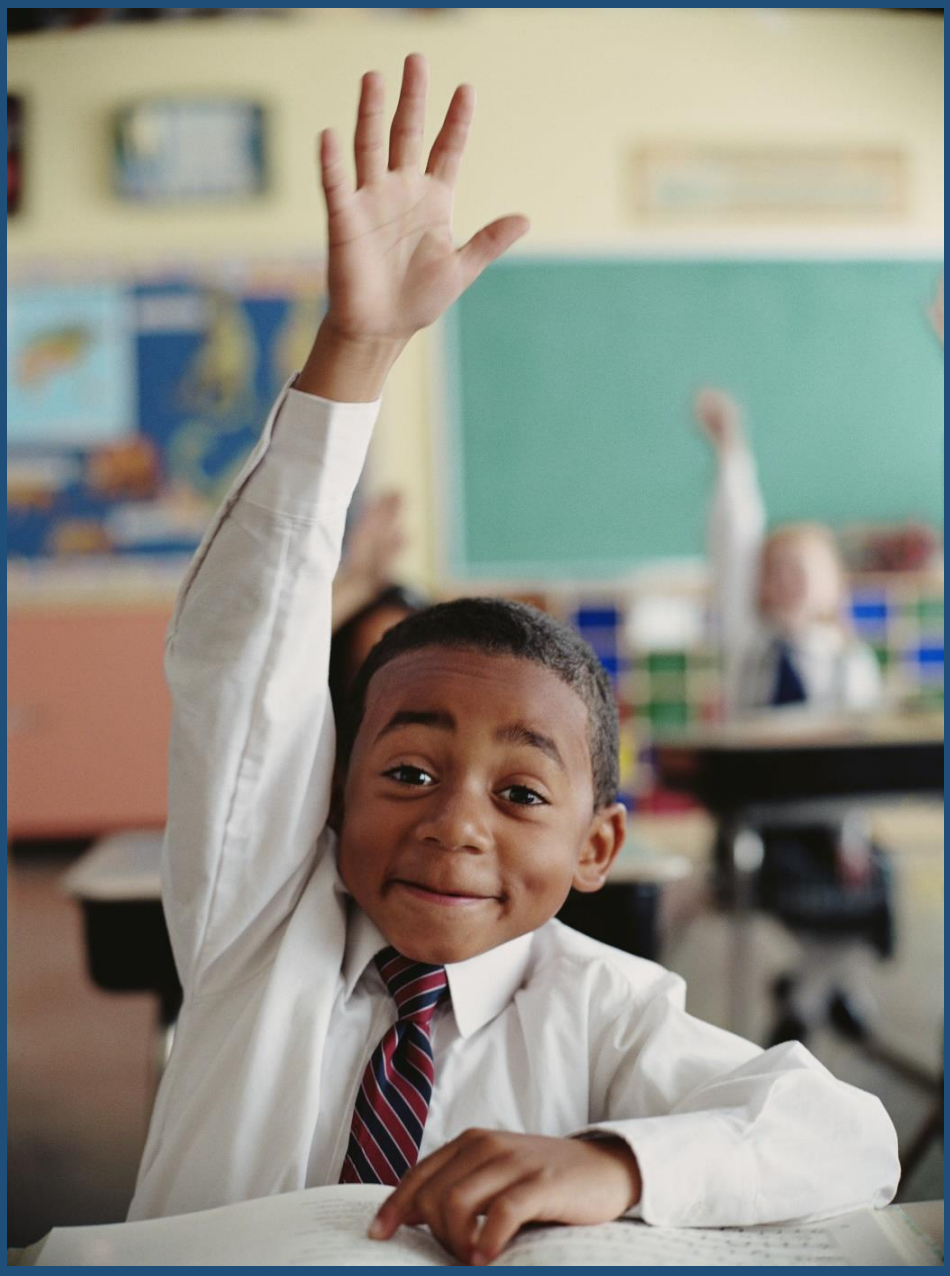
What works for children and young people with literacy difficulties?



The effectiveness of intervention schemes

Fifth edition
Greg Brooks
Emeritus Professor of Education
University of Sheffield

The Dyslexia-SpLD Trust

What works for children and young people with literacy difficulties?

The effectiveness of intervention schemes

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The views expressed in this report are the author's and do not necessarily reflect those of the Dyslexia-SpLD Trust.

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Contents

Publishing History 8

Acknowledgments 9

Chapter one 10

Focus and intention of this report 10

1.1 The focus 10

1.2 Criteria for inclusion of schemes 10

1.3 Changes from fourth edition 11

1.4 Trends 12

Chapter two 14

Signposts 14

2.1 Finding your way 14

2.2 Overall conclusions 14

Chapter three 16

Schemes for reading and/or spelling at primary level (ages 5 – 11) 16

Table 3.1: General characteristics of the primary-level schemes for reading and/or spelling 17

3.1 A.R.R.O.W. (Aural – Read – Respond – Oral – Write) 19

3.2 Academy of Reading® 22

3.3 AcceleRead AcceleWrite 24

3.4 Better Reading and Writing Progress 30

(previously known as Better Reading and Writing Partners) 30

3.5 Better Reading Support Partners 32

3.6 Boosting Reading 34

3.7 Catch Up® Literacy 37

3.8 Cued Spelling 42

3.9 Easyread 44

3.10 ENABLE (Enhancing Attainment in Basic Literacy) 48

3.11 FFT Wave 3 52

3.12 Hornet 55

3.13 Inference Training 57

3.14 Lexia 68

3.15 Paired Reading 73
3.16 Project X Code 77
3.17 *Read Write Inc.* Phonics 79
3.18 Reading Recovery 83
3.19 Reciprocal Reading 96
3.20 Reciprocal Teaching 98
3.21 SIDNEY (Screening and Intervention for Dyslexia, Notably in the Early Years) 100
3.22 Sound Check 103
3.23 Sound Discovery® 105
3.24 Sound Reading System 108
3.25 Sound Training © 110
3.26 Spellwise 113
3.27 Switch-on Reading 117
3.28 The CSP Spelling and Language Programme (formerly known as The Complete Spelling Programme) 119
3.29 The Reading Intervention Programme 121
3.30 THRASS (Teaching Handwriting, Reading and Spelling Skills) 127
3.31 Toe by Toe® 131
3.32 Units of Sound 133
Chapter four 136
Schemes for boosting literacy at primary/secondary transition 136
Table 4.1: General characteristics of schemes for boosting literacy at primary/secondary transition 136
4.1 The problem 136
4.2 Searching for evidence 137
4.3 Outcomes of the EEF programme 138
4.4 Everyone Can Read 140
4.5 Grammar for Writing 142
4.6 Helen Arkell Y7 Transition Project 144
4.7 Improving Writing Quality 148
4.8 *Read Write Inc.* Fresh Start 150
4.9 Switch-on Reading 152
4.10 The Accelerated Reader 154

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Chapter five 156
Schemes for reading and spelling at KS3 (ages 11-14) 156
Table 5.1: General characteristics of the KS3 schemes for reading and/or spelling 156
5.1 A.R.R.O.W. (Aural – Read – Respond – Oral – Write) 157
5.2 Boosting Reading 159
5.3 Catch Up® Literacy 162
5.4 Easyread 165
5.5 ENABLE-PLUS (KS3) 167
5.6 Inference Training 169
5.7 Rapid Plus 171
5.8 *Read Write Inc.* Fresh Start 173
5.9 Sound Training © 176
5.10 That Reading Thing 180
5.11 The LIT Programme 183
5.12 Thinking Reading 186
5.13 THRASS (Teaching Handwriting, Reading and Spelling Skills) 188
5.14 Toe by Toe® 191
5.15 Units of Sound 193
5.16 Word Wasp and Hornet 195
Chapter six 198
Schemes for writing at primary level and KS3 (ages 5-14) 198
Table 6.1: General characteristics of the schemes for writing 198
6.1 Better Reading and Writing Progress 199
6.2 Paired Writing 201
6.3 Reading Recovery 207
6.4 Write Away Together 210
6.5 Grammar for Writing 213
Chapter seven 215
Schemes for children with specific educational needs, including dyslexia/SpLD 215
Table 7.1: General characteristics of the schemes for children with specific SEN, including dyslexia/SpLD 215
7.1 Focus 216

7.2 Children in England receiving support through the Pupil Premium 216
7.3 Looked-after children 217
7.3.1 Catch Up® Literacy for looked-after children 217
7.3.2 Letterbox Club 218
7.3.3 *TextNow* for looked-after children and young people 222
7.4 Inference Training for children on the autism spectrum 224
7.5 Children with dyslexia/SpLD 226
7.5.1 Units of Sound 227
7.5.2 Wordshark 231
7.6 Personalised Learning for Reading (PLR) for children with a range of specific educational needs 233
7.7 The Reading Intervention team's search for what might work for children who struggle the most 236
7.7.1 Children with specific difficulties: dyslexia or moderate learning difficulties 238
7.7.2 Children with very low attainment 241
7.7.3 Children at risk of reading failure 244
7.7.4 Children with reading comprehension difficulties: Reading for Meaning (README) project 245
7.7.5 Children with Down's syndrome 249
7.8 What might prevent literacy difficulties arising in the first place? 252
Chapter eight 255
Schemes for young people aged 14-18, including those who have offended . 255
8.1 The scale of need 255
8.2 Outcomes other than literacy 256
8.3 Catch Up® Literacy for Gypsy Roma Travellers 257
8.4 Shannon Trust Reading Plan 258
8.5 Sound Reading System 260
8.6 Sound Training © 261
8.7 Summer Arts Colleges 265
8.8 *TextNow* 267
References 271
Appendix: Details of the analyses 285
A.1 Introduction to the data 287

Table A.1.1: Organisation of entries in log of studies 287

Table A.1.2: Studies with alternative treatment groups, by method of allocation and whether also had no-treatment group 289

A.2 Impact measures 291

A.2.1 Ratio gain (RG) 291

A.2.2 Effect size 292

A.2.3 Statistical significances 294

A.3 Comparisons between schemes 296

Table A.3.1: List of reading studies for primary level in decreasing order of ratio gain for whichever of accuracy (Acc) and comprehension (Comp) is the higher 297

Table A.3.2: List of reading studies for primary level in decreasing order of effect size for whichever of accuracy and comprehension is the higher 300

Table A.3.3: List of spelling studies for primary level in decreasing order of ratio gain 301

Table A.3.4: List of spelling studies for primary level in decreasing order of effect size 301

Table A.3.5: Only reading study for primary/secondary transition yielding ratio gains 302

Table A.3.6: List of reading studies for primary/secondary transition in decreasing order of effect size for whichever of accuracy and comprehension is the higher 302

Table A.3.7: List of spelling studies for primary/secondary transition 302

Table A.3.8: List of writing studies for primary/secondary transition in decreasing order of effect size 303

Table A.3.9: List of reading studies for KS3 level in decreasing order of ratio gain for whichever of accuracy (Acc) and comprehension (Comp) is the higher 303

Table A.3.10: List of reading studies for KS3 level in decreasing order of effect size for whichever of accuracy and comprehension is the higher 304

Table A.3.11: List of spelling studies for KS3 in decreasing order of ratio gain 304

Table A.3.12: List of writing studies for primary and KS3 levels in decreasing order of ratio gain 305

Table A.3.13: List of writing studies for primary and KS3 levels in decreasing order of effect size 305

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Table A.3.14: Comparisons between experimental and alternative treatment (AT) groups at primary level 306

Publishing History

The first edition of this book was Brooks, G., Flanagan, N., Henkhuzens, Z. and Hutchison, D. (1998). *What Works for Slow Readers? The Effectiveness of Early Intervention Schemes*. Slough: NFER.

The second edition was Brooks, G. (2002). *What Works for Children with Literacy Difficulties? The Effectiveness of Intervention Schemes*. London: DfES Research Report no.RR380. http://dera.ioe.ac.uk/4662/

That edition formed the basis of Enters, I. and Brooks, G. (2005a). *Boosting Reading in Primary Schools.* London: Basic Skills Agency. A bilingual Welsh/English version of that was published as Enters, I. and Brooks, G. (2005b). Hybu Darllen mewn Ysgolion Cynradd/Boosting Reading in Primary Schools. Lundain: Yr Asiantaeth Sgiliau Sylfaenol/London: Basic Skills Agency.

Both the second edition and the Enters and Brooks spin-offs fed into the third edition: Brooks, G. (2007). *What Works for Pupils with Literacy Difficulties? The Effectiveness of Intervention Schemes.* 3rd edition. London: DCSF. http://dera.ioe.ac.uk/7123/

Next came Brooks, G. (2009). *Beth sy'n gweithio gyda disgyblion yng Nghymru sydd â phroblemau llythrennedd? Effeithiolrwydd cynlluniau ymyrraeth./What Works for Pupils in Wales with Literacy Difficulties? The effectiveness of intervention schemes*. Leicester: NIACE. Welsh text online at http://new.wales.gov.uk/topics/educationandskills/publications/guidance/whatworksforpupils/?skip=1&lang=cy and English at http://new.wales.gov.uk/topics/educationandskills/publications/guidance/whatworksforpupils/?skip=1&lang=en

This drew on and referred to Brooks (2007), but dealt only with a small number of schemes with separate evidence of effectiveness in Wales, including three with Welsh-medium versions.

Both the third edition and the 2009 Welsh spin-offs fed into the fourth edition: Brooks, G. (2013). *What Works for Children and Young People with Literacy Difficulties? The Effectiveness of Intervention Schemes*. 4th edition. Bracknell: Dyslexia-SpLD Trust. http://www.interventionsforliteracy.org.uk/widgets_GregBrooks/What_works_for_children_fourth_ed.pdf

This fifth edition, which is the first to be published only in electronic form and not in hard copy, draws selectively on all the above. It is downloadable from the Dyslexia-SpLD Trust website: http://www.thedyslexia-spldtrust.org.uk. Some schemes have been dropped and others added – see **section 1.3.**

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Acknowledgments

I wish to record my deep gratitude to all those who provided information for this edition, not all of which, sadly, could be used.

And above all to the Dyslexia-SpLD Trust for having commissioned this edition.

Greg Brooks, Sheffield, March 2016

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Chapter one

Focus and intention of this report

1.1 The focus

Most children learn to read and write satisfactorily first time through home support and/or high-quality classroom teaching, but what of those children who haven't? (For figures on the proportions who under-perform in national assessments in England at ages 7 and 11, see section 1.2 in the fourth edition.) How are they to be helped? This book reviews intervention schemes that have been devised to help struggling readers and writers, and is intended to inform schools' and other providers' choices among such schemes.

More exactly, this book addresses the following questions:

- What intervention schemes are there which have been used in the UK in an attempt to boost the reading, spelling or overall writing attainment of lower-achieving pupils between the ages of 5 and 18, and have been quantitatively evaluated here?

- What are those schemes like, and how effective are they?

The restriction to schemes used and evaluated in the UK is partly intended to avoid a deluge of information on schemes used elsewhere in the world, but mainly to circumvent the objection, 'How do we know that it will work here?' (However, for reviews taking in some evidence from other English-speaking countries, especially the United States, see Slavin *et al*., 2008, 2009, 2011.)

The intention is to make clear and analytic information on such schemes available in order to inform practice and choices of approach. Those choices should be guided not only by the evidence assembled and analysed here, but also by careful matching of the needs of an individual school, class or child to the specifics of particular schemes – for signposts on this see **chapter 2** and the 'Interventions' section of this website: http://interventionsforliteracy.org.uk/home/interventions/

Within that, there is an obvious need for schools to have clear information, in order to make principled decisions about which approach to adopt for children who experience difficulties in literacy.

1.2 Criteria for inclusion of schemes

This book reviews 32 schemes for improving the reading and/or spelling of children aged 5-11 (chapter 3), seven for boosting literacy at primary/secondary transition (chapter 4), 16 designed for pupils in KS3 (ages 11-14), just five focused on improving the compositional aspect of writing for children aged 5-14 (chapter 6), 15 for children with specific special educational needs, including dyslexia/SpLD (chapter

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7), and six for young people aged 14-18, including those who have offended (chapter 8). The overall total is somewhat less than 81 because a few schemes appear in more than one chapter. Almost all the schemes also feature on the website, the exceptions being a few which do not have sufficiently analysable quantitative data.

The criteria applied for inclusion of schemes in this edition are:

- the scheme must be a catch-up intervention, and not an initial and/or preventive scheme. However, in chapter 7 I have included a few reflections on where the early identification of children who may struggle, and attempts to prevent that happening, have got to
- the scheme must be currently available
- the scheme's quantitative data must come from one or more studies in the UK
- the scheme's evidence of effectiveness must be based on pre- and post-test data from an appropriate test(s)
- if the data come only from a treatment group the test(s) must have been given to a sample of at least 30 children, this being the minimum number considered by statisticians to allow reliable statistical findings (the eagle-eyed will notice a very few exceptions with samples just below 30)
- but if the data come from studies with more rigorous designs (randomised control trials (RCTs), or quasi-experiments with well-matched treatment and comparison groups) the minimum sample size can be smaller
- it must be possible to calculate an impact measure (ratio gain or effect size) from the data – for details on these measures see **the Appendix**
- the scheme must have shown, in at least one study, a ratio gain of at least 2.0 or an effect size of at least 0.3, that is, at least reasonable effectiveness (though again there are some exceptions, especially for RCTs).

1.3 Changes from fourth edition

In the first three editions, and the 'mainstream' section of the fourth, the analyses of schemes' quantitative data were postponed to the Appendix. In the fourth edition, analyses of non-'mainstream' schemes' quantitative data (for schemes which had any) was presented immediately after the description of the scheme. This seemed so much more logical than the previous arrangement that in this edition data follow descriptions in every case.

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In the non-'mainstream' part of the previous edition some schemes which did not have sufficient data for full analysis nevertheless had a narrative description of their data included; this is the case again in chapters 6-8 of this edition. Apart from that trace, the previous distinction between non-'mainstream' and non-'mainstream' schemes has been quietly abandoned.

Eight schemes included in the fourth edition no longer appear in this one, for the following reasons:

- four which are no longer available: East Court School (which closed in 2010), Phono-Graphix, Specialist Dyslexia Teaching (Hornsby and Miles), and West Dunbartonshire Literacy Initiative (as a separate scheme under primary/secondary transition, though its data on Toe By Toe are retained under that scheme in chapter 3)
- four from the previous edition's chapter on primary/secondary transition: All Change! in Derbyshire, ENABLE in Glasgow, North Lanarkshire Literacy Pilot, Sponne Cluster. All of these had weak quantitative evidence, but were included earlier precisely to highlight the dearth of good data, and to inform people wishing to devise schemes in this area. Now that the Education Endowment Foundation has run over 20 relevant RCTs (see especially **chapter 4**), these schemes need no longer feature.

For anyone wishing nevertheless to follow up the details of these eight schemes, they are all still logged in the fourth edition, which is also available on this website.

In some cases where schemes had evidence from more than one study, some of the evidence has been dropped (because of small samples and/or low impact measures) and others retained, and in several cases new studies have been added. And 10 schemes have been added: Hornet, Project X Code, Sound Check, Spellwise and Switch-on Reading in chapter 3; Everyone Can Read, Improving Writing Quality, Switch-on Reading (note the repetition) and The Accelerated Reader in chapter 4; The LIT Programme and Word Wasp in chapter 5 (and none in later chapters).

1.4 Trends

Even though there have been small increases in the number of post-primary schemes, those at that level continue to dominate, and to proliferate. New and tested programmes for primary/secondary transition, KS3, writing at all ages, and older teenagers are urgently needed.

Within the overall picture, the proportion of phonics-based schemes continues to grow. The Education Endowment Foundation has published a brief note on the impact of phonics overall, focusing in particular on its positive evaluation of Switch-on Reading (EEF, 2015), and suggesting that phonics-based schemes provide an advantage of about 4 months of reading age over other approaches.

One trend I have found particularly heartening is the increase in the number of randomised control trials. Where the previous edition listed just 6 (Brooks, 2013: 133), this edition contains 19 where fully-analysed data are presented (and references to several more). However, most authors of schemes (where they gather quantitative data at all) continue to rely on one-group pre-test/post-test studies –which are fine in early stages, but all schemes should ideally be tested eventually using more rigorous designs.

Fewer and fewer schemes mention using 'tutors' other than educational professionals, including and especially teaching assistants. Sadly, this may waste enormous funds of goodwill and expertise.

It seems to me, having heard some powerful presentations and been sent some intriguing information about them, that assistive technologies will be the next big topic – perhaps in the next edition if I am up to writing it.

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Chapter two

Signposts

2.1 Finding your way

The chapter structure and headings should provide a strong guide if you are looking for schemes in a particular area. If instead you are interested in a particular scheme you have heard about, I recommend you go to the Interventions section of this website and look for the scheme you have heard of on the 'List search' page. Alternatively, the 'Advanced search' section will enable you to narrow down your search according to the needs and characteristics of your learners.

2.2 Overall conclusions

None of the new evidence in this edition has led me to revise any of the conclusions reached in the third edition and reproduced in the fourth; nor has the dropping of some evidence from that edition. Most of the earlier conclusions are therefore re-stated here, with a few deletions and modifications.

- Ordinary teaching ('no treatment') does not enable children with literacy difficulties to catch up. For the evidence on this, see the third edition.

Implication: Although good classroom teaching is the bedrock of effective practice, most research suggests that children falling behind their peers need more help than the classroom normally provides. This help requires coordinated effort and training.

- Schemes for improving writing are few, and Grammar for Writing has great potential.

Implication: Provided they receive continuing support, children who make these gains should be better able to cope with the secondary curriculum.

- Schemes for children who struggle with spelling work best when highly structured.

Implication: Children with spelling problems need schemes tailored to their preferred ways of learning and delivered systematically 'little and often'. Such schemes work particularly well for enabling children to grasp relatively regular patterns of spelling.

- Work on phonological skills for reading should be embedded within a broad approach.

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Implication: Phonics teaching should normally be accompanied by graphic representation and reading for meaning so that irregular as well as regular patterns can be grasped. Children with severe difficulties in phonological skills, or using English as an additional language, may need more 'stand-alone' phonics teaching to support their speaking and listening.

- Children's comprehension skills can be improved if directly targeted.

Implication: Engaging the child in exploring meaning embeds the relevance of reading for life, expands vocabulary and broadens the range of texts. Children falling behind their peers need both carefully structured reading material and rich, exciting texts.

- ICT approaches work best when they are precisely targeted.

Implication: The mediation of a skilled adult is essential to ensure technologically driven schemes meet children's needs. Time needs to be allocated effectively so that the diagnostic tools of programmes can be used for each child appropriately.

- Large-scale schemes, though expensive, can give good value for money.

Implication: When establishing value for money, long-term impact and savings in future budgets for special needs must be considered, particularly when helping the lowest-attaining children.

- Where Teaching Assistants can be given appropriate training and support, they can be very effective. For evidence, see the latest Education Endowment Foundation briefing on this (EEF, 2016).

Implication: TAs need skilled training and support to maximise impact. A school needs to manage them so that feedback to classroom teachers is effectively and regularly given.

- Good impact – sufficient to at least double the standard rate of progress – can be achieved, and it is reasonable to expect it.

Implication: If the scheme matches the child's needs, teachers and children should expect to achieve rapid improvement. High expectations are realistic expectations in most cases.

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Chapter three

Schemes for reading and/or spelling at primary level (ages 5 – 11)

This chapter describes 32 relevant schemes, by far the largest number in any of the chapters here. Each entry contains an outline description of the scheme itself, followed by a few details of its evaluation and results, references and contact details, and then by an analysis of the quantitative evidence for its effectiveness.

First, some general characteristics of the 32 schemes are summarised in Table 3.1.

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Table 3.1: General characteristics of the primary-level schemes for reading and/or spelling

Scheme		Y1	Y2	Y3	Y4	Y5	Y6	Duration (weeks)	Number of sessions for each child in experimental group	Taught by
A.R.R.O.W.		✓	✓	✓	✓	✓	✓	1½	60 mins/day	computer & supervising adult, 1-1
Academy of Reading				✓	✓	✓	✓	20	variable	computer & supervising adult, 1-1
AcceleRead AcceleWrite			✓	✓	✓	✓	✓	4, 8	20 mins daily	computer & supervising adult, 1-1
Better Reading and Writing Progress		✓	✓	✓	✓	✓	✓	14-15	3 x 20 mins/week	TA, 1-1
Better Reading Support Partners		✓	✓	✓	✓	✓	✓	14-15	3 x 20 mins/week	TA, 1-1
Boosting Reading		✓	✓	✓	✓	✓	✓	10-17	2 or 3 x 15 mins a week	TA, 1-1
Catch Up Literacy			✓	✓	✓	✓	✓	12-44	2 x 15 mins/week	teacher/TA, 1-1
Cued Spelling			✓	✓	✓	✓	✓	6-8	3 x 15 mins a week	parents, other pupils, 1-1
Easyread				✓	✓			8-16	up to 90 x 5-15 mins/day	computer & supervising adult, 1-1
ENABLE	1-1		✓					8	5 x 30 mins/week	TA/LSA/other adults, 1-1
	Plus			✓	✓	✓		22	2 x 30 mins group + 1 x 10 mins indiv./week	TA/LSA, group & 1-1
FFT Wave 3		✓	✓	✓	✓	✓		10	15-20 mins/day	TA, 1-1
Hornet		✓	✓	✓	✓	✓	✓	26	15-30 mins/day	TAs/other adults, 1-1,
Inference Training			✓	✓	✓	✓	✓	3, 4, 6	2 x 20-45 mins/ week	other adults, group
Lexia		✓	✓	✓	✓	✓	✓	10	2 or 3 x 20 mins/week	computer & supervising adult, 1-1
Paired Reading		✓	✓	✓	✓	✓	✓	9	variable	other adults/pupils, 1-1
Project X Code			✓					20	variable	computer & supervising adult, 1-1
Read Write Inc. Phonics			✓	✓	✓	✓	✓	8, 12, 20	60 mins/day	TA, group
Reading Recovery		✓	✓					12-20	30 mins daily	teachers, 1-1
Reciprocal Reading						✓	✓	10	2 sessions/week	teachers, group
Reciprocal Teaching				✓	✓	✓	✓	16-52	20 sessions	teachers, group
SIDNEY		✓	✓					12	15 mins/day	LSA, 1-1
Sound Check			✓					20	2 sessions/week	trained specialist, group
Sound Discovery			✓	✓	✓	✓	✓	10-22	3 sessions/week, variable length	teachers, group

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Sound Reading System		✓	✓	✓	✓	✓	18 (ave.)	1 hr + 3 x 20 mins/week	teacher/LSA/TA/SENCo, 1-1
Sound Training			✓	✓	✓	✓	8	1 x 45 mins/week	teacher, group
Spellwise	✓	✓	✓	✓	✓		31	3 x 40/45 mins/week	trained TA, group and 1-1
Switch-on Reading	✓	✓	✓	✓	✓	✓	10 or 12	20 mins/day	20 mins/day
The CSP Spelling and Language Programme	✓	✓	✓				120	20 mins/day	teacher, whole class
The Reading Intervention Programme	✓	✓	✓	✓	✓	✓	12, 25	2 x 30 mins a week	teacher/TA, group and 1-1
THRASS		✓	✓	✓	✓	✓	26, 13	30 mins daily	teacher, group
Toe by Toe	✓	✓	✓	✓	✓	✓	74	60 mins/day	volunteers, 1-1
Units of Sound		✓	✓	✓	✓		20	variable	computer & supervising adult, 1-1

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3.1 A.R.R.O.W. (Aural – Read – Respond – Oral – Write)

Scheme

Colin Lane has for many years been refining his theory that hearing one's own voice is a psychological key to much language comprehension and performance, that the cause of some children's difficulty in learning to read and spell is having an indistinct or unattended 'self voice', and that being able to record and play back their own voices can help some children make good progress. His system nowadays uses laptop computers with headphones to provide personalised many-layered programs dedicated to each child's particular needs. These programs additionally help monitor progress. Children work individually with a laptop. The program displays a piece of text at an appropriate level, anywhere from a single letter to a short paragraph. The child hears it spoken, then repeats it aloud and records it, then plays it back – repeating this process as often as wished until the result is satisfactory to the child. Each mini-exercise ends with the requirement that the child writes down the piece of text. Nominally, each child should receive the program for one hour a day for ten consecutive school days. One teacher or teaching assistant can supervise as many children as the school has laptops for. The scheme is particularly appropriate for children with reading or spelling problems, but has also been used as an across-the-board Wave 1 programme. Mary Nugent (personal communication, 2012) in Ireland reports it has been used successfully there with Traveller children, and it has also been used with success in Trinidad.

Evaluation

In 2010 Colin Lane published a book setting out his theories and providing copious data on its use in various settings. From the information given I selected an independent study carried out by Andrew Richards of Exeter University with a sample of 85 Y6 children in one primary school in Bristol, and Colin Lane's own largest dataset, of 361 children across England and Wales who received the program in 2007-10 (for the latter Colin supplied some unpublished details). The Bristol study showed remarkable benefit for spelling, and spectacular progress in both reading accuracy and comprehension. The large dataset showed remarkable progress in reading accuracy and spelling. In 2015 Colin supplied more primary data, again showing remarkable progress, and new secondary data – see **section 5.1.**

Reference

Lane (2010), unpublished data and details supplied by Colin Lane

Contact

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Arrow Centre
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A.R.R.O.W

(1) Bristol

Main reference: Lane (2010)

Research design: One-group pre-test/post-test study

Date: 2008

Age-range: Y6

Type of children: Mixed-ability: 'All the children in Y6 in one primary school in Bristol'

N of experimental group: 85

Length of intervention in weeks: 2

Tests used: WORD (Wechsler Objective Reading Dimension)

Pre- and post-test average reading/spelling ages in years and months, gains in months of r.a./s.a. (s.d's not stated), and ratio gains:

	pre	post	gain	RG
Reading accuracy	11:11	13:3	16	32.0
Comprehension	10:5	12:3	22	44.0
Spelling	11:1	11:9	8	16.0

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: At pre-test these children were scoring at about average levels for their age, or even slightly above that in reading accuracy. The RGs show remarkable progress in all three areas, especially in both aspects of reading. By post-test they were scoring well average levels for their age.

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A.R.R.O.W.

(2) England and Wales

Main reference: Lane (2010), unpublished details supplied by Colin Lane

Research design: Accumulated data from numerous one-group pre-test/post-test studies

Dates: 2007-10, 2010-15

Age-range: Y1-6

Type of children: Low attainment

Ns of experimental group: (2007-10) 361 in 27 schools; (2010-15) 550 in 46 schools

Length of intervention in weeks: 2

Tests used: Schonell Graded Word Reading Test, Schonell Spelling Test

Pre- and post-test average reading/spelling ages in years and months (spelling ages not stated for 2007-10), gains in months of r.a./s.a. (s.d's not stated), and ratio gains:

		pre	post	gain	RG
2007-10	Reading accuracy	8:11	9:7	8	16.0
	Spelling			6	12.0
2010-15	Reading accuracy	8:8	9:5	9	18.0
	Spelling	8:6	9:0	6	12.0

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Given the wide chronological age-range, the three available pre-test averages imply that many of these children, especially the older ones, were well behind. They made remarkable progress in both reading and spelling in a very short time.

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3.2 Academy of Reading®

Scheme

The AutoSkill Academy of Reading® is a computer-based reading intervention programme that is designed to give pupils the basic reading skills they need to form a foundation of reading success.

The programme was developed by Canadian neuropsychologists who were interested in how ICT can help pupils with dyslexia achieve better reading fluency. The programme has since evolved to become a tool to help teachers improve reading fluency for pupils in the mainstream classrooms of primary schools, in secondary schools for pupils who are reading-delayed or have special educational needs, or for supporting pupils learning English as an additional language.

The programme activities include:

- Pupil training in phonemic awareness
- Pupil training in sound-symbol association
- Pupil training in phonics and decoding, including:
    - visual-visual matching exercises
    - auditory-visual matching exercises
    - oral reading practice (optional)
- Pupil training and assessment in comprehension, including:
    - silent reading comprehension
    - oral reading comprehension (optional)
- Pupil reading practice
- Additional assessment capabilities for benchmarking pupils' reading levels

Teachers are able to draw from these elements in either a system-prescribed approach that develops an Individual Education Plan for each student based on their performance on an assessment, or through any customised selection of activities to complement their classroom requirements.

Evaluation

One useful set of UK data was found, from a pilot study in five Education and Library Board areas in Northern Ireland carried out in 2003-04. The data were gathered by teachers in the schools and analysed by researchers at AutoSkill in Ottawa. A useful gain was found for comprehension in Northern Ireland Y7 (= England and Wales Y6).

Main reference: Loh and Stanton (2004)

Contact:

http://eps.schoolspecialty.com/products/details.cfm?series=acadread

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Academy of Reading ®

Research design: One-group pre-test/post-test study

Date: 2003-04

Age-range: Northern Ireland Y7 (= England and Wales Y6)

Type of children: Low attainment

N of experimental group: 40 in 8 schools in 5 Education and Library Board areas in Northern Ireland (data also reported for three other years, but omitted here because of small Ns or small effect size)

Length of intervention in weeks: 20

Reading test: NFER-Nelson Progress in English

Pre- and post-test average standardised scores and gain for reading comprehension in standardised score points (s.d's not stated), statistical significance, and effect size calculated using the s.d. of the standardisation sample (15.0):

NI year	E&W year	N	pre	post	gain	p	Effect size
7	6	40	80.3	89.1	8.8	<0.01	0.59

Ratio gains: n/a

Starting and ending levels and progress: The average pre-test score was 1⅓ s.d's below the national norm, so this group was on average seriously behind. The useful gain shown by the effect size brought the group up to ⅔ of an s.d. below the norm; even so, some would still struggle with the secondary curriculum.

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3.3 AcceleRead AcceleWrite

Scheme

Martin Miles in Devon and Vivienne Clifford in Harrow developed a scheme they called 'The Talking Computer Project' in 1992, trialled it in Somerset, and named the published version AcceleRead AcceleWrite. The original target group was children with dyslexic-type difficulties, but the programme is now used with children with other forms of literacy difficulty, and Mary Nugent in Ireland reports it has been used successfully there with Traveller children. Most of the data analysed in this report come from KS2, but it has been used in all school years from Y1 to Y11. Three sets of evaluation data are summarised.

In 1993, the education authority in Jersey read about the success of 'The Talking Computer Project', and realised that it would be possible to replicate the study at little cost. Jersey schools already had the appropriate computers, and a good relationship with the software publisher. The level of computer literacy among Jersey teachers meant that the training to use the computer element of the programme was readily achievable. The programme has since been used by many other authorities.

A total of 71 pupils with reading difficulties from 15 primary schools and four secondary schools took part (but because separate data were not given for the various year groups, this scheme has been listed only under primary). Each school supplied a project coordinator. Courses were run to train the learning assistants involved in how to use the computer software and the process of delivering the reading material.

The learning assistants worked with individual children for 20 minutes a day over a four-week period. The child was presented with a card containing four sentences. Each card contained a particular phonic pattern or number of patterns. The child was allowed to read the card until confident of memorising it. The card was then placed face down and the pupil had to say the sentence to the adult, then type it into the computer. The computer said each word as it was entered, giving audio feedback on misspelt words. It also read the complete sentence once the full stop had been typed. Mistakes were rectified by the child until the sentence was completed correctly.

In 2015 AcceleRead AcceleWrite is also available as an iPad app, in three versions (Lite – giving you a preview of the levels, Student – full access to all of the levels and ability to track results, Classroom – up to 30 user accounts with full access to all of the levels and ability to track results). The app provides 'virtual' cards, each with a series of sentences which the student reads one by one until they have memorised the sentence. The student then taps on the screen to input the sentence exactly as it appeared to them. The integrated text-to-speech function enables them to listen to what they have typed to check for errors. The process is repeated until the sentence

is typed correctly and they can move on to the next level. There are eight levels of increasing difficulty and the student's progress is tracked in the results page, showing how many attempts were made at each level and which levels have been completed.

Evaluations

(1) Jersey

The Jersey evaluation was carried out by Mel Goodyear, Jersey Advisory Service, who coordinated the project, assisted by Martin Miles. Results were available from 61 children, who made a useful gain in reading accuracy.

References

Clifford and Miles (1993, 1994), Jersey Advisory Service (1993), Miles (1994)

(2) Devon

Later, Martin Miles used the programme in a primary school in Devon with 30 mostly older KS2 children. Remarkable gains were made in reading accuracy and spelling.

Reference

Unpublished data supplied by Martin Miles

(3) Wiltshire

The programme has also been used in various primary schools in Wiltshire with 149 children with literacy difficulties. Remarkable gains were made in reading comprehension and spelling.

Reference

Unpublished data supplied by Sarah Couzens via Martin Miles

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AcceleRead AcceleWrite

(1) Jersey

Main reference: Jersey Advisory Service (1993)

Research design: One-group pre-test/post-test study

Date: 1993

Age-range: Y3-9 (Ns for separate years not given; average age at outset 10:3)

Type of children: Low attainment (r.a. said to be well below c.a. – but see below)

N of experimental group: 61 in 15 primary & 4 secondary schools

Length of intervention in weeks: 4

Tests used: British Ability Scales

Average standardised scores for reading accuracy at pre- and post-test and 10-week and 6-month follow-ups, gains from pre-test (s.d's not stated), and effect sizes for post-test vs. pre-test only calculated (by GB) using s.d's of standardisation samples:

	ave Score	gain	Effect Size
Pre	92.4		
Post	100.7	8.3	0.55
10-week follow-up	103.0	10.6	
6-month follow-up	105.7	13.3	

Ratio gains: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Although the original report says the children's r.a's were 'well below' c.a., the pre-test standardised score was only about ½ of an s.d. below the national norm. The effect size shows a useful gain. By post-test the standardised score was at the national norm, and at follow-ups showed continuing improvements beyond that; these pupils should therefore have been equipped to cope with the curriculum.

Follow-ups: See above

AcceleRead AcceleWrite

(2) Devon

Main reference: Unpublished data supplied by Martin Miles

Research design: One-group pre-test/post-test study

Date: 2002

Age-range: 'Older KS2'

Type of children: Low attainment ('identified as experiencing difficulties with reading and/or spelling')

N of experimental group: 30

Length of intervention in weeks: 4

Tests used: British Ability Scales Word Reading and Spelling

Pre- and post-test average r.a's and s.a's and s.d's: not stated

Gains in months of r.a./s.a. (s.d's not stated) and ratio gains:

	gain	RG
Reading accuracy	16.1	16.1
Spelling	9.8	9.8

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Without pre- or post-test data it is impossible to characterise the starting and ending levels. However, the RGs show remarkable progress.

