EMPIRICAL EVIDENCE SUPPORTING FAST FORWORD

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Fast ForWord is far and away the most scrutinized educational software product on the market, in large part because of its claims to be a dramatic and life changing intervention for many children. The 360 formal studies done on Fast ForWord use a wide variety of:

- formats – some pre-screen candidates while others select randomly,
- protocols – from 50 to 90 minute protocols, 4-5 days over a few or many weeks, and
- follow up testing – some immediate, others months later.

Many have been published in major peer-reviewed journals or have been scrutinized by the doctoral committees of students working towards their doctoral degrees. School studies typically require independent data gathering and are carefully reviewed by the district prior to being submitted to Scientific Learning.

Here are some typical results from the 360 studies completed so far. Summaries of these and other school studies are available at www.scilearn.com/results.

STUDY	PARTICIPANTS	RESULTS
Marion (2004)	349 5th-6th graders (215 FFW; 134 comparison)	FFW students scored significantly higher in language and reading (Terra Nova test) than the comparison group.
Miller, et al. (1999)	452 academically at-risk K-3rd graders (288 FFW; 164 comparison)	FFW students demonstrated a statistically greater gain than comparison group students in auditory comprehension and phonemic awareness (TACL and PAT tests).
Slattery (2003)	60 3rd-5th graders reading below grade level (30 FFW; 30 comparison)	FFW students made significantly greater gains in phonemic awareness and reading ability than the comparison group (Yopp-Singer and QRI-II tests).
SLC (2003) Waupun, WI	46 middle school students performing at grade level (32 FFW; 14 comparison)	Students using FFW made significant improvements in listening comprehension relative to the comparison group, and improved their scores by nearly two-thirds of a standard deviation (from 101.2 to 110.3).
(2005) Reading 1 Product Report	197 1st and 2nd graders from three schools in three different school districts in three different states (98 FFW; 99 comparison)	FFW average improvements on both the phonological awareness and letter-sounds portions of the TOPA assessments were significantly greater than the improvements of the control group.
(2005) Springfield City SD/Kenwood[1]	100 1st and 2nd graders in an urban elementary school (50 FFW; 50 comparison)	Average improvements of FFW participants on both the phonological awareness and letter-sounds portions of the TOPA assessments were significantly greater than the improvements of the control group.
(2006) Manchester, TN	161 first- and second-grade students in a rural elementary school (85 FFW; 76 comparison)	On average, students made significant improvements on the various assessments, with percentiles improving as much as 25 units on the TOPA and 13 units on the DRP.
SLC (2006) Boone, KY	97 students, grades 2 through 5 from suburban elementary schools (43 FFW; 54 comparison)	On average, the students who participated in the study made improvements on the Reading portion of the Scranton Performance Series.
(2006) Pocatello, ID	34 students used FFW to Reading products sequentially; 20 students served as a comparison group.	On average, the Fast ForWord participants at Franklin Middle School made significant gains in reading skills on the Gates-MacGinitie Reading Tests. In four months, they gained more than one year in vocabulary and comprehension skills, making significantly greater gains

[1] Note that this data was also analyzed as part of the Reading 1 product report, combined with data from two other school districts.

		than the comparison group.
(2006) Hicksville, OH	149 fifth and sixth graders from a rural elementary school (62 FFW; 87 comparison)	On average, the Fast ForWord participants at Hicksville Elementary School made gains in reading skills on the Gates-MacGinitie Reading Tests, gaining nearly a year in comprehension skills in just four months.
(2006) Washington Local, OH	152 seventh graders from an urban junior high school (84 FFW; 68 comparison)	On average, the Fast ForWord participants at Jefferson Junior High School made significant gains in reading skills on the Gates-MacGinitie Reading Tests, gaining over half a year in vocabulary and comprehension skills.
(2006) School District #16, Canada	121 2nd graders (75 FFW; 46 comparison). Some of the students from each group were in a French immersion program.	On average, the Fast ForWord group significantly outperformed the comparison group on the TACL-3 subtests. Average improvement on the subtests for the Fast ForWord group was nearly one standard deviation, with the group's overall language score moving from the 45th percentile to the 81st percentile.
SLC (2006) Reading Prep Product Report	48 Kindergarten students attending an elementary school; 25 used the Reading Prep product and 23 were comparison group	On average, both the experimental and comparison groups improved significantly in reading ability as measured by the DIBELS, WJ III, CELF-3, and TOOL. A MANOVA of the Letter-Word Identification subtest of the WJ III revealed that students who used Fast ForWord significantly outperformed the comparison group.

