

Definition

Teaching explicit reading comprehension strategies aims to improve learners' fluency and comprehension of written text by focusing on approaches and techniques a learner can use and take responsibility for themselves. It involves teaching a range of techniques that enable pupils to comprehend the meaning of what is written, such as inferring the meaning from context, summarising or identifying key points, using graphic or semantic organisers, developing questioning strategies, monitoring their own comprehension and identifying difficulties themselves (see also Meta-cognition and self-regulation).

Search terms: reading comprehension strategies; text comprehension strategies.

Evidence rating

There are seven meta-analyses which look at improving reading by developing reading comprehension strategies, five of which have been undertaken in the last 10 years. These mainly focus on helping low attaining readers aged 8 - 18 to catch up with their peers, rather than accelerating normal progress so tend to have relatively small samples. The evidence in this area dates back over last 30 years, with a majority of studies were conducted in the USA. The pooled effect sizes range between 0.10 to 0.52 (less than half of a standard deviation). Overall the evidence is rated as very extensive.

References

Full references
Berkeley, S., Mastropieri, M. A., & Scruggs, T. E. (2011). Reading comprehension strategy instruction and attribution retraining for secondary students with learning and other mild disabilities. <i>Journal of Learning Disabilities</i> , 44(1), 18-32. http://dx.doi.org/10.1177/0022219410371677
*Berkeley, S., Scruggs, T. E., & Mastropieri, M. A. (2010). Reading comprehension instruction for students with learning disabilities, 1995–2006: A meta-analysis. <i>Remedial and Special Education</i> . 31 (6): 423-436 http://dx.doi.org/10.1177/0741932509355988
Crawford, C. & Skipp, A. (2014) <i>LIT Programme Evaluation Report and Executive Summary October 2014</i> . London: EEF
*Davis, D. S. (2010). A meta-analysis of comprehension strategy instruction for upper elementary and middle school students (Doctoral dissertation, Vanderbilt University, USA). http://etd.library.vanderbilt.edu/available/etd-06162010-100830/unrestricted/Davis_dissertation.pdf
*Edmonds, M. S., Vaughn, S., Wexler, J., Reutebuch, C., Cable, A., Tackett, K. K., & Schnakenberg, J. W. (2009). A synthesis of reading interventions and effects on reading comprehension outcomes for older struggling readers. <i>Review of Educational Research</i> , 79(1), 262-300. http://www.dx.doi.org/10.3102/0034654308325998 .



*Elleman, A. M., Lindo, E. J., Morphy, P., & Compton, D. L. (2009). The impact of vocabulary instruction on passage-level comprehension of school-age children: A meta-analysis. *Journal of Research on Educational Effectiveness*, 2(1), 1-44. <http://www.tandfonline.com/doi/abs/10.1080/19345740802539200#.VMZuGv6sVK0>

*Fauzan, N. (2003). The effects of metacognitive strategies on reading comprehension: a quantitative synthesis and the empirical investigation (Doctoral dissertation, University of Durham). <http://etheses.dur.ac.uk/1086/>

*Fukkink, R. G., & De Glopper, K. (1998). Effects of instruction in deriving word meaning from context: A meta-analysis. *Review of Educational Research*, 68(4), 450-469. <http://www.dx.doi.org/10.3102/00346543068004450>

Ness, M. (2011). Explicit reading comprehension instruction in elementary classrooms: Teacher use of reading comprehension strategies. *Journal of Research in Childhood Education*, 25(1), 98-117. <http://www.dx.doi.org/10.1080/02568543.2010.531076>

*Scammacca, N. K., Roberts, G., Vaughn, S., & Stuebing, K. K. (2015). A meta-analysis of interventions for struggling readers in Grades 4–12: 1980–2011. *Journal of Learning Disabilities*, 48(4): 369-390 <http://www.dx.doi.org/10.1177/0022219413504995>

Scammacca, N., Roberts, G., Vaughn, S., Edmonds, M., Wexler, J., Reutebuch, C. K., & Torgesen, J. K. (2007). *Interventions for Adolescent Struggling Readers: A Meta-Analysis with Implications for Practice*. Portsmouth, NH: RMC Research Corporation: Center on Instruction.