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AcceleRead AcceleWrite

(3) Wiltshire

Main reference: Unpublished data supplied by Sarah Couzens

Research design: One-group pre-test/post-test study

Date: 2005-06

Age-range: Y3-6

Type of children: Low attainment

N of experimental group: 149 (N of schools not stated)

Length of intervention in weeks: 4

Tests used: (reading) NFER Group test; (spelling) NFER

Pre- and post-test average r.a's/s.a's and s.d's: not stated

Gains in months of r.a./s.a. (s.d's not stated), and ratio gains:

	gain	RG
Reading accuracy	7.7	7.7
Spelling	6.2	6.2

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Without pre- or post-test data it is impossible to characterise the starting and ending levels. However, the RGs show remarkable progress.

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3.4 Better Reading and Writing Progress

(previously known as Better Reading and Writing Partners)

Scheme

This intervention, developed in Leicester, is for pupils in Y1-7 who have made a start on reading and writing but are experiencing difficulties. It was adapted from approaches used by Reading Recovery and Better Reading Partnership, and was implemented predominantly, but not exclusively, in schools taking part in the Every Child a Reader initiative. In 2006-15 it was used with over 3,000 children in Leicester.

It is a one-to-one, 20 minutes a day intervention which is built around the needs of the pupil and promotes

- Phonics and phonological awareness
- Language skills and comprehension
- Effective reading behaviours when reading texts
- Writing skills
- Enjoyment of reading.

It is usually delivered by a trained Teaching Assistant. Assistants initially attend 3 days of training, and then receive ongoing, top-up training both in school and at an LA centre. Although each lesson lasts 20 minutes, Teaching Assistants have 10 minutes after each lesson to reflect and plan the next day's lesson. Emphasis is placed on involving parents in their child's reading, and there is a range of resources to promote home reading. In the recent version (2015) there is an increased emphasis on comprehension.

Evaluation

Data were available on 798 children who had received the intervention in 2009-11, and on a further 648 who had received it in 2013-15. In 2014-15, alongside the 'full' version, a 'light touch' variant (fewer weeks of intervention) was also evaluated. The results showed useful to remarkable impacts on reading accuracy, and in one dataset a useful impact also on writing – see **section 6.1**.

Reference

Unpublished data supplied by Tony Whatmuff and Linda Dawson

Contact

linda.dawson@leicester.gov.uk

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Better Reading and Writing Progress

Main reference: Unpublished data supplied by Tony Whatmuff (2009-11) and Linda Dawson (2013-15)

Research design: One-group pre-test/post-test studies

Dates: 2009-11, 2013-15

Age-range: Y1-6

Type of children: Low attainment

N of experimental group: 1,446 (for cohorts see below) in an unknown number of schools in Leicester

Reading test: NFER

Average length of intervention in weeks, pre- and post-test average r.a's in years and months (not stated for 2013-15), gain in months of r.a., s.d's (where stated) and ratio gains:

		Weeks	pre		post		gain		
	N	ave	ave	(s.d.)	ave	(s.d.)	ave	(s.d.)	RG
2009-10	376	14.4	6:0	(1:5)	7:5	(1:6)	16.6	(11.1)	5.0
2010-11	422	14.8	6:1	(1:1)	7:3	(1:4)	14.1	(9.5)	4.1
2013-14	302	15.8					12.3		2.8
2014-15 'full'	288	15.5					13.2		3.8
2014-15 'light touch'	58	9.0					8.6		4.1

Effect sizes: n/a

Statistical significances: (2009-11) $p<0.001$ in both cases; (2013-15) Were not stated and could not be calculated

Starting and ending levels and progress: Given the wide age-range, the average starting r.a's (where known) show that many of these children were well behind. The RGs show useful to remarkable progress in reading accuracy, and most if not all of the KS1 children in these groups would have caught up by the end, but many of the KS2 children would still be well behind and need ongoing support.

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3.5 Better Reading Support Partners

Scheme

A trained Better Reading Support Partner provides a 10- week programme of three 15-minute one-to-one sessions per week for pupils who have fallen behind at reading. The Partner uses simple assessments to select three texts for each pupil to read in each session. They provide a relaxed environment that gives pupils the time and space to practise and apply the skills taught by their teachers and to talk about their reading with an interested adult. The Partner is supported by an in-school Link Teacher who manages the partnership.

Evaluation

In early 2014 Edge Hill University supplied a small dataset (N=34) from a pilot study. It showed a substantial gain in reading accuracy. The programme's website (accessed 28/2/16) claims that 'Over 1,000 pupils in Years 1 to 8 have been supported by BRSP in 160 schools', and that 'They made an average Reading Age gain of 12 months in only 3 months [and] an average Comprehension Age gain of 10 months.'

Reference

Unpublished data supplied by Edge Hill University

Contact

https://everychildcounts.edgehill.ac.uk/better-reading-support-partners/

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Better Reading Support Partners

Main reference: Unpublished data supplied by Edge Hill University

Research design: One-group pre-test/post-test study

Date: 2013

Age-range: Y1-7

Type of children: Children who have moderate difficulties with reading (in Key Stage 1, those who have fallen slightly below the level of their peers; in Key Stages 2 and 3, those whose reading age is below their chronological age)

N of experimental group: 34

Length of intervention in weeks: 9 (2.1 months used in calculating RG)

Reading test: Salford

Average pre- and post-test r.a's and s.d's in years and months, average gain and s.d. in months, and ratio gain:

	pre		post		gain		RG
	ave	(s.d.)	ave	(s.d.)	ave	(s.d.)	
Reading accuracy	7:0	(1:11)	8:1	(1:11)	12.3	(8.8)	5.9

Statistical significances: p<0.001

Starting and ending levels and progress: The wide age-range of the children involved makes the starting and ending levels difficult to interpret. The RG shows substantial progress.

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3.6 Boosting Reading

(previously known as Better Reading Partnership)

Scheme

The Better Reading Partnership (BRP) was developed originally in Bradford in the mid 1990s out of the realisation that those experiencing difficulties in reading were not finding current strategies of simplifying text very helpful. Such approaches were found to result in poor-quality learning and a heavy dependence on the teacher.

Boosting Reading is a targeted, time-limited, one-to-one, wave 2 intervention for pupils in Y1–9 using a structured lesson format, but not scripted. As a reading intervention, it focuses on the use and application of key skills whilst reading continuous text. It is currently available in two versions boostingreading@primary (BR@P) and boostingreading@secondary (BR@S) – for the latter see **section 5.2**. This ensures that both training and delivery are age-appropriate. Most programmes are now delivered by trained Teaching Assistants, but in some cases volunteers still do so. It is designed to improve the use of reading strategies and develop understanding, enabling pupils to become successful, independent readers who read with enjoyment. Each pupil selected for the programme works with a trained adult for 15 minutes three times a week for ten weeks. Lessons include re-reading, assessment (through observation and running records), and introduction and first reading of a new text. Partners are encouraged to select and use a wide range of text genres and reflect on and plan for pupil progress following each lesson.

Evaluation

In various previous editions data on BRP in several LAs (Bradford, Derbyshire, Durham, Nottinghamshire, Tameside) were included. For this edition, three sets of selected evidence (at primary level; see **section 5.2** for a small KS3 dataset) from the latest report supplied by the national trainers have been substituted. In the first primary selection, 3 out of 6 year groups achieved ratio gains of over 2.0; in the second, all 6 year groups; in the third, a set of Y1-6 pupils did so.

Reference

Unpublished data supplied by Clare Reed and Jan Hilditch

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Boosting Reading

Main reference: Unpublished data supplied by Clare Reed and Jan Hilditch

Research design: Two one-group pre-test/post-test studies

Date: 2013-14

Age-range: Y1-6

Type of children: Low attainment

1) Reading accuracy data from one LA using same test throughout

N of experimental group: 744 (see below for year groups)

Length of intervention in weeks: 12 (3 months used in calculating RGs)

Reading test: British Ability Scales word reading (BAS)

Year groups, Ns, average gains in word reading accuracy in months of r.a. (s.d's and pre- and post-test data not stated), and ratio gains:

Year	N	ave gain	RG
Y1	312	6.6	2.2
Y4	82	8.7	2.9
Y5	65	10.7	3.6

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: In the absence of pre- and post-test data it is not possible to characterise the starting and ending levels. However, all 3 RGs are useful or substantial.

2) Reading age data from several LAs using various tests

Ns of experimental groups: See below

Length of intervention in weeks: 10 (2.5 months used in calculating RGs)

Reading tests: 12 in all, including York Assessment of Reading Comprehension (YARC), Neale Analysis, NFER, Salford, Suffolk and PM Benchmark

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Year groups, Ns, average gains in word reading in months of r.a. (s.d's and pre- and post-test data not stated), and ratio gains:

Year	N	ave gain	RG
Y1	56	14.2	5.7
Y2	132	12.3	4.9
Y3	84	13.0	5.2
Y4	82	14.9	6.0
Y5	89	12.5	5.0
Y6	125	15.0	6.0

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: In the absence of pre- and post-test data it is not possible to characterise the starting and ending levels. However, all 6 RGs are remarkable.

3) Comprehension data from a few LAs

N of experimental group: 41

Length of intervention in weeks: 10 (2.5 months used in calculating RGs)

Reading tests: not stated

Average gain in comprehension in months of r.a. (s.d's and pre- and post-test data not stated), and ratio gain:

ave. gain	RG
15.6	6.2

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: In the absence of pre- and post-test data it is not possible to characterise the starting and ending levels. However, the RG is remarkable.

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3.7 Catch Up® Literacy

Scheme

Catch Up® Literacy is a one-to-one literacy intervention for struggling readers aged 6-14. It is centred on a 15-minute structured teaching session delivered twice a week by a teacher or TA and tailored to the needs of individual children. According to Holmes *et al*. (2011), by then it had been used to support about 210,000 children in 4,250 schools in 86 local authority areas across England and Wales. Test results have shown that it has made a significant difference in literacy skills for the majority of primary pupils who have received it. A key factor in its success appears to be that it is practical and inexpensive to implement in a variety of school contexts.

Catch Up® Literacy was initially developed in 1998 at Oxford Brookes University, in partnership with the Caxton Trust, as a result of a study undertaken by the project consultants, Diana Bentley and Dee Reid. A pilot evaluation was then carried out, together with Suzi Clipson-Boyles. The research helped to identify a systematic method for supporting individual struggling readers in Y3. Further research and extensive trialling have extended the scheme to support struggling readers in Y2, Y4-6, KS3 (see **section 5.3**), and a range of other settings, such as Gypsy Travellers (see **chapter 8**) and Looked-After Children (see **chapter 7**). A Welsh-medium version, called Llythrennedd Dyfal Donc, has also been developed (see Brooks, 2009: 11 & 32-33).

Catch Up Literacy begins with a comprehensive assessment procedure which provides pre-intervention data and from which the adult tutor determines the child's Catch Up Literacy level and targets. The Catch Up Literacy level is used to identify a book appropriate for the individual child which s/he will be able to read with 90% success (instructional level).

The individual sessions have three parts:

- During the *prepared reading,* the adult talks through the text and pictures of the selected book, providing key vocabulary and familiarising the child with the story.
- The child then *reads* the story whilst the adult records progress and identifies words to follow up.
- This is followed by a *linked writing* or spelling activity based on the child's miscues earlier in the session. The adult helps the child with the reading and spelling of the words using a variety of methods, including phonics and the visual recognition of irregular words.

Catch Up has produced a range of support materials, including three interactive Digital Game Collections, and leaflets for parents and carers. All adult tutors receive training (Gateway Qualifications accredited), and additional support is provided for them via the Catch Up Community.

Evaluations

Children usually take part in Catch Up Literacy for one to three terms, according to individual need. However, the initial evaluation was a one-term pilot study carried out by the programme developers in the autumn term of 1997 (Clipson-Boyles, 2000). It showed that the experimental group made substantial progress in reading accuracy, an alternative treatment group made just over standard progress, and the comparison group fell even further behind. The data on this study, even though small, have been retained in this edition because it is to date the only comparative study on Catch Up Literacy at primary level which shows a strong effect.

Otherwise, data analysed for the third edition were replaced in the fourth edition by national data on 5,479 children covering the period 2002-10 contained in Holmes *et al*. (2011). That dataset contains an undisclosed number of children in KS3, but is presented here, as being mainly primary. The results show useful progress.

In 2013 the Education Endowment Foundation commissioned an independent RCT evaluation from NFER, as part of its suite of 24 RCTs investigating how to boost literacy at primary/secondary transition (Rutt, 2015). The RCT involved 557 pupils who received two 15-minute sessions per week over 30 weeks, starting in Y6 and continuing in Y7 in 15 schools after the summer break. Pupils were identified by their Year 6 teachers as being struggling readers who were predicted to achieve below level 4b in reading. The intervention group made rather more progress in reading than the control group, but the difference did not quite reach statistical significance; hence the data are not included in chapter 4.

References

Brooks (2009), Clipson-Boyles (2000), Reid *et al*. (2004), Holmes *et al*. (2011, 2012), Rutt (2015)

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Catch Up Literacy

(1) The Pilot Study

Main reference: Clipson-Boyles (2000)

Research design: Partly a one-group pre-test/post-test study, partly a matched-groups three-group quasi-experiment

Date: September-December 1997

Age-range: Y3

Type of children: Low attainment (level 1 in reading in KS1 test)

N of experimental group: 74; 17 in sub-sample matched to comparison and alternative treatment groups

N of alternative treatment group: 14

Nature of alternative treatment: 'Teachers were asked to spend time equivalent to Catch Up with selected pupils.'

N of comparison group: 17

Equivalence of experimental sub-sample with AT and comparison groups: Three of the experimental schools were selected, then matched as closely as possible with 2 other sets of 3 schools; then pupils in all 3 groups of schools were chosen by the same method (6 pupils in each school who had achieved level 1 in reading in KS1 test)

Length of intervention in weeks: 10

Reading test: Hodder & Stoughton Literacy Baseline

Pre- and post-test average scores, gains in reading accuracy and s.d's, all in months of r.a., ratio gains, and effect sizes calculated by dividing differences in gain by pooled post-test s.d's of matched experimental group/matched time group and comparison group:

	pre-test		post-test		gain			effect
	ave	(s.d.)	ave	(s.d.)	ave	(s.d.)	RG	size
experimentals – all	78.3	(6.0)	84.8	(7.5)	6.5	(5.3)	2.6	*
- in matched schools	79.6	(4.3)	88.2	(6.2)	8.6	(5.9)	3.4	1.11
matched time group	77.1	(4.5)	80.6	(8.2)	3.5	(5.4)	1.4	0.37
comparison group	81.0	(9.6)	82.1	(7.7)	1.1	(6.5)	0.4	

* This effect size is not reported because it would be based on an unmatched comparison group

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Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: All pre-test average scores were well below national norms, as were the post-test averages for the matched time and comparison groups. The Catch Up Literacy matched sample made substantial progress, and their post-test average was ⅔ of an s.d. below the norm. Their remarkable effect size confirms how much more progress they had made than the comparison group. The matched time group made just over standard progress, and the comparison group fell even further behind.

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Catch Up Literacy

(2) National data

Main reference: Holmes *et al*. (2011)

Research design: Multiple one-group pre-test/post-test studies

Date: 2002-10

Age-range: Y2-9 (average age at beginning: 8:6)

Type of children: Low attainment

N of experimental group: 5,479 in 23 LAs across England and Wales

Length of intervention in weeks: 32.8 (average; 7.57 months used in calculating RG)

Reading test: Salford

Pre- and post-test average r.a's, gains and s.d's, all in months, and ratio gain:

	pre	post	gain	RG
ave	69.6	87.1	17.5	2.3
(s.d.)	(17.1)	(18.4)	(10.6)	

N.B. The RG shown was calculated by dividing the average gain by the average interval between pre- and post-test. The authors report an RG of 2.5, calculated as the average of children's individual RGs. The difference appears to be due to an accumulation of rounding errors in the authors' method.

Effect size: n/a

Statistical significance: $p<0.001$

Starting and ending levels and progress: Given that the average starting c.a. was 90.2 months, these children were on average 20.6 months behind at that point. At the end their average c.a. was 97.8 months, so they had reduced the gap to 10.7 months. The RG for reading comprehension confirms the useful progress.

Follow-up: A sub-sample of 185 children in Norfolk and Rhondda Cynon Taf LAs who had received Catch Up Literacy in 2003 at age 7 were assessed again 7 years later using the Salford test; 89% of them achieved the test's ceiling r.a. of 10:2.

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3.8 Cued Spelling

Scheme

Cued Spelling is a procedure designed by Keith Topping and colleagues at the University of Dundee for two people working together. The pair might be parent and child working at home, or two children working together in school. In school, the children can be of the same or different age and spelling competence. They may remain in role as tutor and tutee, or the roles may reverse at intervals. Cued Spelling can also be used for whole-class tutoring.

According to the authors, the technique consists of 10 steps, 4 points to remember, and 2 reviews – a chart setting all this out can be downloaded from the website. The most accessible description of the method is in Topping (2001). He admits (p.181) that it looks 'rather complicated' but maintains that 'You can train seven-year-olds to do it in half an hour – it is a lot simpler than it looks.' It is usually done three times a week for an initial trial period of six weeks. Each session takes about 15 minutes. In 2015 extra resources are available at http://www.dundee.ac.uk/esw/research/resources/thinkingreadingwriting/#d.en.158378

Evaluations

Topping (2001: 196-202) summarised several studies on this technique, but none were large enough for this book. Instead, some data from Bristol have been used: there were substantial gains in comprehension and spelling, and a useful one in reading accuracy.

References

Topping (1995, 2001), and unpublished data supplied by Sue Derrington

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Cued Spelling

Main reference: Unpublished data supplied by Sue Derrington

Research design: One-group pre-test/post-test study

Date: 2004-05

Age-range: Y2-6

Type of children: SEN

N of experimental group: 50 in 15 schools in Bristol

Length of intervention in weeks: Not stated, and varied between schools, but average appears to have been about 8

Tests used: NFER Individual Reading Analysis (KS1), Neale (2nd UK edition, accuracy and comprehension) (KS2), Vernon Spelling Test (both)

Pre- and post-test average r.a's/s.a's and s.d's: not stated

Gains in months of r.a./s.a. (s.d's not stated). and ratio gains:

	gain	RG
Reading accuracy	4.6	2.1
Reading comprehension	6.7	3.1
Spelling	6.0	3.1

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Without pre- or post-test data it is impossible to characterise the starting and ending levels. However, the RGs show useful progress.

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3.9 Easyread

Scheme

The Easyread System for helping children learn to read and spell has been developed over the past decade or so by Oxford Learning Solutions, using feedback from children, parents and teachers, as well as being informed by research and theory. It is an online tutorial system which implements synthetic phonics through Guided Phonetic Reading.

The root difficulty in all English phonics teaching is the inconsistency of the spelling system. There are multiple potential graphemes for most phonemes and multiple phonemes for many graphemes. Therefore, the teaching of phonics through rules can be very challenging for some children, since almost every rule has so many exceptions. By contrast, Guided Phonetic Reading develops the child's phonetic decoding ability through active decoding practice and repeated exposure to the different grapheme-phoneme relationships. No rules are taught. The child is presented with familiar visual images above the line of text to represent the phonemes in each word. This helps with the decoding of each grapheme and removes the fear of the text. So the ability to decode is taught as a skill, through practice. The text presented in this way is called Trainertext. After around 90 daily sessions of 5-15 minutes with Trainertext the child begins to transfer the decoding ability to conventional text.

All the training needed by the adults supervising Easyread lessons is provided by Oxford Learning Solutions, with online tutorials, manuals and direct support, using a messaging facility within the system and a helpline. The Easyread system also allows children to do lessons at home, at weekends and during school holidays, if internet access and some parental support are available.

Evaluation

In school year 2011-12 and the first term of school year 2012-13 an independent research team from the Open University, consisting of Professor David Messer and Dr Gilly Nash, conducted a randomised control trial in a number of primary schools in London to evaluate the effectiveness of Easyread for children identified by their schools as in need of literacy support (school action, school action plus or a statement of special educational need, in the terms then current). The nominated children were randomly allocated to an experimental group who had Easyread tutorials or to a 'waiting list' control group who continued to receive the type of additional support normally provided by the school (and received the intervention in the remaining 2 terms of school year 2012-13). After 4 months, pre- and post-test data were available for 52 children in the experimental group and for 43 in the control group in 8 schools; after 13 months, data from a further post-test were gathered from 45 children in the experimental group and 33 in the control group in 6 schools. The effect sizes showed distinctly and significantly better progress for the

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experimental group in reading accuracy (decoding), phonological awareness, rapid automatized naming as well as for the more general abilities of phonological short-term memory and executive loaded working memory. In general the children's scores on these standardised tests showed an increase over 13 months from below average scores, to average scores.

For a KS3 evaluation see **section 5.4**.

Reference

Unpublished data supplied by David Messer

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Easyread

Main reference: Unpublished data supplied by David Messer and Gilly Nash of the Open University, who were conducting an independent evaluation

Research design: RCT

Date: 2011-12

Age-range: (At pre-test) 7:1-8:10, average 7:7

Type of children: SEN (school action, school action plus or statemented)

N of experimental group:

(1) at pre-test and first post-test, 52 in 8 schools in Greater London
(2) at second post-test. 45 in 6 of those schools

N of control group:

(1) at pre-test and first post-test, 43 in same 8 schools
(2) at second post-test. 33 in same 6 schools

Equivalence of groups: Randomised within schools; groups did not differ significantly at pre-test on main test or 2 others, either on larger or smaller samples

Length of intervention in weeks:

(1) between pre-test and first post-test, 8-16
(2) between pre-test and second post-test, 56

Reading test: Test of Word Reading Efficiency, form A at pre-test, form B at both post-tests

Pre- and post-test average standardised scores, gains in standardised score points, s.d's, and effect sizes calculated (by GB) as difference in gains divided by pooled post-test s.d's:

(1) between pre-test and first post-test

		pre-test		post-test		gain		Effect
Group	**N**	**ave**	**(s.d.)**	**ave**	**(s.d.)**	**ave**	**(s.d.)**	**size**
Exps	52	89	(12)	95	(11)	6	(6)	0.68
Conts	43	93	(13)	91	(13)	-2	(7)	

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(2) between pre-test and second post-test (s.d's of gains not stated)

		pre-test		post-test		gain	Effect
Group	**N**	**ave**	**(s.d.)**	**ave**	**(s.d.)**	**ave**	**size**
Exps	45	87.2	(11.5)	100.3	(12.4)	13.1	0.94
Conts	33	91.1	(9.7)	93.1	(11.3)	2.0	

Statistical significances: In both cases, experimental group's gain was significantly higher than control group's gain ($p<0.001$)

Starting and ending levels and progress: Both groups' starting levels were below average, the experimental group being slightly further behind than the control group. At first post-test the experimental group's average standardised score had moved much closer to the national norm and at second post-test had reached it, while the control group's scores hardly changed in either period. The useful effect sizes show better progress for the experimental group, but it should be noted that it was not possible in the calculations reported here to allow for any impact of drop-out on the second set of post-test data.

Further follow-up: The control group received the intervention in the remainder of school year 2012-13. According to data (not analysed here) supplied by the authors of the study, they made progress during their 7 months' exposure to the intervention, but not as much as the experimental group had during 13 months' exposure.

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3.10 ENABLE (Enhancing Attainment in Basic Literacy)

[Not to be confused with the scheme of the same name once used in Glasgow]

Scheme

This suite of literacy intervention programmes was developed by the Inclusion Support team in Sandwell Local Authority. The first version was ENABLE-Plus, for pupils in Y3-5, then came ENABLE – One to One, for Y2, and last ENABLE-PLUS (KS3), for Y7-9 (for the latter see **section 5.5**). The Y2 version is delivered, as its name says, one-to-one; each child receives a daily 30-minute session for eight weeks. In the other versions groups of three children receive 30 minutes' group teaching twice a week, and each child also receives 10 minutes' individual teaching once a week. ENABLE-Plus runs for 22 weeks, ENABLE-PLUS (KS3) for 10-14 weeks. ENABLE-Plus and ENABLE-PLUS (KS3) are only suitable for delivery by employed school staff (e.g. teaching assistants, learning support assistants), whereas ENABLE – One to One can also be delivered by volunteer helpers. Otherwise, the details are the same for all three versions.

Each school that wishes to run a programme nominates a school coordinator. School coordinators attend training provided by Sandwell Inclusion Support (SIS) to prepare for setting up projects in their own schools. They then recruit tutors, identify pupils needing support, arrange for SIS staff to provide training for the tutors, provide ongoing support to the tutors, and evaluate pupils' progress.

Briefly, the teaching consists of: direct instruction of high-frequency words or phonic skills; prepared reading of novel text; repeated practice using familiar text; using skills via guided and shared reading; employing a variety of texts to apply skills. Promoting self-esteem is also a core aspect of the ENABLE suite of programmes (cf. the Somerset projects in previous editions), and forms an integral part of the training. The pace of instruction is influenced by the pupils' rate of progress, thereby ensuring that all skills are learnt to Mastery level.

Evaluations

Both primary-level evaluations analysed below were carried out by the original authors of the scheme. One showed substantial gains in comprehension and spelling for Y2 pupils, the other a useful gain in reading accuracy for those in Y3-5.

References

Bowen (2003), Bowen and Yeomans (2002) and unpublished data supplied by Phil Bowen

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ENABLE (Enhancing Attainment in Basic Literacy)

(1) ENABLE – ONE-TO-ONE

Main references: For a description of the programme, Bowen and Yeomans (2002); for data analysed below, Bowen (2003)

Research design: One-group pre-test/post-test study

Date: 2002

Age-range: Y2

Type of children: Children identified as having literacy difficulties by the member of teaching staff at each school nominated as ENABLE Coordinator

N of experimental group: 100 in 15 schools

Length of intervention in weeks: 8

Tests used: Salford Sentence Reading Test, Schonell Spelling Test

Pre- and post-test average reading and spelling ages and s.d's: not stated

Gains in months of r.a./s.a., and ratio gains:

	Gain	RG
Reading comprehension	6	3.0
Spelling	7	3.5

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Without pre- or post-test data it is impossible to characterise the starting and ending levels. However, the RGs show substantial progress.

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ENABLE (Enhancing Attainment in Basic Literacy)

(2) ENABLE-Plus

Main reference: Bowen and Yeomans (2002)

Research design: One-group pre-test/post-test study

Date: 2000-01

Age-range: Y3-5 (7:00-9:00 at outset)

Type of children: Low attainment – one had Statement of Special Educational Need; all others were receiving School Action under the Code of Practice

N of experimental group: 29, all in one primary school (also 14 in another primary school, not analysed because of small sample)

Length of intervention in weeks: 22

Reading test: BASWRT

Pre- and post-test average r.a's in years and months and gain in reading accuracy in months of r.a. (s.d's not stated), and ratio gain:

pre	post	gain	RG
5:10	6:09	11	2.2

Effect size: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: These Y3-5 pupils, all with serious difficulties, were functionally illiterate both pre and post, but made useful progress.

3.11 FFT Wave 3

Scheme

This description is taken from Canning (2004):

'The programme is aimed at children in Year 1 and above who are working within or below Book Band 2. Designed to be delivered by experienced teaching assistants, it consists of a rolling programme of a reading day, writing day, reading day, writing day, etc., taking place for 15-20 minutes daily on a one-to-one basis'

Reading Day
The child:

1. rereads a familiar book (4/5 mins);
2. carries out three fast letter-work activities (3 mins);
3. reads a new book following a book introduction (8 mins);
4. reconstructs a cut-up sentence from the book (2 mins);
5. learns a new word from the book (2 mins).

Writing Day
The child:

1. rereads yesterday's new book – the adult takes a running record once a week (5 mins);
2. revises word(s) previously learned (2 mins);
3. composes and writes a sentence based on a picture or stimulus from the book just read (7/8 mins);
4. reconstructs a cut-up sentence taken from the written sentence (2 mins);
5. learns a spelling from the writing just completed (2 mins).

Evaluations

A pilot programme was evaluated in 2004. There was a useful gain in reading accuracy. A larger study in 2008 produced a remarkable gain for accuracy.

References

Canning (2004, 2009)

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FFT Wave 3

Main references: Canning (2004, 2009)

Research design: Two one-group pre-test/post-test studies

Dates: 2004, 2008

Age-ranges: (2004) Y1-3; (2008) Y1-5

Type of children: (2004) SEN with very low attainment – working at P6 to 1C

(2008) very low attainment

Ns of experimental groups: (2004) 67 in about 30 schools

(2008) 255 in 9 LAs

Length of intervention in weeks: 10

Reading assessment: A range of early reading and writing assessments was used. The one from which an impact measure could be derived, indirectly, was Reading Recovery book bands. All children in England who enter Reading Recovery are now routinely assessed on both RR book bands and the BASWRT. Nelson Thornes publishers have been able to use this information to correlate book bands with BASWRT reading ages, and have published a table of equivalences in their PM Benchmark Kit. These equivalences have been used in this analysis.

Pre- and post-test average RR book bands and r.a's in years and months, gains in book bands and in reading accuracy in months of r.a., and ratio gains:

Cohort		pre	post	gain	RG
2004	book bands	2.2	7.9	5.7	
	r.a.	5:1	5:8	7	2.8
2008	book bands	3.8	13.7	9.9	
	r.a.	5:5	6:5	12	4.8

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Both pre- and post-test average scores show these pupils were not yet functionally literate; for all those above Y1 this means they were well behind. The 2004 group made useful progress, and the 2008 group substantial progress, but in both cases this would need to be sustained by further quality teaching.

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3.12 Hornet

Scheme

This is the (mainly) primary-level version of Word Wasp – for details of both schemes see **section 5.16**. Harry and Marie Cowling are the authors of both schemes.

Evaluation

Data were available on 38 mainly primary pupils. They had achieved a substantial gain in reading accuracy.

Reference

Unpublished data supplied by Nicola Cook

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Hornet

Main reference: Unpublished data supplied by Nicola Cook

Research design: One-group pre-test/post-test study

Date: 2015

Age-range: 5-14 (mainly primary)

Type of children: Low attainment

N of experimental group: 38 in 14 schools in London, Leeds and The Highlands

N of comparison group: (no comparison group)

Length of intervention in weeks: 26.5 (average)

Reading tests: Blackwell, Burt, YARC, Helen Arkell, Salford

N.B. Although only reading data are presented here, Hornet is also designed to boost spelling, and the authors collect spelling data – but that dataset was too small to include on this occasion

Pre- and post-test average r.a's and s.d's for reading accuracy in years and months, average gain and s.d. in months of r.a., and ratio gain:

pre		post		gain		
ave	**(s.d.)**	**ave**	**(s.d.)**	**ave**	**(s.d.)**	**RG**
7:7	(0:11)	9:4	(1:5)	21.6	(10.3)	3.5

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: Even given the wide age-range, the starting level seems to have been well below average. The useful ratio gain will have enabled many of these pupils to get much closer to an age-appropriate level, but some would still need ongoing support.

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3.13 Inference Training

Scheme

This scheme focuses upon the band of children who fall within the normal range of cognitive ability, yet fail to comprehend fully what they read. The many skills needed to understand a text are broken down into manageable chunks: lexical elaboration, question generation and comprehension monitoring. Tasks are designed so that children can make links between the text and its meaning. Sessions last between 20 and 45 minutes, twice a week for four weeks. Useful analyses of the literature on teaching inference are Kispal (2008) and Clarke (2010).

Studies by Nicola Yuill and Jane Oakhill at the University of Sussex in the 1980s showed that less skilled readers have difficulty in making inferences from text. They argued that word recognition and decoding skills are not always adequate in developing good reading skills. The meanings of individual sentences and paragraphs have to be integrated so as to understand the main ideas of the text. It has been suggested that working memory plays a part in this skill.

Yuill and Oakhill (1988) tested the effect of children's reading comprehension using three types of intervention:

1. Inference skills training (this consisted of lexical inference, question generation and prediction)
2. Comprehension exercises
3. Rapid decoding practice.

The same narrative texts were used in all three intervention conditions. The experimenter saw children in groups of three to five, twice a week over 3½ weeks. Length of sessions varied from 20 to 45 minutes. Training sessions lasted slightly longer than control sessions, since subjects had to spend time thinking of questions, whereas the control group had precise tasks to perform that did not involve long periods of silence.

Later studies have highlighted the key role inference plays in reading comprehension. Cain *et al*. (2001) showed that less skilled comprehenders generate fewer inferences than skilled comprehenders. A longitudinal study of children between the ages of 7 and 11 by Oakhill and Cain (2011) found that the skills that predicted later reading comprehension were those that aided the construction and integrated representation of the meaning of text. Three skills, inference and integration, comprehension monitoring and the knowledge and use of story structure predicted reading development, over and above general verbal ability and vocabulary.

Evaluations

Yuill and Oakhill (1988) was a quasi-experimental study, rather than an evaluation of a separately devised project. The results showed that less skilled comprehenders

benefited from Inference Training more than skilled comprehenders. The authors concluded that, for less skilled comprehenders, Inference Training was both more beneficial and more helpful than decoding practice. However, comprehension exercises appeared to be as beneficial as Inference Training. This study is of particular interest because so few have tackled comprehension improvement directly.

McGee and Johnson (2003) conducted a small RCT (40 children in 4 groups) in one school in Glasgow replicating Yuill and Oakhill's comparison between inference training and comprehension exercises (but not rapid decoding). All 4 groups (skilled/ less skilled x inference training/comprehension exercises) made remarkable progress in the 3 weeks of the interventions, but the less skilled comprehenders who received inference training made the most progress, and reached an age-appropriate level – replicating Yuill and Oakhill's main results.

Yuill (2009) trained 12 pairs of better and poorer comprehenders to discuss joking riddles as a means to boosting their inferencing and comprehension. The two groups combined made significantly greater progress than a matched comparison group, and ratio gains and effect sizes suggested that the poorer comprehenders had made more progress than their better-comprehending peers (despite a non-significant statistical result).

Several datasets were obtained from Leicester, where Tony Whatmuff had developed an intervention using Inference Training which was first evaluated by a group led by Jo Puttick, and then routinely monitored. A programme of twenty lessons, each of 40 minutes, was used. A 2005-06 pilot group (N=57) showed remarkable gains in both accuracy and comprehension, and the 2009-11 results from a larger group (N=204) showed a remarkable gain in comprehension. In 2009-11 data were also gathered on pupils in KS3 – see **section 5.6**– and in 2015 more primary-age data were made available covering school year 2013-14, again showing remarkable gains in both accuracy and comprehension. Also in 2015 data became available on a study conducted with children on the autism spectrum – see **section 7.8**.

References

Cain *et al*. (2001), McGee and Johnson (2003), Oakhill and Cain (2011), Yuill (2009), Yuill and Oakhill (1988), unpublished data supplied by Jo Puttick and Tony Whatmuff

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Inference Training

(1) Brighton

Main reference: Yuill and Oakhill (1988)

Research design: Complex. In Autumn term 1985, 28 children in 2 junior schools in Brighton were assigned, on the basis of their comprehension scores on the Neale (Form C), to 2 groups: 14 skilled and 14 less skilled comprehenders; the groups were matched on age, vocabulary and reading accuracy. In Spring term 1986, 24 children in 3 other Brighton junior schools were similarly assigned to 2 groups: 12 skilled and 12 less skilled comprehenders, and the groups were matched in the same way. Then in each term, within each of the 4 groups of children, half were randomly assigned to receive inference training, half to receive an alternative treatment (comprehension exercises in the Autumn term, rapid decoding in the Spring term). At this point, the design could be considered as 4 mini-RCTs (2 with total N=14, 2 with total N=12); but when no statistically significant differences were found between the 2 terms, data on the inference training (experimental) groups were combined across terms, but not across skilled v. less skilled comprehenders, or across the two different alternative treatments. Since the data are not reported in a way permitting separate analysis of the 4 mini-RCTs, the final stage is perhaps best described as a 3-group partly matched-groups quasi-experiment.

Dates: Autumn 1985-Spring 1986

Age-range: Y3

Type of children: Mixed-ability

Ns of experimental groups: (1) 13 less skilled comprehenders, in 5 schools

(2) 13 skilled comprehenders, in same 5 schools

Nature and Ns of alternative treatments:

(AT1) comprehension exercises for less skilled comprehenders; N=7

(AT2) comprehension exercises for skilled comprehenders; N=7

(AT3) rapid decoding practice for less skilled comprehenders; N=6

(AT4) rapid decoding practice for skilled comprehenders; N=6

All these pupils were in the same 5 schools as those in the experimental groups

Equivalence of groups: All pre-test differences ns, except, deliberately, on comprehension

N of comparison group: (no no-intervention comparison group)

Length of intervention in weeks: 4 (= 1 month, hence RGs = gains)

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Reading test: Neale, form C at pre-test, form B at post-test, thus avoiding specific practice effects over the short interval

Mea culpa: In all 4 previous editions many more data were presented on this study, but in 2015 I realised I had misinterpreted parts of it (hence the much longer description of the research design above), and in consequence misrepresented parts of the data (in particular, the pre-test average scores are in years and decimal years, not years and months). Also, copious results were reported from the accuracy section of the Neale test – but since none of those results were statistically significant they have been dropped from this edition. Also dropped are post-test scores for the Neale comprehension data; these are not in the original article and had had to be back-calculated from the pre-test and gain scores. Finally, in order to report results on the two alternative treatments I had averaged the scores from the skilled and less skilled subgroups – this now seems illogical, and they are separated out in the results table below. It might also have been logical to report data on the 2 subgroups of skilled and less skilled comprehenders in each term separately – but since their gain scores are merged this would not have been possible, so the average pre-test scores and s.d's for the 2 experimental groups shown just below are averages across the two subgroups of each.

Pre-test average r.a's and s.d's for comprehension in years and decimal years, gains in months of r.a. (post-test scores and s.d's and gain s.d's not given), and ratio gains:

	N	pre-test		Gain	RG
Group		ave	(s.d.)		
exps 1	13	7.3	(0.3)	17.4	17.4
exps 2	13	8.7	(0.6)	5.9	5.9
AT1	7	7.2	(0.2)	13.7	13.7
AT2	7	8.9	(1.7)	5.4	5.4
AT3	6	7.3	(0.4)	6.0	6.0
AT4	6	8.9	(0.8)	10.3	10.3

Effect sizes: Were not stated and could not be calculated – see **Appendix, section A.2.2**.

