

Teaching Assistant Interventions

Moderate impact for moderate cost based on moderate evidence

Moderate impact for moderate cost, based on [insert] evidence.

Implementation cost



Evidence strength



Impact (months)



Subject breakdown

maths: 12
reading: 53
toolkit: 65

School phase breakdown

primary: 54
secondary: 11
toolkit: 65

Technical Appendix

The criteria used to judge the inclusion of studies in the Toolkit are:







- The population sampled involved early years and school age learners from 3-18 learning in their first language.
- The intervention or approach being tested was educational in nature, including named or clearly defined programmes and recognisable approaches classifiable according to the Toolkit strand definitions (e.g. peer tutoring or small group teaching). The intervention or approach is undertaken in a normal educational setting or environment for the learners involved, such as a nursery or school or a typical setting (e.g. an outdoor field centre or museum).
- A valid comparison was made between those receiving the educational intervention or approach and those not receiving it.
- Outcomes include the assessment of educational or cognitive achievement which reports quantitative results from testing of attainment or learning outcomes, such as by standardised tests or other appropriate curriculum assessments or school examinations or appropriate cognitive measures.
- The study design provided a quantitative estimate of the impact of the intervention or approach on the educational attainment of the sample, calculated or estimated in the form of an effect size (standardised mean difference) based on a counterfactual comparison.

Standardised mean differences and confidence intervals for the most appropriate estimates of the impact of the intervention or approach for the Toolkit were extracted from each included study, along with other study variables. These effect sizes were further synthesised into a single pooled effect using a random effects meta-analysis adopting a restricted maximum likelihood (REML) estimation methods. For the full details of the methodology see the [Protocol and Analysis Plan \(https://educationendowmentfoundation.org.uk/public/files/Toolkit/EEF_Evidence_Database_Protocol_and_Analysis_Plan_June2019.pdf\)](https://educationendowmentfoundation.org.uk/public/files/Toolkit/EEF_Evidence_Database_Protocol_and_Analysis_Plan_June2019.pdf).










References (65)










The forest plot below is a graphical representation of the results of all included studies in this Toolkit strand. It shows the effect size and confidence interval of each study, and whether the particular intervention in that study was more or less effective than standard practice or other alternative interventions that the study looked at.

Studies that show an effect size result on the right-hand side of the red vertical red indicate that the particular intervention studied was more effective than standard practice. Studies that show an effect size on the left-hand side of the red vertical indicate that the particular intervention studied was less effective than standard practice.









Author	Title	Effect Size	Effect Size (Graph)
Gibbs (2001)	Effects of a one-to-one phonological awareness intervention on first-grade students identified as at risk for the acquisition of beginning reading (NA)	Effect Size: 1.62 LCI: 1.032 UCI: 2.208 Weight: 1.145 Standard error: 0.3	
MacLeod (2007)	Giving Psychology Away: Helping Pupils at Risk of Reading Failure by Means of a Self-Voice Feedback Programme (<i>School Psychology International</i>)	Effect Size: 1.602 LCI: 1.067 UCI: 2.136 Weight: 1.255 Standard error: 0.273	
Cole (2009)	Ten weeks of academic intervention designed to improve math word problem solving among middle school students: Effects of a randomized pilot study (NA)	Effect Size: 1.423 LCI: 0.547 UCI: 2.299 Weight: 0.708 Standard error: 0.447	
Hund-Reid (2013)	Effectiveness of phonological awareness intervention for kindergarten children with language impairment (<i>Canadian Journal of Speech-Language Pathology and Audiology</i>)	Effect Size: 1.2 LCI: 0.396 UCI: 2.004 Weight: 0.796 Standard error: 0.41	
Dorval (1978) TA	Field evaluation of a tutorial reading program emphasizing phoneme identification skills (<i>The Reading Teacher</i>)	Effect Size: 1.164 LCI: 0.475 UCI: 1.852 Weight: 0.964 Standard error: 0.351	
Gray (2007)	Added Value or a Familiar Face?: The Impact of Learning Support Assistants on Young Readers (<i>Journal of Early Childhood Research</i>)	Effect Size: 1.15 LCI: 0.651 UCI: 1.649 Weight: 1.335 Standard error: 0.254	










