
Technical Appendix

Oral language interventionsⁱ

Moderate impact for very low cost, based on extensive evidence.



+ 5

Definition

Oral language interventions are defined as approaches involving the use of spoken language and verbal interaction in a classroom setting. Oral language approaches include: targeted reading aloud and discussing books with young children; explicitly extending pupils' spoken vocabulary; the use of structured questioning to develop reading comprehension; and approaches which focus on effective dialogue and interaction in relation to specific learning outcomes.

Search terms: oral language interventions; dialogic/interactive reading; joint book reading; speaking and listening; communication skills; talk for writing

Evidence Rating

There are eleven meta-analyses, which demonstrate consistent positive results in younger, older and disadvantaged learners. The evidence base includes a number of high quality studies in UK schools. Additional evidence about matching specific programmes or approaches to particular learners' needs either by age or by attainment would also be useful. Overall the evidence is rated as extensive.

Cost Information

Overall, the costs are estimated as very low, typically around £40 per pupil. Direct financial costs are limited to additional resources such as books for discussion, and professional development for teachers, which is likely to enhance the benefits for learning. In a number of recent UK evaluations the costs ranged between £10 per pupil per year and £487 per pupil per year (depending on whether staff costs were additional or absorbed by the school). The median per pupil costs per year across these evaluations were £40. The mean cost was higher, at £111, but this was driven largely by a more expensive intervention for very young children.

References

1. *Alexander, R.*
Improving oracy and classroom talk in English schools: Achievements and challenges
DfE Seminar on Oracy, the National Curriculum and Educational Standards (Vol. 20)
(2012)
2. *Blok, H.*
Reading to Young Children in Educational Settings: A Meta-Analysis of Recent Research
Language Learning, 49(2), 343-371
(1999)
3. *Bus, A. G., Van Ijzendoorn, M. H., & Pellegrini, A. D.*
Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy
Review of educational research, 65(1), 1-21
(1995)
4. *Davis, D. S.*
A meta-analysis of comprehension strategy instruction for upper elementary and middle school students
PhD thesis Vanderbilt University
(2010)
5. *Elleman, A. M., Lindo, E. J., Morphy, P., & Compton, D. L.*
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
(2009)
6. *Gorard, S. Siddiqui, N. & See, B.H.*
Philosophy for Children (P4C) Evaluation Report

Education Endowment Foundation, London
(2015)

-
7. *Guthrie, J. T., McRae, A., & Klauda, S. L.*
Contributions of concept-oriented reading instruction to knowledge about interventions for motivations in reading
Educational Psychologist, 42(4), 237-250
(2007)
 8. *Hanley, P., Slavin, R. & Elliott, L.*
Thinking, Doing, Talking Science Evaluation report
Education Endowment Foundation, London
(2015)
 9. *Jalongo, M. R.*
Listening in early childhood: An interdisciplinary review of the literature
The International Journal of Listening, 24(1), 1-18
(2010)
 10. *Jay, T., Willis, B., Thomas, P., Taylor, R. Moore, R., Burnett, C. Merchant, G. & Stevens, A.*
Dialogic Teaching Evaluation report
Education Endowment Foundation, London
(2017)
 11. *Marulis, L. M., & Neuman, S. B.*
The Effects of Vocabulary Intervention on Young Children's Word Learning A Meta-Analysis
Review of Educational Research, 80(3), 300-335
(2010)
 12. *Mol, S.E., Bus. A.G. & Maria T. de Jong*
Interactive Book Reading in Early Education: A Tool to Stimulate Print Knowledge as Well as Oral Language
Review of Educational Research, Vol. 79, No. 2, pp. 979-1007
(2009)
 13. *Murphy, P. K., Wilkinson, I. A., Soter, A. O., Hennessey, M. N., & Alexander, J. F.*
Examining the effects of classroom discussion on students' comprehension of text: A meta-analysis

Journal of Educational Psychology, 101(3), 740
(2009)

