

K-12 Tutoring by Adults

Program description:

Most of the tutoring programs included in this review used adult community volunteers, often pre-service teachers in training, to provide one-on-one assistance to first graders struggling to learn to read. Three studies examined the use of certified teachers as tutors, but we did not have sufficient evaluations to separately examine the impact of using teachers as tutors.

Typical age of primary program participant: 6

Typical age of secondary program participant: N/A

Meta-Analysis of Program Effects

Outcomes Measured	Primary or Secondary Participant	No. of Effect Sizes	Unadjusted Effect Sizes (Random Effects Model)			Adjusted Effect Sizes and Standard Errors Used in the Benefit-Cost Analysis					
			ES	SE	p-value	First time ES is estimated			Second time ES is estimated		
						ES	SE	Age	ES	SE	Age
Test scores	P	28	0.21	0.05	0.00	0.12	0.05	7	0.06	0.03	17

Benefit-Cost Summary

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2011). The economic discount rates and other relevant parameters are described in Technical Appendix 2.	Program Benefits					Costs	Summary Statistics			
	Partici-pants	Tax-payers	Other	Other Indirect	Total Benefits		Benefit to Cost Ratio	Return on Invest-ment	Benefits Minus Costs	Probability of a positive net present value
	\$4,309	\$1,586	\$0	\$788	\$6,683	-\$1,992	\$3.36	6%	\$4,691	93%

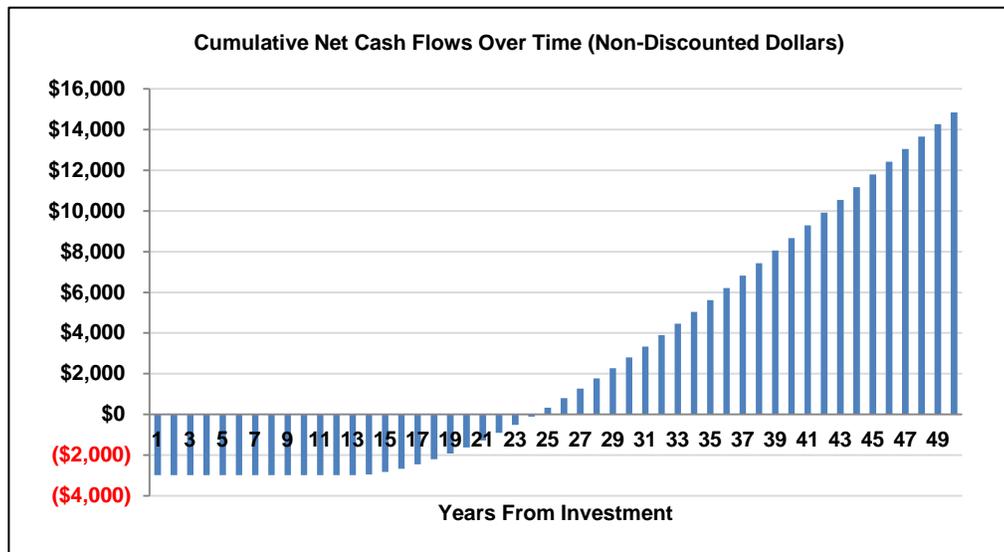
Detailed Monetary Benefit Estimates

Benefits to:						
Source of Benefits	Partici-pants	Tax-payers	Other	Other In-direct	Total Benefits	
Earnings via test scores	\$4,309	\$1,586	\$0	\$788	\$6,683	

Detailed Cost Estimates

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The uncertainty range is used in Monte Carlo risk analysis, described in Technical Appendix 2.	Program Costs			Comparison Costs			Summary Statistics	
	Annual Cost	Program Duration	Year Dollars	Annual Cost	Program Duration	Year Dollars	Present Value of Net Program Costs (in 2011 dollars)	Uncertainty (+ or - %)
	\$1,953	1	2010	\$0	1	2010	\$1,997	20%

Source: Cost estimates are based on the following assumptions derived from the programs described in the studies included in the meta-analysis: on average, the programs lasted for 8 months, with 63 sessions of about 40 minutes each. The programs provide 1 to 5 hours of training and typically use unpaid adults volunteering their time. We use average teacher salaries (including benefits) in Washington State to compute the value of volunteers' time.



Multiplicative Adjustments Applied to the Meta-Analysis

Type of Adjustment	Multiplier
1- Less well-implemented comparison group or observational study, with some covariates.	1.00
2- Well-implemented comparison group design, often with many statistical controls.	1.00
3- Well-done observational study with many statistical controls (e.g., instrumental variables).	1.00
4- Random assignment, with some implementation issues.	1.00
5- Well-done random assignment study.	1.00
Program developer = researcher	0.5
Unusual (not "real-world") setting	0.5
Weak measurement used	0.5

The adjustment factors for these studies are based on our empirical knowledge of the research in a topic area. We performed a multivariate regression analysis of 61 effect sizes from evaluations of tutoring and parent involvement programs (many parent involvement programs are tutoring-based). The analysis examined the relative magnitude of effect sizes for studies rated a 1, 3, or 4 for research design quality, in comparison with a 5 (there were no level 2 studies; the Technical Appendix describes these ratings). We weighted the model using the random effects inverse variance weights for each effect size and included the type of outcome and program as control variables. The results indicated that research designs 1 through 4 should have a multiplier equal to a 5.