Statistical significances as stated by authors: Less skilled comprehenders (exps 1) made significantly more progress than skilled comprehenders (exps 2) ($p<0.001$), and more progress than the less skilled rapid decoding group (AT3) ($p<0.05$). All other comparisons ns

Starting and ending levels and progress: All pre-test average scores were in the semi-literate range. Those for the groups of poorer comprehenders (exps 1, AT1, AT3) were close to c.a., while those for the other groups were somewhat above. In the absence of post-test scores it is not possible to characterise ending levels directly, but all the RGs show at least substantial progress, and the exps 1 and AT1 groups

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(but not AT2) had probably reached age-appropriate levels. Some RGs show remarkable progress, especially by the less skilled comprehenders who had received inference training (exps 1) or comprehension exercises (AT1). More surprising is the remarkable gain by the skilled comprehenders who had received rapid decoding exercises (AT4)

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Inference Training

(2) Glasgow

Main reference: McGee and Johnson (2003)

Research design: 4-group RCT

Date: c.2001

Age-range: 6:6-9:11 at pre-test

Type of children: Skilled and less skilled comprehenders; all had reading accuracy age equal to or above c.a.; skilled group had reading comprehension age also equal to or above c.a., but less skilled group had reading comprehension age at least 6 months below c.a.

Ns of experimental groups: 10 in each, all from one school

Ns of alternative treatment groups: 10 in each, all from same school

Nature of alternative treatment: Comprehension exercises

Equivalence of groups: Randomly allocated within skilled & less skilled groups; no statistically significant difference at pre-test on reading accuracy

N of control group: (no no-intervention control group)

Length of intervention in weeks: 3 (0.7 of a month used in calculating RGs)

Reading tests: Neale (1989), Form 2 at pre-test, Form 1 at post-test

Pre- and post-test average comprehension r.a's in years & months, gains in months (s.d's not stated) and ratio gains:

Group		N	pre	post	gain	RG
less skilled	exp	10	7:6	9:2	20	28.6
less skilled	AT	10	7:8	8:6	10	14.3
skilled	exp	10	9:1	9:10	9	12.9
skilled	AT	10	9:4	10:1	9	12.9

Note: Some data not stated in article but deduced from data given and Figures

Effect sizes: n/a

Statistical significances as stated by authors: All groups had improved significantly (p=0.001), and the less skilled comprehenders had improved more than the skills comprehenders (if so, the figure quoted in the article, p=0.224, must be wrong)

Starting and ending levels and progress: Pre-test scores confirm that skilled groups were at age-appropriate level, while less skilled groups were well behind. All groups

made remarkable gains, but as intended the less skilled experimental group made the most progress, and reached an age-appropriate level

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Inference Training

(3) South-east England

Main reference: Yuill (2009)

Research design: 3-group partly matched-groups quasi-experiment

Dates: (not stated)

Age-range: Y3-4

Type of children: Mixed-ability

Ns of experimental groups: (1) 12 poorer comprehenders, in 2 primary schools

(2) 12 better comprehenders, in same 2 schools

N of comparison group: 24 children in same 2 schools

Equivalence of groups: All pre-test differences ns, except, deliberately, between experimental groups on comprehension; comparison group matched to experimental groups' combined pre-test scores

Length of intervention in weeks: 3 on average between pre- and post-tests (0.7 of a month used in calculating RGs)

Reading test: Neale, form B at pre-test, form A at post-test

Accuracy scores: No significant differences, so not reported here

Pre- and post-test average r.a's and s.d's for comprehension in months of r.a., gains in months of r.a. (s.d's not given), ratio gains, and effect sizes calculated (by GB) as differences in gains over pooled post-test s.d's:

		pre-test		post-test		gain		
Group	**N**	**ave**	**(s.d.)**	**ave**	**(s.d.)**	**ave**	**RG**	**Effect size**
exps 1	12	78.9	(7.0)	88.4	(12.6)	9.5	13.6	0.34 (exps 1 v exps 2)
exps 2	12	92.2	(12.6)	96.8	(16.9)	4.6	6.6	0.40 (exps 2 v comp)
comparison	24	84.8	(11.8)	83.9	(12.6)	-0.9	-1.3	0.85 (exps 1 v comp)

Statistical significances as stated by author: The 2 experimental groups combined made significantly more progress than the comparison group ($p<0.01$), but the 2 experimental groups' gains did not differ significantly

Starting and ending levels and progress: All pre- and post-test average scores were in the semi-literate range. The difference between the RGs for the 2 experimental groups, and that between the effect sizes v the comparison group, suggest that

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exps 1 did make substantially more progress than exps 2, despite the ns statistical result. It is intriguing that the comparison group lost a bit of ground.

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Inference Training

(4) Leicester

Main references: Unpublished data supplied by Jo Puttick (for 2006) and Tony Whatmuff (for 2009-11, 2013-14)

Research design: Three one-group pre-test/post-test studies

Dates: 2006, 2009-11, 2013-14

Age-ranges: (2006) Y5-6; (2009-11, 2013-14) Y3-6

Type of children: Low attainment

Ns of experimental groups: (2006) 57 in 6 schools; (2009-11) 204 (N of schools not stated); (2013-14) 46 (N of schools not stated)

Length of intervention in weeks: (2006) 6; (2009-11) 6-9, average 7.2 (1.7 months used in calculating RG); (2013-14) 8

Reading test: Neale

Earlier cohorts

Pre- and post-test average scores and s.d's: not stated

Average gains in months of r.a. (s.d's not stated) and ratio gains:

Cohort		gain	RG
2006	Accuracy	9.7	6.5
	Comprehension	13.5	9.0
2009-11	Comprehension	12.3	7.3

2013-14 cohort

Pre- and post-test average scores and s.d's in years and months of r.a. average gains and s.d's in months of r.a., and ratio gains:

	pre		post		gain		RG
	ave	(s.d.)	ave	(s.d.)	ave	(s.d.)	
Accuracy	9.0	(1:5)	10.3	(1:6)	15.1	(11.6)	7.6
Comprehension	8:4	(1:0)	10:3	(1:4)	22.0	(12.1)	11.0

Effect sizes: n/a

Statistical significances: (2006, 2009-11) were not stated and could not be calculated; (2013-14) $p<0.001$ in both cases

Starting and ending levels and progress: Without pre- or post-test data it is impossible to characterise the starting and ending levels for the earlier cohorts. Given the wide

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age-range (7-11), the 2013-14 cohort's average starting level for accuracy was about average for KS2, while that for comprehension (the main targeted skill) was two-thirds of a year below – but it should be realised that the older children in this group would have been well behind in both areas. All five RGs show remarkable progress.

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3.14 Lexia

Scheme

Lexia is an Independent Learning System developed in the USA for children with dyslexia, and now in use in several areas in Britain as a Wave 3 intervention. Originally computer-installed, from 2010 it has been web-based and can be accessed by pupils from home as well as school; the change has enabled the system to keep track of users in real time and provide tailored resources on demand. Lexia is predominantly phonics-based, beginning at initial letter level, and includes a simple comprehension element. Pupils work through the system independently and at their own pace. Teachers need to give initial guidance on using it, teach and reinforce some units, and mainly oversee and monitor how their pupils are getting on.

Evaluations

LexiaUK sent various datasets in 2007 and again in 2012. Three studies (Norfolk, York, Cumbria) were based on the computer-installed system. Norfolk and York showed useful gains in comprehension, Cumbria in reading accuracy, and York and Cumbria in spelling. A project in Darlington using the web-based system showed a useful gain in reading.

References

Walker (2009, 2010), Wilson and Clarke (2005), Worsley (2003)

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http://www.lexiauk.co.uk/

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Lexia

(1) Norfolk

Main reference: Worsley (2003)

Research design: One-group pre-test/post-test study

Date: 2003

Age-range: Y2-3

Type of children: Low attainment (most had r.a's 2 years or more below c.a.)

N of experimental group: 37 in 13 schools

Length of intervention in weeks: 10

Tests used: Salford Sentence Reading Test, revised

Pre- and post-test average r.a's in years and months, gain in months of r.a. (s.d's not stated), and ratio gain:

	pre	post	gain	RG
Reading comprehension	5:1	5:7.4	6.4	2.6

Effect sizes: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: The pre- and post-test average scores were all within the functionally illiterate range. There was useful progress in comprehension. These children would need systematic further intervention.

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Lexia

(2) York

Main reference: Wilson and Clarke (2005)

Research design: One-group pre-test/post-test study

Date: 2005

Age-range: Y2-6

Type of children: Most on SEN register at School Action or School Action Plus

N of experimental group: 42 in 7 schools

Length of intervention in weeks: 10

Tests used: Salford Sentence Reading Test, revised; SPAR Spelling Test

Pre- and post-test average r.a's/s.a's in years and months, gains in months of r.a./s.a. (s.d's not stated), and ratio gains:

	pre	post	gain	RG
Reading comprehension	6:7	7:3	8	3.0
Spelling	7:11	8:4	5	2.0

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: The pre-test average score for comprehension was in the functionally illiterate range, while the pre-test average for spelling was in the semi-literate range – it is very unusual for s.a. to be above r.a. but no explanation is offered in the report. For the upper primary pupils in the sample this means they were well behind. There was useful progress in both comprehension and spelling, but post-test scores were all in the semi-literate range and these pupils would need further structured support.

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Lexia

(3) Cumbria

Main reference: Walker (2009)

Research design: One-group pre-test/post-test study

Date: 2008-09

Age-range: Y1-8

Type of children: Low attainment

N of experimental group: 78 in 11 schools

Length of intervention in weeks: 10

Tests used: (reading) Burt; (spelling) Schonell

Pre- and post-test average r.a's/s.a's and s.d's: not stated

Gains in months of r.a./s.a. (s.d's not stated), and ratio gains:

	gain	RG
Reading accuracy	7.25	2.9
Spelling	6.10	2.4

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Without pre- or post-test data it is impossible to characterise the starting and ending levels. However, the RGs show useful progress in both aspects.

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Lexia

(4) Darlington

Main reference: Walker (2010)

Research design: One-group pre-test/post-test study

Date: 2010

Age-range: Y2-6

Type of children: Low attainment

N of experimental group: 65 in 10 schools

Length of intervention in weeks: 8

Reading tests used: various, including Burt, Salford, Suffolk

Pre- and post-test average r.a's and s.d's: not stated

Gain in months of r.a. (s.d. not stated), and ratio gain:

gain	RG
5.45	2.7

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: Without pre- or post-test data it is impossible to characterise the starting and ending levels. However, the RG shows useful progress.

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3.15 Paired Reading

This is one of the simplest schemes yet devised, and the subject of one of the largest evaluations.

Scheme

Paired Reading was devised by Morgan (1976) to meet the needs of children who were finding reading difficult, and to involve non-professionals in helping them. He designed it to be simple to administer after the minimum of training, and flexible, in that it could be applied to any form of reading material. The fullest description is in Morgan's (1986) book, and it is summarised in diagrammatic form in Topping (2001) and on the website. Essentially, it is a 'scaffolding' approach in which tutor and child begin by reading aloud together, and the tutor gradually withdraws and leaves the child to read aloud alone. Techniques are specified for intervening when the child falters or makes an error, and praise is given regularly. In 2015 extra resources are available at http://www.dundee.ac.uk/esw/research/resources/thinkingreadingwriting/#d.en.158378

Evaluations

Topping and Lindsay (1992) reviewed dozens of studies from across the English-speaking world, and Topping (1990) himself carried out the largest evaluation, which was based in Kirklees. That evaluation covered not just one project in that LA, but 155 projects spread across 71 schools, both primary and secondary. The results consistently showed that the technique was effective, and other partnership approaches have imitated, incorporated or adapted it. Some socio-emotional outcomes are presented in Miller *et al*. (2010) and summarised in Topping *et al*. (2011) and at http://www.dundee.ac.uk/esw/research/resources/readon/

Topping's work has led on to other forms of Paired Learning: Cued Spelling and Paired Writing (which have entries in this report, sections 3.8 and 6.3) and Paired Thinking (which does not).

References

Miller *et al*. (2010), Morgan (1976, 1986), Topping (1990, 1995, 2001), Topping and Lindsay (1992), Topping *et al*. (2011).

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Paired Reading

Main reference: Topping and Lindsay (1992)

Research design: Mainly a set of one-group pre-test/post-test studies, but partly a matched-groups two-group quasi-experiment because some experimental groups had matched no-treatment comparison groups

Date: 1984-87

Age-range: Not stated but known to be across full compulsory education age-range (Y1-11); also known to be mainly primary and therefore included here and not under KS3

Type of children: Mixed-ability

N of experimental group: 2,372 in 155 projects in 71 schools in KIrklees for main accuracy measure – for other Ns, see below

N of comparison group: 446 in 37 projects for main accuracy measure – for other Ns, see below

Equivalence of groups: Not applicable to the one-group studies. Matching method in matched-groups studies not stated

N of alternative treatment group: (some projects had alternative treatment groups, but too numerous and disparate to report here)

Nature of alternative treatments: (impractical to summarise)

Length of intervention in weeks: (average) 9

Reading tests: Many, including Burt, Holborn, Neale, New Macmillan Reading Analysis, Primary, Salford, Schonell, Standard (Daniels & Diack) 1 & 12, Widespan

Pre- and post-test average scores, gains and s.d's: (not given in principal original report because too numerous)

Ratio gains:	**Accuracy**		**Comprehension**	
	N	**RG**	**N**	**RG**
All experimentals	2372	3.3	690	4.3
Experimentals in comparison-group projects	580	3.4	170	4.6
Comps in comparison-group projects	446	2.0	159	2.5

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Effect sizes as stated by authors, calculated using s.d. of comparison group gain (on this approach and effect sizes in general see Appendix):

	Accuracy	Comprehension
N of projects (N of children not given)	34	12
Effect size	0.87	0.77

(According to Topping *et al*. (2012: 242), mean effect sizes for published studies in the literature (12 controlled studies) are 2.12 for reading accuracy and 1.63 for comprehension, but the study of peer (child-to-child) tutoring reported in that article, involving over 3,500 children in 87 primary schools in one council area in Scotland, found few statistically significant effect sizes, none of them greater than 0.2)

Statistical significances: All ratio gains were highly statistically significant ($p<0.001$) for both accuracy and comprehension (Keith Topping, personal communication, 10 August 1998)

Starting and ending levels and progress: Without pre- or post-test data it is impossible to characterise the starting and ending levels. However, the large effect sizes and the RGs show substantial progress for the experimental groups in reading accuracy and remarkable progress in comprehension, while the RGs for the comparison groups show useful progress.

Follow-up: The Kirklees project provided follow-up data on 272 children in 17 projects. In follow-ups at less than 17 weeks after the end of the interventions, 102 children in 7 projects averaged RGs during the follow-up period of 2.0 for accuracy and 2.3 for comprehension. In follow-ups at more than 17 weeks, 170 children in 10 projects averaged RGs during the follow-up period of 1.2 for accuracy and 1.4 for comprehension. This suggests that children continued to improve for a while after the intervention, and then maintained their gains with standard progress.

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3.16 Project X Code

Scheme

Project X CODE embeds synthetic phonics within a motivational character adventure series. According to the scheme's Teaching and Assessment Handbook, it is designed to combine 'systematic synthetic phonics, comprehension development, motivational 3D design and gripping stories to accelerate struggling readers' progress so that children reach expected literacy levels as soon as possible'. Flexible entry and exit points ensure that the intervention can be adapted to suit children at a range of levels. It is aimed to fit into a school's provision map for 'lighter touch' Wave 3 support (children working either one-to-one or in a very small group with a TA) or as Wave 2 in a small group, and to be administered by teaching assistants. Teaching assistants attend a 3-day training programme that develops their subject knowledge and ability to deliver the intervention. School link teachers attend for 1 day to find out about how to manage it and monitor its impact.

Evaluation

In early 2014 a substantial dataset (N=219) was supplied. It showed a substantial gain in reading accuracy. The programme's Edge Hill University website (accessed 28/2/16) claims that 'Over 5,000 pupils in Years 1 to 8 have been supported by trained teaching assistants with Project X CODE in 400 schools.'

Reference

Unpublished data supplied by Edge Hill University

Contact

https://everychildcounts.edgehill.ac.uk/project-x-code/ (training)

https://global.oup.com/education/content/primary/series/projectx/project-x-code/?region=uk (materials)

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Project X Code

Main reference: Unpublished data supplied by Edge Hill University

Research design: One-group pre-test/post-test study

Date: 2013

Age-range: Y2 (5 children in Y3-4 excluded from calculations)

Type of children: Children who have experienced a phonics programme but are falling behind in reading

N of experimental group: 207

Length of intervention in weeks: 20 (4.5 months used in calculating RG)

Reading test: Hodder Phonics and Early Reading Assessment

Average pre- and post-test r.a's and s.d's: Not stated

Average gain in sentence reading accuracy and s.d. in months, and ratio gain:

gain		RG
ave	(s.d.)	
14.0	(7.6)	3.1

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: The absence of pre- and post-test statistics means the starting and ending levels cannot be characterised. The RG shows substantial progress.

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3.17 *Read Write Inc.* Phonics

Scheme

Read Write Inc. Phonics is Ruth Miskin's comprehensive literacy programme for Reception, KS1 and lower KS2. It is primarily a Wave 1 programme, and is also used as Wave 2 or 3 for children not yet reading accurately and speedily. Pupils in Years 5 and 6 not yet reading and writing confidently follow *Read Write Inc.* Fresh Start.

Read Write Inc. Phonics is a synthetic phonics-based reading, writing and spelling programme. In order to read with fluency and understanding children need to be accurate and speedy word readers. The programme starts by teaching the first 30 phonemes and gives pupils stories to read that contain only the sounds they know. A new phoneme is introduced every day. The programme teaches the 44 phonemes and corresponding graphemes for them. It is structured and supportive, and includes decodable, age-appropriate stories and non-fiction texts. Activities associated with each text help the pupils discover and practise techniques for discussing and understanding stories and composing their own.

The children read and write for an hour each day, grouped according to their reading level. Progress is carefully monitored – some children will be fast-tracked, others need one-to-one tuition daily to ensure they keep up with their peers. Children work with a partner to practise what they have been taught. This means that all children participate during the whole lesson; there is no 'down time'.

The programme:

- Uses picture mnemonics to teach all children to read and write the 44 sounds quickly
- Provides children with storybooks that match the sounds children know so they develop accuracy, speed and confidence
- Uses a 'three reads' approach to ensure children love the story and can read it with comprehension, fluency and expression
- Teaches children to write letters/letter groups which represent the 44 sounds and spell these words
- Teaches children to write simple sentences and compose stories and non-fiction.

Implementation

All staff (the headteacher, teachers and teaching assistants) are trained together by a Ruth Miskin trainer who has taught and led the programme (no cascade training is used). Alternatively staff can attend regionally organised events individually or in groups. Training is available specifically tailored for Nursery, Special and Secondary schools. A teacher leads and manages the programme in schools. For schools that have regular in-school development days with a trainer, video tutorials are available for each teaching activity.

Ruth Miskin has also devised *Read Write Inc.* Fresh Start, for Y5–8. KS3 data on this are considered in section 5.8.

Evaluations

Evaluation data for both *Read Write Inc.* Phonics and *Read Write Inc.* Fresh Start were previously hard to come by, but now see section 4.8. The information analysed here arose from the use of the scheme as a Wave 3 intervention in Bristol and Haringey. In Bristol there was a useful gain for reading (both accuracy and comprehension); in Haringey there was a substantial gain in reading accuracy.

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***Read Write Inc*. Phonics**

(1) Bristol

Main reference: Unpublished data supplied by Sue Derrington

Research design: One-group pre-test/post-test study

Date: 2004-05

Age-range: Y2-6

Type of children: SEN

N of experimental group: 117 in 12 schools

Length of intervention in weeks: Not stated, and varied between schools, but average appears to have been about 8

Tests used: NFER Individual Reading Analysis (KS1), Neale (2nd UK edition, accuracy and comprehension) (KS2)

Pre- and post-test average r.a's/s.a's, gains and s.d's: Not stated

Ratio gains:

Reading accuracy	2.3
Reading comprehension	2.6

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Absence of pre- and post-test scores does not permit characterisation of starting and ending levels. The pupils made useful progress in reading accuracy and comprehension.

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***Read Write Inc*. Phonics**

(2) Haringey

Main reference: Unpublished data supplied by Christa Rippon via Jean Gross

Research design: One one-group pre-test/post-test studies

Date: 2003-04

Age-range: Y5-6

Type of children: Low attainment; some had r.a. several years below c.a.

Ns of experimental groups: 30 in 7(?) schools

Length of intervention in weeks: 20 (5 months used in calculating RG)

Reading tests: Neale

Pre- and post-test average accuracy r.a's in years and months, gains in months of r.a. (s.d's not stated), and ratio gains:

pre	post	gain	RG
6:3	7:10	19	3.8

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: Pre-test average score was in the beginner reader range, and many of the pupils were several years behind. However, they made a substantial gain, and their post-test average score was in the semi-literate range. They would still need further structured support.

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3.18 Reading Recovery

Reading Recovery arose out of an extensive research project carried out in New Zealand by Marie Clay, who died while the 2007 edition was being prepared. RR identifies children who are having difficulty in acquiring literacy skills at an early stage of their school career and aims to provide help before problems become entrenched. The programme is delivered for 30 minutes a day, by a specially trained teacher. The lesson consists of a series of activities, including reading two or more books, one familiar and one new. It encourages children to monitor their own reading.

Scheme

RR is aimed at children who during or at the end of their first year of schooling show they are having difficulty with reading. In the UK, within schools which are thought to be in most need of the programme, the children who are identified as being in the bottom 20% of the class in reading receive the programme – they are probably in the bottom 5-6% nationally. The selected children receive daily 30-minute individual lessons for up to 20 weeks from a specially trained teacher, who provides highly responsive instruction tailored to the needs of each child. Throughout the lesson the teacher's interventions, based on daily diagnoses, are carefully geared to identify and praise successes, promoting confident and independent behaviour. This ensures that a range of strategies are brought to bear whenever problems arise. Children leave the programme (are 'successfully discontinued' or, in more recent RR parlance, 'have achieved accelerated learning') when reading improves to the level of the average reading group in their class, enabling them to work in class without additional support. Children who are not successfully discontinued are referred for more detailed assessment and specialist help.

The first LA in the UK to introduce Reading Recovery was Surrey, in 1990 (Prance, 1992; Wright, 1992). In 1992, 20 other LAs in England and Wales received central government funding to introduce it, and it was later taken up by other LAs in England and Wales, and by all the Education and Library Boards in Northern Ireland (Gardner *et al*., 1997; Munn and Ellis, 2001). Central government funding ceased in England and Wales in 1995, leading to a period of decline in numbers of trained teachers, of LAs providing it, and of children receiving it. Every Child a Reader (undated but known to have been published in 2006, p.9) reported that

In 2004-5 the programme was provided to 5,300 children in the UK and Ireland. It is very widely used in both Northern Ireland and in the Republic of Ireland, but in England the number of children involved has until recently been declining. Of 600 teachers who had been trained in Reading Recovery in England, only 60 were able to provide the programme … in 2004-5.

But then in 2005 a consortium of charitable trusts and businesses provided £4.5 million over three years, matched by the DfES, for a revived RR initiative in England, called

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'Every Child a Reader' (ECaR). In the first year, 2005-06, £1 million was allocated. This funded RR training in several areas, including five London boroughs, plus an evaluation based in those boroughs and five others in London which provided a comparison group (and were to receive training in 2006-07, along with others elsewhere in England). ECaR and therefore Reading Recovery had ring-fenced funding until 2010/11. Following the change of government, the funding was maintained but the ring-fencing was removed, causing a drop in the number of children in England receiving the programme from 21,000 in 2010/11 to 12,000 in 2011/12.

Evaluations

The original request for information for the 1998 version of this report produced more replies about RR than about any other initiative. They constituted about a quarter of all the information received then, and more was received in 2002. Unfortunately, however, most of those reports provided neither an impact measure nor data from which such a measure could be calculated. The most important exception was the Institute of Education, University of London (IoE) study of RR in six London boroughs and Surrey. This was later massively supplemented by reports on ECaR in London and on Reading Recovery across Britain and Ireland. The IoE and ECaR in London studies included carefully-chosen comparison groups. In 2012 very useful data on a study in Bristol became available. All four of these studies are analysed in this edition.

It is worth saying that, in the interim between the London and Surrey and ECaR studies, RR changed considerably, to reflect international research, mainly to include a large amount of phonological awareness and phonics (and therefore away from the version imitated in the original Cumbria Reading with Phonology study – see **section 3.29**)

None of these studies used an RCT design. However, early in 2007 the What Works Clearinghouse (2007a, b) in the USA produced a report on a meta-analysis of the five most rigorous studies on RR, all conducted in the USA. This showed positive effects on both reading accuracy (word identification) and comprehension.

References

Clay (1979, 1985, 1993), Gardner *et al*. (1997), Munn and Ellis (2001), Prance (1992), What Works Clearinghouse (2007a, b), Wright (1992)

(1) London and Surrey

The definitive account of this study is Hurry and Sylva (2007). The progress made by a group of children receiving RR was compared with that made by two comparison groups, one in the same schools as the RR children, the other in different schools. Between pre- and post-test the RR group made significantly greater progress than both comparison groups in reading accuracy and reading comprehension.

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At a one-year follow-up, the RR children were no longer ahead of, but had still made significantly better progress than, the between-schools comparison group on both aspects, but had no longer made significantly better progress than the within-schools comparison group.

At a three-year follow-up, the RR group were no longer significantly better in general than either of their comparison groups. However, children who had been complete non-readers at the pre-test at age 6 did stay ahead of comparable children in the comparison groups. 'For the children who were not reading at all at 6 years old, Reading Recovery was more effective [for reading] at every follow-up point than for slightly better readers' (Hurry and Sylva, 2007: 243).

But then again, at the three-year follow-up all groups were well behind national norms in both reading and spelling: '[I]t would appear that, in the long-term, … the intervention had [not] allowed the children to overcome their poor start with reading' (Hurry and Sylva, 2007).

References

Hurry and Sylva (1998, 2007); Sylva and Hurry (1995a, b, 1996)

(2) Every Child a Reader in London

The comparison group (N=147) made less than standard progress, and was therefore falling relatively further behind. The experimental group (N=87) made substantial to remarkable progress. Data from a one-year follow-up in 2007 suggested that the both groups had made either standard progress or slightly more. The experimental group's averages were close to c.a., but the comparison group's were still about a year behind.

Further follow-ups were conducted in the summers of 2009 and 2011, three and five years after the intervention ended, when the children were at the end of Y4 and Y6 (Hurry and Holliman, 2009; Hurry, 2012). Unfortunately, no data directly comparable with those from earlier assessments could be obtained.

References

Burroughs-Lange (2006, 2008), Burroughs-Lange and Douëtil (2007), Every Child a Reader (undated but known to have been published in 2006), Hurry (2012), Hurry and Holliman (2009)

(3) Reading Recovery in Britain and Ireland in 2004-05

The initial sample here was very large (3,566). There was a substantial gain in reading accuracy. Evidence from (steadily smaller, but still large) follow-up groups suggested that both discontinued and referred children made standard progress over the next six months, although the referred children were a year behind those who had been discontinued.

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Reference

Douëtil (2006)

(4) Bristol

This local study contained 360 children – more than the main experimental group in either of the London studies. It showed a useful impact on reading accuracy.

Reference

Miles and Armstrong (2011)

Contact

International Literacy Centre at the UCL Institute of Education, University of London: http://www.ioe.ac.uk/research/4399.html

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Reading Recovery

(1) London and Surrey

N.B. In the first three editions data on an alternative treatment called variously Phonological Intervention or Phonological Training were presented in addition to those on RR. These data were not reproduced in the 4th edition, or here, because (a) the alternative treatment showed no benefit over its control and comparison conditions; (b) no statistical comparisons between it and RR were reported; (c) the alternative treatment is no longer available.

Main references: Sylva and Hurry (1995a, b, 1996), Hurry and Sylva (1998, 2007)

Research design: Reading Recovery was compared with two comparison groups, one in the same schools, the other in different schools. A three-group matched-groups quasi-experiment because the groups were not created by random allocation

Date: 1992-93

Age-range: Y2

Type of children: Low attainment

N of experimental group: 89 in 22 schools (= all but 2 of the 24 schools in England which were the only ones using Reading Recovery at the time) in seven LAs in south-east England, six in Greater London (Bexley, Greenwich, Hammersmith and Fulham, Islington, Wandsworth, Westminster), plus Surrey – but only 72 in 17 schools for within-school comparisons because 5 schools had no within-school comparison pupils

Ns of comparison groups: (1) 40 in 17 of the RR schools; (2) 152 in 18 different schools

Equivalence of groups: In each LA which had RR schools in 1992, the primary adviser identified schools with similar intakes to each RR school; 18 schools provided the between-schools comparison group for RR. In each school the 6 poorest readers (roughly the bottom 20%) in Y2 were identified using Clay's Diagnostic Survey (Clay, 1985). In the RR schools, those children (usually 4) with the lowest scores were given the programme, while the others were allocated to the within-schools comparison group.

Length of intervention in weeks: (average) 21 (but average 9 months between pre-test in Sept/Oct 1992 and post-test in May-July 1993). One-year follow-up took place in May-July 1994, and three-year follow-up in Sept-Dec 1996.

Literacy tests: (reading) BASWRT, Neale (comprehension) at pre- and post-test and one-year follow-up, NFER-Nelson Group Reading Test 6-12 at three-year follow-up

Pre- and post-test and 12-month follow-up average r.a's in years and months on BASWRT and gains in reading accuracy over previous test in months of r.a. (s.d's not

stated), and effect sizes at post-test and statistical significances at post-test and follow-up (allowing for differences on pre-test) as stated in Hurry and Sylva (2007):

Group	N	pre r.a.	post r.a.	gain	Effect size †	1-year follow-up r.a.	gain
1)	72/89	4:11	6:4	17		6:11	7
2)	40	5:3	6:1	10	0.81***	7:0	11
3)	152	5:6	6:1	7	0.84***	6:11	10***

† Upper effect size is for group 1) vs 2); lower effect size is for group 1) vs 3)
N = sample size at post-test (for the variable N, see above); *** = p<0.001
Key to groups: 1) RR; 2) within-schools comparison group; 3) between-schools comparison group

Pre- and post-test and 12-month follow-up average raw scores and s.d's on Neale, gains in reading comprehension over previous test in points of raw score, effect sizes at post-test calculated (by GB) using pooled post-test s.d's, and statistical significances at post-test and follow-up (allowing for differences on pre-test) as stated in Hurry and Sylva (2007):

Group	N	pre-test ave	(s.d.)	post-test ave	(s.d.)	gain	Effect size †	1-year follow-up ave	(s.d.)	gain
1)	72/89	0	(1)	11.3	(6.6)	11.3		19.5	(11.3)	8.2
2)	40	2	(3)	10.7	(9.7)	8.7	0.33**	20.1	(14.8)	9.4
3)	152	2	(3)	9.2	(7.9)	7.2	0.55***	18.9	(13.2)	9.7***

† Upper effect size is for group 1) vs 2); lower effect size is for group 1) vs 3)
N = sample size at post-test (for the variable N, see above); *** = p<0.001; ** = p<0.01
Key to groups: 1) RR; 2) within-schools comparison group; 3) between-schools comparison group

Starting and ending levels and progress: Unusually, here the pre-test raw scores on the Neale do permit characterisation of the starting level: since almost all Y2 pupils would score on this test, the fact that almost all these children did not means they were well behind. This is confirmed by the very low pre-test r.a's on the BASWRT.

Between pre- and post-test, the RR group made significantly greater progress than both comparison groups in accuracy (BASWRT) and comprehension (Neale), as shown by the effect sizes.

At the one-year follow-up, the RR children were no longer ahead of, but had still made significantly better progress than, the between-schools comparison group on both tests, but had no longer made significantly better progress than the within-schools comparison group.

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Average comprehension r.a's (s.d's not stated) on NFER-Nelson test at three-year follow-up:

Group	N	r.a.
1)	63/89	8:4
2)	35	8:7
3)	137	8:8

N = sample size (for the variable N, see above)

All differences were statistically non-significant.

Key to groups: 1) RR; 2) within-schools comparison group; 3) between-schools comparison group

At the three-year follow-up, the RR group was no longer significantly better than its comparison groups.

However, within the RR group, children who had been complete non-readers at the pre-test in 1992 did stay ahead of comparable children in the comparison groups. 'For the children who were not reading at all at 6 years old, Reading Recovery was more effective [for reading] at every follow-up point than for slightly better readers' (Hurry and Sylva, 2007).

But then again, given that at the three-year follow-up the average chronological age was 10:3, all groups were well behind national norms: '[I]t would appear that, in the long-term, the intervention had [not] allowed the children to overcome their poor start with reading' (Hurry and Sylva, 2007).

The What Works Clearinghouse (2007a, b) meta-analysis contained one study, an RCT, in which children were followed up at the end of 3rd grade, two years after the end of the programme (Baenen *et al*., 1997). No significant advantage was found for RR. However, for more positive follow-up findings, see Reading Recovery in Britain and Ireland, below.

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Reading Recovery

(2) Every Child a Reader in London

Main references: Burroughs-Lange (2006), Burroughs-Lange and Douëtil (2007), Every Child a Reader (undated but known to have been published in 2006)

Research design: Matched groups two-group quasi-experiment

Date: 2005-06

Age-range: Y1

Type of children: Low attainment – bottom 5-6% of the national distribution

N of experimental group: 87 in 21 schools in 5 London boroughs (Brent, Greenwich, Hackney, Hammersmith and Fulham, Southwark)

N of comparison group: 147 in 21 schools in 5 other London boroughs (Barking and Dagenham, Haringey, Islington, Lambeth, Lewisham)

Equivalence of groups: All 10 boroughs were volunteers, but those in the experimental group already had some RR provision, while the comparison boroughs did not (but were to implement it in 2006-07); the two groups were similar in population characteristics and KS1 achievement levels. In the RR boroughs the schools which already had an RR teacher (N=21) were chosen to participate. In the comparison boroughs, the nominated schools (N=21) were those thought to be most in need of the programme. In each of the 42 schools, the lowest-attaining Y1 class was nominated to participate, and the 8 children in that class thought to be poorest in literacy were chosen for the study. The two samples of schools were very similar in terms of number on roll, number in Y1, percentage of children on free school meals, and percentage of children having English as an additional language. The samples of children were very similar in terms of average age and gender balance. Small differences in pre-test scores were handled statistically in calculating results.

Length of intervention in weeks: not stated, and it would in any case be standard RR practice for this to vary between 12 and 20 weeks, according to individual children's needs; interval of 10 months (Sept-July) between pre- and post-test used to calculate RGs.

Literacy tests: BASWRT, WRAPS (Word Recognition and Phonic Skills); (also a writing vocabulary test – see **section 6.3** below)

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Pre- and post-test BASWRT r.a's/WRAPS ages and s.d's, gains in reading accuracy in months of r.a./WRAPS age (s.d's not stated), ratio gains, and effect sizes calculated using the pooled post-test s.d's:

			pre-test		post-test				Effect
Test	**group**	**N**	**ave**	**(s.d.)**	**ave**	**(s.d.)**	**gain**	**RG**	**size**
BASWRT	exps	87	4:11	(0:2)	6:7	(0:9)	20	2.0	1.67
	comps	147	4:10	(0:2)	5:5	(0:7)	7	0.7	
WRAPS	exps	87	4:11	(0:6)	6:3	(0:8)	16	1.6	0.58
	comps	147	4:10	(0:6)	5:9	(0:9)	11	1.1	

N.B. (1) Except for the effect sizes, these figures are quoted from Burroughs-Lange and Douëtil (2007), and include small corrections from those in the 3rd edition.

(2) In the 3rd edition, standardised scores were also quoted for both tests. I have since withdrawn them because they were calculated for these samples of children, and not from the tests' conversion tables, and the effect sizes derived from them are therefore not comparable with those from other interventions.

Statistical significances: Both of the experimental group's post-test average scores were statistically significantly higher than the comparison group's.

Starting and ending levels and progress: The pre-test r.a's/ WRAPS ages show these children were well behind – on average they were still absolute non-readers and non-spellers. The RGs show that the experimental group made modest progress, while the effect sizes show that they made significantly more progress then the comparison group, especially in word recognition – hardly surprising since the comparison group had made only standard progress (WRAPS) or less (BASWRT). At post-test the experimental group's scores were at or near c.a., while the comparison group was still well behind.

Follow-ups: A follow-up was conducted in July 2007, one year after the intervention ended, when the children were at the end of Y2 (Burroughs-Lange, 2008); 77 children in the experimental group and 109 in the comparison group were traced:

One-year follow-up average BASWRT r.a's/WRAPS ages and s.d's in years and months (with post-test data, and gains in months of r.a., in brackets because of different Ns):

		Follow-up			(post-test)			
Test	**group**	**N**	**ave**	**(s.d.)**	**(N**	**ave**	**(s.d.))**	**gain**
BASWRT	exps	77	7:9	(1:2)	(87	6:7	(0:9))	14
	comps	109	6:9	(1:4)	(147	5:5	(0:7))	16
WRAPS	exps	77	7:6	(0:11)	(87	6:3	(0:8))	15
	comps	109	6:9	(1:3)	(147	5:9	(0:9))	12

Despite the attrition, the follow-up data suggest that the both groups had made either standard progress or slightly more. The experimental group's averages were close to c.a., but the comparison group's were still about a year behind.

Further follow-ups were conducted in the summers of 2009 and 2011, three and five years after the intervention ended, when the children were at the end of Y4 and Y6 (Hurry and Holliman, 2009; Hurry, 2012). Unfortunately, no data directly comparable with those from earlier assessments could be obtained, and attempts to correlate the data which were obtained with earlier assessments were unconvincing.

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Reading Recovery

(3) Reading Recovery across Britain and Ireland in 2004-05

Main reference: Douëtil (2006)

Research design: One-group pre-test/post-test study

Date: 2005-06

Age-range: Y1-2

Type of children: Low attainment

N of experimental group: 3,566 in an unknown number of schools across the 5 jurisdictions

Length of intervention in weeks: 18.5 on average (4.5 months used in calculating RG)

Reading test: BASWRT

Pre- and post-test BASWRT r.a's in years and months, gain in reading accuracy in months of r.a. (s.d's not stated), and ratio gain:

pre	post	gain	RG
4:10	6:5	19	4.2

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: As expected, the pre-test average shows that most of these children were non-readers. The post-test average is what would be expected of the average child at the beginning of Y2, and some of these children were already in Y2. However, the RG shows that on average they had made remarkable progress.

Follow-ups: Of the 3,566 children, 3,015 (85%) were 'successfully discontinued' or had 'achieved accelerated learning', as earlier and current RR parlance has it (= had made enough progress to leave the programme and not to be referred for further assessment and more specialist help), and had their RR book bands assessed; the average book band, 17.1, following the method described under FFT Wave 3 (see **entry 3.11** above), equates to an average r.a. on the BASWRT of 7:0. Varying numbers of these children were followed up 3 and 6 months after leaving Reading Recovery, when their RR book bands were assessed again.