-
14. *Sibieta, L., Kotecha, M. & Skipp, A.*
Nuffield Early Language Intervention Evaluation report
Education Endowment Foundation, London
(2016)
 15. *Stahl, S. A., & Miller, P. D.*
Whole language and language experience approaches for beginning reading: A quantitative research synthesis
Review of Educational Research, 59(1), 87-116
(1989)
 16. *Strong, G. K., Torgerson, C. J., Torgerson, D., & Hulme, C.*
A systematic meta-analytic review of evidence for the effectiveness of the 'Fast ForWord' language intervention program
Journal of Child Psychology and Psychiatry, 52(3), 224-235
(2011)
 17. *Styles, B. Clarkson, & R. Fowler, K*
Chatterbooks: Evaluation Report and Executive Summary
EEF, London
(2014)
 18. *Styles, B. & Bradshaw, S.*
Talk for Literacy Evaluation Report
Education Endowment Foundation, London
(2015)
 19. *Swanson, E., Vaughn, S., Wanzek, J., Petscher, Y., Heckert, J., Cavanaugh, C., & Tackett, K.*
A synthesis of read-aloud interventions on early reading outcomes among preschool through third graders at risk for reading difficulties
Journal of learning disabilities, 44(3), 258-275
(2011)
 20. *Thurston, A., Roseth, C., O'Hare, L., Davison J. & Stark, P.*
Talk of the Town Evaluation report
Education Endowment Foundation, London
(2016)

Summary of effects

| Meta-analyses | Effect size | FSM effect size |
|--|-------------|-----------------|
| Blok, H. (1999) | 0.41 | - |
| Bus, A. G., Van Ijzendoorn, M. H., & Pellegrini, A. D. (1995) | 0.55 | - |
| Davis, D. S. (2010) | 0.36 | - |
| Elleman, A. M., Lindo, E. J., Morphy, P., & Compton, D. L. (2009) | 0.1 | - |
| Guthrie, J. T., McRae, A., & Klauda, S. L. (2007) | 0.91 | - |
| Marulis, L. M., & Neuman, S. B. (2010) | 0.88 | - |
| Mol, S.E., Bus, A.G. & Maria T. de Jong (2009) | 0.39 | - |
| Murphy, P. K., Wilkinson, I. A., Soter, A. O., Hennessey, M. N., & Alexander, J. F. (2009) | 0.33 | - |
| Stahl, S. A., & Miller, P. D. (1989) | 0.09 | - |
| Strong, G. K., Torgerson, C. J., Torgerson, D., & Hulme, C. (2011) | 0.08 | - |
| Swanson, E., Vaughn, S., Wanzek, J., Petscher, Y., Heckert, J., Cavanaugh, C., & Tackett, K. (2011) | 0.29 | - |
| Single Studies | | |
| Gorard, S. Siddiqui, N. & See, B.H. (2015) | 0.11 | - |
| Hanley, P., Slavin, R. & Elliott, L. (2015) | 0.22 | - |
| Jay, T., Willis, B., Thomas, P., Taylor, R. Moore, R., Burnett, C. Merchant, G. & Stevens, A. (2017) | 0.12 | - |
| Sibieta, L., Kotecha, M. & Skipp, A. (2016) | 0.21 | - |
| Styles, B. Clarkson, & R. Fowler, K (2014) | -0.14 | - |
| Styles, B. & Bradshaw, S. (2015) | 0.2 | - |
| Thurston, A., Roseth, C., O'Hare, L., Davison J. & Stark, P. (2016) | -0.03 | - |
| | 0.37 | |

Meta-analyses abstracts

2

Blok, H. (1999)

This article reviews 10 studies, comprising 11 samples, of the effects of reading to young children in schools. The age of the children varied between 31 and 90 months. Dependent variables were classified in 2 domains: oral language and reading skills. The combined effect size for the oral language domain was $d = .63$, and for the reading domain $d = .41$. Although these figures look promising, caution is needed because the empirical evidence appears to be meager. Not only is the number of studies small, but a critical analysis of the design of the studies generally reveals poor quality. In 8 of the 11 samples, students came from disadvantaged families. The mean age is 5 years (average 65 months, range 31 through 90 months).