Author	Title	Effect Size	Effect Size (Graph)
Ryder (2008)	Explicit instruction in phonemic awareness and phonemically based decoding skills as an intervention strategy for struggling readers in whole language classrooms <i>(Reading and Writing)</i>	Effect Size: 1.064 LCI: 0.199 UCI: 1.93 Weight: 0.72 Standard error: 0.442	
Brown (2005)	Intervention After Grade 1: Serving Increased Numbers of Struggling Readers Effectively <i>(Journal of Literacy Research)</i>	Effect Size: 1.049 LCI: 0.583 UCI: 1.515 Weight: 1.411 Standard error: 0.238	
Fricke (2013)	Efficacy of Language Intervention in the Early Years <i>(Journal of Child Psychology and Psychiatry)</i>	Effect Size: 0.97 LCI: 0.382 UCI: 1.558 Weight: 1.145 Standard error: 0.3	
Vadasy (2006)	Code-oriented instruction for kindergarten students at risk for reading difficulties: A randomized field trial with paraeducator implementers <i>(Journal of Educational Psychology)</i>	Effect Size: 0.952 LCI: 0.446 UCI: 1.459 Weight: 1.317 Standard error: 0.258	
Vadasy (2005)	Relative effectiveness of reading practice or word-level instruction in supplemental tutoring: How text matters. <i>(Journal of Learning Disabilities)</i>	Effect Size: 0.813 LCI: 0.148 UCI: 1.478 Weight: 1.004 Standard error: 0.339	
Goetz (2008)	Training reading and phoneme awareness skills in children with Down syndrome <i>(Reading and Writing)</i>	Effect Size: 0.8 LCI: -0.18 UCI: 1.78 Weight: 0.603 Standard error: 0.5	
Vadasy (2010)	Efficacy of Supplemental Phonics-Based Instruction for Low-Skilled Kindergarteners in the Context of Language Minority Status and Classroom Phonics Instruction <i>(Journal of Educational Psychology)</i>	Effect Size: 0.766 LCI: 0.256 UCI: 1.277 Weight: 1.307 Standard error: 0.261	
Vadasy (2013)	Longer term effects of a Tier 2 kindergarten vocabulary intervention for English learners <i>(Remedial and Special Education)</i>	Effect Size: 0.694 LCI: 0.16 UCI: 1.229 Weight: 1.255 Standard error: 0.273	
Nelson (2010)	The Efficacy of Supplemental Early Literacy Instruction by Community-Based Tutors for Preschoolers Enrolled in Head Start <i>(Journal of Research on Educational Effectiveness)</i>	Effect Size: 0.692 LCI: 0.261 UCI: 1.124 Weight: 1.495 Standard error: 0.22	





