Peer tutoring

High impact for very low cost based on extensive evidence

Peer tutoring includes a range of approaches in which learners work in pairs or small groups to provide each other with explicit teaching support.

Implementation cost

£ £ £ £ £

Evidence strength

Impact (months)

+5 months

Subject breakdown

maths: 54
reading: 62
toolkit: 127

School phase breakdown

primary: 91
secondary: 34
toolkit: 127

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)
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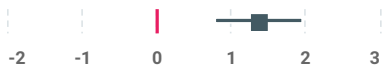
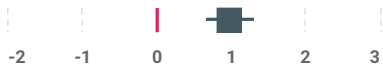
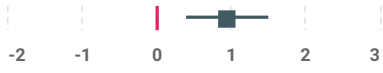
References (127)

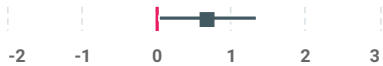
The forest plot below is a graphical representation of the results of all included studies in this Toolkit strand. It shows the effect size and confidence interval of each study, and whether the particular intervention in that study was more or less effective than standard practice or other alternative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

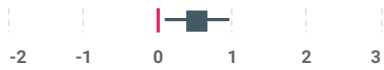
Author	Title	Effect Size	Effect Size (Graph)
Fisher (2001)	Cross Age Tutoring: Alternatives to the Reading Resources Room for Struggling Adolescent Readers *(Journal of Instructional Psychology)*	**Effect Size**: 1.801 **LCI**: 1.099 **UCI**: 2.504 **Weight**: 0.513 **Standard error**: 0.358	
Arblaster (1991)	Same-Age Tutoring, Mastery Learning and the Mixed Ability Teaching of Reading *(School Psychology International)*	**Effect Size**: 1.687 **LCI**: 0.9 **UCI**: 2.474 **Weight**: 0.442 **Standard error**: 0.402	
Yang (2016)	Improving Pupils' Mathematical Communication Abilities Through Computer-Supported Reciprocal Peer Tutoring *(Journal of Educational Technology & Society)*	**Effect Size**: 1.585 **LCI**: 0.95 **UCI**: 2.221 **Weight**: 0.578 **Standard error**: 0.324	
Fantuzzo (1992)	Effects of Reciprocal Peer Tutoring on Mathematics and School Adjustment: A Component Analysis *(Journal of Educational Psychology)*	**Effect Size**: 1.538 **LCI**: 0.736 **UCI**: 2.339 **Weight**: 0.432 **Standard error**: 0.409	
McCracken (1979)	The effect of a peer tutoring program utilizing data-based instruction on the word recognition and reading comprehension skills of secondary age level handicapped students. *(NA)*	**Effect Size**: 1.367 **LCI**: 0.782 **UCI**: 1.951 **Weight**: 0.635 **Standard error**: 0.298	
Paquette (2009) 1_2	Integrating the 6 + 1 writing traits model with cross-age tutoring: An investigation of elementary students' writing development *(Literacy Research and Instruction)*	**Effect Size**: 1.268 **LCI**: 0.656 **UCI**: 1.88 **Weight**: 0.603 **Standard error**: 0.312	

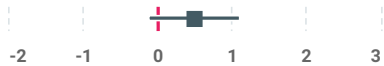
Author	Title	Effect Size	Effect Size (Graph)
Eldredge (1988) PT	Increasing reading performance of low-achieving second graders with dyad reading groups. *(Journal of Educational Research)*	**Effect Size**: 1.146 **LCI**: 0.605 **UCI**: 1.687 **Weight**: 0.687 **Standard error**: 0.276	
Truesdale (1976)	The effects of assigned tutorial responsibilities on low attaining students. *(NA)*	**Effect Size**: 1.146 **LCI**: 0.634 **UCI**: 1.659 **Weight**: 0.724 **Standard error**: 0.262	
Scruggs (1986) PT 1_2	Tutoring Interventions within Special Education Settings: A Comparison of Cross-Age and Peer Tutoring *(Psychology in the Schools)*	**Effect Size**: 1.134 **LCI**: 0.367 **UCI**: 1.9 **Weight**: 0.458 **Standard error**: 0.391	
Menesses (2009)	Relative Efficacy of Reciprocal and Nonreciprocal Peer Tutoring for Students At-Risk for Academic Failure *(School Psychology Quarterly)*	**Effect Size**: 1.121 **LCI**: 0.356 **UCI**: 1.887 **Weight**: 0.459 **Standard error**: 0.39	
Taylor (1997)	Helping struggling readers: Linking small-group intervention with cross-age tutoring *(Reading Teacher)*	**Effect Size**: 1.11 **LCI**: 0.19 **UCI**: 2.03 **Weight**: 0.355 **Standard error**: 0.469	
Baker (2005)	Teacher-directed instruction plus classwide peer tutoring and the reading growth of first-grade students *(NA)*	**Effect Size**: 1.096 **LCI**: 0.423 **UCI**: 1.769 **Weight**: 0.54 **Standard error**: 0.343	
Bar-Eli (1982)	Underachievers as tutors *(Journal of Educational Research)*	**Effect Size**: 1.054 **LCI**: 0.514 **UCI**: 1.594 **Weight**: 0.689 **Standard error**: 0.275	
Sharpley (1983)	An Examination of the Effectiveness of a Cross-age Tutoring Program in Mathematics for Elementary School Children *(American Educational Research Journal)*	**Effect Size**: 1.04 **LCI**: 0.801 **UCI**: 1.279 **Weight**: 1.142 **Standard error**: 0.122	
Yarrow (2001)	Collaborative writing: The effects of metacognitive prompting and structured peer interaction *(British Journal of Educational Psychology)*	**Effect Size**: 0.985 **LCI**: 0.163 **UCI**: 1.806 **Weight**: 0.417 **Standard error**: 0.419	