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The average RR book bands and BASWRT r.a's at discontinuation and 3- and 6-month follow-ups were:

Stage	N	% of those who began programme	RR book band average	(s.d.)	BASWRT r.a.
discontinuation	3015	85%	17.1	(2.6)	7:0
3-month follow-up	1440	40%	18.9	(3.4)	7:6
6-month follow-up	516	14%	20.7	(3.9)	8:1

Though the sample sizes fall off steeply, the BASWRT data show roughly double normal progress: about 2 months of r.a. gained for each month elapsed. In other words, having returned to their classes, those children who could be traced and assessed were on average not just keeping up with their peers, but going ahead. (N.B. This is a better conclusion than that reached from these data in the previous edition.) What these data do not reveal is what became of the children who were not 'successfully discontinued'.

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Reading Recovery

(4) Bristol

Main reference: Miles and Armstrong (2011)

Research design: One-group pre-test/post-test study

Date: 2010-11

Age-range: Y1-2

Type of children: Low attainment

N of experimental group: 360

Length of intervention in weeks: 20

Reading test: BASWRT

Pre- and post-test average r.a's in years and months, gain in months (s.d's not stated), and ratio gain:

pre	post	gain	RG
4:10	6:6	20	4.0

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: On average these children were non-readers at the beginning, but by the end had come close to, or reached, c.a.. They achieved a remarkable gain.

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3.19 Reciprocal Reading

Scheme

Reciprocal Reading was developed in New Zealand in the 1980s but has not been much used in the UK until recently. It is a group approach to reading intended to boost both accuracy and comprehension, in particular the comprehension of children whose understanding of texts lags behind their reading accuracy. It is based on two sessions a week for 10-12 weeks, to enable children to develop confidence in using the strategies. The reciprocal reading strategies can also be used in shared reading. The teacher models the use of the four strategies (predicting, clarifying, questioning and summarising). The children take ownership of these tasks as they become familiar with them.

Evaluation

A pilot study was conducted in 4 primary schools in Middlesbrough in 2011. The 48 children had comprehension ages well below their accuracy ages. They made remarkable progress in both aspects.

Reference

Unpublished data supplied by Andy Taylor and Jill Canning

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Reciprocal Reading

Main reference: Unpublished data supplied by Andy Taylor and Jill Canning

Research design: One-group pre-test/post-test study

Date: 2011

Age-range: Y5-6

Type of children: Low attaining children with reading comprehension ages significantly below their reading accuracy age

N of experimental group: 48

Length of intervention in weeks: 10 (2.5 months used in calculating RGs)

Reading test: York Assessment of Reading for Comprehension (YARC), second edition

Pre- and post-test average r.a's in years and months, gain in months of r.a. (s.d's not stated) and ratio gains:

	pre	post	gain	RG
reading accuracy	9:0	10:1	13	5.2
reading comprehension	8:2	9:6	16	6.4

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Average c.a. at start was 9:6, so these children were on average slightly behind in accuracy but well behind in comprehension. They made remarkable progress in both aspects, and by the end were on average 4 months ahead of c.a. in accuracy and only 3 months behind in comprehension.

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3.20 Reciprocal Teaching

Scheme

The Reciprocal Teaching Method is a teaching approach first described by Palincsar (1982) and then further developed by her and Brown (Palincsar and Brown, 1984; Palincsar, 1986). They describe it as:

A procedure … where teacher and student took turns leading a dialogue concerning sections of a text. Initially the teacher modelled the key activities of summarising (self-review), questioning (making up a question on the main idea), clarifying and predicting. The teacher thereby modelled activities: the students were encouraged to participate at whatever level they could. The teacher could then provide guidance and feedback at the appropriate level for each student.

(Palincsar and Brown, 1984: 124)

The four activities are seen as having two functions, 'comprehension-fostering and comprehension-monitoring' (p.121). Pupils are gradually encouraged to take over the teacher role as they gain confidence, and the whole approach is predicated on the idea that poorer comprehenders can improve by being shown and explicitly understanding and adopting good comprehenders' strategies.

Evaluation

There has been a large amount of research on the technique in North America – where Rosenshine and Meister (1994) did a meta-analysis on the 16 most rigorous studies and produced an effect size of 0.32 on standardised tests – but very little in the UK. For the 2007 edition Christa Rippon supplied data on 88 children from Haringey, and the analysis of those data remains in this edition. The results showed a useful gain in reading accuracy and a substantial one in comprehension.

References

Palincsar (1982, 1986), Palincsar and Brown (1984), Rosenshine and Meister (1994), and unpublished data supplied by Christa Rippon

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Reciprocal Teaching

Main reference: Unpublished data supplied by Christa Rippon

Research design: One-group pre-test/post-test study

Date: 2002-03

Age-range: Y3-6

Type of children: Low attainment

N of experimental group: 88 in an unstated number of schools in Haringey

Length of intervention in weeks: Ranged from 16 to 52 (overall RGs calculated using average interval, 6.6 months)

Reading test: Neale (accuracy and comprehension)

Pre- and post-test average r.a's and s.d's in years and decimal years, gains and s.d's in months of r.a., and ratio gains:

	pre		post		gain		
	ave	(s.d.)	ave	(s.d.)	ave	(s.d.)	RG
accuracy	9.9	(1.8)	11.1	(1.6)	16	(14)	2.2
comprehension	8.6	(1.4)	10.7	(1.8)	25	(21)	3.7

Effect sizes: n/a

Statistical significances: Both $p<0.001$

Starting and ending levels and progress: The pre-test scores show these children were on average already close to functionally literate for accuracy and almost out of the semi-literate range for comprehension, but the r.a. for comprehension is what would be expected of the average child at the beginning of Y4; given the age-range this means that many were well behind (but fewer in accuracy). The post-test scores are at Y6 level for both accuracy and comprehension, so many must by then have been at least at c.a. The RGs show useful progress in accuracy and substantial progress in comprehension.

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3.21 SIDNEY (Screening and Intervention for Dyslexia, Notably in the Early Years)

Scheme

SIDNEY's aims are to:

- reduce the number of pupils who fail to learn to read during KS1, and hence the number who require high levels of resources to support access to the curriculum in KS2
- reduce the number of pupils who develop behavioural and emotional difficulties as a result of their failure to learn to read effectively
- improve the quality of teaching during KS1 by extending the knowledge and skills of teachers and assistants.

Hampshire primary schools are asked to screen all pupils in the last term of their Reception Year (using either the Dyslexia Early Screening Test (DEST) or Lucid CoPS), to identify pupils who are likely to experience literacy difficulties. During their first term in Year 1, pupils so identified work through an intervention programme, which was written jointly by local advisers and educational psychologists. The intervention programme is designed to be used by a learning support assistant (LSA) for 15 minutes per day on a one-to-one basis. The aim is that pupils should attain the level expected by the (former) Primary National Strategy by the end of Year 1, term 1 (i.e. to be able to spell CVC words accurately, with correct letter formation).

The intervention programme is broken up into prescribed lessons and is scripted to enable LSAs to carry out the programme with a minimum of training and support. It consists of two strands:

- the core route (multi-sensory, cumulative teaching of sound-symbol links, plus blending of phonemes)
- the phonological route (training in phonological awareness including rhyming, syllabification, blending and segmenting).

Many schools have developed their own practice in using the SIDNEY programme. Where schools have identified large numbers of pupils who require support, they typically work on a one-to-one basis with those at 'moderate risk' of reading failure during the autumn term. These pupils often make rapid progress and by the end of the term are able to work with the rest of the class during word-level work without needing further individual support. This then allows time for the LSA to support those at 'high risk' on a one-to-one basis during the spring and summer terms.

Evaluation

The scheme was evaluated locally in Hampshire in the autumn term of 2004, with children at 'moderate risk'. It showed a useful gain in reading and phonological skills; the test used was the Word Reading and Phonic Skills (WRAPS) test, which returns a combined measure of these areas.

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References

Norgate and Bentote (2005), and unpublished data supplied by Roger Norgate

Contacts

To purchase the materials or for further general information, contact hias.enquiries@hants.gov.uk
For information on training, contact www.hants.gov.uk/learningzone
http://htlc.hants.gov.uk

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SIDNEY

Main references: Norgate and Bentote (2005) and unpublished data supplied by Roger Norgate

Research design: One-group pre-test/post-test study

Date: 2004

Age-range: Y1-2

Type of children: Low attainment, on average

N of experimental group: 66 children in 14 schools

Length of intervention in weeks: 12

Reading and phonics (including spelling) test: WRAPS

Pre- and post-test average WRAPS ages in years and months, gains in accuracy in months of WRAPS age, s.d's, and ratio gain:

	pre		post		gain		
	ave	**(s.d.)**	**ave**	**(s.d.)**	**ave**	**(s.d.)**	**RG**
WRAPS age	5:0	(0:6)	5:7	(0:7)	7	(7)	2.3

Effect size: n/a

Starting and ending levels and progress: At pre-test these children had scarcely made a start on literacy; by post-test they were just above the level of an average child in Y1, but had made useful progress, as shown by the RG.

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3.22 Sound Check

Scheme

The Primary Literacy Project in Key Stages 1 and 2 (known as the Sound Check project) aimed to identify the problems faced by children who had scored less than 32/40 in the Y1 phonics test, and boost their achievement before they were re-tested a year later. It brought together three third sector organisations, the British Dyslexia Association, Dyslexia Action, and Springboard for Children. The Sound Check programme is a 20-week intervention delivered twice weekly to groups of up to 5 children by a Dyslexia Action trained specialist teacher. The programme selected for the intervention was the Active Literacy Kit (ALK), which has a track record of supporting children who experience literacy difficulties. The programme involves a preliminary Placement Test, designed to be administered on an individual basis. After analysis of the results, a structured programme of learning follows in the form of a specified set of exercises, some of which are timed in order to build the skills needed for automatic, fluent and accurate reading and spelling. The exercises are active and multi-sensory in the sense that the child must respond physically and verbally and be engaged totally in the learning process. Carefully structured activities cover phonological awareness, word recognition, phonics, graphic knowledge and spelling. The ALK covers basic sound-to-letter correspondence through fluent reading and spelling of consonant-vowel-consonant words (e.g. cat, mat, fat). For the Sound Check Project, additional resources were developed to support children who were to re-take the phonics test in Y2.

Evaluation

Lorna Hamilton of York St John University conducted a study of the project in the two school years 2012-14. Data from 323 children assessed in the second year showed a useful gain in single word reading and a modest gain in single word spelling.

References

British Dyslexia Association (2015), Hamilton (2015), supplementary statistical information supplied by Max Kowalewski

Contact

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Sound Check

Main reference: Hamilton (2015), with supplementary statistical information supplied by Max Kowalewski

Research design: One-group pre-test/post-test study

Date: 2013-14

Age-range: Y2

Type of pupils: Pupils who had scored less than 32/40 on 2013 Y1 phonics test

N of treatment group: 323 in 27 schools in Leeds, Manchester and Salford, and Swindon

Length of intervention in weeks: 20

Tests: Dyslexia Portfolio Tests, sub-tests of single word reading and spelling

Average pre- and post-test and gain scores and s.d's in standardised score points, and effect sizes calculated (by GB) as gain over s.d. of test (15.0):

Test	pre-test ave (s.d.)	post-test ave (s.d.)	ave gain (s.d.)	Effect size
Single Word Reading	87.41 (11.40)	95.30 (11.19)	7.90 (7.60)	0.53
Single Word Spelling	88.66 (8.91)	94.18 (9.68)	5.59 (7.93)	0.37

Ratio gains: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: The starting levels were almost a full s.d. below the norm, while the ending levels were only one third of an s.d. below. The effect sizes confirm the useful gains.

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3.23 Sound Discovery®

Scheme

Sound Discovery® is a synthetic phonics programme for the teaching of reading, spelling and writing developed by Dr Marlynne Grant, educational psychologist in South Glouc7stershire, and first published in 2000. The children are taught grapheme-phoneme correspondences and the phonic skills of segmenting and blending, and how to use this knowledge in reading and writing. It is delivered through three sessions a week of Snappy Lesson®, fast-paced and consisting of appropriate multi-sensory activities, and originally intended to be delivered to small groups of children. There are seven steps. Step 1 is based on the letters of the alphabet, Step 2 introduces some consonant and vowel digraphs, and the main alternative vowel and consonant spellings are covered in Step 3, etc. As originally used in South Gloucestershire it is a Wave 1 programme and therefore not analysed here; however, extensive data have been gathered on it there over ten years.

Evaluations

Data on Sound Discovery® as a catch-up programme were available from a study in Norfolk in 2005, and a study in one large middle school in Bedfordshire in 2006-07. The Norfolk study found a substantial gain for comprehension, and the Bedfordshire study useful progress in spelling.

References

Grant (2000), Worsley (2005), Wainwright and Grant (1999), unpublished data supplied by Jo Padbury via Marlynne Grant

Contacts

info@syntheticphonics.net
http://www.syntheticphonics.net/

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Sound Discovery®

(1) Norfolk

Main reference: Worsley (2005)

Research design: One-group pre-test/post-test study

Date: 2005

Age-range: Y2-5

Type of children: "We work almost exclusively with pupils at School Action+ of the Code of Practice, pupils in the process of Statutory Assessment and Pupils with Statements."

N of experimental group: 38 in 11 schools

Length of intervention in weeks: 12

Reading test: Salford Sentence Reading Test, 3rd edition

Pre- and post-test average reading ages in years and months and gain in reading comprehension in months of r.a. (s.d's not stated), and ratio gain:

pre	post	gain	RG
5:9	6:6	9	3.1

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: Both average scores were in the functionally illiterate range, but the progress made was substantial.

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Sound Discovery®

(2) Bedfordshire

Main reference: Unpublished data supplied by Jo Padbury via Marlynne Grant

Research design: One-group pre-test/post-test study

Dates: 2006-07

Age-range: Y5

Type of children: Said to be "almost exclusively pupils at School Action+ of the Code of Practice, pupils in the process of Statutory Assessment and Pupils with Statements"

N of experimental group: 126 in 1 middle school

Length of intervention in weeks: 10 (4 months between pre- and post-test, Sept 2006-January 2007, used in calculating RG)

Spelling test: NFER-Nelson Single Word Spelling Test E

Pre- and post-test average s.a's and s.d's in years and months, gain in spelling and s.d. in months of s.a., and ratio gain:

pre		post		gain		
ave	**(s.d.)**	**ave**	**(s.d.)**	**ave**	**(s.d.)**	**RG**
9:6	(1:9)	10:2	(1:8)	8	(7)	2.0

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: Though already close to the threshold of functional literacy, the pre-test average score shows these pupils were slightly behind. They made useful progress, and were catching up to the average for their age.

3.24 Sound Reading System

Scheme

The Sound Reading System is a synthetic phonics reading and spelling programme based on a Prototype distilled by Diane McGuinness from the research data of the past 40 years. Each lesson works to promote skill in phoneme segmenting and blending, the mastery of sound-symbol relationships, handwriting, spelling, reading fluency, and reading comprehension. Children learn that the English writing system is a code, and precisely how this code works. The intervention is delivered 1-1, once trained, by teachers, LSAs, Teaching Assistants and SENCos.

Evaluation

Fiona Nevola has been running the scheme since 2003, and supplied data on 140 children, young people and adults who had been through it up to 2007. The results showed remarkable progress in reading accuracy, comprehension and spelling. For some results from a Young Offender Institution see **chapter 8**.

Reference

Unpublished data supplied by Fiona Nevola and Diane McGuinness

Contact

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http://www.soundreadingsystem.co.uk

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Sound Reading System

Main reference: Unpublished data supplied by Fiona Nevola and Diane McGuinness

Research design: One-group pre-test/post-test study

Date: 2003-07

Age-range: Y2-adult

Type of learners: Low attainment

N of experimental group: 140

Length of intervention in weeks: 18 on average (treated as 4.2 months in calculating RGs)

Tests used: (Reading) nferNelson New Reading Analysis/Individual Reading Analysis; (Spelling) Young's Parallel Spelling Test/Schonell

Pre- and post-test average scores and s.d's: not stated

Average gains in months of reading/spelling age (s.d's not stated), and ratio gains:

	ave gain	RG
reading accuracy	28	6.7
reading comprehension	30	7.1
spelling	27	6.4

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Without pre- and post-test data it is impossible to characterise the starting and ending levels. However, the ratio gains show remarkable progress in all three areas.

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3.25 Sound Training ©

(formerly Sound Training for Reading)

Scheme

This scheme was developed by Katy Parkinson in Middlesbrough to help pupils in KS3 with reading difficulties. Although it is now used in KS2 and KS4 as well, I have kept its main description in chapter 5 because the largest number of participants are in KS3 – see **section 5.9**. The only difference between the primary and secondary versions is that the primary version is delivered for 45 minutes per week over a period of 8 weeks (rather than 6).

Evaluations

These were carried out by the author by gathering, over 5 years, three sets of data from schools using the scheme. The ratio gains for accuracy in all three studies were remarkable; however, the effect size calculated from the third was moderate (effect sizes could not be derived for the other studies).

Reference

Unpublished data supplied by Katy Parkinson

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Main reference: Unpublished data supplied by Katy Parkinson

Research design: Three one-group pre-test/post-test studies

Date: 2010-15

Age-ranges: (2010-11) Y5-6; (2011-12) 'KS2'; (2012-15) Y4-6

Type of pupils: Mixed-ability mainstream pupils, none statemented but with reading ages between 1 and 3 years below chronological age.

Ns of treatment groups:

(2010-11) 52 in 6 schools in Middlesbrough

(2011-12) 102 in 10 schools in Middlesbrough and Co.

Durham

(2012-15) 802 in a large number of schools across England and Wales

Length of intervention in weeks: 8 (2 months used in calculating RGs)

Reading tests: (2010-12) GL Assessment single word reading test

(2012-15) Wide Range Achievement Test 4th edition

(2010-12) Pre- and post-test average r.a's and s.d's in years and months, average gains and s.d's in reading accuracy in months of r.a., and ratio gains:

			pre		post		gain		
Cohort	**N**		**ave**	**(s.d.)**	**ave**	**(s.d.)**	**ave**	**(s.d.)**	**RG**
2010-11	52	r.a.	8:5	(0:9)	10:0	(1:7)	19	(15)	9.4
2011-12	102	r.a.	8:7	(1:1)	10:1	(1:11)	17	(12)	8.7

(2012-15) Pre- and post-test average r.a's and s.d's in years and decimal years, pre- and post-test averages and s.d's in standardised score points (ssp), average gains and s.d's in same units, ratio gain, and effect size calculated (by GB) as average gain in ssp divided by the s.d. of the test (15.0):

		pre		post		gain			Effect
N		**ave**	**(s.d.)**	**ave**	**(s.d.)**	**ave**	**(s.d.)**	**RG**	**size**
802	r.a.	8.1	(0.7)	9.5	(1.7)	16	(16)	8.0	
	ssp	83.0	(6.7)	91.8	(9.8)	8.7	(8.4)		0.58

Statistical significances: p<0.001 in all cases

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Starting and ending levels and progress: Both starting average standardised scores, and the 2010-11 starting average r.a., show that these pupils were well behind (the average c.a. of the 2011-12 cohort was not known). The remarkable progress shown by the RGs means that by the end both cohorts were at or near the average for their age.

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3.26 Spellwise

Scheme

The scheme's author, Hilary Wilson, was a SENCo in mainstream primary schools for over 30 years. In her work with children with reading difficulties, she observed that many poor readers struggled with phonic blending, despite having the best phonics support then available. These children often have poor auditory, visual, phonological and sequential memory difficulties, the essential skills required for reading and spelling. To help remedy these deficits, she and a colleague, Sue Blake, developed the foundations of the Spellwise programme. The scheme now specifically targets those 3%–5% of SEND pupils in KS1 and the beginning of KS2 (5–8 years old) who continue to struggle with phonic blending, reading, writing and spelling. It is used in small groups or one-to-one by a trained TA, with 3 sessions a week lasting 40-45 minutes over (effectively) about 7 months.

To address specific deficits, the scheme uses a highly structured, cumulative, multi-sensory teaching approach. Memory deficits are targeted through an emphasis on visualisation, by linking pictures to phonemes, sounds and mnemonics, and cementing new learning with handwriting tasks and games. Teaching progresses at the child's pace and the step-by-step process ensures that sounds are learned and processed thoroughly so there are no gaps in their sound knowledge. The scheme includes 22 specially written graded reading story books, tailored to the phonics training. The first book in the series contains only extremely simple high frequency words, so children are able to gain the satisfaction of reading a complete book very early in the training. The vocabulary of the books focuses on CVC word building and introduces 31 irregular High Frequency Words through mnemonic cards. All the materials are contained in one Spellwise Box.

Evaluations

In 2010 -11 the author carried out a pilot study in 10 schools across Solihull and Warwickshire using proto-type materials. In 2014-15 she was able to gather data from 8 schools across England using the scheme. In both cases the results showed a useful gain in reading comprehension.

Reference:

Unpublished data supplied by Hilary Wilson

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Spellwise

(1) Pilot study

Main reference: Unpublished data supplied by Hilary Wilson

Research design: One-group pre-test/post-test study

Date: 2010-11

Age-range: Y1-4

Type of pupils: Pupils selected by their schools as needing the programme; most were on the SEND Register (SA, SA+ and Statemented)

N of treatment group: 42

Length of intervention in weeks: 31 (7 months used in calculating RG)

Reading test: Salford

Average pre- and post-test scores and s.d's: Not stated

Average gain and s.d. in months of r.a., and RG:

ave gain	(s.d.)	RG
18.4	(10.9)	2.6

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: The absence of pre- and post-test scores means the starting level (other than can be inferred from the nature of the children) and ending level cannot be characterised. However, the gain in comprehension was useful.

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Spellwise

(2) Recent survey

Main reference: Unpublished data supplied by Hilary Wilson

Research design: One-group pre-test/post-test study

Date: 2014-15

Age-range: Y1-5

Type of pupils: Pupils selected by their schools. Most children were considered to have learning difficulties and had been identified as needing support by the SENCos and TAs

N of treatment group: 47

Length of intervention in weeks: 31 (7 months used in calculating RG)

Reading test: Salford

Average pre- and post-test scores and s.d's: Not stated

Average gain and s.d. in months of r.a., and RG:

ave gain	(s.d.)	RG
15.1	(10.4)	2.2

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: The absence of pre- and post-test scores means the starting level (other than can be inferred from the nature of the children) and ending level cannot be characterised. However, the gain in comprehension was useful.

3.27 Switch-on Reading

Scheme

This is an intensive 10- or 12-week intervention. It has been developed in Nottinghamshire over a number of years as part of the Every Child a Reader initiative, and is inspired by Reading Recovery. It is delivered by staff, most commonly teaching assistants, who have been trained in the approach. Its purpose is to improve pupils' reading accuracy, comprehension and fluency, and so close the reading achievement gap for vulnerable children working below age-expected levels. It has also been shown to benefit spelling. Pupils attend daily 20-minute reading sessions over the course of one term, on a withdrawal basis.

Evaluation

In 2012 a small scale (92 pupils) randomised control group developer-led research project in 8 Nottingham City schools showed Switch-on Reading to have a useful positive impact on the reading accuracy and spelling pupils in KS2.

For the RCT evaluation of this scheme at primary/secondary transition see **section 4.9**.

Reference

Coles (2012)

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Switch-on Reading

Main reference: Coles (2012)

Research design: RCT

Date: 2011

Age-range: Y1-6

Type of children: Working well below age-expected levels

N of experimental group: 49 in 8 primary schools in Nottingham

N of control group: 43 in same schools

Equivalence of groups: At pre-test mean reading scores were identical; mean spelling scores differed by 1 month (ns)

Length of intervention in weeks: 12 (3 months used in calculating RGs)

Tests used: Schonell Graded Word Reading Test (1971); Daniels and Diack Word Spelling Test (1977)

Average pre- and post-test and gain scores in years and months of r.a./s.a., s.d's in months of r.a./s.a., ratio gains, and effect sizes calculated (by GB) as difference in gains over pooled post-test s.d.:

		Word reading means in years and months (s.d's in months)			RG	Effect size	Word spelling mean in years and months (s.d's in months)			RG	Effect size
Group	**N**	**pre**	**post**	**gain**			**pre**	**post**	**gain**		
Exp	49	6:0 (10.5)	6:9 (11.5)	0:9 (6.1)	3.0	0.37	6:5 (10.4)	7:1 (10.6)	0:8 (5.5)	2.7	0.53
Cont.	43	6:0 (10.5)	6:5 (10.5)	0:5 (5.0)	1.7		6:4 (8.4)	6:7 (8.4)	0:3 (4.4)	1.0	

Statistical significances: Both experimental group's gains significantly greater than control group's ($p<0.001$)

Starting and ending levels and progress: The pre- and post-test means are very low for samples drawn across the whole primary age-range – but so are the post-test means, even given the useful RGs and effect sizes.

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3.28 The CSP Spelling and Language Programme (formerly known as The Complete Spelling Programme)

Scheme

This is a structured and developmental programme designed for use in the primary school and for whole-class teaching. Spellings are planned for each school year and structured into daily word groups. The phonological element of the programme is structured in such a way as to ensure the development of the mental lexicon (mental dictionary for whole words and letter patterns) alongside compatible phonological knowledge which allows interaction between both knowledge bases. In addition to this children learn how to process high-frequency words that cannot be encoded using sound–symbol relationships. Rhyme patterns, high-frequency words and curriculum word banks are included in the programme. The programme has three levels, allowing all ability groups to learn together. There are also weekly dictation sentences and teaching notes. Learning is reinforced through support materials that are differentiated for differing abilities. These support materials include a range of activities designed to engage all processes involved in learning to spell and to provide opportunities for application of spellings learned in independent writing.

Evaluation

The first author of the scheme, Sharon McMurray, carried out a two-group quasi-experiment in 4 schools in Northern Ireland in 1999-2001. The experimental group made remarkable progress, and substantially outperformed the comparison group.

References

McMurray (2006), McMurray and Fleming (1998)

Contact

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www.readwritecompany.co.uk

This scheme is only available from this company and no other.

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The CSP Spelling and Language Programme
(formerly known as The Complete Spelling Programme)

Main reference: McMurray (2006)

Research design: Matched-groups two-group quasi-experiment

Date: 1999-2001

Age-range: Northern Ireland Y2-4 (England and Wales Y1-3)

Type of children: Mixed-ability

N of experimental group: 43 in 2 schools in Northern Ireland

N of comparison group: 38 in 2 other schools in Northern Ireland

Equivalence of groups: no significant differences between groups at pre-test on reading, spelling or verbal ability

Length of intervention in weeks: 120 (Jan 1999-May 2001)

Spelling test used: British Spelling Test Series

Pre- and post-test average standardised scores and s.d's, gains in standardised score points (s.d's not stated), and effect sizes calculated as difference in gains divided by the pooled post-test s.d.:

	pre		post		gain	Effect
Group	ave	(s.d.)	ave	(s.d.)	ave	size
experimental	94.74	(12.22)	113.20	(11.02)	18.46	1.19
comparison	95.42	(11.56)	100.26	(12.26)	4.84	

Ratio gains: n/a

Statistical significance: p<0.0001

Starting and ending levels and progress: At the start both groups were only slightly below the national norm, which the comparison group reached by the end. Meanwhile, the experimental group made remarkable progress, as shown by both their gain score and the large effect size, so that by the end that group was on average almost 1 s.d. above the norm.

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3.29 The Reading Intervention Programme

Scheme

The Reading Intervention Programme is the premier scheme to have arisen from the late 1980s/early 1990s Cumbria Reading with Phonology study. Two series of experiments can be analysed as having arisen from that study, one maintaining and analysing Reading Intervention as a mainstream initiative, the other seeking strategies that might prove effective with children with specific difficulties and/or very low attainment, or in preventing difficulties arising in the first place. The first of these two series is analysed in this section, the other in chapter 7. Together, the two series represent the most comprehensive and sustained programme of research on boosting low attainment in reading in the UK. The programme was for many years run from the University of York. All the key figures have now left there, but their work is continuing.

The Cumbria study supports the view that it is the combination of phonological training and reading practice that is important for helping poorer readers. Children are helped to isolate phonemes within words to appreciate that sounds can be common between words and that specific sounds can be represented by particular letters. Lessons also include story work with an emphasis on linking sounds in words with letters.

It is well documented that children who exhibit good phonological skills appear to make the most progress in learning to read. This study illustrates that a combined phonological and literacy skills training programme effectively boosts the reading skills of reading-delayed seven-year-olds.

Poor readers in Y2 were assigned randomly to one of four groups. Group one received training in phonological skills and help in learning to read. Pupils in the second group received teaching in reading alone – the teaching of reading here and in the first group was similar to the form of Reading Recovery then current (see **section 3.18**), with little phonological training. The third group received teaching in phonological skills alone. A control group received normal teaching. During the intervention period, which lasted 20 weeks, each of the experimental groups received forty 30-minute teaching sessions.

The Reading with Phonology package combined a highly structured set of finely graded reading books with systematic activities to promote phonological awareness. The first part of a session was devoted to re-reading a familiar book whilst the teacher kept a running record of the child reading. This allowed for rehearsal of familiar words in different contexts. Phonological activities and letter identification were also involved in the first part of the session, accomplished using a multi-sensory approach (feeling, writing and naming). The second part of the session involved writing a sentence, cutting it up and re-assembling it. The last part of the session introduced a new book.

Evaluations

The first was a very tightly designed and administered quasi-experiment, carried out by Peter Hatcher, an educational psychologist in Cumbria LA, and two colleagues from the University of York (Hatcher *et al*., 1994). The four groups were matched on reading age at pre-test, and teaching time for the three experimental groups was equated as closely as possible. The 93 children in the three experimental groups were taught by 23 teachers. Each teacher worked with groups of two to nine children in order to reduce the effect of differentiation. The time of day at which children received their intervention was systematically varied. The people who administered the tests (who were not the teachers) were unaware of the children's experimental status.

The Reading with Phonology group made modest progress in reading (both accuracy and comprehension) and spelling, but still significantly more progress than the other three groups; the other groups did not differ – in other words, neither reading-only nor phonology-only brought about any greater progress than normal teaching.

Much the same finding emerged from a very similar study in Rhode Island, USA (Iversen and Tunmer, 1993), in which the reading intervention was the (then) authorised form of Reading Recovery.

The Reading with Phonology approach, now known as The Reading Intervention Programme – or as Sound Linkage (Hatcher, 1994), the name of published materials derived from and supporting it – continued to be widely used in Cumbria, and Peter Hatcher (1996a, b, 2000) published further research on it. This showed that the initiative continued to be effective for the generality of poor readers. (However, in the Hatcher (2000) study it seemed no more effective for children with dyslexia or moderate learning difficulties than no intervention – see **chapter 7**.)

In 2011, colleagues working in North Yorkshire supplied data on 720 children who had gone through the programme there between 2005 and 2010. All five cohorts had made substantial progress in reading accuracy.

References

Hatcher (1992, 1994, 1996a, b, 2000), Hatcher *et al*. (1994), unpublished data supplied by Christine Noyes

Contact

www.thereadinginterventionprogramme.org.uk

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The Reading Intervention Programme

(1) (The original) Cumbria Reading with Phonology Project

Main reference: Hatcher, Hulme and Ellis (1994)

Research design: 4-group matched-groups quasi-experiment

Date: September 1989-May 1990

Age-range: Y2 ('third year of infant schooling')

Type of children: Low attainment (reading quotient, r.a./c.a. x 100, on Carver test less than 86, but those with reading quotient less than 71 and percentile rank below 25 on Raven's Coloured Progressive Matrices (1965) excluded)

N of experimental group: 32 (received both reading programme and Phonological Training)

Ns of alternative treatment (AT) groups: (AT1) 31; (AT2) 30

Nature of alternative treatments: (AT1) Reading programme only (similar to Reading Recovery as then taught, i.e. without phonology, hence the contrast with AT2 and the experimental condition); (AT2) Phonology only (Phonological Training)

N of no-treatment comparison group: 31

Equivalence of groups: Groups matched on reading ability; other factors (IQ, age) treated as co-variates in analysis of post-test differences

Length of intervention in weeks: 20 (but 25 weeks between start and end and 30 weeks between pre- and post-test; 7 months used in calculating RGs)

Tests used: (reading) Neale revised form 1 (also BASWRT form A, and Schonell Graded Word Spelling Test, but impact measures were too small to report here)

Pre- and post-test and 9-month follow-up average r.a's/s.a's and s.d's in years and decimal years:

		R&P	Reading	Phonology	No treatment
		(N = 32)	(N = 31)	(N = 30)	(N = 31)
Neale	pre	5.10 (0.21)	5.04 (0.19)	5.18 (0.43)	5.11 (0.30)
acc	post	6.13 (1.00)	5.78 (0.54)	5.81 (0.90)	5.66 (0.80)
follow-up		6.77 (1.58)	6.22 (0.82)	6.31 (1.03)	6.25 (1.15)
Neale	pre	5.29 (0.30)	5.32 (0.34)	5.43 (0.50)	5.41 (0.49)
comp	post	6.39 (0.92)	6.00 (0.97)	5.94 (0.80)	5.88 (0.73)
follow-up		6.99 (1.28)	6.47 (0.94)	6.46 (1.11)	6.35 (0.97)

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Gains (in months of r.a./s.a.), and effect sizes calculated (by GB) as pre/post differences in gain relative to control group divided by pooled post-test s.d's of no-treatment group and relevant experimental group:

test	group	gain (months)	Effect size
Neale	exps	12.4	0.54
acc	AT1	8.9	0.29
	AT2	7.6	0.10
	no treatment	6.6	
Neale	exps	13.2	0.77
comp	AT1	8.2	0.26
	AT2	6.1	0.06
	no treatment	5.6	

Statistical significances: On both post-test measures, experimentals' gains were significantly better than other 3 groups'; those groups' gains did not differ significantly.

Starting and ending levels and progress: At pre-test all average scores were in the functionally illiterate range, and well below c.a. Judging by the RGs, the experimental group made modest progress, the other groups at best only standard progress, whereas the effect sizes for the experimental group showed useful gains relative to the control group. At post-test all average scores were still in the functionally illiterate range, but the experimental group's scores were much closer to c.a.

Follow-up: All groups were re-tested one year after the end of the intervention. Experimentals made no further relative gain between post-test and follow-up, but maintained the advantage gained during the intervention. However, inspection of the follow-up means reveals that the absolute gains over post-test were slight – all groups, including the experimentals, were making less than standard progress.

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The Reading Intervention Programme

(2) General use in Cumbria after the original project

Main reference: Hatcher (2000)

Research design: One-group pre-test/post-test study

Date: 1994-98

Age-range: Y2–10; data not given separately by year groups, therefore included here and not under KS3

Type of children: Low attainment

N of experimental group: 427, including 73 statemented (see **chapter 7**)

Length of intervention in weeks: 12

Tests used: (Reading) Burt, 1974 revision; (Spelling) Schonell

Pre- and post-test average r.a's/s.a's and s.d's: not stated

Gain in months of r.a./s.a. (s.d's not stated), and ratio gains:

	gain	RG
Reading accuracy	6.1	2.0
Spelling	7.9	2.6

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Absence of pre- and post-test scores does not permit characterisation of starting and ending levels. The pupils made useful gains.

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The Reading Intervention Programme

(3) North Yorkshire

Main reference: Unpublished data supplied by Christine Noyes

Research design: Five one-group pre-test/post-test studies

Date: 2005-10

Age-range: Primary

Type of children: Low attainment

N of experimental group: 720 in 5 cohorts (see below)

Length of intervention in weeks: 12

Reading test: Burt (1974 revision)

Pre- and post-test average r.a's and s.d's: not stated

Average gains in months of r.a. (s.d's not stated) and ratio gains:

	N	gain	RG
2005/06	108	8.1	3.2
2006/07	194	9.9	4.0
2007/08	63	8.1	3.3
2008/09	106	8.1	3.3
2009/10	249	8.9	3.5

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Without pre- and post-test data it is impossible to characterise the starting and ending levels. However, all the RGs show substantial progress.

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3.30 THRASS (Teaching Handwriting, Reading and Spelling Skills)

Scheme

THRASS is a structured multi-sensory literacy programme which teaches children about letters, speech sounds (phonemes) and spelling choices (graphemes). It is divided into the three main areas of handwriting, reading and spelling. It increases understanding of the way the English language is structured, with 44 phonemes, of which 20 are vowel sounds and 24 are consonant sounds. Children learn immediately that the same sound can be represented by different letters or groups of letters (graphemes).

THRASS was developed by Alan Davies, an educational psychologist then at Manchester Metropolitan University. The programme has been continuously developed and revised, and in 1997 became available on computer.

Davies found that the problem many people have while learning to read and write is that there are 44 sounds or phonemes in most well-known accents of English, yet only 26 letters to represent them. Therefore, the central feature of the scheme is that children are taught explicitly about the variety of grapheme-phoneme and phoneme-grapheme correspondences of English. Teachers are given training in the use of materials (video, workshops, audio cassettes, computer program and an instruction booklet). A typical THRASS lesson might include identifying upper and lower case letters by name, and writing each letter while listening to verbal instructions. Children are introduced to common sequences such as days of the week and seasons. During each lesson new learning is introduced, but there is always practice of material already covered. Children are encouraged to work together, while the teacher provides positive encouragement and reinforcement for correct responses.

Evaluations

Though THRASS has been extensively studied in the UK, Australia, the Caribbean, Botswana and South Africa, almost all the work has considered its use as an initial, across-the-board scheme, and there is little evidence on its value as a catch-up intervention. The main set of data provided by THRASS itself is from the 'Special Initiative to Enhance Literacy Skills in Bridgend' conducted there with pupils in Y3-8 in 1998. Both reading and spelling were assessed. The results showed useful to substantial impact on reading for all year-groups, and on spelling in Y3. (For Y7-8, see **section 5.13**.) Data from an evaluation in Hampshire in 2005 also provide evidence of a useful gain in reading (spelling was not assessed).