3

Bus, A. G., Van Ijzendoorn, M. H., & Pellegrini, A. D. (1995)

The current review is a quantitative meta-analysis of the available empirical evidence related to parent-pre-schooler reading and several outcome measures. In selecting the studies to be included in this meta-analysis, we focused on studies examining the frequency of book reading to pre-schoolers. The results support the hypothesis that parent-pre-schooler reading is related to outcome measures such as language growth, emergent literacy, and reading achievement. The overall effect size of $d = .59$ indicates that book reading explains about 8% of the variance in the outcome measures. The results support the hypothesis that book reading, in particular, affects acquisition of the written language register. The effect of parent-pre-schooler reading is not dependent on the socioeconomic status of the families or on several methodological differences between the studies. However, the effect seems to become smaller as soon as children become conventional readers and are able to read on their own.

4

Davis, D. S. (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. A few of the other name-brand frameworks appear to be equally or more effective than reciprocal teaching at improving middle grades comprehension achievement. These include Peer-Assisted Learning Strategies, Think-aloud instruction, Transactional Strategies Instruction, and Concept-Oriented Reading Instruction which all have a strong spoken language component. However, these effects are based on limited available evidence. Overall impact on standardised tests of reading comprehension, but significant heterogeneity (I-squared 53.57).

5

Elleman, A. M., Lindo, E. J., Morphy, P., & Compton, D. L. (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 ($r = .43$).

7

Guthrie, J. T., McRae, A., & Klauda, S. L. (2007)

We present a theoretical and empirical explication of the intervention of Concept Oriented Reading Instruction (CORI) that is designed to increase students' reading comprehension and motivation for reading. The framework specifies a set of five motivational constructs that represent goals for the instructional intervention. Necessary cognitive goals in reading are also presented. For this intervention, the five instructional practices of relevance, choice, success, collaboration, and thematic unit that are prominent in CORI are portrayed as components that are aligned with motivational constructs. The impact of CORI on some of the motivational processes, cognitive competencies, and reading comprehension are presented in the form of a meta-analysis of 11 CORI studies with 75 effect

sizes on 20 outcome variables. The CORI motivational intervention is compared to laboratory treatments and other field studies.

11

Marulis, L. M., & Neuman, S. B. (2010)

This meta-analysis examines the effects of vocabulary interventions on pre-K and kindergarten children's oral language development. The authors quantitatively reviewed 67 studies and 216 effect sizes to better understand the impact of training on word learning. Results indicated an overall effect size of .88, demonstrating, on average, a gain of nearly one standard deviation on vocabulary measures. Moderator analyses reported greater effects for trained adults in providing the treatment, combined pedagogical strategies that included explicit and implicit instruction, and author-created measures compared to standardized measures. Middle- and upper-income at-risk children were significantly more likely to benefit from vocabulary intervention than those students also at risk and poor. These results indicate that although they might improve oral language skills, vocabulary interventions are not sufficiently powerful to close the gap—even in the preschool and kindergarten years.

12

Mol, S.E., Bus. A.G. & Maria T. de Jong (2009)

This meta-analysis examines to what extent interactive storybook reading stimulates two pillars of learning to read: vocabulary and print knowledge. The authors quantitatively reviewed 31 (quasi) experiments ($n = 2,049$ children) in which educators were trained to encourage children to be actively involved before, during, and after joint book reading. A moderate effect size was found for oral language skills, implying that both quality of book reading in classrooms and frequency are important. Although teaching print-related skills is not part of interactive reading programs, 7% of the variance in kindergarten children's alphabetic knowledge could be attributed to the intervention. The study also shows that findings with experimenters were simply not replicable in a natural classroom setting. Further research is needed to disentangle the processes that explain the effects of interactive reading on children's print knowledge and the strategies that may help transfer intervention effects from researchers to children's own teachers.