Author	Title	Effect Size	Effect Size (Graph)
Top (1985) PT	The effects of reverse-role tutoring on reading achievement and self-concept *(NA)*	**Effect Size**: 0.98 **LCI**: 0.647 **UCI**: 1.313 **Weight**: 0.992 **Standard error**: 0.17	
White (2000)	Promoting mathematics achievement, academic efficacy, and cognitive development of at -risk adolescents through deliberate psychological education *(NA)*	**Effect Size**: 0.967 **LCI**: 0.413 **UCI**: 1.521 **Weight**: 0.67 **Standard error**: 0.283	
Heller (1992)	Reciprocal peer tutoring and parent partnership: Does parent involvement make a difference? *(NA)*	**Effect Size**: 0.942 **LCI**: 0.378 **UCI**: 1.507 **Weight**: 0.658 **Standard error**: 0.288	
Goyen (1994)	Pause, Prompt and Praise: The need for more research *(Journal of Research in Reading)*	**Effect Size**: 0.933 **LCI**: -0.094 **UCI**: 1.96 **Weight**: 0.3 **Standard error**: 0.524	
Mathes (2001) PT 1_1	The Effects of Peer-Assisted Literacy Strategies for First-Grade Readers With and Without Additional Mini-Skills Lessons *(Learning Disabilities Research & Practice)*	**Effect Size**: 0.806 **LCI**: -0.009 **UCI**: 1.621 **Weight**: 0.422 **Standard error**: 0.416	
Paquette (2003)	Cross-age tutoring writing program: Investigation of academic achievements and attitudes among elementary students *(NA)*	**Effect Size**: 0.778 **LCI**: 0.326 **UCI**: 1.23 **Weight**: 0.808 **Standard error**: 0.23	
Sprinthall (1989) PT	Promoting psychological development, math achievement, and success attribution of female students through deliberate psychological education. *(Journal of Counseling Psychology)*	**Effect Size**: 0.765 **LCI**: 0.02 **UCI**: 1.51 **Weight**: 0.476 **Standard error**: 0.38	
Duff (1974)	Primary level tutors as an instructional resource *(Reading Improvement)*	**Effect Size**: 0.749 **LCI**: 0.005 **UCI**: 1.493 **Weight**: 0.477 **Standard error**: 0.38	
Mathes (2001) 1_1	The effects of Peer Assisted Learning Strategies for first grade readers with and without additional computer assisted instruction in phonological awareness. *(American Educational Research Journal)*	**Effect Size**: 0.734 **LCI**: 0.263 **UCI**: 1.206 **Weight**: 0.78 **Standard error**: 0.241	

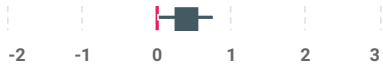
Author	Title	Effect Size	Effect Size (Graph)
Tierney (2005)	A critical investigation of a cross -age peer tutoring program: Silver bullet, social threat, or sound policy *(NA)*	**Effect Size**: 0.711 **LCI**: 0.304 **UCI**: 1.117 **Weight**: 0.876 **Standard error**: 0.207	
Fuchs (1997)	Peer-assisted learning strategies: Making classrooms more responsive to diversity *(American Educational Research Journal)*	**Effect Size**: 0.71 **LCI**: 0.34 **UCI**: 1.079 **Weight**: 0.934 **Standard error**: 0.188	
Scruggs (1986) PT 1_1	Tutoring Interventions within Special Education Settings: A Comparison of Cross-Age and Peer Tutoring *(Psychology in the Schools)*	**Effect Size**: 0.693 **LCI**: -0.012 **UCI**: 1.398 **Weight**: 0.51 **Standard error**: 0.36	
Kahl (1994)	Using elaborative interrogation to facilitate acquisition of factual information in cooperative learning settings: One good strategy deserves another *(Applied Cognitive Psychology)*	**Effect Size**: 0.682 **LCI**: -0.022 **UCI**: 1.387 **Weight**: 0.511 **Standard error**: 0.36	
Atherley (1989)	Shared Reading: An experiment in peer tutoring in the primary classrooms *(Educational Studies)*	**Effect Size**: 0.681 **LCI**: 0.024 **UCI**: 1.339 **Weight**: 0.555 **Standard error**: 0.336	
Ginsburg-Block (1997)	Reciprocal peer tutoring: An analysis of "teacher" and "student" interactions as a function of training and experience *(School Psychology Quarterly)*	**Effect Size**: 0.677 **LCI**: 0.038 **UCI**: 1.316 **Weight**: 0.574 **Standard error**: 0.326	
Fuchs (1997)	Effects of task-focused goals on low-achieving students with and without learning disabilities *(American Educational Research Journal)*	**Effect Size**: 0.668 **LCI**: 0.029 **UCI**: 1.307 **Weight**: 0.575 **Standard error**: 0.326	
Hannah (2008)	Attitudinal study: The interaction of students taking calculus and prerequisite courses while participating in peer tutorials *(NA)*	**Effect Size**: 0.658 **LCI**: 0.238 **UCI**: 1.078 **Weight**: 0.855 **Standard error**: 0.214	
Fuchs (1995)	Acquisition and transfer effects of classwide peer-assisted learning strategies in mathematics for students with varying learning histories *(School Psychology Review)*	**Effect Size**: 0.619 **LCI**: -0.017 **UCI**: 1.255 **Weight**: 0.578 **Standard error**: 0.324	