Notes to Table: Participant count is only participants whose results were evaluated in pre/post score differences.

Peer-Reviewed University Studies of Fast ForWord Products

Summaries of many of the studies are available on the Scientific Learning Results webpage (www.scilearn.com/results). More comprehensive reports for some of the studies can be requested from www.scilearn.com/resultsreports. In the case of university-based studies, the reports are summaries of the studies, and the original studies are cited.

A list of selected university-based peer-reviewed studies follow:

Widener University
Slattery, C.A. (2003). The Impact of a Computer-Based Training System on Strengthening Phonemic Awareness and Increasing Reading Ability Level. Doctor of Education dissertation, Widener University. (refer to the study on the Bethlehem Area School District.
summary: http://www.scilearn.com/results/region/northeast/main=home#pa;
abstract: http://muse.widener.edu/~egrozyck/Dissertations/Slattery.html.

East Tennessee State University
Marion, G.G. (2004). An Examination of the Relationship Between Students' Use of the Fast ForWord Reading Program and Their Performance on Standardized Assessments in Elementary Schools. Doctor of Education dissertation, East Tennessee State University.
summary: http://www.scilearn.com/results/region/southeast/main=home#tn;
full report: http://etd-submit.etsu.edu/etd/theses/available/etd-0331104-180636/.

The Johns Hopkins School of Medicine
Schopmeyer, B., Mellon, N., Dobaj, H., Grant, G., & Niparko, J. K. (2000). Use of Fast ForWord to enhance language development in children with cochlear implants. Ann Otol Rhinol Laryngol Suppl, 185, 95-8.
Full report: http://www.annals.com/ -- a link to Supplement 185 can be found at the very end of the December, 2000 page.

Stanford University

Temple, E., Deutsch, G. K., Poldrack, R. A., Miller, S.L., Tallal, P., Merzenich, M. M., & Gabrieli, J. D. E. (2003). Neural deficits in children with dyslexia ameliorated by behavioral remediation: Evidence from functional MRI. Proceedings of the National Academy of Sciences, 100(5), 2860-2865.*

summary: http://www.scilearn.com/results/student/otherpop/main=home/rl#dy;
full report: http://www.pnas.org/cgi/content/abstract/0030098100v1

Temple, E., Poldrack, R. A., Protopapas, A., Nagarajan, S., Salz, T., Tallal, P., Merzenich., M. M., & Gabrieli, J. D. E. (2000). Distruption of the neural response to rapid acoustic stimuli in dyslexia: Evidence from functional MRI. PNAS, 97(35), 13907-13912.*

full report: http://www.pnas.org/cgi/content/abstract/240461697.

Rutgers University / University of California, San Francisco (studies done before the founding of Scientific Learning)

Merzenich, M. M., Jenkins, W. M., Johnston, P., Schreiner, C., Miller, S. L., & Tallal, P. (1996). Temporal processing deficits of language-learning impaired children ameliorated by training. Science, 271(5245), 77-81.

summary: http://www.scilearn.com/results/science/articles/main=sciepublish1
Full report: http://www.sciencemag.org/ (subscription required)

Tallal, P., Miller, S. L., Bedi, G., Byma, 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.

summary: http://www.scilearn.com/results/science/articles/main=sciepublish2
Full report: http://www.sciencemag.org/ (subscription required)

* Scientific Learning personnel who co-authored this study were involved in designing and planning the study, but were not involved in the implementation of the study: assessing the students, analyzing the results, or reporting the results.