Author	Title	Effect Size	Effect Size (Graph)
Gwernan-Jones (2018)	A Pilot Evaluation of the Reading Intervention 'Own-Voice Intensive Phonics' (<i>Journal of Research in Special Educational Needs</i>)	Effect Size: 0.644 LCI: -0.184 UCI: 1.471 Weight: 0.766 Standard error: 0.422	
Bunn (2008)	The effectiveness of Additional Literacy Support (ALS) in years 3 and 4 (<i>Dyslexia: An International Journal of Research and Practice</i>)	Effect Size: 0.625 LCI: 0.158 UCI: 1.091 Weight: 1.41 Standard error: 0.238	
Guerrero (2015)	Examining the Impact of Supplemental Direct Instruction Delivered by Bilingual Paraprofessionals to English Language Learners Struggling to Read in English (<i>NA</i>)	Effect Size: 0.6 LCI: -0.38 UCI: 1.58 Weight: 0.603 Standard error: 0.5	
Jason (1994)	Academic Follow-Up Data on Two Cohorts of High-Risk Transfer Students (<i>NA</i>)	Effect Size: 0.591 LCI: 0.202 UCI: 0.98 Weight: 1.601 Standard error: 0.198	
Hund-Reid (2008)	The effectiveness of phonological awareness intervention for kindergarten children with moderate to severe language impairment (<i>NA</i>)	Effect Size: 0.59 LCI: -0.233 UCI: 1.413 Weight: 0.771 Standard error: 0.42	
Vadasy (2008) TA	Benefits of Repeated Reading Intervention for Low-Achieving Fourth- and Fifth-Grade Students (<i>Remedial and Special Education</i>)	Effect Size: 0.497 LCI: 0.13 UCI: 0.863 Weight: 1.659 Standard error: 0.187	
Vadasy (2007)	Effectiveness of paraeducator-supplemented individual instruction: Beyond basic decoding skills (<i>Journal of Learning Disabilities</i>)	Effect Size: 0.468 LCI: -0.139 UCI: 1.074 Weight: 1.109 Standard error: 0.31	
Haley (2017)	Oral language skills intervention in pre-school-a cautionary tale (<i>International Journal of Language & Communication Disorders</i>)	Effect Size: 0.46 LCI: -0.52 UCI: 1.44 Weight: 0.603 Standard error: 0.5	
Clarke (2017)	Reading Intervention for Poor Readers at the Transition to Secondary School (<i>Scientific Studies of Reading</i>)	Effect Size: 0.454 LCI: 0.117 UCI: 0.792 Weight: 1.735 Standard error: 0.172	

Author	Title	Effect Size	Effect Size (Graph)
Vadasy (2008) TA	Code-oriented instruction for kindergarten students at risk for reading difficulties: a replication and comparison of instructional groupings (<i>Reading and Writing</i>)	Effect Size: 0.435 LCI: -0.061 UCI: 0.931 Weight: 1.341 Standard error: 0.253	
Merrell (2015)	Butterfly Phonics: Evaluation Report and Executive Summary (<i>NA</i>)	Effect Size: 0.43 LCI: 0.018 UCI: 0.842 Weight: 1.544 Standard error: 0.21	
Miller (2003)	Partners-in-Reading: Using Classroom Assistants To Provide Tutorial Assistance to Struggling First-Grade Readers (<i>Journal of Education for Students Placed at Risk</i>)	Effect Size: 0.411 LCI: 0.011 UCI: 0.812 Weight: 1.572 Standard error: 0.204	
Holmes (2013)	Catch Up Numeracy: a targeted intervention for children who are low-attaining in mathematics (<i>Research in Mathematics Education</i>)	Effect Size: 0.4 LCI: 0.165 UCI: 0.635 Weight: 1.992 Standard error: 0.12	
Roberts (2010)	Using precision teaching to enhance the word reading skills and academic self-concept of secondary school students: A role for professional educational psychologists (<i>Educational Psychology in Practice</i>)	Effect Size: 0.397 LCI: -0.165 UCI: 0.958 Weight: 1.199 Standard error: 0.286	
Savage (2003)	The effects of rime- and phoneme- based teaching delivered by Learning Support Assistants (<i>Journal of Research in Reading</i>)	Effect Size: 0.357 LCI: -0.089 UCI: 0.804 Weight: 1.457 Standard error: 0.228	
Graham (2007)	QuickSmart: A basic academic skills intervention for middle school students with learning difficulties (<i>Journal of Learning Disabilities</i>)	Effect Size: 0.355 LCI: -0.355 UCI: 1.065 Weight: 0.93 Standard error: 0.362	
Wang (2008) TA	Effects of targeted intervention on early literacy skills of at-risk students (<i>Journal of Research in Childhood Education</i>)	Effect Size: 0.349 LCI: -0.023 UCI: 0.721 Weight: 1.645 Standard error: 0.19	
Sibieta (2016)	REACH: Evaluation report and executive summary (<i>NA</i>)	Effect Size: 0.33 LCI: 0.14 UCI: 0.52 Weight: 2.095 Standard error: 0.097	