Author	Title	Effect Size	Effect Size (Graph)
Ginsburg-Block (1998)	An Evaluation of the Relative Effectiveness of NCTM Standards-Based Interventions for Low-Achieving Urban Elementary Students *(Journal of Educational Psychology)*	**Effect Size**: 0.614 **LCI**: 0.22 **UCI**: 1.008 **Weight**: 0.896 **Standard error**: 0.201	
Greenwood (1989)	Longitudinal Effects of Classwide Peer Tutoring *(Journal of Educational Psychology)*	**Effect Size**: 0.607 **LCI**: 0.244 **UCI**: 0.97 **Weight**: 0.944 **Standard error**: 0.185	
Swanson (1974)	Buddy-Tutor Project. Hilo Intermediate School. Final Report, March-July, 1974 *(NA)*	**Effect Size**: 0.605 **LCI**: -0.008 **UCI**: 1.218 **Weight**: 0.602 **Standard error**: 0.313	
Topping (2004)	Cross-Age Peer Tutoring of Science in the Primary School: Influence on scientific language and thinking *(Educational Psychology)*	**Effect Size**: 0.596 **LCI**: -0.041 **UCI**: 1.233 **Weight**: 0.577 **Standard error**: 0.325	
Gardner (1973)	The effects of intergrade tutoring with group guidance activities on the reading achievement, self-concept, attitudes toward school and behavior of third-grade and fourth-grade tutors and on the reading achievement and behavior of first-grade and second-grade tutees. *(NA)*	**Effect Size**: 0.594 **LCI**: 0.183 **UCI**: 1.005 **Weight**: 0.869 **Standard error**: 0.21	
Singh (1981)	Peer-tutoring: Its effects on the math skills of students designated as learning disabled. *(NA)*	**Effect Size**: 0.588 **LCI**: 0.184 **UCI**: 0.991 **Weight**: 0.88 **Standard error**: 0.206	
Mathes (2003)	A comparison of teacher-directed versus peer-assisted instruction to struggling first-grade readers *(The Elementary School Journal)*	**Effect Size**: 0.585 **LCI**: 0.129 **UCI**: 1.041 **Weight**: 0.802 **Standard error**: 0.233	
Oakland (1975)	An evaluation of two methods of peer tutoring *(Psychology in the Schools)*	**Effect Size**: 0.583 **LCI**: -0.303 **UCI**: 1.469 **Weight**: 0.375 **Standard error**: 0.452	
Friedman (1990) PT	An evaluation of the relative sensitivity to student growth in reading and spelling of standardized achievement tests and curriculum-based measures *(NA)*	**Effect Size**: 0.569 **LCI**: -0.452 **UCI**: 1.591 **Weight**: 0.303 **Standard error**: 0.521	