Shanahan, T., Callison, K., Carriere, C., Duke, N. K., Pearson, P. D., Schatschneider, C., & Torgesen, J. (2010). *Improving Reading Comprehension in Kindergarten through 3rd Grade: IES Practice Guide*. NCEE 2010-4038. What Works Clearinghouse. <http://files.eric.ed.gov/fulltext/ED512029.pdf>

Stetter, M. E., & Hughes, M. T. (2010). Computer-Assisted Instruction to Enhance the Reading Comprehension of Struggling Readers: A Review of the Literature. *Journal of Special Education Technology*, 25(4). <http://www.tamcec.org/jset/index/>

Suggate, S. P. (2014). A Meta-Analysis of the Long-Term Effects of Phonemic Awareness, Phonics, Fluency, and Reading Comprehension Interventions. *Journal of Learning Disabilities*, <http://www.dx.doi.org/10.1177/0022219414528540>

*Studies included in the summary of effects.

References for Australasia-specific studies can be found in the *Australasian Research Summary* for this topic, available as a link on the Toolkit page.

Summary of effects	
Study	Effect size
Berkeley et al. 2010	0.52
Davis 2010	0.36
Edmonds et al. 2009	0.47
Elleman et al. 2009	0.10
Fauzan 2003	0.50
Fukkink & De Glopper 1998	0.43
Scammacca et al. 2015	0.49
<i>Recent single studies</i>	
Crawford et al. 2014 (EEF- LIT Programme)	0.09
Berkeley et al, 2011	0.71
Weighted mean effect size	0.42

For more information about the effect sizes in the Toolkit, click [here](#).

Meta-analyses abstracts	
Study	Abstract
Davis, 2010	This meta-analytic review includes intervention studies published between 1980 and 2009 in which students in grades 4-8 are taught to use two or more comprehension strategies. The collected studies were coded using a systematic data extraction scheme developed to address the central questions of the review. Information related to the characteristics of the student sample and instructional and methodological characteristics of each study were compiled in a database. Numerical effect sizes for each study for each major outcome measure were computed. The mean effect of comprehension strategy instruction on each of the targeted outcome constructs was calculated to provide an overall summary of instructional effectiveness.
Edmonds, Vaughn, Wexler, Reutebuch, Cable Tackett & Schnakenberg, 2009	This article reports a synthesis of intervention studies conducted between 1994 and 2004 with older students (Grades 6–12) with reading difficulties. Interventions addressing decoding, fluency, vocabulary, and comprehension were included if they measured the effects on reading comprehension. Twenty-nine studies were located and synthesized. Thirteen studies met criteria for a meta-analysis, yielding an effect size (ES) of 0.89 for the weighted average of the difference in comprehension outcomes between treatment and comparison students. Word-level interventions were associated with ES = 0.34 in comprehension outcomes between treatment and comparison.
Elleman, Lindo, Morphy & Compton, 2009	A meta-analysis of vocabulary interventions in grades pre-K to 12 was conducted with 37 studies to better understand the impact of vocabulary on comprehension. Vocabulary instruction was found to be effective at increasing students' ability to comprehend text with custom measures ($d = 0.50$), but was less effective for standardized measures ($d = 0.10$). When considering only custom measures, and controlling for method variables, students with reading difficulties ($d = 1.23$) benefited more than three times as much as students without reading problems ($d = 0.39$) on comprehension measures. Gains on vocabulary measures, however, were comparable across reading ability. In addition, the correlation of vocabulary and comprehension effects from studies reporting both outcomes was modest ($r = .43$).
Fauzan, 2003	<p>The purpose of the study was to investigate the effectiveness of metacognitive strategies on reading comprehension by means of (a) a meta-analysis and (b) an experiment designed following the meta-analysis implemented in Sarawak, Malaysia. Before the meta-analysis, the prevalent theories and issues in the reading literature such as metacognition, models of reading, measurements, motivation and previous meta-analysis were discussed to provide a better understanding of the research area in this study.</p> <p>A meta-analytic procedure conducted to review the primary research studies of metacognitive strategies used effect size as the measure of effectiveness. Searching for the articles and theses in the 1980s until 2001 yielded a record of 473 abstracts and articles from which there were twenty seven studies with a total number of eighty two effect sizes that could be quantitatively synthesized to compare the group performance of the experimental and control groups.</p> <p>The weighted effect size was 0.50 (95% CI = 0.45 to 0.56) when dependent effect sizes were synthesized, and 0.55 (95% CI=0.48 to 0.63) when the extreme 'outliers' or deviated effect sizes were excluded</p>

