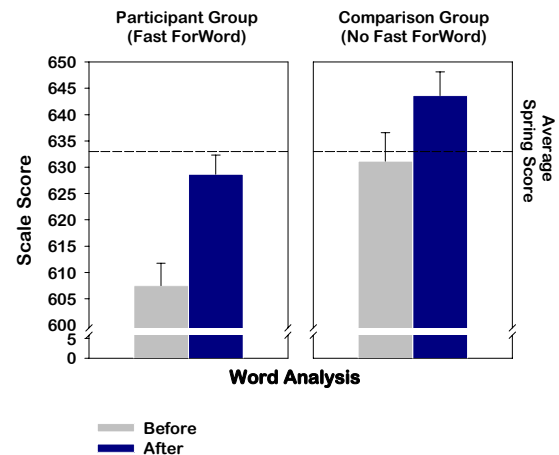


Figure 2. Scores on the Word Analysis subtest before and after participation on the Fast ForWord to Reading 3 product show that, on average, students in the Fast ForWord group made significantly greater improvements than students who did not use the product. The reference line shows the average score nationally for third graders in the Spring.

CONCLUSION

Reading skills are critical for all students, impacting their ability to benefit from instruction, follow instructions, and participate in class discussions. On average, the students who participated in this study made significant gains on the Vocabulary and Word Analysis subtests of the Terra-Nova Survey Plus. After using the Fast ForWord to Reading 3 product, students improved their critical reading skills and strengthened their vocabulary, increasing their ability to benefit from the classroom curriculum.

Notes:

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REFERENCES

- CTB/McGraw-Hill (1997). TerraNova CTBS Survey Plus. Monterey, CA: CTB/McGraw-Hill.
- Merzenich, M. M., Jenkins, W. M., Johnston, P., Schreiner, C. E., Miller, S. L., & Tallal, P. (1996). Temporal processing deficits of language-learning impaired children ameliorated by training. *Science, 271*, 77-80.
- Miller, S. L., Merzenich, M. M., Tallal, P., DeVivo, K., Linn, N., Pycha, A., Peterson, B. E., Jenkins, W. M. (1999). Fast ForWord Training in Children with Low Reading Performance, *Nederlandse Vereniging voor Logopedie en Foniatrie: 1999 Jaarcongres Auditieve Vaardigheden en Spraak-taal*. (Proceedings of the 1999 Dutch National Speech-Language Association Meeting).
- Tallal, P., Miller, S. L., Bedi, G., Byrna, G., Wang, X., Nagarajan, S. S., Schreiner, C., Jenkins, W. M., Merzenich, M. M. (1996). Language comprehension in language-learning impaired children improved with acoustically modified speech. *Science, 271*, 81-84.