Author	Title	Effect Size	Effect Size (Graph)
Phelps (1989)	Problem Solving With Equals: Peer Collaboration as a Context for Learning Mathematics and Spatial Concepts *(Journal of Educational Psychology)*	**Effect Size**: 0.556 **LCI**: 0.066 **UCI**: 1.047 **Weight**: 0.753 **Standard error**: 0.25	
Topping (2004)	Cross-age peer tutoring of reading and thinking: Influence on thinking skills *(Educational Psychology)*	**Effect Size**: 0.542 **LCI**: 0.119 **UCI**: 0.964 **Weight**: 0.851 **Standard error**: 0.216	
Inglis (2002)	Enhancing self -direction in low achieving elementary school students: A cross -age tutoring study *(NA)*	**Effect Size**: 0.532 **LCI**: 0.049 **UCI**: 1.015 **Weight**: 0.764 **Standard error**: 0.246	
Mooney (1986) PT	The Effects of Peer Tutoring on Student Achievement *(NA)*	**Effect Size**: 0.531 **LCI**: -0.199 **UCI**: 1.261 **Weight**: 0.488 **Standard error**: 0.372	
Early (1998)	The impact of peer tutoring on self-esteem and Texas Assessment of Academic Skills mathematics performance of tenth-grade students *(NA)*	**Effect Size**: 0.528 **LCI**: 0.293 **UCI**: 0.763 **Weight**: 1.148 **Standard error**: 0.12	
Chu (2017)	Effects of an online formative peer-tutoring approach on students' learning behaviors, performance and cognitive load in mathematics *(Interactive Learning Environments)*	**Effect Size**: 0.524 **LCI**: 0.078 **UCI**: 0.97 **Weight**: 0.817 **Standard error**: 0.228	
Naseerali (2013)	Effectiveness of Structured Peer Tutoring on the Achievement in Physics at Secondary Level *(Online Submission)*	**Effect Size**: 0.522 **LCI**: 0.049 **UCI**: 0.996 **Weight**: 0.777 **Standard error**: 0.242	
Simmons (1995)	Effects of Explicit Teaching and Peer Tutoring on the Reading Achievement of Learning-Disabled and Low-Performing Students in Regular Classrooms *(The Elementary School Journal)*	**Effect Size**: 0.521 **LCI**: -0.078 **UCI**: 1.119 **Weight**: 0.619 **Standard error**: 0.305	
Abbondanza (2013)	Assessing the Effectiveness of Peer-Assisted Learning Strategies (PALS) Reading Program on Sixth-Grade Students Comprehension, Fluency, and Attitude Toward Reading, with Nonfiction Texts *(NA)*	**Effect Size**: 0.517 **LCI**: 0.171 **UCI**: 0.864 **Weight**: 0.971 **Standard error**: 0.177	

Author	Title	Effect Size	Effect Size (Graph)
Gregg (1994)	The use of storybook reading in a cross-age tutoring program to enhance the reading skills of low-ability high school students *(NA)*	**Effect Size**: 0.505 **LCI**: -0.059 **UCI**: 1.069 **Weight**: 0.659 **Standard error**: 0.288	
Shamir (2006)	Peer Mediation: The Effects of Program Intervention, Maths Level, and Verbal Ability on Mediation Style and Improvement in Maths Problem Solving *(School Psychology International)*	**Effect Size**: 0.504 **LCI**: 0.12 **UCI**: 0.888 **Weight**: 0.911 **Standard error**: 0.196	
Mathes (2001) 1_2	The effects of Peer Assisted Learning Strategies for first grade readers with and without additional computer assisted instruction in phonological awareness. *(American Educational Research Journal)*	**Effect Size**: 0.5 **LCI**: 0.039 **UCI**: 0.961 **Weight**: 0.795 **Standard error**: 0.235	
Sutherland (1999)	Collaborative creative writing in eight-year-olds: Comparing cross-ability fixed role and same-ability reciprocal role pairing *(Journal of Research in Reading)*	**Effect Size**: 0.496 **LCI**: -0.002 **UCI**: 0.994 **Weight**: 0.743 **Standard error**: 0.254	
Gudbrandsen (2005) PT	The effect of tutoring and metacognition on 5th- and 6th-grade students' reading strategies, reading comprehension, and attitude toward reading *(NA)*	**Effect Size**: 0.486 **LCI**: -0.126 **UCI**: 1.097 **Weight**: 0.604 **Standard error**: 0.312	
Jackson (2016)	The effects of peer assisted learning strategies reading intervention on fifth and sixth grade English as a Second Language and English-proficient pairs *(NA)*	**Effect Size**: 0.485 **LCI**: -0.3 **UCI**: 1.269 **Weight**: 0.445 **Standard error**: 0.4	
Jacobson (2001)	Cross-Age Tutoring: A Literacy Improvement Approach for Struggling Adolescent Readers *(Journal of Adolescent & Adult Literacy)*	**Effect Size**: 0.485 **LCI**: 0.153 **UCI**: 0.817 **Weight**: 0.995 **Standard error**: 0.169	
Lazarus (2014)	Effect of peer tutoring and cooperative learning instructional strategies on mathematics achievement of students with learning disabilities in Oyo State, Nigeria *(African journal for the psychological studies of social issues)*	**Effect Size**: 0.481 **LCI**: 0.091 **UCI**: 0.871 **Weight**: 0.901 **Standard error**: 0.199	
Fuchs (1999)	Effects of peer-assisted learning strategies on high school students with serious reading problems *(Remedial and Special Education)*	**Effect Size**: 0.477 **LCI**: 0.083 **UCI**: 0.871 **Weight**: 0.895 **Standard error**: 0.201	