References

Matthews (1998); unpublished data supplied by Roger Norgate via Alan Davies

Contact

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Barrow Lane, Tarvin, Chester CH3 8JF
http://www.thrass.co.uk

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THRASS

(1) Bridgend

Main reference: Matthews (1998)

Research design: One-group pre-test/post-test study

Date: 1998

Age-range: Y3–6

Type of children: Low attainment

N of experimental group: 160 in 8 schools (for year-groups, see below)

Length of intervention in weeks: 13

Tests: (reading) Neale; (spelling) Schonell

Pre- and post-test average r.a's and s.a's and s.d's: not stated

Gains (in months of r.a./s.a.) and ratio gains:

		Reading accuracy		Reading comprehension		Spelling	
	N	**gain**	**RG**	**gain**	**RG**	**gain**	**RG**
Y3	30	6.6	2.2	7.0	2.3	7.5	2.5
Y4	45	7.3	2.4	8.2	2.7		
Y5	39	10.3	3.4	11.3	3.8		
Y6	46	7.1	2.4	12.5	4.2		

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: The absence of pre- and post-test scores does not permit characterisation of starting and ending levels. All groups made useful to substantial gains in reading (both aspects), as did Y3 in spelling.

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THRASS

(2) Hampshire

Main reference: Unpublished data supplied by Roger Norgate via Alan Davies

Research design: One-group pre-test/post-test study

Date: 2005

Age-range: Y2-5

Type of children: Low attainment

N of experimental group: 84 in 5 schools

Length of intervention in weeks: 26 on average (6 months used in calculating RG)

Reading test: Salford, 3rd edition

Pre- and post-test average r.a's and s.d's in years and months, gain in reading comprehension and s.d. in months of r.a., and ratio gain:

pre		post		gain		RG
ave	(s.d.)	ave	(s.d.)	ave	(s.d.)	
5:11	(1:5)	7:1	(1:7)	14	(10)	2.3

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: The average pre-test score was in the functionally illiterate range, and at about the level of the average child half-way through Y1 – but most of these children were older. By post-test they were just into the semi-literate range, having made useful progress.

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3.31 Toe by Toe®

Scheme

Keda Cowling worked on this scheme for over 25 years. It is a highly systematic page-by-page and step-by-step series of activities in one book, delivered one-to-one, with instructions for the 'coach' provided for each activity. It deliberately takes learners right back to the beginning of phonics and works up from there, based on the observation that many learners with difficulties seem never to have got the hang of phonics. Unusually, many of the stimuli are non-words, in order to focus learners' attention solely on decoding and avoid guessing based on any other 'cue'. It is suitable for any child (or adult) with reading difficulties, especially those who have been diagnosed as having specific learning difficulties. The author states that parents, special needs teachers, and support, teaching and classroom assistants can all use the scheme effectively. It is intended that learner and coach should work through the entire scheme, however long that takes, and then graduate to simple reading books.

Evaluation

Within the West Dunbartonshire Literacy Initiative, which ran for 10 years from about 1995, Toe by Toe was used as the catch-up scheme, yielding a fairly large amount of quantitative data on the scheme's effectiveness in Scottish Primary 5-7 (equivalent to England and Wales Y5-7, hence partly KS2 and partly KS3 but treated here as primary). The results suggest that, when delivered meticulously, this programme can achieve useful gains.

References

MacKay (2006, 2007)

Contact

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Main references: MacKay (2006, 2007)

Research design: One-group pre-test/post-test study

Date: 2002-03

Age-range: Scottish Primary 5-7 (= England and Wales Y5-7, but treated here as primary)

Type of children: 'Experiencing significant reading difficulties' (r.a. below 9:6)

N of experimental group: 104 in 32 schools (91 in P7, 12 in P6, 1 in P5)

Length of intervention in weeks: 24

Reading test: Neale, 2nd revised UK edition, Form 2

Pre- and post-test average r.a's in years and months and gain in months of r.a. (s.d's not stated), and ratio gain:

	pre	post	gain	RG
reading accuracy	8:0	9:2	14	2.5

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: The pre-test score was in the semi-literate range. Even with the useful progress made, the post-test score was still only just out of that range, and these pupils would require very substantial further support.

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3.32 Units of Sound

(In previous edition labelled Partnership for Literacy)

Scheme

Units of Sound is a structured, cumulative and multi-sensory computer-based programme that has been developed to teach reading and spelling. It combines the benefits of independent work on a computer with guidance from a teacher or TA. It is intended to build reading accuracy, vocabulary, spelling, sentence writing skills, automaticity, listening skills, memory, visual skills and comprehension. The programme uses revisiting, or 'spiral learning' to introduce and then further develop literacy skills. The scheme is designed for students from age 7 to adults, and is used in all types of mainstream and independent schools and colleges.

Since 2005, Dyslexia Action has used Units of Sound as a core component of its Partnership for Literacy (P4L) school intervention projects. In P4L, a Dyslexia Action teacher works alongside teachers and TAs, using apprenticeship training as a way of embedding good practice within the school. The early P4Ls were in primary schools, with secondary school projects starting in 2010 – see **section 5.15**.

Evaluations

Between 2005 and 2009 DA worked with 41 primary schools with a total pupil population of over 2000 which were using its Partnership for Literacy (P4L) programme within which Units of Sound was a major element. Within these totals, in 2008-09 ten schools provided data on 147 children who had received the full P4L intervention, with pre- and post-tests carried out at a suitable interval (8 months on average). The results showed reasonable benefits for both reading accuracy and spelling.

In 2012 the Education Endowment Foundation commissioned an independent RCT evaluation of the scheme from the University of York, as part of its suite of 24 RCTs investigating how to boost literacy at primary/secondary transition. However, the evaluation (Sheard *et al*., 2014) encountered severe problems and did not deliver any clear result; hence the findings presented here are not contradicted.

References

Rack (2011), Sheard *et al*. (2014)

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Units of Sound

Main reference: Rack (2011)

Research design: One-group pre-test/post-test study

Date: 2008-09

Age-range: Y2-5

Type of children: Identified as having dyslexia

N of experimental group: 147 in 10 schools in several LAs

Length of intervention in weeks: 20 ('2 school terms')

Reading and spelling tests: WRAT4

Pre- and post-test average standardised scores and s.d's, gains (s.d's not stated) and effect sizes calculated (by GB) using the s.d. of the tests (15.0):

	pre		post		gain	effect
	ave	(s.d.)	ave	(s.d.)	ave	size
reading accuracy	82.5	(9.6)	89.9	(9.5)	7.4	0.49
spelling	84.4	(10.2)	89.9	(10.8)	5.5	0.37

Ratio gain: n/a

Statistical significance: p<0.001 in both cases

Starting and ending levels and progress: Both starting levels were just over 1 s.d. below the mean, and therefore below the 16th percentile. By the end useful progress had been made in both skills, and the ending levels were about ⅔ of an s.d. below the mean.

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Chapter four

Schemes for boosting literacy at primary/secondary transition

This chapter describe 7 relevant schemes. Each entry contains an outline description of the scheme itself, followed by a few details of its evaluation and results, references and contact details, and then by an analysis of the quantitative evidence for its effectiveness.

First, some general characteristics of the 7 schemes are summarised in Table 4.1.

Table 4.1: General characteristics of schemes for boosting literacy at primary/secondary transition

Scheme	EEF study?	Duration (weeks)	Number of sessions for each child in experimental group	Taught by
Everyone Can Read	no	2	several hours/day	teacher, group
Grammar for Writing	yes	4	4 x 40mins/week	teacher, whole class
Helen Arkell Y7 Transition Pilot	no	20-26	variable	specialist teacher, 1-1
Improving Writing Quality	yes	20	variable	teacher, group
Read Write Inc. Fresh Start	yes	22	3 x 60 mins/week	TA, group
Switch-on Reading	yes	10	20 mins/day	TA, 1-1
The Accelerated Reader	yes	26	60 mins/day	computer & supervising adult, 1-1

4.1 The problem

The proportion of children in England achieving below level 4 in KS2 English has hovered around 19% for several years. The literacy demands of secondary education rapidly increase beyond those required at primary level, and pupils who arrive in secondary schools without at least level 4 reading and writing are likely to struggle, severely if their attainment is well below that. Also, the almost universal change from delivery of most of the curriculum and school day by generalist class teachers to mainly subject-centred teaching in discrete lessons and rooms by specialists militates against curriculum continuity and progression in learning.

Ofsted inspections and other reports have consistently identified and praised good practice in curriculum continuity and progression in learning, but equally consistently shown this to be patchy. Ofsted (2002), for example, found that more needed to be done to improve the continuity of teaching, learning and assessment as pupils transferred from primary to secondary school, and Ofsted (2008: 17), citing this, said tersely 'Little has changed.'

In the particular case of English, Denis Vincent (personal communication, 20 July 2010), who had been carrying out quality assurance visits observing the use of tests

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with gifted Y6 pupils, said he had noticed a dislocation between primary and secondary schools in terms of talking about and testing the analysis of textual form: this is pervasive at secondary level, but unfamiliar in Y6 even to the brightest pupils. If not made explicit to Y7 pupils, or to children before transition, this would seem likely to present a new obstacle; and although the brightest will soon catch on, others will struggle. And there are undoubtedly new, hidden literacy demands in other subject areas.

The problem will be exacerbated if, as is widely believed, there is a decline in academic attainment at the point of transition – and there does appear to be. McGee *et al*. (2004) cited evidence from New Zealand and around the world confirming this. Further and particularly strong evidence comes from a very large longitudinal study in Quebec. Duchesne *et al*. (2005) studied 1003 French-Canadian mothers from the time their children were in kindergarten, aged 5, in 1986 until the children were in the first year of high school, aged 13, in 1994. One-seventh (14%) of their children experienced a significant drop in educational attainment at transition.

For England the classic evidence on the decline in attainment at transition comes from the evaluation of the 1997 Summer Schools Programme for children leaving Y6 and about to enter Y7 (Sainsbury *et al*., 1997, 1998, 1999). This found an improvement in reading scores while children were on the programme but, more tellingly for receiving secondary schools, a drop in the children's results between the KS2 test in the summer term and a statistically equivalent test given at the beginning of the autumn term. There was also a drop in the average score on these tests of a control group of children who did not take part in the Summer Schools, but of the same magnitude, so the Summer Schools didn't even reduce the participants' decline. It is therefore not really surprising that many secondary schools distrust the information they receive on pupils' Y6 attainments (see Rose, 2009: 95), and that many have (or used to have) their new pupils take a cognitive ability test (see Galton *et al*., 2003: 55, 71) to assist in grouping by ability and/or in target-setting. The Sainsbury *et al*. study was conducted before a range of initiatives on transition occurred, and in virtual isolation from any other aspect of what would now be considered good practice. Even so, Galton *et al*. (2003: 58-59) and Sutherland *et al*. (2010: 11) have found similar evidence.

The problem is further exacerbated if, as in many cities, pupils from any one primary school disperse to a range of secondaries and, correspondingly, the new pupils at any one secondary arrive from a range of primaries.

4.2 Searching for evidence

So what schemes are there which have been used in the UK to boost the literacy attainment of lower-achieving pupils at primary/secondary transition (principally Years 6-7)? In 2010 one of the Sainsbury family trusts commissioned me to do a rapid literature review on this topic; the results were exiguous, and this was reflected in the

small number of schemes included in the 'transition' chapter of the previous edition, most of which had little or no hard quantitative evidence.

Perhaps as a result of my review for the Sainsbury trust, but more likely of behind-the-scenes lobbying, in May 2012, the Government announced a £10 million fund to be used to boost attainment at primary/secondary transition; the Education Endowment Fund is administering this, and in summer 2012 invited bids for rigorous research on the area, with an insistence on RCT designs. Also in summer 2012, 2000 Summer Schools were run for 65,000 of the most disadvantaged pupils about to transfer from primary to secondary school in England. The cost was estimated to be £50 million, and this amount came from the Pupil Premium (see **section 7.2**). And in September 2012, the Government announced a further £55m as a 'catch-up premium' to be paid to secondary schools to help pupils who had not achieved level 4 in reading or maths at the end of KS2.

All those announcements were made while the previous edition of this book was being prepared, so too late for any evidence that might arise to be included. However, I was hopeful that, by the time of the next (= this) edition, most of my transition chapter would be swept away as redundant by copious evidence coming from the EEF research programme and elsewhere.

That optimism has only partly been borne out. Certainly, of the six schemes featured in the previous transition chapter, only the Helen Arkell Y7 Transition Pilot survives unchanged here, though the Toe By Toe data from the West Dunbartonshire Literacy Initiative have been moved to chapter 3. But the evaluation report on the Pupil Premium (Carpenter *et al*., 2013) makes no mention of any attempt to judge impact on pupils' literacy; the evaluation report on the 2012 summer schools (Martin *et al*., 2013) contains data only on pupils' attitudes, and none on any boost to their literacy; and the suite of 24 RCTs mounted by EEF has produced less firm evidence than might have been hoped.

4.3 Outcomes of the EEF programme

In June 2014 EEF published an interim evidence brief on Reading at the Transition (Higgins *et al*., 2014), with a full list of the 24 schemes under investigation on page 7. By the end of 2015 reports on all these schemes had appeared on the EEF website, and the 23 completed evaluations were all considered for inclusion in this report. However, only nine were included in the end: these either had sufficiently positive findings to warrant entirely new entries (these are Improving Writing Quality and The Accelerated Reader, both in this chapter), or provided new evidence on schemes which were being included anyway. Within the latter group I considered the findings on three strong and reliable enough for these schemes also to feature in this chapter: these are Grammar for Writing, *Read Write Inc*. Fresh Start, and Switch-on Reading.

For the remaining four, either the research had not proved robust enough (The LIT Programme, Units of Sound), or the main finding was statistically non-significant (Catch Up® Literacy, *TextNow*). In these cases I have included a mention of the RCTs in their entries elsewhere in this report, but without considering that the findings contradict the other evidence on them.

The reasons for not mentioning 14 of the RCT evaluations in this report varied: non-significant findings, implementation or sampling problems, small samples, high drop-out, … which all go to show how difficult it is to produce robust and reliable findings, even (or especially) when rigorous research designs are adopted.

The upshot for this chapter is that five schemes have RCT evidence from the EEF programme; the other two had pre-existing evidence from (it must be said) less rigorous research designs and much smaller samples, but still contribute to the evidence overall.

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4.4 Everyone Can Read

Scheme

Section 1 of this scheme is a three-phase sequential phonics programme. Phase 1 covers short vowel sounds, single consonants, initial and final consonant clusters, and simple prefixes and suffixes. Phase 2 covers long vowel sounds and further prefixes and suffixes. Phase 3 covers difficult long vowel sounds and syllable work. Teacher's manuals and pupil workbooks are supported by a range of integrated reinforcement activities. Section 2 is a sight vocabulary programme. Basic sight vocabulary is taught thoroughly and concurrently with Phonics Phases 1 and 2. The aim is to teach pupils to recognise by sight, and spell, the 400 most common words found in children's literature. Section 3 involves more advanced activities and covers syllables and word meanings.

Evaluation

The largest dataset available (N=29) came from a summer school held at one high school in 1998. The programme was much more intensive (several hours/day), and was taught in larger groups (6), than would usually be the case (several short sessions a week over one term, in groups of 4). Several smaller datasets can be seen on the programme's website.

Reference

Unpublished data supplied by Suzanne Attwooll

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Everyone Can Read

Main reference: Unpublished data supplied by Suzanne Attwooll

Research design: One-group pre-test/post-test study

Date: 1998

Age-range: Y6 about to enter Y7

Type of children: Reading age more than two years below chronological age

N of experimental group: 29 in one high school in Warwickshire

Length of intervention in weeks: 2-week summer school (½ month used in calculating RGs)

Reading and spelling tests: (Reading comprehension) Group Reading Test; (Reading accuracy and spelling) Schonell

Average pre- and post-test r.a's and s.d's in years and months, average gains and s.d's in r.a. in months, average pre- and post-test and gain s.a's and s.d's in years and decimal years, and ratio gains:

	pre		post		gain		RG
	ave	(s.d.)	ave	(s.d.)	ave	(s.d.)	
reading comp.	9:7	(1:9)	10:3	(2:0)	7.9	(10.1)	15.8
reading accuracy	9:2	(1:1)	9:8	(1:4)	6.5	(5.3)	13.0
spelling	8.7	(1.1)	9.1	(1.1)	0.4	(0.4)	9.9

Statistical significances: $p<0.001$ in all cases

Starting and ending levels and progress: Given that all these children were aged between 11:0 and 11:11 their starting levels were well behind. All three RGs show remarkable progress, but at the end the children were still well below the norm, and would need ongoing support in their secondary school.

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4.5 Grammar for Writing

Scheme

For details of the scheme see **section 6.5**.

Evaluation

In 2012 the Education Endowment Foundation commissioned a very large independent RCT evaluation from the University of York and Durham University, as part of its suite of 24 RCTs investigating how to boost literacy at primary/secondary transition. The target age group was Y6, and nearly 2,000 children in 50 schools across England were involved. The Exeter team who had created the scheme developed 15 sequential guided writing sessions for this study, with embedded grammar aspects along the same lines as in their Y8 project. In the main analysis, the experimental group made slightly more progress than the control group, but this effect was not statistically significant. However, the approach had been delivered in two forms, whole-class and small-group; the small-group experimental group did make significantly more progress than their control group. (Reading and spelling were also assessed but produced no significant results at either level.)

References

EEF (2014a), Myhill *et al*. (2011, 2012, 2013), Jones *et al*. (2013), Torgerson *et al*. (2014a)

Contact

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Grammar for Writing

Main reference: Torgerson *et al*. (2014a)

Research design: Cluster RCT

Date: 2013

Age-range: Y6

Type of children: Mixed-ability, but those not expected to achieve level 3 in KS2 English test excluded

N of experimental group: Full sample: 1004 in one subset of 99 classes in 50 schools (N of LAs not stated)

Small-group sample: 210

N of control group: Full sample: 978 in the other subset of the same classes in the same schools

Small-group sample: 607

Equivalence of groups: No significant differences between groups at randomisation

Length of intervention in weeks: 4

Writing assessment used: Progress in English 11: Second Edition Long Form, exercises 5 & 6 (extended writing)

Result of full sample analysis: ns

Small-group analysis: Statistically significant increase of 0.78 marks (out of 32) by intervention group over control, giving effect size (calculated by research team as difference in post-test means over residual s.d.) of 0.24

Statistical significance: $p<0.05$

Starting and ending levels and progress: Equivalent pre-test scores were not available, so the starting levels cannot be characterised. However, the very modest increase in writing score, and the modest effect size showing a clear benefit for the small-group experimental group, are in line with the original Y8 RCT conducted by the Exeter team.

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4.6 Helen Arkell Y7 Transition Project

Staff at the Helen Arkell Dyslexia Centre in Farnham, Surrey, had become increasingly aware that many pupils, especially perhaps those with dyslexia/SpLD, find the transition to the more demanding secondary curriculum difficult.

Scheme

Drawing on a one-group pilot study in 2009-11, the Centre carried out a small quasi-experiment in 2010-12 comparing their provision for Y7 pupils with normal classroom teaching. Specialist teachers, trained at the Centre, carried out the intervention. The structure of the teaching programme was informed by individual diagnostic assessment reports and the wishes of the pupils. A formal intervention programme was not employed. Teachers designed the intervention around the specific needs of each pupil. Some focused more on language skills, some on writing skills, some on reading skills, and some on spelling. Specific guidance was provided to help teachers provide speech and language support where necessary. Emphasis was placed on transfer of skills outside the 1-1 teaching situation and on improving independent learning and self-confidence. Teaching was based on the principles that teaching should aim to

- improve pupils' ability to access the curriculum across a range of subjects, but particularly those with a heavy literacy component, e.g. history, geography, science
- improve pupils' ability to be independent learners by encouraging them to recognise and develop a range of strategies appropriate to different situations
- help develop skills needed in Y7, such as research and study skills, reading for meaning, summarizing, answering questions from a text, interpreting information and putting it into their own words, reading and following instructions, using dictionaries.

Evaluation

Staff at the Centre provided data on the project. There were 16 pupils in the experimental group, and 16 in the comparison group. Given the small samples, it was not surprising that few statistically significant differences were found. However, useful effect sizes were found for reading fluency, reading accuracy and spelling, though the last two owed more to the comparison group losing ground than to the experimental group's gains.

Reference

Bark (2012)

Contact

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Helen Arkell Y7 Transition Project

Main reference: Bark (2012)

Research design: Matched-groups two-group pre-test/post-test quasi-experiment

Date: 2010-12

Age-range: Y7

Type of children: All had average CAT/MIDYIS scores but weak literacy skills on entry to year 7. None had EBD.

N of experimental group: 16 in 3 schools in or near Farnham, Surrey

N of comparison group: 16 in same schools

Equivalence of groups: Schools assigned pupils to experimental or comparison group based on ease of timetabling; pre-test scores did not differ significantly

Length of intervention in weeks: 20-26

Tests: Test of Word Reading Efficiency (fluency); Wide-Range Achievement Tests, 4th edition, single word reading test (accuracy) and spelling test

Pre- and post-test average standardised scores, gains and s.d's, effect sizes calculated as the differences in gains divided by the pooled post-test s.d's, and statistical significances:

		pre-test			post-test		gain		effect
Test	**group**	**ave**	**(s.d.)**		**ave**	**(s.d.)**	**ave**	**(s.d.)**	**size**
TOWRE	exps	95.8	(5.4)		98.3	(6.9)	2.5	(5.9)	0.36
	comps	95.9	(8.2)		95.4	(9.5)	-0.5	(5.5)	
WRAT4	exps	91.4	(7.7)		92.8	(5.4)	1.3	(3.7)	0.52
Reading	comps	91.4	(9.2)		90.0	(6.4)	-1.4	(6.5)	
WRAT4	exps	92.4	(4.7)		92.9	(5.7)	0.5	(3.7)	0.61
Spelling	comps	93.5	(4.9)	*	91.3	(7.1)	-2.2	(4.9)	

* p<0.05; all other differences ns

Ratio gains: n/a

Starting and ending levels and progress: Pre-test averages show all groups were slightly below national norms. The only significant pre/post difference was that the comparison group got worse on spelling, the only significant difference in gains was on spelling, and none of the post-test differences between groups were significant – but significant findings would not often be expected with such small samples. The effect size for reading fluency (TOWRE) shows modest progress. Although the useful effect sizes for reading accuracy and spelling owe more to the comparison group's

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relative decline than to the experimental group's progress, the experimental group did make some progress.

4.7 Improving Writing Quality

Scheme

The project aimed to use memorable experiences and an approach called 'Self-Regulated Strategy Development' (SRSD) to help struggling writers in Years 6 and 7. SRSD provides a clear structure to help pupils plan, monitor and evaluate their writing. It aims to encourage pupils to take ownership of their work and can be used to teach most genres of writing, including narrative. Memorable experiences, such as trips to local landmarks or visits from World War II veterans, were used as a focus for writing lessons.

Evaluation

In 2012 the Education Endowment Foundation commissioned an independent RCT evaluation from the University of York and Durham University, as part of its suite of 24 RCTs investigating how to boost literacy at primary/secondary transition (no previous UK studies of the scheme are known). It was one of three programmes with a particular focus on writing. The RCT involved 23 primary schools in the Calderdale area of West Yorkshire; the Year 6 teachers in the 11 schools randomly allocated to the intervention group received training from the North American developers, but, with support from the Calderdale Excellence Partnership team, also adapted it in some ways for an English context. The other 12 schools were allocated to the comparison group. Children in the intervention schools were taught following the SRSD approach in the last six weeks of the summer term in Year 6 and in the first term of Year 7 at secondary school. The result showed a very strong benefit for the intervention group's extended writing. (Reading and spelling were also tested, but produced no significant results.)

References

EEF (2014d), Torgerson *et al*. (2014b)

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Improving Writing Quality

Main reference: Torgerson *et al*. (2014b)

Research design: RCT

Date: 2013-14

Age range: Y6-7

Type of children: Predicted to achieve Level 3 or insecure Level 4 in KS2 English

N of experimental group: 142

N of control group: 119

Equivalence of groups: Very closely matched on predicted KS2 English levels

Length of intervention in weeks: 20

Reading test: Progress in English Second Edition 11 (Long Form)

Average post-test writing scores and s.d's, and effect size as stated by authors:

		post		effect
Group	**N**	**ave**	**(s.d.)**	**size**
exp	142	21.9	(4.39)	0.74
cont	119	19.4	(5.32)	

Ratio gains: n/a

Statistical significance: p=0.002

Starting and ending levels and progress: It is not possible to characterise the starting and ending levels. However, the close to remarkable effect size shows a very strong benefit in favour of the intervention group.

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4.8 *Read Write Inc.* Fresh Start

Scheme

This is Ruth Miskin's phonics programme for children aged 9 and above (Years 5 and 6 in primary and Years 7 and 8 in secondary). For general details, see **section 3.17**, and for KS3 evidence see **section 5.8**.

Evaluations

In 2013 the Education Endowment Foundation commissioned an independent RCT evaluation of this scheme from Durham University, as part of its suite of 24 RCTs investigating how to boost literacy at primary/secondary transition. The RCT involved 212 Y7 pupils in 10 schools who received *Read Write Inc.* Fresh Start for one hour, three times a week, for 22 weeks. A waiting-list control group of 221 pupils received the intervention after that. There was a modest benefit for the intervention group, but this must be interpreted with caution given that (a) the groups' scores were significantly different at pre-test (had the schools interfered in the randomisation?), (b) the effect size reported by the evaluators had been calculated by an erroneous method.

References

Gorard *et al*. (2015a)

Contact

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***Read Write Inc.* Fresh Start**

Main reference: Gorard *et al*. (2015a)

Research design: RCT

Date: 2013-14

Age-range: Y7

Type of children: Pupils with scores at Level 4c and below in KS2 English

N of experimental group: 215 in 10 schools

N of control group: 204 in same schools

Equivalence of groups: Found to be significantly different at pre-test, the intervention group's mean score being considerably lower than the control group's. As will be seen below, the intervention group was still well behind the control group at post-test, despite having made a larger gain. The evaluators dealt with this by using the gain scores as the principal measure – correctly, since an effect size analysis based solely on the post-test scores would have suggested that the control group had made better progress. However, the evaluators then muddied the waters by using the pooled s.d. of the gain scores as the divisor in their effect size calculation – see the discussion in the **Appendix** for why this is considered erroneous. The effect size reported below is my re-calculation using the pooled post-test s.d.

Length of intervention in weeks: 22

Test used: New Group Reading Test, Form A at pre-test, Form B at post-test

Average pre- and post-test and gain scores and s.d's, and effect size for comprehension re-calculated by GB (see above):

		Pre-test		Post-test		Gain		Effect
Group	**N**	**ave**	**(s.d.)**	**ave**	**(s.d.)**	**ave**	**(s.d.)**	**size**
Experimental	215	251.8	(65.4)	279.5	(59.9)	27.5	(47.7)	0.19
Control	204	274.2	(58.2)	290.6	(53.3)	16.7	(42.1)	

Ratio gains: n/a

Statistical significance: Was not stated by the evaluators (deliberately – see Gorard *et al*., 2015a: 15) and could not be calculated

Starting and ending levels and progress: The pre- and post-test scores cannot be characterised because they are clearly not in standardised score points, and their nature is not explained in the report. However, the modest effect size shows a clear benefit in favour of the intervention group.

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4.9 Switch-on Reading

Scheme

For details of the scheme see **section 3.27**. In the version evaluated in this RCT, the students were withdrawn from classes for regular 20-minute sessions over the course of one term.

Evaluation

In 2012 the Education Endowment Foundation commissioned an independent RCT evaluation of this scheme from Durham University, as part of their suite of 24 RCTs investigating how to boost literacy at primary/secondary transition. The effect size showed a useful benefit to the experimental group's reading. A further and larger trial has been commissioned, and began in late 2015.

Reference

Gorard *et al*. (2014)

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Switch-on Reading

Main reference: Gorard *et al*. (2014)

Research design: RCT

Date: 2013

Age-range: Y7

Type of children: Pupils who had not achieved Level 4 in KS2 English

N of experimental group: 155 in secondary schools in Nottinghamshire

N of experimental group: 153 in same schools

Equivalence of groups: No significant differences at pre-test

Length of intervention in weeks: 10

Reading test: New Group Reading Test, Form A at pre-test, Form B at post-test

Pre- and post-test average scores (s.d's not stated) and gain scores and s.d's for comprehension in standardised score points, effect size as stated by authors*:

Group	N	pre-test	post-test	gain	s.d.	Effect size
Experimental	155	76.53	80.93	4.40	8.18	0.24
Control	153	76.14	78.73	2.59	6.53	

***The effect size shown was calculated as difference in *gains* over pooled post-test s.d. The authors show that the effect size calculated as difference in *post-test* means over pooled post-test *s.d.* was identical**

Ratio gain: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: The pre- and post-test means are almost 2 s.d's below the norm, hence very far behind. The useful gain shown by the effect size still left the experimental group well short of the norm. All these pupils would need ongoing support in their secondary schools.

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4.10 The Accelerated Reader

Scheme

The Accelerated Reader is a computerised program on which pupils assess their own reading comprehension after reading any one of (in 2014) 156,000 titles on the software manufacturer's list. Pupils select their own books and work at their own pace. After reading a book they take a multiple-choice comprehension quiz on it – but only once; taking the test again on the same book is not allowed. The computer scores the test, up to the maximum for each book – the maximum depends on the book's length and difficulty – and provides the teacher with analyses of scores for individual pupils, and indications of areas of weakness. Ideally, there should be about an hour's reading per day, half individual and half listening to the teacher read.

Evaluations

Following several evaluations in the United States, Vollands *et al*. (1999) mounted two small-scale studies in different schools in severely deprived areas of Aberdeen. These featured in the 3rd edition, but were dropped from the 4th because both were too small to meet the more stringent sample size criterion adopted then (Ns = 25 & 22).

But then in 2013 the Education Endowment Foundation commissioned an independent RCT evaluation from Durham University, as part of its suite of 24 RCTs investigating how to boost literacy at primary/secondary transition, hence the reinstatement of the scheme in this edition. The result showed a clear benefit for the intervention group's reading comprehension.

References

Gorard *et al*. (2015b), Vollands *et al*. (1999)

Contact

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The Accelerated Reader

Main reference: Gorard *et al*. (2015b)

Research design: RCT

Date: 2013-14

Age range: Y7

Type of children: Had not achieved secure level 4 in KS2 English

N of experimental group: 175 in 10 schools

N of control group: 164 in same schools

Equivalence of groups: Very closely matched on KS2 English points

Length of intervention in weeks: 22

Reading test: New Group Reading Test, Form A at post-test (only – no equivalent pre-test, hence no gain scores; also, presumably, effect size shown was calculated as difference in post-test scores divided by pooled post-test s.d.)

Average post-test standardised age scores and s.d's for comprehension, and effect size as stated by authors:

		Post-test		Effect
Group	**N**	**ave**	**(s.d.)**	**size**
Experimental	175	98.0	(14.1)	0.26
Control	164	94.5	(13.0)	

Ratio gains: n/a

Statistical significance: Was not stated by the evaluators (deliberately – see Gorard *et al*., 2015b: 13) and could not be calculated

Starting and ending levels and progress: The intervention group's post-test score is only just below the norm, while the control group's score is about one-third of an s.d. below. The modest effect size shows a clear benefit in favour of the intervention group.

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Chapter five

Schemes for reading and spelling at KS3 (ages 11-14)

This chapter describes 16 relevant schemes. Each entry contains an outline description of the scheme itself, followed by a few details of its evaluation and results, references and contact details, and then by an analysis of the quantitative evidence for its effectiveness.

First, some general characteristics of the 16 schemes are summarised in Table 5.1.

In addition to those listed in this section, there are data for KS3 pupils mixed in with those for primary pupils under the following schemes listed in chapter 3: AcceleRead AcceleWrite, Better Reading Support Partners, Hornet, Lexia, Paired Reading, Sound Reading System, The Reading Intervention Programme.

Table 5.1: General characteristics of the KS3 schemes for reading and/or spelling

Scheme	Y7	Y8	Y9	Y10	Y11	Duration (weeks)	Number of sessions for each child in experimental group	Taught by
A.R.R.O.W.	✓	✓	✓			2	60 mins/day	computer & supervising adult, 1-1
Boosting Reading	✓	✓	✓			11	2 or 3 x 15 mins a week	TA, 1-1
Catch Up Literacy	✓	✓	✓			34, 17	2 x 15 mins/week	teacher or TA, 1-1
Easyread	✓	✓	✓	✓		26	up to 90 x 5-15 mins/day	computer & supervising adult, 1-1
ENABLE PLUS (KS3)	✓	✓	✓			10-14	2 x 30 mins group + 1 x 10 mins indiv/week	TA/LSA, group & 1-1
Inference Training	✓	✓	✓			15	2 x 20-45 mins/ week	other adults, group
Rapid Plus	✓	✓	✓			13	as needed	computer & supervising adult, 1-1
Read Write Inc.	(1)	✓				34	60 mins/day	TA, group
Fresh Start	(2)	✓				6	60 mins/day	TA, group
Sound Training	✓	✓	✓			6	1 x 60 mins/week	teacher, group
That Reading Thing	✓	✓	✓	✓	✓	19	2 x 60 mins/week	teacher/other adult, 1-1
The LIT Programme	✓					18	3-4 hours/week	teacher, group
Thinking Reading	✓	✓	✓	✓	✓	33 (ave.)	3 x 30 mins/week	teacher, 1-1
THRASS	✓	✓				13, 8	30 mins daily	teacher, group
Toe by Toe		✓	✓			13	60 mins/day	other adults, 1-1
Units of Sound	✓	✓	✓			20	variable	computer & supervising adult, 1-1
Word Wasp & Hornet	✓	✓	✓			30	15-30 mins/day	TAs/other adults, 1-1

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5.1 A.R.R.O.W. (Aural – Read – Respond – Oral – Write)

Scheme

For general details of the scheme, see **section 3.1**.

Evaluation

The only secondary data available were for Y7-9 in 2010-15. Both gains were remarkable.

Reference

Unpublished data supplied by Colin Lane

Contact

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A.R.R.O.W.

Main reference: Unpublished data supplied by Colin Lane

Research design: Accumulated data from numerous one-group pre-test/post-test studies

Dates: 2010-15

Age-range: Y7-9

Type of children: Low attainment

Ns of experimental group: 188 in 13 schools

Length of intervention in weeks: 2

Tests used: Schonell Graded Word Reading Test, Schonell Spelling Test

Pre- and post-test average reading/spelling ages in years and months, gains in months of r.a./s.a. (s.d's not stated), and ratio gains:

	pre	post	gain	RG
reading accuracy	9:8	10:5	9	18.0
spelling	9:6	10:0	6	12.0

Effect sizes: n/a

Statistical significances: were not stated and could not be calculated

Starting and ending levels and progress: Given the wide chronological age-range, the pre-test averages for reading imply that many of these children, especially the older ones, were well behind. They made remarkable progress in both reading and spelling in a very short time.

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5.2 Boosting Reading

(previously known as Better Reading Partnership)

Scheme

For details of the scheme, see **section 3.6**. For KS3 pupils the scheme is sometimes delivered by sixth form (Y12-13) pupils.

Evaluation

In the previous edition the only KS3 data on BRP came from Derbyshire. For this edition, that evidence has been retained, and a small further set of evidence from the latest report supplied by the national trainers has been added. Both sets of data showed remarkable progress.

References

Taylor (2000), unpublished data supplied by Clare Reed and Jan Hilditch

Contact

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Boosting Reading

(1) Derbyshire

Main reference: Taylor (2000)

Research design: One-group pre-test/post-test study

Date: 1998-99 (though data collected in other years too)

Age-range: Y7–8

Type of children: Low attainment

N of experimental group: 189 in undisclosed number of schools in Derbyshire (for year-groups, see below)

Length of intervention in weeks: 11 (2.5 months used in calculating RGs)

Reading test: Salford (mainly)

Pre- and post-test average scores, gains and s.d's: not stated

Gains in reading comprehension in months of r.a. (s.d's not stated) and ratio gains:

	N	gain	RG
Y7	132	10.2	4.1
Y8	57	12.4	5.0

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: The absence of pre- and post-test scores does not permit characterisation of starting and ending levels. However, the RGs show remarkable progress.

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Boosting Reading

(2) Recent report

Main reference: Unpublished data supplied by Clare Reed and Jan Hilditch

Research design: One-group pre-test/post-test study

Date: 2013-14

Age-range: Y7-9

Type of children: Low attainment

N of experimental group: 55

Length of intervention in weeks: 10 (2.5 months used in calculating RGs)

Reading tests: various (see **section 3.6**)

Average gain in word reading accuracy in months of r.a. (s.d's and pre- and post-test data not stated), and ratio gain:

gain	RG
19.6	7.8

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: In the absence of pre- and post-test data it is not possible to characterise the starting and ending levels. However, the RG was remarkable.

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5.3 Catch Up® Literacy

Scheme

For general details of Catch Up Literacy, see **section 3.7**, and for a pilot project with Gypsy Roma travellers, see **section 8.3**.

Evaluations

For publication in Brooks (2009), data on 175 Y7-9 pupils in 13 schools in 2 LAs in Wales for the period 2002-06 were supplied, and are reproduced here. (N.B. A few of the schools were Welsh-medium, but their results could not be separated out in the data supplied.) The results showed useful progress in reading comprehension.

In addition, Holmes *et al*. (2011, 2012) give details of an RCT conducted with secondary pupils in Nottingham. The experimental group made substantial progress, and much more than the control group, who made barely more than standard progress.

References

Brooks (2009), Holmes *et al*. (2011, 2012), unpublished data supplied by Julie Lawes

Contact

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www.catchup.org

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Catch Up Literacy

(1) Rhondda Cynon Taf and Vale of Glamorgan

Main reference: Unpublished data supplied by Julie Lawes

Research design: One-group pre-test/post-test study

Date: 2005-07

Age-range: Y7-9

Type of children: Low attainment

N of experimental group: 175 in 13 schools

Length of intervention in weeks: 34 (average; 8 months used in calculating RG)

Reading tests: Hodder/Murray DRA, NFER Group Reading Test 6-14

Pre- and post-test average scores and s.d's: Not stated

Average gain in reading comprehension in months of r.a. (s.d. not stated), and ratio gain:

gain	RG
19	2.4

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: Without pre- or post-test data it is impossible to characterise the starting and ending levels. However, the RG shows useful progress.

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Catch Up Literacy

(2) Nottingham

Main references: Holmes *et al*. (2011, 2012)

Research design: RCT

Date: 2008-09

Age-range: Y8-9

Type of children: Low attainment

N of experimental group: 20 in 6 schools

N of control group: 65 in same schools

Equivalence of groups: Randomly assigned; pre-test average scores did not differ significantly; control group received 'matched-time support (additional literacy support of the teacher's choice, but not Catch Up Literacy, for approximately the same amount of time)'

Reading test: Salford

Length of intervention in weeks: 7 (4 months used in calculating RGs)

Pre- and post-test average comprehension scores, gains and s.d's (all in months of r.a.), ratio gains, and effect size calculated as difference in gains divided by pooled post-test s.d.:

Group	N		pre	post	gain	RG	Effect size
exps	20	ave.	85.7	98.8	13.1	3.3	0.58
		(s.d.)	(9.4)	(13.9)	(8.7)		
conts	65	ave.	88.9	94.5	5.6	1.4	
		(s.d.)	(11.9)	(12.9)	(8.7)		

N.B. The authors report an effect size of 0.86, but this was calculated as the difference in the **ratio gains** divided by the pooled post-test s.d.