13

Murphy, P. K., Wilkinson, I. A., Soter, A. O., Hennessey, M. N., & Alexander, J. F. (2009)

The role of classroom discussions in comprehension and learning has been the focus of investigations since the early 1960s. Despite this long history, no syntheses have quantitatively reviewed the vast body of literature on classroom discussions for their effects on students' comprehension and learning. This comprehensive meta-analysis of empirical studies was conducted to examine evidence of the effects of classroom discussion on measures of teacher and student talk and on individual student comprehension and critical-thinking and reasoning outcomes. Results revealed that several discussion approaches produced strong increases in the amount of student talk and concomitant reductions in teacher talk, as well as substantial improvements in text comprehension. Few approaches to discussion were effective at increasing students' literal or inferential comprehension and critical thinking and reasoning. Effects were moderated by study design, the nature of the outcome measure, and student academic ability. While the range of ages of participants in the reviewed studies was large, a majority of studies were conducted with students in 4th through 6th grades. Implications for research and practice are discussed.

15

Stahl, S. A., & Miller, P. D. (1989)

To examine the effects of whole language and language experience approaches on beginning reading achievement, a quantitative synthesis was performed on two data bases: the five projects conducted as part of the United States Office of Education (USOE) first grade studies and 46 additional studies comparing basal reading approaches to whole language or language experience approaches. The results of both analyses suggest that, overall, whole language/language experience approaches and basal reader approaches are approximately equal in their effects, with several exceptions. First, whole language/language experience approaches may be more effective in kindergarten than in first grade. Second, they may produce stronger effects on measures of word recognition than on measures of reading comprehension. Third, more recent studies show a trend toward stronger effects for the basal reading program relative to whole language/language experience methods. Fourth, whole language/language experience approaches produce weaker effects with populations labelled specifically as disadvantaged than they do with those not specifically labelled. Finally, studies with higher rated quality tend to produce lower effect sizes and the lowest effect sizes were found in studies that evaluated existing programs, as opposed to newly implemented experimental programs. These results are discussed within a stage model of reading that suggests that whole language/language experience approaches might be most effective for teaching functional aspects of reading, such as

print concepts and expectations about reading, whereas more direct approaches might be better at helping students master word recognition skills prerequisite to effective comprehension.

16

Strong, G. K., Torgerson, C. J., Torgerson, D., & Hulme, C. (2011)

Background: Fast ForWord is a suite of computer-based language intervention programs designed to improve children's reading and oral language skills. The programs are based on the hypothesis that oral language difficulties often arise from a rapid auditory temporal processing deficit that compromises the development of phonological representations. Methods: A systematic review was designed, undertaken and reported using items from the PRISMA statement. A literature search was conducted using the terms 'Fast ForWord ^Fast For Word^ Fastforword' with no restriction on dates of publication. Following screening of (a) titles and abstracts and (b) full papers, using pre-established inclusion and exclusion criteria, six papers were identified as meeting the criteria for inclusion (randomised controlled trial (RCT) or matched group comparison studies with baseline equivalence published in refereed journals). Data extraction and analyses were carried out on reading and language outcome measures comparing the Fast ForWord intervention groups to both active and untreated control groups. Results: Meta-analyses indicated that there was no significant effect of Fast ForWord on any outcome measure in comparison to active or untreated control groups. Conclusions: There is no evidence from the analysis carried out that Fast ForWord is effective as a treatment for children's oral language or reading difficulties.

19

Swanson, E., Vaughn, S., Wanzek, J., Petscher, Y., Heckert, J., Cavanaugh, C., & Tackett, K. (2011)

A synthesis and meta-analysis of the extant research on the effects of storybook read-aloud interventions for children at risk for reading difficulties ages 3 to 8 is provided. A total of 29 studies met criteria for the synthesis, with 18 studies providing sufficient data for inclusion in the meta-analysis. Read-aloud instruction has been examined using dialogic reading; repeated reading of stories; story reading with limited questioning before, during, and/or after reading; computer assisted story reading; and story reading with extended vocabulary activities. Significant, positive effects on children's language, phonological awareness, print concepts, comprehension, and vocabulary outcomes were found. Despite the positive effects for read-aloud interventions, only a small amount of outcome variance was accounted for by intervention type.

¹ Copyright © [2016] The Education Endowment Foundation. All rights reserved.