Author	Title	Effect Size	Effect Size (Graph)
Ivory (2007)	Improving Mathematics Achievement of Exceptional Learners through Differentiated and Peer-Mediated Instruction *(NA)*	**Effect Size**: 0.466 **LCI**: -0.412 **UCI**: 1.345 **Weight**: 0.38 **Standard error**: 0.448	
Davenport (1999)	Conceptual gain and successful problem-solving in primary school mathematics *(Educational Studies)*	**Effect Size**: 0.462 **LCI**: -0.02 **UCI**: 0.945 **Weight**: 0.764 **Standard error**: 0.246	
van Oudenhoven (1987)	Effects of cooperation and feedback by fellow-pupils on spelling-achievement *(European Journal of Psychology of Education)*	**Effect Size**: 0.442 **LCI**: 0.219 **UCI**: 0.665 **Weight**: 1.167 **Standard error**: 0.114	
Fuchs (2001)	Enhancing kindergartners' mathematical development: Effects of peer-assisted learning strategies *(Elementary School Journal)*	**Effect Size**: 0.418 **LCI**: 0.107 **UCI**: 0.729 **Weight**: 1.027 **Standard error**: 0.159	
Judith (1988) PT	Effects of Two Instructional Approaches and Peer Tutoring on Gifted and Nongifted Sixth-Grade Students' Analogy Performance *(Reading Research Quarterly)*	**Effect Size**: 0.414 **LCI**: 0.075 **UCI**: 0.752 **Weight**: 0.983 **Standard error**: 0.173	
Novotni (1985)	Peer tutoring: a study of its effect on mathematic achievement and attitude on ninth grade math I students of Harrisburg High School (Experimental, Inner city, Pennsylvania) *(NA)*	**Effect Size**: 0.411 **LCI**: -0.136 **UCI**: 0.958 **Weight**: 0.679 **Standard error**: 0.279	
Calhoon (2003)	The effects of peer-assisted learning strategies and curriculum-based measurement on the mathematics performance of secondary students with disabilities *(Remedial and Special Education)*	**Effect Size**: 0.4 **LCI**: -0.013 **UCI**: 0.813 **Weight**: 0.866 **Standard error**: 0.211	
Bruno (2004)	The effects of participation in a cross -age tutoring program on the writing behaviors and attitudes of the students in the role of the tutor *(NA)*	**Effect Size**: 0.399 **LCI**: 0.146 **UCI**: 0.652 **Weight**: 1.121 **Standard error**: 0.129	
Carlton (1985)	The effects of an intraclass peer tutoring program on the sight-word recognition ability of students who are mildly low attainers *(NA)*	**Effect Size**: 0.392 **LCI**: 0.138 **UCI**: 0.645 **Weight**: 1.12 **Standard error**: 0.129	

Author	Title	Effect Size	Effect Size (Graph)
Azcoitia (1989) PT	Structured peer tutoring in Chicago's vocational education program *(NA)*	**Effect Size**: 0.386 **LCI**: 0.011 **UCI**: 0.76 **Weight**: 0.926 **Standard error**: 0.191	
Stein (2008)	Scaling Up an Early Reading Program: Relationships Among Teacher Support, Fidelity of Implementation, and Student Performance Across Different Sites and Years *(Educational Evaluation and Policy Analysis)*	**Effect Size**: 0.364 **LCI**: 0.264 **UCI**: 0.463 **Weight**: 1.318 **Standard error**: 0.051	
Shisler (1986) PT	Behaviorally Disordered Students as Reverse-Role Tutors: Increasing Social Acceptance and Reading Skills *(B. C. Journal of Special Education)*	**Effect Size**: 0.363 **LCI**: -0.213 **UCI**: 0.939 **Weight**: 0.644 **Standard error**: 0.294	
Dion (2011)	Improving Attention and Preventing Reading Difficulties among Low-Income First-Graders: A Randomized Study *(Prevention Science)*	**Effect Size**: 0.362 **LCI**: 0.12 **UCI**: 0.605 **Weight**: 1.138 **Standard error**: 0.124	
Greenwood (1991)	Classwide Peer Tutoring: Longitudinal Effects on the Reading, Language, and Mathematics Achievement of At-Risk Students *(Journal of Reading, Writing, and Learning Disabilities International)*	**Effect Size**: 0.351 **LCI**: 0.083 **UCI**: 0.618 **Weight**: 1.098 **Standard error**: 0.136	
Fantuzzo (1995)	Effects of Parent Involvement in Isolation or in Combination With Peer Tutoring on Student Self-Concept and Mathematics Achievement *(Journal of Educational Psychology)*	**Effect Size**: 0.342 **LCI**: -0.217 **UCI**: 0.901 **Weight**: 0.664 **Standard error**: 0.285	
Craker (1981)	Helping poor readers in the primary school: A study of a cross-grade tutoring, read-along approach *(Australian Journal of Reading)*	**Effect Size**: 0.332 **LCI**: -0.028 **UCI**: 0.693 **Weight**: 0.948 **Standard error**: 0.184	
Brush (1997)	The effects on student achievement and attitudes when using integrated learning systems with cooperative pairs *(Educational Technology Research and Development)*	**Effect Size**: 0.317 **LCI**: -0.206 **UCI**: 0.84 **Weight**: 0.71 **Standard error**: 0.267	
Stainback (1972)	Effects of Student to Student Tutoring on Arithmetic Achievement and Personal Social Adjustment of Low Achieving Tutees and High Achieving Tutors *(Education and Training of the Mentally Retarded)*	**Effect Size**: 0.317 **LCI**: -0.044 **UCI**: 0.678 **Weight**: 0.947 **Standard error**: 0.184	