Studies Used in the Meta-Analysis

Allor, J., & McCathren, R. (2004). The efficacy of an early literacy tutoring program implemented by college students. *Learning Disabilities Research and Practice, 19*(2), 116-129.

Baker, S., Gersten, R., & Keating, T. (2000). When less may be more: A 2-year longitudinal evaluation of a volunteer tutoring program requiring minimal training. *Reading Research Quarterly, 35*(4), 494-519.

Cobb, J. B. (2001). The effects of an early intervention program with preservice teachers as tutors on the reading achievement of primary grade at risk children. *Reading Horizons, 41*(3), 155-173.

Cook, J. A. (2001). Every moment counts: Pairing struggling young readers with minimally trained tutors. *Dissertation Abstracts International, 62*(08), 2714A.

Kemp, S.C. (2006). Teaching to Read Naturally: Examination of a fluency training program for third grade students. *Dissertation Abstracts International, 67*(07A), 2447A.

Mantzicopoulos, P., Morrison, D., Stone, E., & Setrakian, W. (1992). Use of the SEARCH/TEACH tutoring approach with middle-class students at risk for reading failure. *Elementary School Journal, 92*(5), 573-586.

Mayfield, L. G. (2000). The effects of structured one-on-one tutoring in sight word recognition of first-grade students at-risk for reading failure. *Dissertation Abstracts International, 61*(02), 481A.

McCarthy, P., Newby, R. F., & Recht, D. R. (1995). Results of an early intervention program for first grade children at risk for reading disability. *Reading Research and Instruction, 34*(4), 273-294.

McKinney, A. D. (1995). The effects of an after-school tutorial and enrichment program on the academic achievement and self-concept of below grade level first and second grade students. *Dissertation Abstracts International, 56*(06), 2176A.

Morris, D., Shaw, B., & Perney, J. (1990). Helping low readers in grades 2 and 3: An after-school volunteer tutoring program. *Elementary School Journal, 91*(2), 133-150.

Mostow, J., Aist, G., Burkhead, P., Corbett, A., Cuneo, A., Eitelman, S., . . . Tobin, B. (2003). Evaluation of an automated reading tutor that listens: Comparison to human tutoring and classroom instruction. *Journal of Educational Computing Research, 29*(1), 61-117.

Nielson, B. B. (1992). Effects of parent and volunteer tutoring on reading achievement of third grade at-risk students. *Dissertation Abstracts*

Studies Used in the Meta-Analysis

- International*, 52(10), 3570A.
- Pullen, P. C., Lane, H. B., & Monaghan, M. C. (2004). Effects of a volunteer tutoring model on the early literacy development of struggling first grade students. *Reading Research and Instruction*, 43(4), 21-40.
- Rimm-Kaufman, S. E., Kagan, J., & Byers, H. (1999). The effectiveness of adult volunteer tutoring on reading among "at risk" first grade children. *Reading Research and Instruction*, 38(2), 143-152.
- Ritter, G. W. (2000). The academic impact of volunteer tutoring in urban public elementary schools: Results of an experimental design evaluation. *Dissertation Abstracts International*, 61(03), 890A.
- Rodick, J. D., & Henggeler, S. W. (1980). The short-term and long-term amelioration of academic and motivational deficiencies among low-achieving inner-city adolescents. *Child Development*, 51(4), 1126-1132.
- Vadasy, P. F., Jenkins, J. R., Antil, L. R., Wayne, S. K., & O'Connor, R. E. (1997). The effectiveness of one-to-one tutoring by community tutors for at-risk beginning readers. *Learning Disability Quarterly*, 20(2), 126-139.
- Vadasy, P. F., Jenkins, J. R., & Pool, K. (2000). Effects of tutoring in phonological and early reading skills on students at risk for reading disabilities. *Journal of Learning Disabilities*, 33(6), 579-590.
- Vadasy, P. F., Sanders, E. A., & Tudor, S. (2007). Effectiveness of paraeducator-supplemented individual instruction: Beyond basic decoding skills. *Journal of Learning Disabilities*, 40(6), 508-525.
- Weiss, J. A., Thurlow, M. L., Christenson, S. L., & Ysseldyke, J. E. (1989, March). *Paired reading with adult volunteer tutors as a reading intervention for students with reading difficulties*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA. Retrieved from ERIC database. (ED305606)
- Zimmer, R., Hamilton, L., & Christina, R. (2010). After-school tutoring in the context of no Child Left Behind: Effectiveness of two programs in the Pittsburgh Public Schools. *Economics of Education Review*, 29(1), 18-28.