Statistical significance: p<0.005 for difference in gains; significances of separate gains not stated

Starting and ending levels and progress: Both groups had average r.a's of just over 7 years at the start, and were therefore about 6 years behind. The control group made just over standard progress, and at the end were about 2 months less far behind. The experimental group made substantial progress, and at the end were 9 months less far behind. The useful effect size confirms the difference.

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5.4 Easyread

For details of the scheme see **section 3.9**.

Evaluation

In school year 2014-15 David Messer conducted a randomised control trial in one secondary school in Oxfordshire (the control group were receiving the intervention in school year 2015-16). Preliminary pre- and post-test data were available for 37 children in the experimental group and 36 in the control group. Effect sizes have not yet been calculated, but ratio gains for reading accuracy showed that the control group had made only standard progress, whereas the experimental group had made three times as much. There were also indications of improvements in classroom behaviour.

Reference

Unpublished data supplied by David Messer

Contact

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david@easyreadsystem.com
www.EasyreadSystem.com

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Easyread

Main reference: Unpublished data supplied by David Messer of the Open University, who was conducting an independent evaluation

Research design: RCT

Date: 2014-15

Age-range: Y7-10

Type of children: Low reading scores

N of experimental group: 37 in 1 school in Oxford

N of control group: 36 in same school

Equivalence of groups: Randomised within school; groups did not differ significantly at pre-test

Length of intervention in weeks: 26

Reading test: Test of Word Reading Efficiency, form A at pre-test, form B at first post-test, and form C at second post-test (follow-up)

Ratio gains (other data not yet reportable):	
Experimental group	3.0
Control group	1.0

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Both group's starting levels seem to have been well below average. The useful ratio gain for the experimental group will have enabled them to make up quite a bit of ground, but the control group would still be in urgent need of their turn at the intervention.

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5.5 ENABLE-PLUS (KS3)

Scheme

For details of all three versions of ENABLE see **section 3.10**.

Evaluation

The KS3 evaluation analysed below was carried out by the original authors of the scheme. It showed a substantial gain in reading comprehension.

References

Bowen (2003) and unpublished data supplied by Phil Bowen

Contact

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ENABLE PLUS (KS3)

Main reference: For a description of the programme, Bowen and Yeomans (2002); unpublished data analysed below supplied by Phil Bowen

Research design: One-group pre-test/post-test study

Date: 2006

Age-range: Y7-9

Type of children: SEN, including 10 pupils with Statements, 6 deemed Statemented (School Action Plus with Local Authority funding), 5 School Action Plus, and 15 at School Action

N of experimental group: 36 in 3 schools

Length of intervention in weeks: 10-14 (3 months used in calculating RG)

Reading test: Salford Sentence Reading Test (Revised), 2000

Pre- and post-test average r.a's in years and months and gain in reading comprehension in months of r.a. (s.d's not stated), and ratio gain:

pre	post	gain	RG
7:1	8:0	11	3.7

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: Given that these pupils were on average 5 years or more behind in reading age and barely semi-literate at the start, and evidently had acute special educational needs, this was a substantial gain for them; but they were still on average 4 years or more behind in reading age at the end, and the level reached would still be inadequate for them to cope fully with the secondary curriculum.

5.6 Inference Training

Scheme

For general details of the intervention see **section 3.13**.

Evaluation

In 2009-11 data were gathered from 120 KS3 pupils in Leicester. The results showed a useful gain in reading accuracy.

Reference

Unpublished data supplied by Tony Whatmuff

Contact

Tony Whatmuff
National Trainer for Inference Training
anthonywhatmuff@gmail.com

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Inference Training

Main reference: Unpublished data supplied by Tony Whatmuff

Research design: One-group pre-test/post-test study

Date: 2009-11

Age-range: Y7-9

Type of children: Low attainment

N of experimental group: 120

Length of intervention in weeks: 15 (4.5 months used in calculating RG)

Reading test: Kirklees revision of Vernon

Pre- and post-test average r.a's and s.d's: Not stated

Average gain in months of r.a. for accuracy (s.d. not stated) and ratio gain:

gain	RG
11.5	3.4

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: The absence of pre- and post-test data means the starting and ending levels cannot be characterised. However, the RG shows substantial progress in reading accuracy.

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5.7 Rapid Plus

Scheme

Rapid Plus is a series of finely levelled books and software for SEN and struggling readers at KS3. It is built upon the primary Rapid programme (which was included in the third edition but is not in this one) and uses many of the same elements, but with new stories, topics and a grown-up look and feel to appeal to teenage readers. The authors extensively researched story topics, artwork styles and layout options with SENCos, TAs and students to find out what they wanted, and tested stories at every stage of development and production.

The series covers (former) National Curriculum Levels 1a–3a (reading ages 6:6–9:6), and each reading book contains a fiction and a non-fiction text to give students variety and a broad reading experience. The reading books use a dyslexia-friendly font on a plain cream background, and contain supportive artwork and photos. They also have a 'before reading' page to tune readers in to the story, and a quiz page to test comprehension, word knowledge and spelling.

The Rapid Plus online software brings together all the reading books as e-books, with innovative features such as 'Read to me', where students can hear the story read in a fluent, engaging way, and clickable prompts, so they can hear a particular word if they get stuck on it. There are also interactive activities to test comprehension, spelling and word knowledge. The software keeps track of how students have performed, so that teachers can quickly and easily track progress.

The teaching guide includes step-by-step guidance for one-to-one and group reading, suitable for specialists and non-specialists. It also contains activities for independent follow-up work.

Evaluation

An independent pilot study was run in Neath and Port Talbot between February and May 2012. Data were supplied on 36 KS3 pupils (and two in Y10) who were struggling with reading. The results showed substantial gains in both accuracy and comprehension.

Reference

Unpublished report and data supplied by Alison Beynon via Robert Nottage

Contact

http://www.pearsonschoolsandfecolleges.co.uk/Secondary/EnglishAndMedia/LearningSupport/RapidPlus/RapidPlus.aspx

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Rapid Plus

Main reference: Unpublished report and data supplied by Alison Beynon via Robert Nottage

Research design: One-group pre-test/post-test study

Date: 2012

Age-range: Y7-10 (but only 2 pupils in Y10)

Type of children: 'Struggling with aspects of reading, and performing below chronological expectations'

N of experimental group: 38

Length of intervention in weeks: 13 (3½ months between pre- and post-test used in calculating RG)

Reading test: Salford Sentence Reading Test, 2012 edition (Form C at pre-test, Form A at post-test)

Pre- and post-test average r.a's and s.d's: not stated

Gains in months of r.a. (s.d's not stated), and ratio gains:

	gain	RG
accuracy	16	4.6
comprehension	20	5.7

Effect sizes: n/a

Statistical significances: not stated

Starting and ending levels and progress: Apart from the description quoted under Type of children above, the only information on starting level was that the average r.a. then was 7:0 (it is not clear whether this was for accuracy or comprehension). In either case, these KS3 pupils were severely delayed in reading – even those in Y7 by 4 years on average and the rest by even more. The gains were substantial, but much more progress would be needed to bring these pupils up to a functionally literate level.

5.8 *Read Write Inc.* Fresh Start

Scheme

This is Ruth Miskin's phonics programme for children aged 9 and above (Years 5 and 6 in primary and Years 7 and 8 in secondary). For general details, see **section 3.17**, and for the RCT evaluation of its use at primary/secondary transition commissioned by the Education Endowment Foundation, see **section 4.8**.

Evaluations

The limited sets of data on *Read Write Inc.* Fresh Start at KS3 come from one secondary school in Leicester (Lanes *et al*., 2005) and another in Cornwall (unpublished data supplied by Rosemary Austin). Data were gathered on 63 and 27 pupils respectively. The results showed a substantial improvement in reading accuracy (Leicester), and a substantial improvement in comprehension (Cornwall).

References

Lanes *et al*. (2005), unpublished data supplied by Rosemary Austin

Contact

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***Read Write Inc*. Fresh Start**

(1) Leicester

Main reference: Lanes *et al*. (2005)

Research design: One-group pre-test/post-test study

Date: 2003-05

Age-range: Y7

Type of children: Pupils with r.a's below 9:0 on entry to the school

N of experimental group: 63 in 2 consecutive cohorts in one secondary school in Leicester

Length of intervention in weeks: 34 (9 months used in calculating RG)

Tests used: New Macmillan Individual Reading Analysis, Vernon Spelling Test

Pre- and post-test average r.a's and s.d's in years and months, gain in reading comprehension and s.d. in months of r.a., and ratio gain:

pre		post		gain		RG
ave	(s.d.)	ave	(s.d.)	ave	(s.d.)	
7:10	(0:11)	9:7	(1:3)	21	(10)	2.3

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: The pre-test score was in the semi-literate range, and the post-test score getting closer to the threshold for functional literacy. The pupils made useful progress in reading, but would need further structured support.

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***Read Write Inc*. Fresh Start**

(2) Cornwall

Main reference: Unpublished data supplied by Rosemary Austin

Research design: One-group pre-test/post-test study

Date: 2006-07

Age-range: Y7

Type of children: Low attainment on entry to school

N of experimental group: 27 in one secondary school

Length of intervention in weeks: 6 (1.5 months used in calculating RG)

Tests used: NFER 9-14 Group Reading Test 2

Pre- and post-test r.a's and s.d's in years and months, gain in reading comprehension and s.d. in months of r.a., and RG:

pre		post		gain		RG
ave	(s.d.)	ave	(s.d.)	ave	(s.d.)	
8:3	(1:5)	9:3	(1:4)	12	(16)	8.0

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: Pre-test score was in the semi-literate range/below age-related expectation. Having made remarkable progress, at post-test these pupils were still on average about 2 years behind, and would need further support.

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5.9 Sound Training ©

(formerly Sound Training for Reading)

This scheme was developed by Katy Parkinson in Middlesbrough to help pupils in KS3 with reading difficulties. Although it is now used in KS2 and KS4 as well, I have kept its main description in this chapter because the largest number of participants are in KS3.

Scheme

Pupils, in groups of four, attend six 1-hour sessions over a period of six weeks. The delivery is very intensive and very repetitive using multi-sensory teaching methods. The pupils are explicitly taught syllabification. All tasks must be completed accurately, fluently and automatically in order to progress with reading.

Pupils are given instruction on short and long vowel sounds along with an explanation of open and closed syllables.

Task 1 – Syllable tasks

The group has to read, at speed, a pack of syllable cards and then spell selected syllables. Speed and accuracy are recorded for both these tasks.

Task 2 – Word-building tasks

Pupils are provided with packs of syllables from which they build Key Stage 3 subject words. The pupils listen to the target word being spoken, count the number of syllables within the word, select the syllable cards and build the word. In turn they read the words and discuss definitions.

Task 3 – Speed reading

Pupils read from a pack of cards which have been colour-coded, e.g. in the word 'condensation' the second and fourth syllables are printed in red.

Tasks 1, 2 and 3 are timed and completed each week using different target words.

Task 4 – Prefixes, suffixes and root words

Towards the end of the programme pupils work on packs of words containing prefixes and suffixes and discuss the effect they have on the meanings of the root words.

Evaluations

A pilot study was carried out by the author in one secondary school in Middlesbrough in 2004-05. The experimental pupils made a modest gain in reading accuracy, but meanwhile the comparison group fell steadily further behind, so that

the experimental group's gain was significantly greater than the comparison group's.

In 2012-15 data were gathered on 2,897 KS3 pupils. They made a remarkable gain in reading accuracy.

Reference

Unpublished data supplied by Katy Parkinson

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(1) The pilot study

Main reference: Unpublished data supplied by Katy Parkinson

Research design: Matched-groups two-group quasi-experiment

Date: 2004-05

Age-range: Y9

Type of pupils: Mixed-ability mainstream pupils, none statemented but with reading ages up to 4 years below chronological age

N of experimental group: 70 in one school

N of comparison group: 21 in same school

Equivalence of groups: School splits Y9 into two equitable halves (on gender, ability, behaviour, ethnicity). Experimental pupils were selected from one half and comparison pupils from the other. Pre-intervention scores for the groups were matched – it is not clear to what extent this or other factors explain the discrepancy in group sizes

Length of intervention in weeks: 6 (1.5 months used in calculating RGs)

Reading test: NFER graded word reading test

Pre- and post-test average r.a's and s.d's in years and decimal years, gains in reading accuracy and s.d's in months of r.a., and effect size calculated (by GB) using the pooled post-test s.d.:

	N	pre		post		gain		RG	Effect
		ave	(s.d.)	ave	(s.d.)	ave	(s.d.)		size
exps	70	10.8	(1.0)	11.9	(1.2)	13	(12)	8.7	0.68
comps	21	11.1	(1.2)	11.4	(1.4)	3	(8)	2.0	

Statistical significances: The experimental group's gain, and the difference between that and the comparison group's gain, were significant at $p<0.001$; the comparison group's gain was non-significant.

Starting and ending levels and progress: The average c.a. of pupils entering Y9 is 13.5, so even with their functionally literate scores these groups were well behind and probably struggling with the secondary curriculum. The experimental group made modest progress, but the useful effect size, remarkable RG and highly significant difference between the gains show that they had made much better progress than the comparison group, who had made some progress but were still well behind.

Sound Training ©

(2) Large-scale data-gathering

Main reference: Unpublished data supplied by Katy Parkinson

Research design: One-group pre-test/post-test study

Date: 2012-15

Age-range: Y7-9

Type of pupils: Mixed-ability mainstream pupils, none statemented but some with reading ages well below chronological age

N of experimental group: 2,897 in over 100 schools across England and Wales

Length of intervention in weeks: 6 (1.5 months used in calculating RG)

Reading test: WRAT 4

Pre- and post-test average standardised scores (ss) and s.d's in ss points, average r.a's and s.d's in years and decimal years, gains in reading accuracy and s.d's in same units, ratio gain, and effect size calculated (by GB) using the s.d. of the test (15.0):

	pre		post		gain		RG	effect
	ave	(s.d.)	ave	(s.d.)	ave	(s.d.)		size
ssp	97.1	(12.1)	109.5	(18.2)	12.4	(12.4)		0.83
r.a.	12.3	(2.5)	14.6	(3.0)	27.6	(23.1)	18.4	

Statistical significances: Were not stated and could not be calculated.

Starting and ending levels and progress: The average c.a. of pupils entering Y7-9 is 12.5, so this was a middling sample. They made remarkable progress by both impact measures, such that their average ending level was above their average chronological age.

5.10 That Reading Thing

Scheme

That Reading Thing (TRT) is the brainchild of Tricia Millar, an experienced teacher who decided in about 2003 to devise a linguistically-based programme to help young people with poor literacy improve their reading, and therefore their educational attainment and life chances. Originally designed for older teenagers, including those disaffected or even in trouble with the law, and still available and appropriate for them, it is now more often used in KS3, hence its new placement in this edition. The fully-developed version of TRT dates from late 2007. In 2012-13 Tricia Millar, with Welsh-speaking colleagues, developied a Welsh-language version called Llywio Darllen.

TRT is a phonetically accurate and meticulously organised linguistic phonics scheme. As such, it is in tune with the renewed interest in and emphasis on synthetic phonics since the Rose Report (2006), especially since the introduction of the Y1 phonics test in England in 2012. It arose from the insight that some young people's problems with reading and writing may be due to their never having got the hang of how the language works from sound to print, and is therefore deliberately designed to make no assumptions about each new student's level of reading and spelling. This has two consequences. First, each student is told 'The Deal': they will not be expected to know anything that they and the tutor have not covered. Secondly, that principle is embodied in the scheme right from the word-reading assessment at Level One which assumes nothing in terms of literacy ability. Everyone proceeds through all the levels, but the test indicates how quickly or slowly that is likely to happen. The scheme has early levels which rehearse the basics of reading (word recognition) and spelling, but only those who struggle are put through all these levels in detail; those who can move ahead fast do so.

The materials are organised into 30 levels, systematically progressing from the basics to more advanced aspects of the code. Levels 2-13 teach the basic code, consisting of only the most useful and frequent graphemes and their major correspondences with phonemes. Students build, spell and read age-appropriate multisyllabic words from the first session. Levels 14 and 15 then serve as 'early warning of the Wall they are going to hit at Level 16', where the students embark on the advanced code, the full complex system. The materials also recognise the potential for boredom on the part of the disaffected students for whom the scheme is meant. In every teaching session there is intended to be a rapid succession of different activities focusing on different aspects of reading and spelling, and designed to move students on as rapidly as possible.

TRT is intended to be delivered one-to-one, either by paid teachers employed by a LA which has bought the scheme in, or (more often) by volunteers. All tutors receive two days' training in person, or 6 hours online. The tutors' manual and the support website provide them with many more materials and activities than they will need to

use with any one student, but ample to cope with any student at any level. They also provide virtually word-by-word scripts for tutors to follow.

The online training can be previewed at www.trtgo.com.

Evaluation

Tricia Millar provided background and test data collected by her and colleagues on 123 students who had participated in TRT in academic years 2009-11.

Disclosure

The JJ Charitable Trust commissioned and paid me to evaluate this scheme; I analysed the data in the same way as for any other scheme, and submitted the details to independent scrutiny.

Reference

Brooks (2012)

Contact

Tricia Millar
tmillar@thatreadingthing.com

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That Reading Thing

Main reference: Brooks (2012)

Research design: One-group pre-test/post-test study

Date: 2009-11

Age-range: 11-18 (average 13:11 at pre-test), but mainly KS3

Type of participants: Low attainment

N of experimental group: 123 in various schools in Birmingham, Ellesmere Port, Huddersfield and the London Boroughs of Redbridge, Tower Hamlets and Waltham Forest

Length of intervention in weeks: 19 (average)

Reading test: Burt (1974 revision).

Pre- and post-test average r.a's and s.d's in years and months, gain and s.d. in months of r.a., and ratio gain:

	pre-test (years & months)	post-test (years & months)	gain (months)	RG
average	8:5	9:9	15.6	3.5
(s.d.)	(1:7)	(1:11)	(13.7)	

Effect size: n/a

Statistical significance: p<0.001

Starting and ending levels and progress: At pre-test the students were on average 5½ years behind, and in the semi-literate range. The RG shows substantial progress: they caught up by a year (gain minus time elapsed), and at the end were on average 4½ years behind, and still in the semi-literate range. By then, 32 (26%) had reached a r.a. of 11, the threshold of functional literacy. Judging by their progress in TRT, many others would reach this level if they attended TRT or a similarly effective programme for another term or two, or if they had 'caught the reading bug' sufficiently to develop their reading independently. But about a third would need ongoing support.

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5.11 The LIT Programme

Scheme

This scheme for boosting literacy at KS3 was developed from 2007 onwards by Elina Lam and colleagues in the London Borough of Hackney's Learning Trust. The programme's unique characteristic is that it is entirely literature-based: all the learning and assessment materials are authentic texts appropriate to the age-range, used with publishers' and authors' permission. Initially a reading programme, LIT is now a fully comprehensive English programme that includes reading, writing, spoken English and communication, grammar and vocabulary. Included in the price of the programme is an initial training session delivered at a school by a LIT Programme trainer. Detailed lesson plans, resources and integrated baseline and follow-up assessment are intended to make teaching and learning explicit, and are accompanied by matching pupil resources in the form of pupil booklets. Ongoing email and telephone support is also provided by LIT Programme coordinators free of charge. The programme is designed to be taught alongside, or in place of, English lessons, for 3–4 hours per week, in small groups of no more than six pupils per adult, and to last the whole of Y7. A new version, available from January 2016, is intended to equip pupils with metacognitive, self-regulation strategies for reading, writing, spoken English and communication, in addition to providing a new assessment framework for Y7 English and literacy.

Evaluations

Elina Lam conducted an RCT evaluation of a pilot version in 2009-10. It showed useful gains in both reading accuracy and comprehension.

Then in 2012 the Education Endowment Foundation commissioned an independent RCT evaluation from the Institute for Fiscal Studies and NatCen Social Research, as part of its suite of 24 RCTs investigating how to boost literacy at primary /secondary transition. The RCT involved 4,413 pupils in 41 schools across England. However, differential drop-out from the intervention and control groups meant that the analysis of results was too compromised for any firm conclusions to be drawn. Therefore the results are not reported here, and do not contradict Elina Lam's own finding.

References

EEF (2014b), Lam (2010), Crawford and Skipp (2014)

Contacts

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Elina Lam
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The LIT Programme

Main reference: Lam (2010)

Research design: One-group pre-test/post-test study

Date: 2009-10

Age-range: Y7

Type of children: Low attainment (KS2 results for English below 4c)

N of experimental group: 42 in 5 schools in one LA

Length of intervention in weeks: 18 (4.5 months used in calculating RGs)

Reading test: York Assessment of Reading for Comprehension (YARC)

Pre- and post-test average standard scores (SS) in SS points, r.a's in months, s.d's in same units, average gains in same units (s.d.'s not stated), effect sizes calculated (by GB) as gain over s.d. of tests (15.0), ratio gains and statistical significances (p):

	N	pre	post	gain	effect size	p
YARC Standard scores						
Accuracy	42	81.33 (10.53)	86.57 (11.46)	5.24	0.35	<0.001
Comprehension	42	85.83 (7.44)	92.76 (9.52)	6.93	0.46	<0.001
YARC Reading age					**RG**	
Accuracy	42	100.05 (15.36)	109.76 (17.29)	9.71	2.2	<0.001
Comprehension	42	105.90 (10.66)	117.52 (14.62)	11.62	2.6	<0.001

Starting and ending levels and progress: The average age of these pupils at pre-test was 11y 4m, so their r.a's of 8y 4m and 8y 10m were well below; similarly, their initial standard scores were a full s.d. or more below the norm. The effect sizes and RGs show useful progress, but they would still need ongoing support to cope with the secondary curriculum.

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5.12 Thinking Reading

Scheme

Thinking Reading is a whole-school literacy strategy for secondary schools that uses close and thorough assessment to ensure precise identification of student need. After screening using standardised assessment, selected students complete three 30-minute individualised lessons a week. Lessons are in two parts: systematic decoding practice, and systematic language teaching related to graded prose. Thinking Reading is phonics-based, and uses Direct Instruction and Precision Teaching methods to ensure rapid learning to fluency, leading to maintenance of gains. Each student's programme includes reading, spelling, comprehension and extended writing. Students continue on the programme until their reading age matches their chronological age.

Evaluations

This is one of very few schemes with data from students in KS4 (ages 14-16) as well as KS3 (ages 11-14). In 2007–10. Dianne Murphy, who devised the scheme, pre- and post-tested 44 students in one High School in the London Borough of Hammersmith and Fulham. The average time students followed the programme was unusually long – 14 months. The results showed a remarkable gain in reading accuracy.

Further data supplied in 2015 were gathered in 2010–13 from 43 students at one Academy in the London Borough of Haringey. The average time students followed the programme was again unusually long – 11 months, and the results again showed a remarkable gain in reading accuracy.

Reference

Unpublished data supplied by Dianne Murphy

Contact

Dianne Murphy
http://thinkingreading.net
info@thinkingreading.net

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Thinking Reading

Main reference: Two sets of unpublished data supplied by Dianne Murphy

Research design: Two one-group pre-test/post-test studies

Dates: 2007-10, 2010-13

Age-range: Y7-11, including 27 Y10-11 students across the two studies

Type of children: Low attainment

Ns of experimental groups:

(2007-10) 44 in 1 High School in Hammersmith and Fulham

(2010-13) 43 in 1 Academy in Haringey

Average length of intervention in weeks:

(2007-10) 34 (but average interval between pre- and post- test, 14.6 months, used in calculating RG)

(2010-13) 32 (but average interval between pre- and post- test, 11 months, used in calculating RG)

Reading tests: (2007-10) Probe Reading Assessment

(2010-13) Triune Probe 2

Pre- and post-test average r.a's and s.d's in years and decimal years (not stated for 2007-10), gains and s.d's in months of accuracy r.a., and ratio gains:

	pre		post		gain	(s.d.)	RG
	r.a.	(s.d.)	r.a.	(s.d.)			
2007-10					82	(16)	5.6
2010-13	9.4	(1.8)	14.4	(0.9)	59	(21)	5.4

Effect size: n/a

Statistical significances: (2007-10) Was not stated and could not be calculated
(2010-13) $p<0.001$

Starting and ending levels and progress: In the absence of pre- and post-test average scores the 2007-10 starting and ending levels cannot be characterised. However, the starting level for 2010-13 was about 4 years of r.a. behind on average, while the ending level was at the average chronological age, consistent with the average gain of 5 years of r.a. in an average of just under one calendar year. Both RGs show remarkable progress, sustained over unusually long periods.

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5.13 THRASS (Teaching Handwriting, Reading and Spelling Skills)

Scheme

For main details of THRASS, see **section 3.30.**

Evaluation

Data for THRASS in KS3 (Y7) come from a study carried out in Bridgend in 1998. Both reading and spelling were assessed. The results showed remarkable impact on reading accuracy and comprehension. More recent data from a secondary school in Sheffield in 2008 show substantial progress in spelling.

Reference

Matthews (1998), unpublished data supplied by Yewlands Secondary School (now Yewlands Technology College) via Alan Davies

Contact

THRASS (UK) Ltd

Units 1-3 Tarvin Sands
Barrow Lane
Tarvin
Chester CH3 8JF
http://www.thrass.co.uk

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THRASS

(1) Bridgend

Main reference: Matthews (1998)

Research design: One-group pre-test/post-test study

Date: 1998

Age-range: Y7

Type of children: Low attainment

N of experimental group: 57 in 4 schools in Bridgend

Length of intervention in weeks: 13

Tests used: (Reading) Neale; (Spelling) Schonell

Pre- and post-test average r.a's and s.a's and s.d's: Not stated

Gains (in months of r.a./s.a.) and ratio gains:

	gain	RG
reading accuracy	12.0	4.0
reading comprehension	17.0	5.7

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: The absence of pre- and post-test scores means that starting and ending levels cannot be characterised. However, this group made remarkable progress in both aspects of reading.

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THRASS

(2) Sheffield

Main reference: Unpublished data supplied by Yewlands Secondary School (now Yewlands Technology College) via Alan Davies

Research design: One-group pre-test/post-test study

Date: 2008

Age-range: Y7

Type of children: Low attainment

N of experimental group: 200 in 1 school

Length of intervention in weeks: 8 (2 months used in calculating RG)

Spelling test: Schonell

Pre- and post-test average r.a's and s.d's: Not stated

Gain in months of s.a. (s.d. not stated) and ratio gain:

gain	RG
8	4.0

Effect size: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: The absence of pre- and post-test scores does not permit characterisation of starting and ending levels. However, the RG shows substantial progress.

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5.14 Toe by Toe®

Scheme

For main details of Toe by Toe, see **section 3.31**. Besides being used in many schools, it is in widespread use in prisons and Young Offender Institutions and with young people being supervised in the community.

Evaluation

Published research includes a matched-pairs quasi-experimental study of 24 Scottish secondary pupils aged 12-14. The experimental group were taught individually for 20 minutes per day, five days per week, for an average of 3 months, while the control group received normal learning support. The experimental group made a useful gain, while the control group made about one third of normal progress.

Reference

MacKay (2006, 2007)

Contact

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www.toe-by-toe.co.uk
01274 588278

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Toe by Toe®

Main reference: Mackay (2006, 2007)

Research design: Matched-pairs two-group quasi-experiment

Date: Not stated, but before 2002

Age-range: Scottish Secondary 1-2 (= England and Wales Y8-9)

Type of children: Referred for learning support because of low reading levels.

N of experimental group: 12 in 1 secondary school

N of comparison group: 12 in same school receiving normal learning support

Equivalence of groups: 'The two samples were matched as closely as possible' (MacKay, 2006: 182)

Length of intervention in weeks: 13 – but the 12 month-gap between pre- and post-test used in calculating RGs

Reading test: Gapadol Reading Comprehension Test

Pre- and post-test average r.a's in years and months and gains in months of r.a. (s.d's not stated), and ratio gains:

	pre	post	gain	RG
exps	8:2	10:2	24	2.0
comps	8:5	8:9	4	0.3

Effect size: Was not stated and could not be calculated

Statistical significance: $p<0.001$

Starting and ending levels and progress: Both pre-test scores, and the comparison group's post-test score, were in the semi-literate range. With the useful progress made, the experimental group's post-test score was much closer to the level required to cope with the secondary curriculum, though even these pupils would require substantial further support.

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5.15 Units of Sound

(In previous edition labelled Partnership for Literacy)

Scheme

For main details see **section 3.32**. The secondary school version has two models reflecting the different needs of students. In the first, students with the more severe literacy needs are given weekly lessons in school. In the second model, underperforming students with less severe needs are shown how to use Units of Sound in school, but then work mostly independently at home or after school, thus minimising the time they are taken out of class.

Evaluation

In 2010-11 an external RCT evaluation of the home-supported secondary version was carried out by the Centre for Evaluation and Monitoring (CEM) at Durham University in 10 schools in England. There was a remarkable impact on reading accuracy.

Reference

King and Merrell (2012)

Contact

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Units of Sound

Main reference: King and Merrell (2012)

Research design: RCT

Date: 2010-11

Age-range: Y7-9

Type of children: Low attainment

N of experimental group: 118 in 10 schools in several LAs

N of control group: 89 in same schools

Equivalence of groups: Pre-test difference non-significant

Length of intervention in weeks: 26 (average; range 5-7 months)

Reading test: WRAT4

Pre- and post-test average standardised scores and s.d's for reading accuracy, gains (s.d's not stated) and effect size calculated (by GB) as difference in gains over pooled post-test s.d.:

group	pre		post		gain	effect
	ave	(s.d.)	ave	(s.d.)	ave	size
experimental	86.0	(3.3)	90.4	(7.9)	4.4	0.27
control	86.0	(3.3)	88.4	(7.1)	2.4	

Ratio gain: n/a

Statistical significance: p=0.008

Starting and ending levels and progress: Both starting levels were just under 1 s.d. below the mean, and therefore at about the 16th percentile. By the end the experimental group had made good progress, its ending level being about ⅔ of an s.d. below the mean, while the control group had made very little progress and were still almost a full s.d. below the mean.

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5.16 Word Wasp and Hornet

Scheme

These are complementary, stand-alone, phonics-based, colour-coded reading and spelling programmes. Harry and Marie Cowling are the authors of both schemes. Each is based on a single book, and each text has its own dated and diagnostic marking system. Training is not needed as each exercise is accompanied by, easy to follow, colour coded instructions. The Word Wasp (which stands for Word Articulation, Spelling and Pronunciation) covers all key stages, and the Hornet key stages 1 and 2. Hornet (see also **section 3.12**) also provides a lower and slower start for the Word Wasp, with which it over-laps and integrates. It is for younger students from age 6 upwards, or for those students deemed to have more severe literacy problems.

Both schemes teach decoding and encoding together. Other than miscellaneous writing materials, nothing else is needed. The texts are one-to-one manuals designed for school and/or home use or a mixture of the two. Both texts offer teachers, support assistants or parents a full phonics programme that delivers a measurable record of a student's progress. The marking system reveals the weaknesses, and the text provides the strategies to deal with them. From the initial exercises, words and passages contain only decodable or encodable words from elements that have been introduced and coached. Low-frequency words are taught early in order to engage the student fully with phonic structure. Words which are not phonically regular are tied to rules that support a phoneme/grapheme analysis, and are grouped in appropriate word frames which are repeated at regular intervals. The elements are introduced gradually, and colour-coded in order to highlight significant patterns. The colour-coding system is: vowel sounds – green; vowel letter-names – red; 'silent' letters – blue; 'phonic deviations' ('tricky words') – amber. Ideally, a period of 15 to 30 minutes a day is needed to deliver the programmes, although according to the authors they have been delivered successfully on a weekly basis.

Evaluation

Data for Word Wasp were available on 40 students for reading accuracy and 43 for spelling. In both cases the ratio gain showed useful progress. For data on Hornet see **section 3.12**.

Reference

Unpublished data supplied by Nicola Cook

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Contact

Nicola Cook
Wasp Publications
Tel: 0113 210 9838
www.wordwasp.com

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Word Wasp

Main reference: Unpublished data supplied by Nicola Cook

Research design: One-group pre-test/post-test study

Date: 2014-15

Age-range: KS3 (ages 11-14), with a few younger and older outliers

Type of children: Low reading scores

N of experimental group: 40 (reading)/43 (spelling) in 3 schools in Leeds and Hertfordshire

Length of intervention in weeks: 30.4 (average)

Reading and spelling tests: Salford, Blackwell and Burt

Pre- and post-test average r.a's/s.a's and s.d's for reading accuracy and spelling in years and months, average gain and s.d. in months of r.a./s.a., and ratio gains:

Group	Pre-test		Post-test		Gain		RG
	ave	(s.d.)	ave	(s.d.)	ave	(s.d.)	
Reading Accuracy	9:4	(1:3)	11:3	(1:5)	23.8	(11.0)	3.8
Spelling	9:0	(1:9)	10:7	(1:10)	18.3	(10.3)	2.6

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: Given that most of these students were aged 11-14, the starting levels were substantially below average. The useful ratio gains will have enabled many of them to get much closer to age-appropriate levels, but most would still need ongoing support.

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Chapter six

Schemes for writing at primary level and KS3 (ages 5-14)

This chapter describes five relevant schemes. Each entry contains an outline description of the scheme itself, followed by a few details of its evaluation and results, references and contact details, and then by an analysis of the quantitative evidence for its effectiveness.

First, some general characteristics of the schemes are summarised in Table 6.1. Of the five schemes listed, only Grammar for Writing has data for KS3 level (and is therefore listed and analysed last, out of alphabetical order – but for evidence on its use at primary/secondary transition see **section 4.5**), the others only for primary level.

Table 6.1: General characteristics of the schemes for writing

Scheme	Y1	Y2	Y3	Y4	Y5	Y6	Y8	Duration (weeks)	Number of sessions for each child in experimental group	Taught by
Better Reading and Writing Progress	✓	✓	✓	✓	✓	✓		15.8 (ave.)	20 mins daily	TA, 1-1
Paired Writing				✓		✓		8, 6	variable	other pupils, 1-1
Reading Recovery	✓	✓						12-20	30 mins daily	teacher, 1-1
Write Away Together		✓	✓	✓	✓	✓		12 (ave.)	2 x 20 mins/week	trained adult, 1-1
Grammar for Writing							✓	3 x 3	4 x 40 mins/week	teacher, whole class

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6.1 Better Reading and Writing Progress

(previously known as Better Reading and Writing Partners)

Scheme

For main details of the scheme see **section 3.4**.

Evaluation

Data for impact on writing were available on 218 children who had received the intervention in 2013-14. The result showed a useful impact.

Reference

Unpublished data supplied by Linda Dawson

Contact

linda.dawson@leicester.gov.uk

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Better Reading and Writing Progress

Main reference: Unpublished data supplied by Linda Dawson

Research design: One-group pre-test/post-test study

Dates: 2013-14

Age-range: Y1-6

Type of children: Low attainment

N of experimental group: 218 in an unknown number of schools in Leicester

Writing assessment: APS

Average length of intervention in weeks: 15.8 (one term used as divisor in calculating RG)

Pre- and post-test average APS scores and s.d's: not stated

Average gain in APS (s.d. not stated): 2.6

Ratio gain: 2.6 (equals APS gain since standard progress in one term = 1 APS point)

Effect sizes: n/a

Statistical significance: Was not stated and could not be calculated

Starting and ending levels and progress: In the absence of pre- and post-test APS scores, the starting and ending levels cannot be characterised. However, the RG shows useful progress.

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6.2 Paired Writing

Scheme

Paired Writing is another in the suite of innovations devised and researched by Keith Topping and colleagues (see Cued Spelling and Paired Reading, **sections 3.8** and **3.15**). Topping (2001: 141, 144) describes it as follows:

> Paired Writing … is a framework and set of guidelines to be followed by pairs working together to generate a piece of writing for a purpose. It gives a supportive structure to scaffold interactive collaborative behaviours through all stages of the writing process… [It] consists of
>
> 6 STEPS +
> 10 Questions (Ideas)
> 5 Stages (Drafting)
> 4 Levels (Editing)

As with Cued Spelling, Topping stresses that Paired Writing 'is a lot simpler than it looks'. And again as with Cued Spelling and Paired Reading, children are provided with a flowchart as an aide-mémoire – this is downloadable from the website. On each occasion in each pair, one child has the task of writing ('the writer'), while the other supports ('the helper'). In 2015 further resources are available at http://www.dundee.ac.uk/esw/research/resources/thinkingreadingwriting/#d.en.158378

Evaluations

Topping and colleagues have carried out two well-designed and well-executed, though small, randomised control trials on Paired Writing.

Sutherland and Topping (1999) studied two groups of 16 children in P4 (equivalent to Y4) in one Scottish primary school, with two equivalent groups of 16 in the same classes in the same school who did not receive Paired Writing training. One experimental group had helpers ('tutors') of the same ability (and swapped roles at intervals), the other had helpers of different ability (and did not swap roles). The cross-ability group made a significant gain during the intervention, while the same-ability group did not (at least in absolute terms – this group's control group's post-test score declined so much that the same-ability group's post-test score was significantly better).

Yarrow and Topping (2001) studied 13 children in one P6 class (equivalent to Y6) in a Scottish primary school, plus 13 of their classmates as a comparison group. The experimental group contained both writers and helpers; their data are analysed together (as the 'Interaction' group) in the Appendix because the groups would otherwise be too small. The Interaction group made significantly more gain than the No Interaction control group.

References

Sutherland and Topping (1999); Topping (1995, 2001); Topping *et al*. (2000); Yarrow and Topping (2001)

Contact

http://www.dundee.ac.uk/esw/research/resources/readon/

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Paired Writing

(1) The Primary 4 study

Main references: Sutherland and Topping (1999); also summarised in Topping (2001), and Topping *et al*. (2000); approach also described in Topping (1995)

Research design: Matched groups RCT

Date: not stated (c.1997?)