Author	Title	Effect Size	Effect Size (Graph)
Spörer (2009)	Fostering the reading comprehension of secondary school students through peer-assisted learning: Effects on strategy knowledge, strategy use, and task performance *(Contemporary Educational Psychology)*	**Effect Size**: 0.31 **LCI**: 0.016 **UCI**: 0.604 **Weight**: 1.055 **Standard error**: 0.15	
Mathes (1993)	Peer-mediated reading instruction in special education resource rooms *(Learning Disabilities Research & Practice)*	**Effect Size**: 0.3 **LCI**: -0.21 **UCI**: 0.81 **Weight**: 0.728 **Standard error**: 0.26	
Hilger (2000)	Cross -age tutoring in reading: Academic and attitudinal effects from high-school tutors and third-grade tutees *(NA)*	**Effect Size**: 0.299 **LCI**: -0.161 **UCI**: 0.76 **Weight**: 0.796 **Standard error**: 0.235	
Fuchs (2002)	Enhancing First-Grade Children's Mathematical Development with Peer-Assisted Learning Strategies. *(School Psychology Review)*	**Effect Size**: 0.296 **LCI**: 0.077 **UCI**: 0.514 **Weight**: 1.173 **Standard error**: 0.112	
Codding (2011)	Early number skills: Examining the effects of class-wide interventions on kindergarten performance *(School Psychology Quarterly)*	**Effect Size**: 0.286 **LCI**: -0.205 **UCI**: 0.776 **Weight**: 0.754 **Standard error**: 0.25	
Gmitter (1989)	Effects of microcomputer-assisted instruction and classwide peer tutoring on computational skill achievement of third-grade students *(NA)*	**Effect Size**: 0.286 **LCI**: -0.16 **UCI**: 0.731 **Weight**: 0.817 **Standard error**: 0.227	
Hardegree (2012)	Peer mentoring: Effects on ninth grade student achievement *(NA)*	**Effect Size**: 0.282 **LCI**: -0.155 **UCI**: 0.719 **Weight**: 0.83 **Standard error**: 0.223	
Merrill (2002)	The complicated effects of cross -age tutoring on biology students *(NA)*	**Effect Size**: 0.28 **LCI**: -0.108 **UCI**: 0.668 **Weight**: 0.905 **Standard error**: 0.198	
Parham (1993)	An analysis of the effects of tutoring on seventh-grade students engaged in the mastery of pre-algebra concepts *(NA)*	**Effect Size**: 0.27 **LCI**: -0.166 **UCI**: 0.705 **Weight**: 0.832 **Standard error**: 0.222	

Author	Title	Effect Size	Effect Size (Graph)
Mathes (2001) PT 1_2	The Effects of Peer-Assisted Literacy Strategies for First-Grade Readers With and Without Additional Mini-Skills Lessons *(Learning Disabilities Research & Practice)*	**Effect Size**: 0.269 **LCI**: -0.258 **UCI**: 0.796 **Weight**: 0.705 **Standard error**: 0.269	
Mathes (1998)	Peer-assisted learning strategies for first-grade readers: Responding to the needs of diverse learners *(Reading Research Quarterly)*	**Effect Size**: 0.266 **LCI**: -0.26 **UCI**: 0.793 **Weight**: 0.706 **Standard error**: 0.268	
Wu (1973) PT	The effects of a peer tutorial program on academic achievement and self-concept of low achieving high school mathematics student *(NA)*	**Effect Size**: 0.26 **LCI**: -0.063 **UCI**: 0.584 **Weight**: 1.008 **Standard error**: 0.165	
Tymms (2011) 1_2	Improving attainment across a whole district: School reform through peer tutoring in a randomized controlled trial *(School Effectiveness and School Improvement)*	**Effect Size**: 0.258 **LCI**: 0.091 **UCI**: 0.424 **Weight**: 1.245 **Standard error**: 0.085	
Fitz-Gibbon (1990)	Success and failure in peer tutoring experiments *(Explorations in peer tutoring)*	**Effect Size**: 0.251 **LCI**: -0.282 **UCI**: 0.784 **Weight**: 0.697 **Standard error**: 0.272	
Fuchs (1997)	Enhancing Students' Helping Behavior during Peer-Mediated Instruction with Conceptual Mathematical Explanations *(Elementary School Journal)*	**Effect Size**: 0.238 **LCI**: -0.385 **UCI**: 0.86 **Weight**: 0.592 **Standard error**: 0.318	
Swenson (1975)	Effects of peer tutoring in regular elementary classrooms on sociometric status, self-concept and arithmetic achievement of slow learning tutors and learners in a special education resource program. *(NA)*	**Effect Size**: 0.208 **LCI**: -0.371 **UCI**: 0.788 **Weight**: 0.64 **Standard error**: 0.296	
Stephens (2002)	Cross -age tutoring program coordinated with classroom instruction: Effects on elementary students' reading and writing achievement *(NA)*	**Effect Size**: 0.201 **LCI**: -0.28 **UCI**: 0.681 **Weight**: 0.767 **Standard error**: 0.245	
Nazzal (2002)	Peer Tutoring and At-Risk Students: An Exploratory Study *(Action in Teacher Education)*	**Effect Size**: 0.171 **LCI**: -0.346 **UCI**: 0.688 **Weight**: 0.718 **Standard error**: 0.264	