Author	Title	Effect Size	Effect Size (Graph)
Graves (2010)	Emergent Literacy Skills Achievement of Kindergarteners in Relation to Sample Demographics in Southeastern Connecticut (NA)	Effect Size: 0.318 LCI: -0.363 UCI: 0.999 Weight: 0.977 Standard error: 0.347	
Jones (2016)	A Multiple-Cutoff Regression-Discontinuity Analysis of the Effects of Tier 2 Reading Interventions in a Title I Elementary School (NA)	Effect Size: 0.304 LCI: 0.024 UCI: 0.585 Weight: 1.88 Standard error: 0.143	
Ratcliff (2009)	The effects of the reading first program on the acquisition of early literacy skills: A comparative study (NA)	Effect Size: 0.272 LCI: 0.051 UCI: 0.494 Weight: 2.026 Standard error: 0.113	
Sibieta (2016)	Nuffield Early Language Intervention: Evaluation Report and Executive Summary (NA)	Effect Size: 0.27 LCI: 0.074 UCI: 0.466 Weight: 2.082 Standard error: 0.1	
Dockrell (2015)	Talk for Writing: Evaluation Report and Executive Summary (NA)	Effect Size: 0.26 LCI: 0.103 UCI: 0.417 Weight: 2.161 Standard error: 0.08	
Lee (2016)	Supporting language in schools: Evaluating an intervention for children with delayed language in the early school years (Child Language Teaching and Therapy)	Effect Size: 0.244 LCI: -0.124 UCI: 0.613 Weight: 1.655 Standard error: 0.188	
Gorard (2014)	Switch-on Reading: Evaluation report and executive summary (NA)	Effect Size: 0.237 LCI: 0.013 UCI: 0.461 Weight: 2.018 Standard error: 0.114	
McNally (2016) 1_1	ABRA: Online Reading Support. Evaluation Report and Executive Summary (NA)	Effect Size: 0.231 LCI: 0.229 UCI: 0.233 Weight: 2.319 Standard error: 0.001	
Rutt (2014)	Catch Up® Numeracy: Evaluation report and executive summary (NA)	Effect Size: 0.21 LCI: -0.005 UCI: 0.425 Weight: 2.04 Standard error: 0.11	

Author	Title	Effect Size	Effect Size (Graph)
See (2018)	Maths Counts: Evaluation report and executive summary (NA)	Effect Size: 0.205 LCI: -0.025 UCI: 0.435 Weight: 2.004 Standard error: 0.118	
Styles (2015)	Talk for Literacy: Evaluation Report and Executive Summary (NA)	Effect Size: 0.2 LCI: -0.016 UCI: 0.416 Weight: 2.038 Standard error: 0.11	
Vadasy (2009)	Supplemental Fluency Intervention and Determinants of Reading Outcomes (Scientific Studies of Reading)	Effect Size: 0.182 LCI: -0.172 UCI: 0.535 Weight: 1.693 Standard error: 0.18	
Nunes (2018)	1stClass@Number: Evaluation report and executive summary (NA)	Effect Size: 0.18 LCI: -0.075 UCI: 0.435 Weight: 1.944 Standard error: 0.13	
Biggart (2015)	Tutoring with Alphie: Evaluation report and executive summary (NA)	Effect Size: 0.164 LCI: -0.299 UCI: 0.627 Weight: 1.418 Standard error: 0.236	
Fricke (2017)	The Efficacy of Early Language Intervention in Mainstream School Settings: A Randomized Controlled Trial (Journal of Child Psychology and Psychiatry)	Effect Size: 0.146 LCI: -0.074 UCI: 0.367 Weight: 2.027 Standard error: 0.112	
Hodgen (2019)	Catch Up Numeracy (Effectiveness Trial)- Evaluation report and executive summary (NA)	Effect Size: 0.128 LCI: 0.035 UCI: 0.221 Weight: 2.261 Standard error: 0.048	
Hatcher (2006)	Efficacy of Small Group Reading Intervention for Beginning Readers with Reading-Delay: A Randomised Controlled Trial (Journal of Child Psychology and Psychiatry)	Effect Size: 0.124 LCI: -0.324 UCI: 0.571 Weight: 1.456 Standard error: 0.228	
Rutt (2015)	Catch Up @ Literacy: Evaluation report and executive summary (NA)	Effect Size: 0.12 LCI: -0.015 UCI: 0.255 Weight: 2.2 Standard error: 0.069	