Age-range: Scottish Primary 4 (= England and Wales Y4) ('8-year-olds')

Type of children: Mixed-ability

N of experimental groups: 16 in each of two classes in 1 school; one group had helpers ('tutors') of same ability (and swapped roles at intervals), the other had helpers of different ability (and did not swop roles)

N of control groups: 16 in each of the same two classes

Equivalence of groups: Chosen randomly (alternate children on class register allocated to different groups, then groups randomly assigned to intervention or control)

Length of intervention in weeks: 8

Writing assessment: Scottish 5-14 National Curriculum Guidelines (SQA, 1997) which had 5 levels, A (low)-E (high), converted to numerical scale 1-5 for statistical purposes in this study

Average pre-and post-test raw scores and gains for writing, and s.d's of pre-and post-test score (s.d's of gains not stated), statistical significances, and effect sizes calculated as differences in gains divided by pooled post-test s.d's:

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Cross-ability			Same-ability		
Experimental		**Control**	**Experimental**		**Control**
		Pre-test			
1.75		1.31	1.63		1.75
(0.97)		(0.92)	(0.78)		(0.43)
	ns			ns	
		Post-test			
2.13		1.44	1.69		1.56
(0.99)		(0.79)	(0.92)		(0.61)
		Gain			
0.38		0.13	0.06		-0.19
p = 0.036		ns	ns		ns
	ns			p = 0.049	
effect size = 0.33			effect size = 0.29		

difference between gains of 2 experimental groups significant, p = 0.038

(source: Sutherland and Topping, 1999, Table 1, p.170, edited and incorporating details from text)

Ratio gains: n/a

Starting and ending levels and progress: Although the Scottish A-E scale defines progress, it is not directly age-related. However, if the 5 levels were taken to represent average achievement for various age-bands, A would relate to ages 5-6, B to ages 7-8, C to ages 9-10, etc. If so, all eight mean scores (taking the standard deviations into account) would represent a spread of attainment across levels A and B, and therefore probably somewhat below age-related expectations. The cross-ability experimental group made what appears to be a worthwhile gain, in itself and in relation to the control group. The apparently useful effect size for the same-ability experimental group, despite having made almost no gain, is due to their control group having scored lower at post-test than pre-test. Taken all together, the results suggest that the cross-ability approach is to be preferred.

Paired Writing

(2) The Primary 6 study

Main references: Yarrow and Topping (2001); also summarised in Topping (2001), and Topping *et al*. (2000); approach also described in Topping (1995)

Research design: Matched groups RCT

Date: not stated (c.1997?)

Age-range: Scottish Primary 6 (= England and Wales Y6) ('10- and 11-year-olds')

Type of children: 'A problematic mixed-ability class'

N of experimental group: 13, all in one class in one school

N of control group: 13, all in the same class

Equivalence of groups: Children matched in pairs on basis of gender and pre-test writing scores and allocated to groups; groups then allocated randomly to experimental or control group. Each group then divided at median score – lower half of experimentals became writers (tutees); lower half of control group became their control group; upper half of experimentals became helpers (tutors); upper half of control group became their control group. However, here all experimentals are treated as one group and all control group members as another because N would otherwise be too small.

Length of intervention in weeks: 6 (8 weeks between pre-and post-test)

Writing assessment: As Sutherland and Topping (1999) but using 35 sub-criteria to create 35-point scale. The writing was marked by people who were unaware of which group the children belonged to.

Pre-and post-test average raw scores and gains for writing, and s.d's of post-test and gain scores (s.d's of pre-test scores not stated), and effect size calculated using pooled post-test s.d.:

	pre	post		gain		effect
	ave	ave	(s.d.)	ave	(s.d.)	size
Experimentals	11.10	16.15	(4.06)	5.08	(2.33)	0.63
Controls	11.16	13.54	(4.89)	2.38	(3.52)	

Statistical significance: p = 0.016 for difference between gains

Ratio gain: n/a

Starting and ending levels and progress: Not possible to characterise the starting and ending levels (it is not clear how the 35-point scale would relate to levels A-E).

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The experimental group made what appears to be a useful gain, and the useful effect size shows it was distinctly larger than the control group's gain.

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6.3 Reading Recovery

Scheme

For main details of Reading Recovery, see **section 3.18**.

Evaluations

Of the various RR studies, only Every Child a Reader in London gathered writing data. The experimental group (N=87) made a much larger gain in writing vocabulary than the comparison group (N=147).

References

Burroughs-Lange (2006), Burroughs-Lange and Douëtil (2007), Every Child a Reader (undated but known to have been published in 2006)

Contact

International Literacy Centre at the UCL Institute of Education, University of London: http://www.ioe.ac.uk/research/4399.html

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Reading Recovery

Every Child a Reader in London

Main references: Burroughs-Lange (2006), Burroughs-Lange and Douëtil (2007), Every Child a Reader (undated but known to have been published in 2006)

Research design: Matched groups two-group quasi-experiment

Date: 2005-06

Age-range: Y1

Type of children: Low attainment – bottom 5-6% of the national distribution

N of experimental group: 87 in 21 schools in 5 London boroughs (Brent, Greenwich, Hackney, Hammersmith and Fulham, Southwark)

N of comparison group: 147 in 21 schools in 5 other London boroughs (Barking and Dagenham, Haringey, Islington, Lambeth, Lewisham)

Equivalence of groups: See **section 3.18**.

Length of intervention in weeks: Not stated, and it would be standard RR practice to vary this according to individual children's needs anyway.

Writing assessment used: Children were asked to 'Write all the words you know', given 10 minutes to do this, and scored on those they wrote correctly.

Pre- and post-test raw scores and s.d's, gains in raw score (s.d's not stated), and effect size calculated (by GB) using the pooled post-test s.d.:

		pre-test		post-test		gain	effect
group	**N**	**ave.**	**(s.d.)**	**ave.**	**(s.d.)**		**size**
exps	87	6.2	(5.2)	45.4	(19.0)	39.2	1.63
comps	147	6.5	(7.0)	20.6	(13.0)	14.1	

Statistical significance: Experimental group's post-test average score was statistically significantly higher than the comparison group's.

Starting and ending levels and progress: Raw scores mean it is not possible to characterise the starting and ending levels. The experimental group's gain seems impressive, the comparison group's gain pretty poor; the difference is confirmed by the remarkably large effect size.

Follow-up: A follow-up was conducted in July 2007, one year after the intervention ended, when the children were at the end of Y2 (Burroughs-Lange, 2008); 77 children in the experimental group and 109 in the comparison group were traced:

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One-year follow-up average raw scores and s.d's (with post-test data in brackets because of different Ns):

		follow-up			(post-test)	
group	**N**	**ave**	**(s.d.)**	**(N**	**ave**	**(s.d.))**
exps	77	65.1	(28.1)	(87	45.4	(19.0))
comps	109	34.1	(17.4)	(147	20.6	(13.0))

Despite the attrition, the follow-up data suggest that the experimental group had made significantly more progress.

A further follow-up was conducted in the summer of 2009, three years after the intervention ended, when the children were at the end of Y4 (Hurry and Holliman, 2009). Unfortunately, no data directly comparable with those from earlier assessments could be obtained, and attempts to correlate the data which were obtained with earlier assessments were unconvincing.

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6.4 Write Away Together

Scheme

Write Away Together was developed in Redcar and Cleveland in 2001/02. Following successful implementation over several years, it was introduced to other LAs, Education Action Zones and individual schools.

The programme aims to develop children's writing skills through discussions about their independent writing. Focused on individual children who are not making expected gains in writing or are working below national expectations, a Write Away Together session involves a dialogue between the child and the trained partner about a piece of independent writing. As such it links strongly into, and reinforces Quality First Teaching. The independent writing can come from any curriculum area.

Aims of the Write Away Together programme:

- To help children see themselves as writers
- To help children see editing as a positive part of the writing/learning process
- To provide the adult partners with a clear structure for writing support
- To improve writing at text, sentence and word level
- To embed strategies that will improve children's independent writing
- To use Assessment for Learning (AfL) to improve writing
- To provide focused training for teachers and TAs to improve writing
- To develop the partnership between teachers and TAs.

Children work with a trained adult for 2 x 20-minute sessions per week for a minimum of 10 weeks. The sessions can be run by a teacher or Teaching Assistant. The two day training helps adults to use the PRAISE, IMPROVE, PLAN model which underpins the scheme. Using this model the adult makes a positive response to children's writing, using specific praise to highlight what the child does well. The adult then helps the pupil to understand which text, sentence and word choices will be appropriate for a particular writing task in order to make the writing more interesting/ exciting/clearer to the reader. The final part of the lesson looks at specific text features in order to help the child with planning and with continuing the writing independently.

Results presented are for working one to one. The programme has also been developed for use with small groups. Schools are also using the structure for Guided Writing sessions.

Evaluation

Data provided on 249 children showed a remarkable gain.

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Reference

Unpublished data gathered by Fischer Education Project Ltd. and supplied by Jill Canning

Contact

http://www.fischertrust.org/lit_write_away_together.aspx

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Write Away Together

Main reference: Unpublished data gathered by Fischer Education Project Ltd. and supplied by Jill Canning

Research design: One-group pre-test/post-test study

Date: 2007-08

Age-range: Y2-6

Type of children: Low attainment (children who are not making expected gains in writing or are working below national expectations)

N of experimental group: 249

Length of intervention in weeks: average 12 (range 10-20; 12 weeks treated as one term in calculating the RG)

Writing assessment used: At pre-test, school data on attainment in writing as measured by SAT or optional SAT scores, supplemented by teacher assessment judgements of writing levels; at post-test, writing levels determined by teacher assessments and attainment as measured against SAT and optional SAT criteria

Pre- and post-test average scores and s.d's: Not stated

Average gain: 4.0 points of Average Point Score

Ratio gain calculated as below (by GB): 4.0

It is not usually possible to calculate RGs for writing data because there are no standardised tests yielding 'writing ages'. However, Average Point Scores are designed such that the standard gain is 1 point per term (6 points per National Curriculum level). This clearly means that these children made 4 times standard progress, hence the RG shown above. (But N.B. this is a re-calculated figure which is lower than that given in the 4th edition.)

Effect size: n/a

Statistical significance: Was not stated and could not be calculated.

Starting and ending levels and progress: Without pre- and post-test data it is impossible to characterise the starting and ending levels. However, the specially-calculated ratio gain shows substantial progress.

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6.5 Grammar for Writing

This was the first scheme for secondary writing it was possible to include, in the fourth edition – there were none in any of the previous editions. For the EEF-commissioned RCT on its use at primary/secondary transition see **section 4.6**.

Scheme

Debra Myhill, Susan Jones, Helen Lines and Annabel Watson at the University of Exeter devised an 'intervention [which] comprised detailed teaching schemes of work in which grammar was embedded where a meaningful connection could be made between the grammar point and writing. [The pupils were] taught [each] writing genre over a three week period once a term, and addressed … writing learning objectives from the Framework for English, part of the English government's National Strategies for raising educational attainment... [The pupils] were given … written outcomes for each genre studied: the opening of a story; a written speech; and a portfolio of three specified types of poem. A medium term plan was provided for each [genre], which outlined the time frame, learning objectives [and] assessed outcomes, accompanied by a range of relevant stimulus resources' (Myhill *et al*., 2011: 7).

Evaluation

The authors' evaluation consisted of a very large cluster RCT, with over 700 Y8 pupils in 31 comprehensive schools divided evenly between the intervention and normal classroom teaching of the set pieces of writing. A detailed marking scheme was applied by an independent organisation with substantial experience in this field (Cambridge Assessment). The experimental group made slightly more progress than the control group, which produced a modest effect size which (because of the large sample) was highly statistically significant.

References

Myhill *et al*. (2011, 2012, 2013), Jones *et al*. (2013)

Contact

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Grammar for Writing

Main references: Myhill *et al*. (2012, 2013); Jones *et al*. (2013)

Research design: Cluster RCT

Date: 2009-10

Age-range: Y8

Type of children: Mixed-ability

N of experimental group: 378 in 16 schools in 7 LAs

N of control group: 366 in 15 other schools in same LAs

Equivalence of groups: no significant differences between groups at pre-test on range of measures

Length of intervention in weeks: 9 (three weeks in each term of a full school year)

Writing assessment used: 'Both the pre- and post-test writing sample[s] were a first person narrative, drawing on personal experience, and written under controlled conditions. The test design and marking was led by Cambridge Assessment... To ensure that there was no task bias, a cross-over design was adopted where half the sample completed task 1 as the pre-test and task 2 as the post-test, while the other half of the sample reversed the order in which these tests were taken. Both sample sets were independently marked by Cambridge Assessment… The marking was based on … three components: sentence structure and punctuation; text structure and organization; and composition and effect.' (Myhill *et al*., 2011: 8)

Pre- and post-test average raw scores and s.d's (supplied by Debra Myhill), gains (s.d's not stated), and effect size:

	pre		post		gain	effect size
group	**ave.**	**(s.d.)**	**ave.**	**(s.d.)**	**ave.**	
experimental	14.2	(5.7)	17.6	(5.7)	3.4	0.21
control	15.2	(6.2)	17.4	(6.0)	2.2	

Statistical significance: p<0.001

Starting and ending levels and progress: Raw scores do not permit characterisation of the starting and ending levels. However, the modest effect size shows a clear benefit for the experimental group.

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Chapter seven

Schemes for children with specific educational needs, including dyslexia/SpLD

This chapter describes 15 relevant schemes (though several are variants or developments of The Reading Intervention Programme). For each of the 10 schemes which have analysable quantitative data its entry contains an outline description of the scheme itself, followed by a few details of its evaluation and results, references and contact details, and then by an analysis of the quantitative evidence for its effectiveness. Other schemes are described in less detail, and not included in the following Table. Those listed are in order of occurrence in this chapter.

Table 7.1: General characteristics of the schemes for children with specific SEN, including dyslexia/SpLD

Scheme	Y1	Y2	Y3	Y4	Y5	Y6	KS3	KS4+	Duration (weeks)	Number of sessions for each child in experimental group	Taught by
Letterbox Club			✓	✓	✓	✓	✓	✓	26	n/a - postal scheme	n/a
TextNow	✓	✓	✓	✓	✓	✓	✓	✓	10	n/a – distance 'virtual' school	
Inference Training	✓	✓	✓	✓	✓	✓	✓		16	30 mins daily	teacher, group
Units of Sound		✓	✓	✓	✓		✓		20, 26	variable	computer & supervising adult, 1-1
Wordshark		✓	✓	✓	✓	✓			15	variable	computer & supervising adult, 1-1
Personalised Learning for Reading	✓		✓						13	15 mins/day	teacher, 1-1
The Reading Intervention Programme	✓	✓	✓	✓	✓	✓			12, 25	3 x 30 mins a week	TA, pair and 1-1
Reading for Meaning				✓					20	3 x 30 mins a week	TA, pair and 1-1
REVI+ for children with Down's syndrome	✓	✓	✓	✓	✓				20	3 x 30 mins/week	TA, 1-1

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N.B. Because so many of the studies in this chapter were *sui generis*, their data are not compiled into comparative Tables in the **Appendix**.

7.1 Focus

In this chapter I have tried to draw together some of the scattered information on provision for a disparate range of children with specific educational needs (as opposed to those simply described generally as 'SEN' – for schemes with that description of the target population see **chapters 3 and 5**). Most of this chapter concerns children with dyslexia/SpLD, but there are also mentions, at least, of children receiving free school meals, looked-after children, children with various specific problems (including ADHD, autism spectrum disorder, speech and language difficulties), children with moderate learning difficulties, children with reading comprehension difficulties, and children with Down syndrome. The studies on the last three groups are the work of the team who devised and researched the Reading Intervention Programme. They are part of the ongoing attempt by that team to boost the attainment of children at the very lowest end of the curve, those whose attainment even the most focused teaching sometimes seems powerless to improve; and I have included some reflections on their search for ways to prevent problems arising in the first place via accurate early identification of, and tailored schemes for children who are likely to struggle.

Possibly the most widely used scheme for children with low attainment, including many with poor and disruptive attitudes, is Achievement for All (Achieving Schools) – abbreviated to afa3as. According to the most recent outside evaluation (pwc, 2015), up to that year afa3as had served 41,500 pupils across key stages 2-4 in over 2,000 schools. Most of the indicators documented in the report concern social impact; literacy progress is reported in terms of average point scores (APS) for reading and writing (and maths). Unfortunately for the purposes of this review, calculating ratio gains from APS is difficult and, when it was done for afa3as data (for method, see p 213), all RGs were below 2.0, the minimum criterion for inclusion here. The report does, however, mention that afa3as is committed to improved data collection – indeed, this is probably inescapable given the official abandonment of the National Curriculum levels on which APS are based.

7.2 Children in England receiving support through the Pupil Premium

By far the largest group of children with special needs is those receiving free school meals. About one sixth of all state school children in Years 1-11 in England receive FSM, and the government's Pupil Premium is paid to schools and others who have care of such children (including looked-after and service children). In 2015-16 it is being paid at various rates between £300 and £1900 per child, depending on circumstances (https://www.gov.uk/government/publications/pupil-premium-2015-to-2016-allocations/pupil-premium-2015-to-2016-conditions-of-grant accessed 26/2/16).

In the previous edition I wrote 'How the information schools have to provide [on how they use the Premium] will enable the impact of the Premium to be judged [is a] question for a future edition.' However, an external evaluation report (Carpenter *et al*., 2013) makes no mention of any attempt to judge impact on pupils' literacy (or numeracy), and a later policy paper (DfE, 2014) poses this as a research question for the future.

7.3 Looked-after children

Relevant studies here concern Catch Up Literacy and, on a much larger scale, the Letterbox Club and *TextNow*. The ARROW programme (see **chapter 3**) has also been used with a small number of looked-after children.

7.3.1 Catch Up® Literacy for looked-after children

Holmes *et al*. (2011: 15-16) reported on the use of Catch Up Literacy with looked-after children. Two pilot studies (by Compass Children's Services, an independent fostering agency based in Leicestershire, and the Norfolk Virtual School for Children in Care) were undertaken in about 2008 to see whether Catch Up Literacy might be used by carers to support children in care who were struggling to learn to read. The studies involved 36 children aged between 11 and 14 whose reading ages were on average more than two years below their chronological ages. The participating children had experiences typical of children in care, including social care placement moves, exclusion from school, trauma and abuse, which had resulted in a range of behavioural difficulties and emotional problems.

The children in the Compass project (N=10) achieved an average ratio gain of 4.0 after six months and 1.9 after 12 months, while those in Norfolk (N=26) achieved average ratio gains of 2.9 after 5 months of intervention and 2.4 at the close of the 7-month pilot. Gains in confidence and self-esteem were also widely reported.

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7.3.2 Letterbox Club

Scheme

The Letterbox Club provides direct support to children in foster care aged 5–13 to improve their educational outcomes, with a focus on reading and number. The intervention comprises monthly personalised parcels posted to children in their foster home or other residence between May and October of each year, to cover the summer holidays when there is often a dip in the attainment, attitude and engagement of children in this age group. The parcels contain reading materials, story CDs, stationery and mathematics games at the child's own level of attainment. The aim is to improve looked-after children's engagement with reading for pleasure and learning, and support their attainment in reading and number. While it is hoped that many foster carers will join in by reading or playing games with the children, this is not required.

The project began at the University of Leicester in 2002. Small-scale pilot work took place in two LAs in England from 2003 to 2006, and during this period a partnership with BookTrust was established. This was followed by a successful bid for a national pilot for 2007 and 2008, funded by the (then) Department for Children, Schools and Families. In 2007-08, 1,600 children in 23 LAs in England received parcels. In 2009 the Letterbox Club was opened to every LA in the UK, including Northern Ireland, where it is funded through a partnership between charities, BookTrust and the Fostering Network's Fostering Achievement Scheme, and Wales, where it is funded by the Welsh Government. There was also a pilot in two LAs in Scotland in 2009-11, and another in 5 LAs there in 2013. In 2010 the age range was extended into secondary schools, and an additional option was provided for children aged 7 to 9 who have not yet started reading independently. Membership of the Letterbox Club is now open to any child who could benefit, including those placed for adoption and those requiring post-adoption support. Subscriptions are usually taken out through each child's LA. Over 10,500 children were members in 2015.

Evaluations

Researchers at the University of Leicester who had developed the programme evaluated it in primary schools in England and Wales between 2007 and 2010, and in secondary schools in England, Wales and Northern Ireland in 2010. There were independent evaluations of its use in primary schools in Northern Ireland in 2009-10 and (on too small a scale to be analysed here) in Scotland in 2013-14. All the quantitative results showed modest gains in reading, which were, however, useful for these children.

References

Dymoke and Griffiths (2010), Griffiths (2012), Griffiths *et al*. (2008, 2010), Griffiths and Comber (2011), Hancock and Leslie (2014), Winter *et al*. (2011)

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Letterbox Club

(1) England and Wales (for Y7-8, also Northern Ireland)

Main references: Griffiths (2012), Griffiths *et al*. (2008, 2010), Griffiths and Comber (2011)

Research design: Several one-group pre-test/post-test studies

Date: 2007-10

Age-range: Y3-8

Type of children: Looked-after

Ns of experimental groups: See below

Length of intervention in weeks: 26

Reading test: Neale, 1997 edition

Pre- and post-test average standardised scores and s.d's: Not stated

Average gains in standardised score points (s.d's not stated), and effect sizes calculated (by GB) using the s.d. of the test (15.0):

Age-group	N	Year	ave. gain	effect size
Y3-4	316	2007	4.4	0.29
		2008	4.4	0.29
Y5-6	449	2007	2.5	0.17
		2008	3.5	0.23
Y7-8	38	2010	3.0	0.20

Ratio gains: n/a

Statistical significances: (Y3-4 & Y5-6) Gains stated by authors to be significant; (Y7-8) Not stated and could not be calculated

Starting and ending levels and progress: In the absence of pre- and post-test scores it is not possible to characterise the starting and ending levels. However, the effect sizes all show modest gains, which were useful for these children.

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Letterbox Club

(2) Northern Ireland

Main reference: Winter *et al*. (2011)

Research design: One-group pre-test/post-test study

Date: 2009-10

Age-range: P3-7 (Y2-6)

Type of children: Looked-after

N of experimental group: 268

Length of intervention in weeks: 26

Reading test: Neale, 1997 edition

Pre- and post-test average standardised scores and s.d's, average gain in standardised score points (s.d's not stated), effect sizes calculated (by GB) using the s.d. of the test (15.0), and statistical significances as stated by authors:

	pre		post		gain	effect	stat
	ave	(s.d.)	ave	(s.d.)	ave	size	sig
accuracy	89.5	(13.9)	93.1	(15.6)	3.6	0.24	p<0.0005
comprehension	88.0	(14.2)	91.5	(15.9)	3.5	0.23	p<0.0005

Ratio gains: n/a

Starting and ending levels and progress: At the start these children were on average about ⅔ of an s.d. below the national norm. They made modest progress, and by the end were beginning to catch up, but would need ongoing support.

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7.3.3 *TextNow* for looked-after children and young people

Scheme

For details of the scheme, see **section 8.8**. Between 2008 and 2014, a total of 125 children and young people, of whom 118 were based in foster care and 7 in a Children's Home, took part in the usual 'face-to-face' model of *TextNow* at 15 looked-after children sites across England and Wales. In 2015 Unitas trialled a 'virtual school' model designed for looked-after children in foster care, which was due to be rolled out nationally in 2016.

Evaluation

An analysis of the 2008-14 data showed a remarkable improvement in reading accuracy.

Reference

Adams (2014)

Contact

http://www.unitas.uk.net/*TextNow*/

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***TextNow* for looked-after children and young people**

Main references: Adams (2014)

Research design: One-group pre-test/post-test study

Date: 2008-14

Age-range: 5-17

Type of participants: Looked-after children and young people who struggle with reading

N of experimental group: 125 at pre-test, 84 at post-test, but 4 had scored at ceiling at pre-test and their data were discarded; effective post-test N was therefore 80

Length of intervention in weeks: 10

Reading test: NFER Single Word Reading Test 6-16 (at the time; now switched to Literacy Assessment Online: Reading Comprehension 6–14)

Pre- and post-test average r.a's (in years and months) and standardised scores, and average gains in months of r.a./standardised score points (s.d's not stated), ratio gain, and effect size calculated as gain divided by the s.d. of the test (15.0):

	N	Pre	Post	gain	RG	effect size
Reading age	80	9:4	10:10	18 months	6.3	n/a
Standardised score	64	94.0	101.1	7.1 points	n/a	0.48

N = sample size. The sample size for standardised scores is smaller than for reading ages because many of the participants were aged over 16:6 at post-test, and therefore out of range of the conversion table.

Statistical significances: $p<0.001$ for both measures

Starting and ending levels and progress: Given that the average chronological age of these young people was 12 years 3 months at pre-test and 12 years 6 months at post-test, we can see that on average they were 2 years 11 months behind in reading age to start with, but during the programme caught up by 18 months of reading age, and were then on average 1 year 8 months behind. The ratio gain of 6.3 means that they were making more than six months' progress in reading for each month the programme lasted – a very fast rate of improvement. The effect size was moderate, but based on a subset of the participants.

7.4 Inference Training for children on the autism spectrum

Scheme

For general details of the intervention see **section 3.13**. The scheme as used in Leicester was adapted for ASD children by Emma-Jane Kehoe and evaluated as her PhD. In her own words:

> "I adapted the training package to include the specific difficulties children with autism have with reading comprehension and inference and why. This goes beyond a basic understanding of autism, as it involves detailed and flexible knowledge of psychological theories and how these interplay with development issues and autism-specific differences. This allowed participants to understand the need for the intervention, and precisely how it addresses the autism issues directly and in an autism-friendly way. The ability to talk about how you have run a group for, or including, children on the autism spectrum is also important, as you can then discuss adaptations which may be quite subtle… The adaptations I provided (which individual schools used as needed in separate lessons) were:
>
> - who, what, where, when, how, what happened? symbols to support question generation
> - using a timer for discussion
> - the use of a second adult who acted as another participant, NOT a teacher support
> - symbols for the 'Get Visual' section - 'for thoughts people have' - 'for what is said' – 'detective work, for explaining'
> - all groups were called 'Literacy Detectives' rather than 'inference'."

Evaluation

Data were gathered from 24 asd pupils. The results showed a remarkable gain in reading comprehension.

Reference

Unpublished data from her PhD study supplied by Emma-Jane Kehoe via Tony Whatmuff

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Inference Training for children on the autism spectrum

Main reference: Unpublished data supplied by Emma-Jane Kehoe via Tony Whatmuff

Research design: One-group pre-test/post-test study

Date: (not clear)

Age-range: Y5-13 (average age 12:9 at pre-test)

Type of children: All with autistic spectrum disorder

N of experimental group: 24 in 9 schools across England, comprising:

- Three special schools
- Three mainstream primary schools
- Two mainstream secondary schools
- One mainstream secondary school with a designated specialist unit.

Average length of intervention in months: 4

Reading test: Hodder Access

Pre- and post-test average r.a's and s.d's in years and months, average gain and s.d. in months of r.a. for comprehension, and ratio gain:

pre		post		gain		RG
ave.	(s.d.)	ave.	(s.d.)	ave.	(s.d.)	
8:9	(3:3)	10:10	(3:7)	25.1	(34.2)	6.3

Effect size: n/a

Statistical significance: p<0.001

Starting and ending levels and progress: Given that these children's average chronological age at pre-test was 4 years above their average reading age, most were clearly very far behind, especially the older ones. Even at post-test the gap was still just over 2 years. The fact that the s.d. of the gains is considerably larger than the average gain itself reflects the very wide range of gains and losses, from -38 months to +99 months of r.a. The RG shows remarkable progress in reading comprehension, but these children would need continuing specialist support.

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7.5 Children with dyslexia/SpLD

It is likely that many of the schemes for mainstream children listed in chapters 3 and 5 where the participants are categorised in the data analyses as 'SEN' or 'low attainment' would include some children with dyslexia/SpLD. In this section, however, I consider schemes whose providers say they are specifically for children with dyslexia/SpLD, or where the participants are described as having it. By taking this stance I deliberately sidestep problems of defining dyslexia/SpLD – for those see Rice with Brooks (2004), and for the latest more-or-less agreed British definition see Rose (2009) and Singleton (2009) – and of estimating its prevalence (see Brooks, 2000: 66; Rice with Brooks, 2004: 20). For a particularly clear view on how to define dyslexia and distinguish it from poor reading comprehension see Snowling and Hulme (2011).

In the literature on improving the literacy of children with dyslexia/SpLD, the vast majority of reports are case studies, and most studies of groups have very small samples, making quantitatively-based generalisation from them impossible at present. Here, therefore, I discuss the limited number of studies with large or even modest sample sizes.

7.5.1 Units of Sound

(In previous edition labelled Partnership for Literacy)

Scheme

Units of Sound is a structured, cumulative and multi-sensory computer-based programme that has been developed to teach reading and spelling. It combines the benefits of independent work on a computer with guidance from a teacher or TA. It is intended to build reading accuracy, vocabulary, spelling, sentence writing skills, automaticity, listening skills, memory, visual skills and comprehension. The programme uses revisiting, or 'spiral learning' to introduce and then further develop literacy skills. The scheme is designed for students from age 7 to adults, and is used in all types of mainstream and independent schools and colleges.

Since 2005, Dyslexia Action has used Units of Sound as a core component of its Partnership for Literacy (P4L) school intervention projects. In P4L, a Dyslexia Action teacher works alongside teachers and TAs, using apprenticeship training as a way of embedding good practice within the school. The early P4Ls were in primary schools, with secondary school projects starting in 2010. The secondary school phase also saw the introduction of two project models reflecting the different needs of students. In the first model, students with the more severe literacy needs were given weekly lessons in school. In the second model, underperforming students with less severe needs were shown how to use Units of Sound in school, but then worked mostly independently at home or after school, thus minimising the time they were taken out of class. It is the P4L projects that were evaluated.

Evaluations

Between 2005 and 2009 DA worked with 41 primary schools with a total pupil population of over 2000 which were using its Partnership for Literacy (P4L) programme within which Units of Sound was a major element. Within these totals, in 2008-09 ten schools provided data on 147 children who had received the full P4L intervention, with pre- and post-tests carried out at a suitable interval (8 months on average). The results showed reasonable benefits for both reading accuracy and spelling.

In 2010-11 an external RCT evaluation of the home-supported secondary version was carried out by the Centre for Evaluation and Monitoring (CEM) at Durham University in 10 schools in England. There was a useful impact on reading accuracy.

In 2013 the Education Endowment Foundation commissioned an independent RCT evaluation from the University of York, as part of its suite of 24 RCTs investigating how to boost literacy at primary/secondary transition. The RCT involved 786 Year 7 students in 45 schools. However, the evaluators reported, 'This attempt to evaluate the UofS programme was severely compromised and no firm conclusions can be

drawn from it' (Sheard *et al*., 2015: 4). Thus it does not contradict the results reported here.

References

King and Merrell (2012), Rack (2011), Sheard *et al*. (2015)

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Units of Sound

(1) Primary

Main reference: Rack (2011)

Research design: One-group pre-test/post-test study

Date: 2008-09

Age-range: Y2-5

Type of children: Identified as having dyslexia

N of experimental group: 147 in 10 schools in several LAs

Length of intervention in weeks: 20 ('2 school terms')

Reading and spelling tests: WRAT4

Pre- and post-test average standardised scores and s.d's, gains (s.d's not stated) and effect sizes calculated (by GB) using the s.d. of the tests (15.0):

	pre		post		gain	effect
	ave.	(s.d.)	ave.	(s.d.)	ave.	size
reading accuracy	82.5	(9.6)	89.9	(9.5)	7.4	0.49
spelling	84.4	(10.2)	89.9	(10.8)	5.5	0.37

Ratio gain: n/a

Statistical significance: p<0.001 in both cases

Starting and ending levels and progress: Both starting levels were just over 1 s.d. below the mean, and therefore below the 16th percentile. By the end useful progress had been made in both skills, and the ending levels were about ⅔ of an s.d. below the mean.

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Units of Sound

(2) Secondary

Main reference: King and Merrell (2012)

Research design: RCT

Date: 2010-11

Age-range: Y7-9

Type of children: Low attainment

N of experimental group: 118 in 10 schools in several LAs

N of control group: 89 in same schools

Equivalence of groups: Pre-test difference non-significant

Length of intervention in weeks: 26 (average; range 5-7 months)

Reading test: WRAT4

Pre- and post-test average standardised scores and s.d's for reading accuracy, gains (s.d's not stated) and effect size calculated (by GB) as difference in gains over pooled post-test s.d.:

group	pre		post		gain	effect
	ave	(s.d.)	ave	(s.d.)	ave	size
experimental	86.0	(3.3)	90.4	(7.9)	4.4	0.27
control	86.0	(3.3)	88.4	(7.1)	2.4	

Ratio gain: n/a

Statistical significance: p=0.008

Starting and ending levels and progress: Both starting levels were just under 1 s.d. below the mean, and therefore at about the 16th percentile. By the end the experimental group had made useful progress, its ending level being about ⅔ of an s.d. below the mean, while the control group had made very little progress and were still almost a full s.d. below the mean.

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7.5.2 Wordshark

Scheme

Wordshark 5 (the current updated version) is a computerised teaching resource for improving spelling, reading and motivation, and is designed for pupils in Key Stages 1-3. It uses over 70 games addressing different subskills to reinforce reading and spelling. The program uses synthetic phonics, as well as a whole word approach. One of the spelling courses available is set out in the order of the English National Curriculum.

Evaluation

Veronica Shoebotham, an experienced Learning Support teacher holding dyslexia qualifications (AMBDA), carried out a small-scale quasi-experiment in 5 primary schools (N=26 in both groups) in Birmingham in 2010. The experimental group made a useful gain in reading comprehension, while the comparison group made little more than standard progress.

Reference

Unpublished data on Wordshark 4 supplied by Veronica Shoebotham

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Wordshark 4

Main reference: Unpublished data supplied by Veronica Shoebotham

Research design: Matched-groups two-group quasi-experiment

Date: 2010

Age-range: 6:1-10:9 at pre-test

Type of children: Dyslexia/SpLD

N of experimental group: 26 in 5 primary schools in Birmingham

N of comparison group: 26 in same schools

Equivalence of groups: 'Care was taken to liaise with the SENCos in order to match the pupils evenly'

Length of intervention in weeks: 15

Reading test: Salford Sentence Reading

Pre- and post-test average r.a's, gains and s.d's: Not stated

Ratio gains as stated by author:

	RG
experimental group	2.9
comparison group	1.4

Effect sizes: n/a

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: In the absence of pre- and post-test scores it is not possible to characterise the starting and ending levels. However, the experimental group made a useful gain in comprehension, about double the modest gain of the comparison group.

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7.6 Personalised Learning for Reading (PLR) for children with a range of specific educational needs

Scheme

Working in partnership with colleagues from CfBT, the Language and Learning Support Service (LLSS), part of Children's Services in East Sussex, ran a Wave 3/Personalised Learning literacy project with Y3 pupils in 45 schools in 2006. Following the success of this, it was extended in 2007 to include Year 1 children.

With both cohorts, the children were identified as those working at Wave 1/Level1 in reading. Both the teacher and teaching assistants (TAs) worked with selected children on a one-to-one basis for 15 minutes a day over a period of three months on a 'specific small steps' programme of reading support.

All the teaching sessions were driven by a detailed analysis of each pupil's literacy abilities, and involved ongoing assessment. This enabled informed decisions to be made about the specific small steps focus of each session. The teaching was highly structured, specifically targeted and interactive. Books were integral to the programme, with new books specifically chosen for each pupil with particular regard to the child's interests and level. The programme of support for the Year 1 cohort differed only slightly as a response to findings from the original project, in that writing was given more prominence, as were pupil voice and parental involvement.

Each teacher and TA had intensive training over two full and two half days. This included diagnostic assessment techniques, tracking strategies, and the methods underpinning the sessions. Once the projects had started, support was made available from the LLSS via e-mail and through visits, during which the teaching sessions were observed and feedback given.

Evaluation

The LLSS team collected their own evaluation data, which showed substantial gains of nearly a year of reading age in three months in Year 3, and a whole year of reading age in three months in Year 1.

Reference

Unpublished data supplied by Linda Perry and Carole Price (original authors of the scheme)

Update

LLSS has now become CLASS (Communication, Learning and Autism Support Service). Following the earlier pilots, PLR continues to be a successful intervention in many East Sussex schools, now used in key stages 2 and 3, as well as key stage 1. Feedback from schools is always positive, with much qualitative data and individual pupil quantitative data received, showing very good progress. Although essentially targeting reading, it is an intervention that impacts also on writing, building

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independence skills, and self-esteem. CLASS operates as a traded service, and delivers 2 day PLR training courses, run centrally, bi-annually, attended mainly by East Sussex schools but available to out of county schools too.

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Personalised Learning for Reading (PLR) for children with a range of specific educational needs

Main reference: Unpublished data supplied by Linda Perry and Carole Price

Research design: Two one-group pre-test/post-test studies

Date: January-March 2006, January-March 2007

Age-range: (1) Y3; (2) Y1

Type of children: Many had complex needs, such as ADHD, autism, dyslexia, or speech and language difficulties. All were on SEN register, with very low literacy scores. A considerable number were also unsure of many of the basic aspects of literacy, e.g. letter knowledge, concepts of print, etc. Criterion for inclusion in project was that they were working towards level 1 in reading.

N of experimental group: (1) 69 in 45 schools; (2) 23 in 13 schools

Length of intervention in weeks: 12

Reading test: Reading Progress Test (Hodder and Stoughton)

Pre- and post-test average r.a's and s.d's (in years and months), gains in reading comprehension in months of r.a. (s.d's not stated), and ratio gains:

Cohort	Pre		Post		Gain	RG
	average	(s.d.)	average	(s.d.)		
2006	5:11	(0:7)	6:10	(0:9)	11	3.7
2007	5:5	(0:7)	6:5	(0:8)	12	4.0

Effect sizes: n/a

Statistical significances: $p<0.001$ in both cases

Starting and ending levels and progress: Neither group of children were functionally literate at either pre- or post-test. The Y3 group started about 18 months behind in r.a., the Y1 group several months behind. Both groups made substantial gains.

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7.7 The Reading Intervention team's search for what might work for children who struggle the most

As pointed out in section 3.16, two series of experiments can be analysed as having arisen from the Cumbria Reading with Phonology study of the late 1980s/early 1990s, one maintaining and monitoring the Reading Intervention programme as a mainstream initiative, the other seeking strategies that might prove effective for children with specific difficulties and/or very low attainment, or in preventing difficulties arising in the first place. The first of these series is analysed in section 3.16, the other here. Within the latter series I deal first with studies on children with specific difficulties, then with studies on children with very low attainment, and finally with the search for what might prevent children at risk of failure developing problems in the first place.