Author	Title	Effect Size	Effect Size (Graph)
Jenkins (1991) PT	Development of a school building model for educating students with handicaps and at-risk students in general education classrooms *(Journal of Learning Disabilities)*	**Effect Size**: 0.17 **LCI**: -0.189 **UCI**: 0.528 **Weight**: 0.951 **Standard error**: 0.183	
Smith (2010)	Examining the effectiveness of peer-tutoring and computer-aided instruction for mastery of multiplication facts *(NA)*	**Effect Size**: 0.168 **LCI**: -0.302 **UCI**: 0.639 **Weight**: 0.781 **Standard error**: 0.24	
Allsopp (1995)	Classwide peer tutoring and the acquisition of algebra problem-solving skills for middle school students at risk of math failure in mainstream general math classes *(NA)*	**Effect Size**: 0.16 **LCI**: -0.084 **UCI**: 0.403 **Weight**: 1.136 **Standard error**: 0.124	
Osguthorpe (1986) PT	The effects of three types of tutoring on the attitude of learning disabled students and their regular class peers *(Handicapped Children as Tutors. 1983-84--Final Report)*	**Effect Size**: 0.141 **LCI**: -0.565 **UCI**: 0.846 **Weight**: 0.51 **Standard error**: 0.36	
Van Keer (2004)	Fostering reading comprehension in fifth grade by explicit instruction in reading strategies and peer tutoring *(British Journal of Educational Psychology)*	**Effect Size**: 0.123 **LCI**: -0.175 **UCI**: 0.42 **Weight**: 1.049 **Standard error**: 0.152	
Lamport (1982)	The effects of inverse tutoring on reading disabled students in a public school setting *(NA)*	**Effect Size**: 0.117 **LCI**: -0.461 **UCI**: 0.695 **Weight**: 0.642 **Standard error**: 0.295	
Top (1987) PT	Reverse-Role Tutoring: The Effects of Handicapped Students Tutoring Regular Class Students *(Elementary School Journal)*	**Effect Size**: 0.111 **LCI**: -0.205 **UCI**: 0.427 **Weight**: 1.02 **Standard error**: 0.161	
Cairo (2005)	Cross-Age Tutoring Phase II--An Experiment *(NA)*	**Effect Size**: 0.109 **LCI**: -0.264 **UCI**: 0.482 **Weight**: 0.928 **Standard error**: 0.19	
Carberry (2003)	The effects of cross -age tutoring in reading on tutees, tutors and metacognitively trained tutors *(NA)*	**Effect Size**: 0.109 **LCI**: -0.256 **UCI**: 0.474 **Weight**: 0.942 **Standard error**: 0.186	

Author	Title	Effect Size	Effect Size (Graph)
Stevens (1987)	Cooperative Integrated Reading and Composition: Two Field Experiments *(Reading Research Quarterly)*	**Effect Size**: 0.107 **LCI**: -0.076 **UCI**: 0.289 **Weight**: 1.224 **Standard error**: 0.093	
Bramlett (1994)	Implementing cooperative learning: A field study evaluating issues for school-based consultants *(Journal of School Psychology)*	**Effect Size**: 0.102 **LCI**: -0.096 **UCI**: 0.3 **Weight**: 1.203 **Standard error**: 0.101	
Sanderson (1992)	Cross-age peer tutoring in science *(School Science Review)*	**Effect Size**: 0.102 **LCI**: -0.389 **UCI**: 0.592 **Weight**: 0.754 **Standard error**: 0.25	
Karagiannakis (2008)	Classwide Peer Tutoring: Social status and self-concept of boys with and without behaviour problems *(NA)*	**Effect Size**: 0.1 **LCI**: -0.113 **UCI**: 0.314 **Weight**: 1.181 **Standard error**: 0.109	
Cooper (2016) PT	An exploratory evaluation of a paired maths intervention with secondary aged pupils *(NA)*	**Effect Size**: 0.084 **LCI**: -0.61 **UCI**: 0.777 **Weight**: 0.521 **Standard error**: 0.354	
Topping (2011)	Outcomes in a randomised controlled trial of mathematics tutoring *(Educational Research)*	**Effect Size**: 0.082 **LCI**: -0.003 **UCI**: 0.166 **Weight**: 1.33 **Standard error**: 0.043	
Taylor (2002)	The effects of classwide peer tutoring on spelling achievement, reading fluency, and reading comprehension *(NA)*	**Effect Size**: 0.062 **LCI**: -0.449 **UCI**: 0.573 **Weight**: 0.726 **Standard error**: 0.261	
Paquette (2009) 1_1	Integrating the 6 + 1 writing traits model with cross-age tutoring: An investigation of elementary students' writing development *(Literacy Research and Instruction)*	**Effect Size**: 0.049 **LCI**: -0.621 **UCI**: 0.718 **Weight**: 0.544 **Standard error**: 0.342	
Fuchs (1999)	Effects of peer-assisted learning strategies in reading with and without training in elaborated help giving *(Elementary School Journal)*	**Effect Size**: 0.046 **LCI**: -0.433 **UCI**: 0.525 **Weight**: 0.769 **Standard error**: 0.244	