Author	Title	Effect Size	Effect Size (Graph)
Muijs (2003)	The effectiveness of the use of learning support assistants in improving the mathematics achievement of low achieving pupils in primary school <i>(Educational Research)</i>	Effect Size: 0.098 LCI: -0.059 UCI: 0.255 Weight: 2.161 Standard error: 0.08	
Burgoyne (2012)	Efficacy of a Reading and Language Intervention for Children with Down Syndrome: A Randomized Controlled Trial <i>(Journal of Child Psychology and Psychiatry)</i>	Effect Size: 0.097 LCI: -0.437 UCI: 0.631 Weight: 1.257 Standard error: 0.272	
Duff (2014)	Reading and language intervention for children at risk of dyslexia: A randomised controlled trial <i>(Journal of Child Psychology and Psychiatry)</i>	Effect Size: 0.089 LCI: -0.436 UCI: 0.613 Weight: 1.277 Standard error: 0.268	
Cooper (2016) TA	An exploratory evaluation of a paired maths intervention with secondary aged pupils <i>(NA)</i>	Effect Size: 0.024 LCI: -0.68 UCI: 0.729 Weight: 0.939 Standard error: 0.359	
Word (1990)	The State of Tennessee's Student/Teacher Achievement Ratio (STAR) Project: Technical Report (1985-1990) <i>(NA)</i>	Effect Size: 0.018 LCI: -0.105 UCI: 0.141 Weight: 2.22 Standard error: 0.063	
Roy (2019)	Catch Up Literacy (Effectiveness Trial) - Evaluation report and executive summary <i>(NA)</i>	Effect Size: 0.01 LCI: -0.16 UCI: 0.18 Weight: 2.136 Standard error: 0.087	
Bennett (2013)	Computerized memory training leads to sustained improvement in visuospatial short-term memory skills in children with Down-syndrome <i>(American Journal on Intellectual and Developmental Disabilities)</i>	Effect Size: 0.003 LCI: -0.853 UCI: 0.86 Weight: 0.731 Standard error: 0.437	
Patel (2017)	Switch-On Effectiveness Trial: Evaluation report and executive summary <i>(NA)</i>	Effect Size: 0.001 LCI: -0.129 UCI: 0.131 Weight: 2.208 Standard error: 0.066	
Blatchford (2007)	The role and effects of teaching assistants in English primary schools (Years 4 to 6) 2000-2003. Results from the Class Size and Pupil-Adult Ratios (CSPAR) KS2 Project <i>(British Educational Research Journal)</i>	Effect Size: 0 LCI: -0.245 UCI: 0.245 Weight: 1.969 Standard error: 0.125	

Author	Title	Effect Size	Effect Size (Graph)
Welch (1995)	A consultation and paraprofessional pull-in system of service delivery: A report on student outcomes and teacher satisfaction <i>(Remedial and Special Education)</i>	Effect Size: -0.003 LCI: -0.13 UCI: 0.124 Weight: 2.214 Standard error: 0.065	
Vadasy (2008)	Repeated reading intervention: Outcomes and interactions with readers' skills and classroom instruction <i>(Journal of Educational Psychology)</i>	Effect Size: -0.006 LCI: -0.314 UCI: 0.302 Weight: 1.81 Standard error: 0.157	
Swain (2010)	An evaluation of the implementation of the reading intervention programme : using teaching assistants to deliver evidence based literacy intervention <i>(NA)</i>	Effect Size: -0.03 LCI: -0.235 UCI: 0.176 Weight: 2.061 Standard error: 0.105	
Sheard (2015)	Units of Sound: Evaluation report and executive summary <i>(NA)</i>	Effect Size: -0.08 LCI: -0.27 UCI: 0.11 Weight: 2.095 Standard error: 0.097	
Lapsely (2002)	Teacher aides, class size and student achievement: A preliminary evaluation of Indiana's prime time <i>(Paper presented at the annual meeting of the American Educational Research Association)</i>	Effect Size: -0.258 LCI: -0.372 UCI: -0.145 Weight: 2.234 Standard error: 0.058	