	and independent effect sizes were created. Overall, the effect size was moderate indicating a positive outcome of the metacognitive strategies. The effect sizes were not homogeneous and further analyses of the qualitative and quantitative features of the studies were made to develop possible reliable estimates.
Fukkink & De Glopper, 1998	A meta-analysis of 21 instructional treatments aimed at enhancing the skill of deliberately deriving word meaning from context during reading shows a medium effect size of 0.43 standard deviation units ($p < .000$). An exploratory multilevel regression analysis shows that clue instruction appears to be more effective than other instruction types or just practice ($\beta = 0.40$). Effect size correlates negatively with class size ($\beta = .03$). Implications for instruction and future research are discussed. Future studies should investigate the effect of instruction on both the skill of deriving word meaning from context and incidental word learning to evaluate its contribution to vocabulary growth.
Scammacca, Roberts, Vaughn & Stuebing, 2013	This meta-analysis synthesizes the literature on interventions for struggling readers in Grades 4 through 12 published between 1980 and 2011. It updates Scammacca et al.'s analysis of studies published between 1980 and 2004. The combined corpus of 82 study-wise effect sizes was meta-analyzed to determine (a) the overall effectiveness of reading interventions studied over the past 30 years, (b) how the magnitude of the effect varies based on student, intervention, and research design characteristics, and (c) what differences in effectiveness exist between more recent interventions and older ones. The analysis yielded a mean effect of 0.49, considerably smaller than the 0.95 mean effect reported in 2007. The mean effect for standardized measures was 0.21, also much smaller than the 0.42 mean effect reported in 2007. The mean effects for reading comprehension measures were similarly diminished. Results indicated that the mean effects for the 1980–2004 and 2005–2011 groups of studies were different to a statistically significant degree. The decline in effect sizes over time is attributed at least in part to increased use of standardized measures, more rigorous and complex research designs, differences in participant characteristics, and improvements in the school's "business-as-usual" instruction that often serves as the comparison condition in intervention studies.
Scammacca, Roberts, Vaughn, Edmonds, Wexler, Reutebuch & Torgesen, 2007	This meta-analysis offers decision-makers research-based guidance for intervening with adolescent struggling readers. The authors outline major implications for practice: (1) Adolescence is not too late to intervene. Interventions do benefit older students; (2) Older students with reading difficulties benefit from interventions focused at both the word and the text level; (3) Older students with reading difficulties benefit from improved knowledge of word meanings and concepts; (4) Word-study interventions are appropriate for older students struggling at the word level; (5) Teachers can provide interventions that are associated with positive effects; (6) Teaching comprehension strategies to older students with reading difficulties is beneficial; (7) Older readers' average gains in reading comprehension are somewhat smaller than those in other reading and reading-related areas studied; (8) Older students with learning disabilities (LD) benefit from reading intervention when it is appropriately focused; and (9) To learn more about instructional conditions that could close the reading gap for struggling readers, individuals will need studies that provide instruction over longer periods of time and assess outcomes with measures more like those schools use to monitor reading progress of all students. This report summarizes aspects of recent research on reading instruction for adolescent struggling readers. It both synthesizes research findings to determine the



	<p>relative effectiveness of interventions for struggling older readers and outlines the implications of these findings for practice. Its purpose is to advance the knowledge of technical assistance providers working with state departments of education and local education agencies concerning reading-related issues for students with reading difficulties and learning disabilities (LD). While the authors' methods and general findings are described, they are presented in terms of their impact on practice and policy. Specific suggestions for implementing these and other research findings are provided in an accompanying practice brief (ED521836). This report is intended primarily for technical assistance providers at Regional Comprehensive Centers for their use in crafting evidence- based guidance for states and local educational agencies.</p>
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