Author	Title	Effect Size	Effect Size (Graph)
Erickson (1972)	Evaluating a tutoring program *(Journal of Experimental Education)*	**Effect Size**: 0.046 **LCI**: -0.272 **UCI**: 0.364 **Weight**: 1.016 **Standard error**: 0.162	
Tymms (1989)	Peer Tutoring with A Level Chemistry students *(Paired Learning: Tutoring by Non-Teachers: Incorporating the Paired Reading Bulleting)*	**Effect Size**: 0.044 **LCI**: -1.088 **UCI**: 1.176 **Weight**: 0.257 **Standard error**: 0.578	
Van Keer (2010)	The impact of cross-age peer tutoring on third and sixth graders' reading strategy awareness, reading strategy use, and reading comprehension *(Middle Grades Research Journal)*	**Effect Size**: 0.042 **LCI**: -0.13 **UCI**: 0.215 **Weight**: 1.238 **Standard error**: 0.088	
Siemens (2001)	The effects of cross -age tutoring on the cognitive achievement of tutors during activity -based science lessons *(NA)*	**Effect Size**: 0.03 **LCI**: -0.366 **UCI**: 0.427 **Weight**: 0.891 **Standard error**: 0.202	
Lloyd (2015)	Durham Shared Maths Project: Evaluation report and executive summary *(NA)*	**Effect Size**: 0.015 **LCI**: -0.042 **UCI**: 0.072 **Weight**: 1.347 **Standard error**: 0.029	
Tymms (2011) 1_1	Improving attainment across a whole district: School reform through peer tutoring in a randomized controlled trial *(School Effectiveness and School Improvement)*	**Effect Size**: -0.012 **LCI**: -0.173 **UCI**: 0.149 **Weight**: 1.252 **Standard error**: 0.082	
Hugger (2014)	Evaluating the effects of Peer-Assisted Learning Strategies (PALS) in mathematics plus an anxiety treatment on achievement and anxiety of third grade students *(NA)*	**Effect Size**: -0.029 **LCI**: -0.634 **UCI**: 0.577 **Weight**: 0.61 **Standard error**: 0.309	
Lloyd (2015)	Paired Reading: Evaluation report and executive summary *(NA)*	**Effect Size**: -0.038 **LCI**: -0.106 **UCI**: 0.031 **Weight**: 1.341 **Standard error**: 0.035	
Moore (1993) PT	Effects of strategy training and classwide peer tutoring on the reading comprehension of students with learning disabilities *(NA)*	**Effect Size**: -0.128 **LCI**: -1.317 **UCI**: 1.061 **Weight**: 0.237 **Standard error**: 0.607	

Author	Title	Effect Size	Effect Size (Graph)
Durand (2008)	Using classwide peer tutoring to increase high school math students' academic performance *(Culminating Experience Action Research Projects, Volume 10, Spring 2007)*	**Effect Size**: -0.129 **LCI**: -0.802 **UCI**: 0.544 **Weight**: 0.54 **Standard error**: 0.343	
Schneck (2010)	The effects of after-school peer tutoring programs in mathematics *(NA)*	**Effect Size**: -0.166 **LCI**: -0.595 **UCI**: 0.263 **Weight**: 0.841 **Standard error**: 0.219	
Fuchs (1998)	Comparisons among individual and cooperative performance assessments and other measures of mathematics competence *(Elementary School Journal)*	**Effect Size**: -0.355 **LCI**: -0.7 **UCI**: -0.009 **Weight**: 0.972 **Standard error**: 0.176	
Wiersema (1992)	Effects of cooperation on spelling achievement at three age levels (Grades 2, 4, and 6) *(European Journal of Psychology of Education)*	**Effect Size**: -0.442 **LCI**: -0.665 **UCI**: -0.219 **Weight**: 1.167 **Standard error**: 0.114