In preparation for a meeting I had with Maggie Snowling and Charles Hulme in November 2015, they kindly sent the following summary of their principal research findings over 30 years:

> "Since the landmark publication of Hatcher, Hulme and Ellis (1994), we and our colleagues have been developing and evaluating interventions for language and literacy difficulties in educational settings using robust methodologies. The findings of these studies show:
>
> (i) It is possible in primary school settings to improve basic reading skills by training phoneme awareness and letter knowledge in the context of systematic reading practice using books. This is in line with international findings regarding how best to improve reading fluency. We have evaluated this approach when delivered in whole class settings by class teachers (Hatcher, Hulme and Snowling, 2004), in Year 1 delivered to poor readers by teaching assistants (TAs) (Reading Intervention) (Hatcher *et al*., 2006), and in the early years to children with poor oral language skills (Nuffield Phonology and Reading) (Bowyer-Crane *et al*., 2008). Such an approach is also effective for improving the basic reading skills of children with Down syndrome (supplemented by training in vocabulary and oral narrative) (Burgoyne *et al*., 2012).
>
> (ii) Children who respond poorly to Reading Intervention tend to have oral language weaknesses (Duff *et al*., 2009). It is possible to improve oral language skills in children by interventions focusing on developing listening skills, vocabulary and narrative skills (Nuffield Oral Language Programme) (Bowyer-Crane *et al*., 2008). A 15-week oral language intervention delivered in preschool can improve vocabulary knowledge, though generalisation is not good (Haley *et al*., in press). A 30-week intervention starting in preschool and continuing through the first two terms of Reception improves oral language and narrative skills and, importantly, improvements in oral

language skills generalize to produce gains in reading comprehension in Year 1 (Fricke *et al*., 2013).

(iii) A 20-week oral language intervention can improve the reading comprehension skills of children in primary school (Years 4/5) (Clarke *et al*., 2010).

(iv) Teaching Assistants who are trained and supported can deliver interventions for language and reading effectively. Teaching Assistants also need time to prepare the intervention sessions and they need support from class teachers with regard to timetabling.

To date, this research has been funded by Nuffield Foundation, ESRC and North Yorkshire County Council, and the Education Endowment Foundation."

Two other key articles from this team are Snowling and Hulme (2011) and Duff and Clarke (2011). Both provide theoretical justification for distinguishing between (at least) children with dyslexic difficulties, and those whose problems are specific to comprehension. Dyslexic difficulties are mainly to do with word recognition, are mediated by inadequate phonological/phonemic awareness, and are best tackled with phonological/phonic programmes within a broad literacy approach. Comprehension problems relate to text level, and some effective approaches to them are scattered through this review. A few children have both problems, and need a targeted blend of the best approaches for each.

7.7.1 Children with specific difficulties: dyslexia or moderate learning difficulties

The team's first study on children with specific difficulties was a secondary analysis of data from Hatcher's (2000) study which monitored the continued use of Reading Intervention in Cumbria – for main details on this study see **section 3.29**. That study contained a subset of 73 statemented children, of whom 57 were studied in further detail; 29 had been diagnosed as having dyslexia, and 28 had moderate learning difficulties. For each of these groups a comparison group of teacher-referred children was constituted. The comparison groups made as much progress as the experimental groups in reading, and substantially more in spelling.

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The Reading Intervention Programme for children with dyslexia or moderate learning difficulties (subset of those in Hatcher (2000) – see section 3.29)

Main reference: Hatcher (2000)

Research design: Matched-groups four-group quasi-experiment

Date: 1994-98

Age-range: Y2–10; data not given separately by year groups

Type of children in experimental groups: SEN – all statemented, children with dyslexia (DYS) or moderate learning difficulties (MLD)

Nature and Ns of experimental and comparison groups:	N
1) Children with dyslexia (DYS)	29
2) Comparison group for DYS (Comp 1)	29
3) MLD (IQ in range 55-75)	28
4) Comparison group for MLD(Comp 2)	27

Equivalence of groups: Each experimental child was matched (from a pool of 351) with a teacher-referred child with an equivalent score on four pooled literacy assessments and of same gender: also of similar age where possible

Length of intervention in weeks: 12

Tests used: (reading) Burt, 1974 revision; (spelling) Schonell

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Average pre- and post-test r.a's/s.a's in years and decimal years and gains in months of r.a./s.a. (s.d's not stated) for experimental group (not stated for comparison group), ratio gains for both groups as stated by author, and effect sizes calculated from raw score data in article using pooled post-test s.d's:

Group	N		Word reading accuracy r.a. (yrs & decimal yrs)	Spelling s.a. (yrs & decimal yrs)
DYS	29	Pre	6.6	6.8
		Post	7.4	7.4
		Gain	9.6m	7.2m
		RG	2.9	2.1
Comps 1	29	RG	3.0	3.2
		Effect size	-0.01	-0.34
MLD	28	Pre	6.1	6.2
		Post	6.5	6.8
		Gain	4.8m	7.2m
		RG	1.4	2.4
Comps 2	27	RG	1.7	3.0
		Effect size	-0.14	-0.22

Statistical significances as stated by author (some based on data not presented here): In reading, DYS made a significantly greater gain than MLD, but neither experimental group differed significantly from its comparison group. In spelling, DYS and MLD did not differ, and MLD did not differ from its comparison group, but DYS made significantly less gain than its comparison group.

Starting and ending levels and progress: Absence of pre- and post-test scores for the comparison groups means their starting and ending levels cannot be characterised. Given the ages of these children, the pre-test average r.a's and s.a's of the experimental groups mean they were not only not yet functionally literate but many years behind. Most gains were useful or substantial, but the MLD group and their comparison group made only modest progress in reading. By post-test the DYS group (but not the MLD group) had moved into the semi-literate range for both reading and spelling. However, the RGs show, and the effect sizes and statistical significances confirm, that the comparison groups made as much progress as the experimental groups in reading, and substantially more in spelling.

7.7.2 Children with very low attainment

Duff and Clarke (2011: 5) concluded their analysis of interventions for children with dyslexic difficulties as follows:

> In summary, a good understanding has been reached regarding how to ameliorate word-level weaknesses in children with dyslexic difficulties. Such interventions should entail training in phoneme awareness, letter knowledge, explicit and systematic instruction in phonics, and the application of these skills to the tasks of reading and writing. Notwithstanding this, there is a growing appreciation that even interventions that honour best practice are not effective for all children… Ongoing work is needed in order to understand the profiles of non-responders, and how interventions can be adapted to suit their needs.

The Reading Intervention team identified this need several years before this, and have been addressing it. Their first study on children with very low attainment (Hatcher *et al*., 2006) was an RCT conducted on a modified version of the Reading Intervention programme delivered by teaching assistants to small groups of Y1 children selected as being in the bottom 8% of the population for reading. Half received the programme for 20 weeks, the other half for 10 weeks (and acted as a control group during the first 10 weeks). The 20-week group made better progress than the control group in the first 10 weeks, but after 20 weeks the control group had caught up. Both groups had maintained their gains on average when re-tested eleven months later. However, 21 of the total of 77 children had not made progress; indeed, their standardised scores had gone down. Detailed analyses showed these were more likely to be children with very low scores at the outset and/or to be receiving free school meals.

Next, twelve 8-year-old children with severe and persisting reading difficulties who had taken part in the Hatcher *et al*. (2006) study but had failed to make progress were followed up by Duff *et al*. (2008). They devised a scheme they called 'Reading with Vocabulary Intervention' (REVI) which fused Reading Intervention and the 'robust vocabulary instruction method' devised by Beck *et al*. (2002). Duff *et al*. mounted a 9-week intervention incorporating reading, phonological and vocabulary training in the summer term of 2006, when the children were in Y3. They had made almost no progress over the previous six months of regular classroom instruction. Although the study is too small to analyse in full, in the nine weeks of the intervention the children made statistically significant gains in reading, phonological awareness and language skills, and these were maintained six months later. But they were still achieving well below average in reading and would need ongoing support.

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The Reading Intervention Programme for children in the bottom 8% nationally

Main reference: Hatcher *et al*. (2006)

Research design: RCT

Date: 2003-04

Age-range: Y1

Type of children: 6 weakest readers in each school

N of experimental group: 39 in 13 schools

N of control group: 38 in same schools

Equivalence of groups: Randomly allocated

Length of intervention in weeks: 10 (control group received intervention in following 10 weeks)

Reading tests: Early Word Recognition Test (Hatcher *et al*., 1994), BASWRT

Pre- and post-test average raw scores (EWR)/standardised scores (BASWRT) and s.d's, gains (s.d's not stated) and effect sizes calculated (by GB) as the difference in gains divided by the pooled post-test s.d.:

		pre		post		gain	effect
Test	**group**	**ave.**	**(s.d.)**	**ave.**	**(s.d.)**	**ave.**	**size**
EWR	exps	2.79	(3.47)	12.49	(7.40)	9.70	0.48
	cont s	5.00	(5.41)	11.11	(7.82)	6.11	
BASWRT	exps	79.49	(4.32)	84.08	(7.91)	4.59	0.43
	cont s	82.11	(6.35)	82.97	(9.79)	0.86	

Ratio gains: n/a

Statistical significances as stated by authors: (EWR) p<0.001; (BASWRT) p=0.016

Starting and ending levels and progress: Raw scores on the EWR do not permit characterisation of starting and ending levels, but on the BASWRT both groups were distinctly more than 1 s.d. below the national norm. Both effect sizes show that the experimental group had made much more progress than the control group, although at the end both groups were still well below the national norm on the BASWRT.

Follow-up: In the 10 weeks following the RCT, both groups received the intervention. During this period the control group made so much progress that they caught up with the experimental group on both measures. At a further follow-up 11 months later, both groups had maintained their gains. Five years after the study, when the

children were in Y6, Snowling and Hulme (2009) traced 54 of them. These children had maintained their gains, and on average were reading within the normal range.

7.7.3 Children at risk of reading failure

The team has ongoing research on this area, in particular the Wellcome Language and Reading project http://crl-research.org/index.php/research/wellcome-project/

(accessed 23/2/16) which is tracing the development of three groups of children from when they were rising 3 in 2008 to rising 7, with a total initial sample of 260:

- Children from a family where there is a history of dyslexia
- Children who have pre-school speech and/or language difficulties
- Children who are developing typically.

In 2011, at 6 years of age, 56 children from the high-risk groups who were already showing reading delay one year after beginning school were selected to receive a specially designed intervention to promote language and literacy skills - RALI (Reading and Language Intervention), on which the team conducted an RCT evaluation (Duff *et al*., 2014). Children who received 9 weeks of daily intervention made no greater progress than waiting controls (89 children identified by their schools) on a composite measure of reading (effect size = 0.10), so the search continues.

7.7.4 Children with reading comprehension difficulties: Reading for Meaning (README) project

As Duff and Clarke (2011), cited above, pointed out, this group of children are mostly distinct from those with word recognition problems (dyslexic difficulties). This group are mainly characterised by a large discrepancy between adequate to good word recognition and poor text comprehension. (As also pointed out above, a very small proportion of children will have both problems, that is, both poor word recognition and poor comprehension.)

Scheme

In the Reading for Meaning project (Clarke *et al*., 2010), members of the Reading Intervention team turned their attention to children with reading comprehension difficulties – but Reading Intervention as such was not used. Rather, some of its elements were used in conjunction with strategies from elsewhere to create three experimental conditions:

(1) Oral Language. This comprised four components: vocabulary, reciprocal teaching with spoken language, figurative language, and spoken narrative. All teaching in this programme involved working with spoken language. In the first component, a typical session began with a 'word of the day' which was taught using primarily the multiple-context learning approach (Beck *et al*., 2002). This approach emphasizes the dialogue between children and tutor, and encourages children to use new words in relevant and familiar contexts. Sixty new words were taught (one per session). In the second component, children listened to a passage and completed an activity using the four key reciprocal-teaching skills in the spoken-language domain. In the third component, children explored figurative language, including idioms, riddles, jokes, similes, and metaphors. In the fourth component, children completed spoken narrative activities (largely paralleling those in the Text Comprehension programme) and applied their learning to record their spoken stories onto CDs.

(2) Text Comprehension. This also comprised four components: metacognitive strategies, reciprocal teaching with text, inferencing from text, and written narrative. All teaching in this programme involved working with written texts. In the first component, children learned and used five metacognitive strategies (reread, look-back, visualize, think aloud, and self-explanation) and applied them to answering a set of comprehension questions. In the second component, children completed activities to promote reading comprehension using the four key skills of the reciprocal-teaching approach. In the third component, children learned about different inference types, from basic cohesive inferences (e.g. resolving pronouns) to more sophisticated inferences (e.g. bridging, elaborative, and evaluative). In the final component, children explored aspects of written narrative (e.g. narrative structure, sequencing, character profiling) and applied this knowledge to produce their own written narratives.

(3) Combined, using all eight of the strategies listed above.

The interventions were delivered by teaching assistants, who received 3.5 days of intensive training and fortnightly refresher training during the intervention phase. Each intervention had the same basic structure, and consisted of three 30-min sessions per week (two in pairs, one individually) for 20 weeks (30 hr of intervention per child).

Evaluation

A total of 160 children in 20 schools were randomly assigned to one of these conditions or to a waiting-list control group (5 dropped out during the experiment, so that the total N in the analysis below is 155). They had been identified through a rigorous screening process as having not only poor reading comprehension, but on average a substantial discrepancy between that and adequate to good word recognition. Two comprehension tests (and several other measures) were administered at pre- and post-test, and at a follow-up 11 months after the intervention ended. The results on one of the comprehension tests showed that all 3 experimental groups had made better progress than the control group, and maintained their advantage at follow-up – indeed, the Oral Language group increased it. On the other comprehension test, the results at post-test showed no significant differences, but at follow-up the Oral Language group was significantly better than the control group. Using these results and those from other measures, the research team concluded that the Oral Language programme had outperformed the others, and that the major reason for this was that vocabulary development had had more impact on reading comprehension than text comprehension practice (gains in vocabulary mediated gains in reading comprehension, completely so for the combined group) – not exactly the predicted outcome.

Reference

Clarke *et al*. (2010)
http://readingformeaning.co.uk/

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Reading for Meaning

Main reference: Clarke *et al*. (2010)

Research design: 4-group RCT

Date: 2007

Age-range: Y4

Type of children: Having difficulties with reading comprehension; on average, pre-test standardised comprehension score on the Neale was 1 s.d. below reading fluency as measured by Test of Word Reading Efficiency

Nature of experimental treatments:

1) Oral Language: vocabulary, reciprocal teaching with spoken language, figurative language, and spoken narrative
2) Text Comprehension: metacognitive strategies, reciprocal teaching with text, inferencing from text, and written narrative
3) Combined: all 8 components just listed

Ns of experimental and control groups: See below

Equivalence of groups: Randomly allocated; no statistically significant differences between groups on any measure at pre-test

Length of intervention in weeks: 20

Reading comprehension tests: Wechsler Individual Achievement Test, 2nd edition; Neale 2nd revised British edition

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Pre- and post-test average standardised scores (WIAT)/raw scores (Neale) and s.d's, gains in standardised/raw score points (s.d's not stated), effect sizes stated by authors as calculated via regression analyses using differences in gains between each experimental group and the control group, and statistical significances as stated by authors:

			Pre		Post		Gain	Effect size	Stat. sig
Test	**Group**	**N**	**ave.**	**(s.d.)**	**ave.**	**(s.d.)**	**ave.**		
WIAT	Oral	38	95.43	(7.38)	98.46	(7.05)	3.03	0.69	p<0.01
	Text	40	96.38	(6.98)	98.66	(7.92)	2.28	0.59	p<0.05
	Comb.	38	94.08	(8.34)	99.23	(7.66)	5.15	0.99	p<0.01
	Cont.	39	97.77	(6.06)	95.79	(7.55)	-1.98		
Neale	Oral	38	16.13	(4.70)	24.00	(5.51)	7.87	0.13	ns
	Text	40	16.15	(4.89)	24.46	(5.86)	8.31	0.22	ns
	Comb.	38	16.15	(4.12)	24.54	(5.36)	8.39	0.24	ns
	Cont.	39	16.55	(5.37)	23.79	(5.79)	7.24		

Ratio gains: n/a

Starting and ending levels and progress: Given that the maximum raw score on the Neale is 44, the pre-test scores on that test show these children were all well behind, even though the pre-test averages on the WIAT show all 4 groups were not far below the national norm on that test. All 4 groups progressed to just over half marks on the Neale, hence the small and non-significant effect sizes on that test. The medium to large effect sizes on the WIAT owe something to the fact that the control group lost ground on that test, but do show that the 3 experimental groups benefited – by post-test all 3 of these groups were very close to the norm.

Follow-up: Both tests were re-administered to all 4 groups in November 2008-January 2009, 11 months after the intervention ended. On the WIAT the text, combined and control groups had all fallen back slightly, but the oral group had made further progress and increased its advantage over controls; the statistical significances of differences between the other experimental groups and the control were much the same as at post-test. On the Neale all 4 groups had made similar amounts of progress (3 to 4 points of raw score), and the oral group were now significantly better than the control group.

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7.7.5 Children with Down's syndrome

In 2005 Goetz *et al*. (2008) studied 15 children with Down's syndrome attending mainstream schools (14 primary, one secondary) who could read at least 5 words on the EWR test (Hatcher, 1992) but scored 50% or less correct on a non-word reading test. The programme lasted 16 weeks, was delivered by the children's learning support assistants, who received specific training, and was built on Reading Intervention and Jolly Phonics (Lloyd and Wernham, 1998), with additional speech-based work devised by a speech and language therapist. The children made gains in letter-sound knowledge and word recognition, and the gains were maintained five months afterwards.

Then in 2009 Burgoyne *et al*. (2012) conducted the first RCT with children with Down's syndrome. The intervention was REVI+, an adaptation of the REVI programme previously used by Duff *et al*. (2008) – see above. The 54 children involved were aged between 5 and 10, and were attending mainstream schools. For the first 20 weeks, 28 children received REVI+, while 26 did not; in a further 20 weeks, both groups did. In phase 1, the experimental group made significantly more progress than the control group in reading, but not in spelling; in phase 2 the two groups made similar progress in both skills.

Reference

Burgoyne *et al*. (2012)

Contact

http://www.down-syndrome.org/reviews/2128/?page=1

http://www.york.ac.uk/psychology/research/groups/crl/research/revi/

REVI+ (Reading Intervention and Vocabulary Instruction plus) for children with Down's syndrome

Main reference: Burgoyne *et al*. (2012)

Research design: RCT

Date: 2009

Age-range: Y1-5

Type of children: Down's syndrome

N of experimental group: 28

N of control group: 26

Equivalence of groups: Randomly allocated; no statistically significant differences on any measure at pre-test

Length of intervention in weeks: 20

Tests: (Reading) Early Word Recognition, plus some words from Single-word Reading test for children who could manage this, both from York Assessment of Reading battery (Hulme *et al*., 2009) – maximum score 79; (Spelling) 10 words presented as pictures to be named and spelt, scored for each phoneme represented – maximum score 92 (see Bowyer-Crane *et al*., 2008, below)

Pre- and post-test average raw scores and s.d's, average gains (s.d's not stated), effect sizes calculated (by GB) as difference in gains divided by pooled post-test s.d., and statistical significances as stated by authors:

		pre		post		gain	effect	stat
		ave	(s.d.)	ave.	(s.d.)	ave	size	sig
reading	exp	5.86	(10.41)	10.50	(12.01)	4.64	0.21	p=0.002
	cont	6.88	(12.43)	8.92	(13.59)	2.04		
spelling	exp	4.89	(17.87)	11.00	(21.84)	6.11	0.06	ns
	cont	12.35	(23.85)	17.00	(26.98)	4.65		

Ratio gains: n/a

Starting and ending levels and progress: As might be expected, both groups' pre- and post-test averages and gains were low percentages of the maximum scores. However, the experimental group did make significantly more progress than the control group in reading, though not in spelling.

Follow-up: During the 20 weeks following the RCT, both groups received the intervention, and the control group made gains similar to those of the experimental

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group in phase 1. At the end of phase 2, the experimental group's gains were still greater than the control group's, but not significantly so on either test.

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7.8 What might prevent literacy difficulties arising in the first place?

In the first Reading Intervention team study in this strand, Hatcher *et al*. (2004) investigated whether adding various extra phonic activities to Reading Intervention would benefit children relative to that programme alone. The teaching began when the children were aged 4½ on average, and lasted for five terms. The children were assessed with a battery of tests at the outset and at three points during the experiment. The classes were allocated to one of four groups matched on pre-test scores, five classes per group, and the groups were then randomly allocated to one of three interventions or to the control group, who received 'only' a suitably age-adapted version of Reading Intervention. Data at the four time points were available for 410 children. Hatcher *et al*. reported some analyses for the whole of this sample, but mainly on two retrospectively defined sub-samples: normally developing children (N=273), and children at risk of reading failure (N=137). The first of these sub-samples represents the use of Reading Intervention as an initial scheme, so it is not analysed here. The latter sub-sample was defined as 'the poorest third of children based upon the[ir] average [pre-test] scores' (p.340). The authors concluded (p.338):

> There were no selective effects of the different experimental teaching programmes for normally developing children. However, for those children identified as being at risk of reading failure, training in phoneme skills resulted in selective gains in phoneme awareness and in reading skills… A reading programme that contains a highly structured phonic component is sufficient for most 4.5-year-old children to master the alphabetic principle and to learn to read effectively, without additional explicit phonological training. In contrast, for young children at risk of reading delay, additional training in phoneme awareness and linking phonemes with letters is beneficial.

Which is helpful – especially because it suggests that (1) children at risk of reading failure can be identified by appropriate testing at age 4½, and (2) extra phonological work with this group (the bottom third) may prevent some failure. However, Hatcher *et al*. also pointed out that this extra work did not produce gains for all the at-risk children in the relevant groups: even with this extra input, about a third of the children in these groups did not benefit. Thus, as many teachers have suspected, there is a small proportion of children who require very intensive and specialised help if they are to progress in reading – several such groups have featured already in this chapter.

Next, Bowyer-Crane *et al*. (2008) reported on a programme called Phonology with Reading, implemented with 71 Reception children. It consisted of training in three elements known to be robust predictors of reading development: letter knowledge, phonemic awareness and reading practice. Direct teaching in sight word reading was also included. In an RCT, Phonology with Reading was compared with an oral language (OL) programme implemented with 75 other Reception children; that

programme comprised instruction in vocabulary, comprehension, inference generation and narrative skills. Both programmes were delivered by trained teaching assistants daily for 20 weeks; there were both individual and small-group sessions.

Both the Phonology with Reading intervention and the Oral Language alternative treatment were based on the 'simple view of reading' (Gough and Tunmer, 1986), namely, that phonological skills are fundamental to alphabetic literacy, while aspects of oral language ability beyond phonology provide the foundation for reading comprehension, which depends on the interaction of decoding ability and comprehension of spoken language. Based on the 'simple view', Bishop and Snowling (2004) had developed a model in which the risk of word-level decoding difficulties is associated with phonological deficits, whereas the risk of reading comprehension difficulties is associated with poor oral language skills.

It was predicted that the Phonology with Reading condition would have superior impact on children's decoding competence, and the Oral Language alternative treatment on children's reading comprehension. The Phonology with Reading condition brought about gains in letter-sound knowledge and phoneme awareness, word reading accuracy and phonemic spelling, as well as transferring to nonword reading after 5 months. A subsequent analysis (Hulme *et al*., 2012) showed that gains in literacy in this programme were fully mediated by gains in basic 'alphabetic' skills, i.e. letter-sound knowledge and phoneme awareness. In contrast, although the oral language approach led to improved expressive grammar and knowledge of taught words, it did not, at this early stage, lead to improved reading comprehension. The authors suggested there might be merit in a combined approach.

Fricke *et al*. (2013) went on to modify the Oral Language programme for younger children, and to supplement it for 10 weeks with work on letters and phoneme awareness. They carried out an RCT with 179 children with language difficulties and hence at risk of reading problems; at pre-test in March-April 2009 the children were aged on average 4:0 and in nursery school. Over 3 school terms (one in nursery, 2 in Reception) 89 of them received 30 weeks of an oral language intervention, while the rest followed the normal nursery/Reception curriculum. All the children were tested before the intervention and at its end, and again 6 months further on (by this point, November-December 2010, they were aged 5:8 on average and in Y1). The intervention group showed significantly better performance on measures of oral language and spoken narrative skills than the control group at post-test and at follow-up. Gains in word-level literacy skills were weaker, though clear improvements were observed on measures of phonological awareness. Importantly, the improvements in oral language skills were related to a strong advantage for the intervention group in reading comprehension at follow-up; curiously, however, this advantage was not mediated by reading accuracy, on which the groups did not differ. This result is the opposite of one found by Hatcher *et al*. (1994), and will require

deeper investigation before it is concluded that improving children's reading accuracy does not help improve comprehension.

A parallel cautionary finding arises from Haley *et al*. (in press). They carried out an RCT on a version of the Fricke *et al*. oral language programme adapted for nursery-age children. To quote Haley *et al*.:

> Initial results revealed significant differences between the intervention and control group on measures of taught vocabulary. No group differences were found on any standardised language measure … The study suggests that a short intervention for small groups of preschool children which successfully builds vocabulary knowledge does not generalize to non-taught areas of language. The findings strike a note of caution about implementing language interventions of short duration in preschool settings.

So the search for effective preventive measures also continues.

If reading difficulties are to be prevented from arising (whatever form the prevention may eventually take), accurate, early identification of children at risk is essential. The approach implied by the results of Hatcher *et al*. (2004) cited above could be one way of doing this. Another was researched by Snowling *et al*. (2011). They made strategic use of the fact that, following the Rose Report (2006), the increased emphasis on phonics in primary schools in England and the publication of the Letters and Sounds (L&S) materials meant that early years teachers were alert to their pupils' progress through the 'Phonic Phases' embodied in L&S. Snowling *et al*. investigated the extent to which teachers' judgments of which children were at risk of dyslexic difficulties, based on their assessments of their pupils' progress through the Phases, were reliable, and whether those judgments could be strengthened through the use of other measures.

In December 2008, when the children were in Y1 and their average age was 6:1, Snowling *et al*. identified 73 children who had reached Phonic Phase 2.1 ('know six grapheme-phoneme correspondences (GPCs) and can segment and blend simple syllables') but not Phonic Phase 2.2 ('know 19 GPCs and some irregular words'). Six months later they tested both that group and 73 other children forming a representative comparison group; for each child thought to be at risk, the next child on the register in the same class was chosen. The teachers' judgments over-estimated the prevalence of dyslexic difficulties, but could be strengthened to 92% accuracy by adding two tests: sound isolation (a measure of phonemic awareness), and either rapid automatic naming of colours (a measure of verbal processing speed) or letter knowledge. If administered early in Y1 and added to teachers' judgments, the two tests could help identify almost all children likely to develop problems (and would miss only a few, and mis-identify only a few who would not be likely to). But such a procedure is unlikely to be widely adopted given the introduction of the phonics test for all Y1 children in England in 2012.

Chapter eight

Schemes for young people aged 14-18, including those who have offended

This chapter covers both 14- to 16-year-olds who are (supposedly) in school in KS4 (Years 10-11), and 16- to 18-year-olds, whether they are attending 'KS5' (Years 12-13) in a school or a College of Further Education or not. Some of this age-group are disengaged from education or training, and a small proportion are in trouble with the law. Many young people in this age-range have poor literacy, and the raising of the 'participation age' in England to 17 in 2013 and then to 18 in 2015 have probably made the need for relevant and effective schemes even more acute.

This chapter describes six relevant schemes. Where possible (which is the case for only 3 schemes), each entry contains an outline description of the scheme or a cross-reference for that, followed by a few details of its evaluation and results, references and contact details, and then by an analysis of the quantitative evidence for its effectiveness. The schemes described in this chapter are so diverse that it was not practicable to try to summarise any general characteristics in a Table, and their data are not compiled into comparative Tables in the Appendix. A few schemes listed in chapter 5 have data on pupils in KS4: Easyread, That Reading Thing, Thinking Reading.

8.1 The scale of need

The most recent available (2009) PISA (Programme for International Student Assessment) results showed that 18% of 15-year-olds had reading attainment at international Level 1 or below, equivalent to UK Entry level or below (Bradshaw *et al*., 2010), and the Skills for Life survey of 2011 showed that 15% of 16- to 19-year-olds were at the same level (BIS, 2011). In their summary of all the nationally representative evidence on the literacy levels of 13- to 19-year-olds in England, 1948-2009, Rashid and Brooks (2010) concluded that this situation had not changed for some years.

The literacy levels of young people who have offended are even lower. In a study conducted for the Youth Justice Board (Ecotec, 2001), an analysis was carried out of the reading levels recorded in the Detention and Training Orders of 1,454 young people aged 14 to 18 in Young Offender Institutions in March 2001; 52% were reading at Entry level or below. In 2007-10, Ecotec/Unitas tested the reading levels of 830 young people aged 14-19 who had offended and were attending their Summer Arts Colleges (Tarling and Adams, 2011); 78% were reading at Entry level or below. Various smaller studies confirm this picture (Brooks and Tarling, 2012).

Another group with reportedly low literacy levels is Gypsy Roma Travellers, though reliable statistics are hard to come by.

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8.2 Outcomes other than literacy

For most providers of schemes for young people with poor literacy, improving their reading and writing would be sufficient, and virtually all the schemes featured in this chapter achieve that. But when working with young people who have offended, it is important to try to get their lives back on track, in terms of education, training or employment (ETE) rates and reductions in offending.

About a fifth of the young people in the evaluation of *TextNow* had offended. The provider, Unitas, is said to have been gathering data on ETE and offending rates, but has not yet published any. However, the attitudes to reading of the young people in the evaluation of *TextNow* improved markedly.

All participants in Summer Arts Colleges and in Shannon Trust Reading Plan are offenders, and they are also a major target for Toe By Toe (see **section 3.31**). Because it works closely with the Youth Justice Board, Unitas can in this case gather ETE and offending data after Summer Arts Colleges, and the outcomes on both measures have been very positive. There are not yet such data for Shannon Trust Reading Plan.

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8.3 Catch Up® Literacy for Gypsy Roma Travellers

For general details on the scheme, see **section 3.7**.

Catch Up (2011) reported on a pilot project undertaken in collaboration with the Lancashire Gypsy, Roma and Traveller Achievement Service, the county's Access to Services branch and Skerton High School. In the autumn and winter of 2010-11, Catch Up staff trained Lancashire library staff in the use of Catch Up's Digital Games, and the librarians then introduced them initially to 37 learners, of whom two were adults, two were of primary age, and the rest were of secondary age. A total of 23 took the Salford reading test at the beginning. Five had reading ages above 10:6, and no further data were gathered from them. The two adults and seven of the secondary-age learners declined to continue, leaving nine. Of these, seven took the test again at the end, achieving an average ratio gain of 3.5.

All of this illustrates the need for such projects, the difficulties of mounting them, and the possibility of good progress for those who can be persuaded to persist.

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8.4 Shannon Trust Reading Plan

Scheme

Shannon Trust was established in 1997 and is a UK-wide charity which works with custodial establishments (including YOIs) in England, Wales and Northern Ireland. The Trust and the establishments jointly run the Shannon Trust Reading Plan, which is delivered by peer mentors in prisons and by Learning Support Assistants in YOIs.

In July 2015, Shannon Trust introduced Turning Pages Reading Programme, which has been developed specifically by experts for adults and to be delivered by Peer Mentors. Turning Pages development was overseen by an Advisory Group comprising Shannon Trust Staff, UCL Institute of Education, National Offender Management Service, a Shannon Trust Trustee with a dyslexia specialism and experience of producing materials for emergent readers, and a (released) Shannon Trust Mentor. It was trialled at two prisons (Male and Female) and (in the initial stages) a prison which included Young Offenders.

Shannon Trust staff and volunteers work with prisons to train prisoner mentors/LSAs in how to use Turning Pages Reading Programme, recruit learners and run the scheme. Due to the wide variety of regimes in operation in different establishments, the way the scheme is run is flexible, but all work towards a best practice delivery model under the following headings:

1. Effective and structured methods for identifying and recruiting learners
2. Active and re-active support from the senior management team
3. An effective process for recruiting and supporting mentors
4. High quality and regular mentor training
5. Local representative engagement and involvement
6. An effective process for data collection and returns
7. A team approach to delivery
8. The reading scheme available across the whole prison
9. Celebration events/award ceremonies/presentations
10. A high profile across the whole establishment.

This means that the scheme can be offered within education; on the wing; in the gym, heath care, workshops, segregation and all areas of the establishment. Teaching takes place for 20 minutes a day, 5 days a week.

Evaluation

In October 2015 Birmingham City University commenced an evaluation in respect of the effectiveness of Turning Pages Reading Programme in improving reading ability and the wider benefits/outcomes to Learners and Mentors of involvement in Shannon Trust Reading Plan. An interim report is due in May 2016, with a final report in autumn 2016.

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8.5 Sound Reading System

For general details on the scheme, see **section 3.24**.

In April 2007 a number of staff at Warren Hill prison and Young Offender Institution were trained to deliver the Sound Reading System. In May-August 2007 a pilot was run there involving 16 young people who received three sessions of approximately 40 minutes per week; the average number of sessions was 16. Their improvement in reading age ranged from 0-25 months, with the mode being in excess of 10 months.

The scheme was expanded in 2008, and between February and June that year 76 young people received support for literacy in small classes, and accessed the Sound Reading System for 30 minutes every day. Improvements in reading age ranged from 1 month to 35 months, with the mode being in excess of 12 months. Spelling also improved, the range being 1 month to 25 months, with the mode being in excess of 3 months.

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8.6 Sound Training ©

(formerly Sound Training for Reading)

For details of the scheme, see **section 5.9**. It runs in essentially the same way in KS4 as in KS3.

Evaluations

In 2010-11 the scheme was used with a group of KS4 pupils in 2 schools in Middlesbrough, and in 2011-12 with two groups, one of KS4 pupils in 2 schools in Middlesbrough and County Durham, the other a group of Y11 pupils in 3 London schools. The results showed remarkable impacts on reading accuracy and comprehension.

In 2012-15 data were gathered on 2,127 KS4 pupils. They made a remarkable gain in reading accuracy.

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(1) Small-scale studies

Main reference: Unpublished data supplied by Katy Parkinson

Research design: Three one-group pre-test/post-test studies

Date: 2010-12

Age-range: (2010-11, & 2011-12, 1st cohort) KS4

(2011-12, 2nd cohort) Y11

Type of pupils: Mainstream pupils with reading ages on average 3 years below chronological age

Ns of treatment groups: (2010-11) 44 in 2 schools in Middlesbrough

(2011-12) 35 in 2 schools in Middlesbrough & Co. Durham

(2011-12) 39 in 3 schools in London

Length of intervention in weeks: 6 (1.5 months used in calculating RGs)

Reading tests: (2010-11, & 2011-12, 1st cohort) WRAT4 (decoding)

(2011-12, 2nd cohort) GL Assessment New Group Reading Test (comprehension)

Pre- and post-test average r.a's in years and months, gains in reading accuracy in months of r.a., s.d's in same units, and ratio gains:

cohort	N	pre		post		gain		RG
		ave.	(s.d.)	ave.	(s.d.)	ave.	(s.d.)	
2010-11	44	12:3	(1:10)	15:4	(2:0)	38	(19)	25.3
2011-12, 1st	35	12:3	(1:7)	15:11	(2:4)	44	(27)	29.3

Pre- and post-test average r.a's in years and months, gains in comprehension in months of r.a. (s.d's not stated), and ratio gain:

cohort	N	pre.	post	gain	RG
2011-12, 2nd	39	11:11	13:0	13	8.7

Effect sizes: n/a

Statistical significances: (2010-11, & 2011-12, 1st cohort) $p<0.001$

(2011-12, 2nd cohort) Was not stated and could not be calculated

Starting and ending levels and progress: The average c.a. of these pupils at pre-test was about 15:0, so even with their functionally literate score these groups were well behind and struggling with the secondary curriculum and (presumably) their GCSEs. They made remarkable progress, and would have been much better equipped to cope with the curriculum, and life.

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(2) Large-scale data-gathering

Main reference: Unpublished data supplied by Katy Parkinson

Research design: One-group pre-test/post-test study

Date: 2012-15

Age-range: Y10-11

Type of pupils: Mixed-ability mainstream pupils, none statemented but some with reading ages well below chronological age

N of experimental group: 2,127 in over 100 schools across England and Wales

Length of intervention in weeks: 6 (1.5 months used in calculating RG)

Reading test: WRAT 4

Pre- and post-test average standardised scores (ss) and s.d's in ss points, average r.a's and s.d's in years and decimal years, gains in reading accuracy and s.d's in same units, ratio gain, and effect size calculated (by GB) using the s.d. of the test (15.0):

	pre		post		gain		RG	effect
	ave	(s.d.)	ave	(s.d.)	ave	(s.d.)		size
ssp	97.0	(14.2)	111.5	(18.5)	14.6	(12.3)		0.97
r.a.	13.2	(2.9)	16.0	(2.8)	32.0	(23.7)	21.3	

Statistical significances: Were not stated and could not be calculated.

Starting and ending levels and progress: The average c.a. of pupils entering Y10-11 is 15.0, so this sample were well behind, on average. They made remarkable progress by both impact measures, such that their average ending level was above their average chronological age.

8.7 Summer Arts Colleges

Scheme

The Summer Arts College programme was founded in 2005, as part of a strategic partnership between the Youth Justice Board and Arts Council England. Since then, more than 1,300 young people have taken part in a Summer Arts College across England.

The Unitas charity (which also runs the *TextNow* programme – see above) co-ordinates the Summer Arts College programme, and distributes funding to individual Youth Offending Teams (YOTs) to run courses in their areas. Each Summer Arts College provides 10 young people with a programme of structured arts activities for 25 hours per week, and runs for three, five or six weeks during the summer holiday. Young people taking part in the Summer Arts Colleges work towards achieving a mainstream qualification – the nationally recognised Arts Award. At the end of the Summer Arts College, a celebration event is held to display or perform the work that the young people have done.

There is no prescribed content for a Summer Arts College; YOTs choose the art form to work in, and how to build in educational provision for literacy and numeracy skills. But all Summer Arts Colleges are staffed by arts practitioners who are experienced in working with young offenders, and a professional literacy and numeracy tutor.

Young people who take part in the programme are aged 14-19, and tend to be on higher tariff orders, such as Detention and Training Orders (DTOs) or the Intensive Supervision and Surveillance Programme (ISSP). Young people with a DTO or on ISSP require supervision for 25 hours per week which, during the summer holidays, can be challenging for a YOT to arrange. The Summer Arts College programme fulfils the supervision requirement of these orders with a structured programme of activity.

Evaluation

Unitas commissioned an evaluation of the programmes run in the summers of 2007-10. A total of 1,142 young people took part; pre- and post-test literacy scores were gathered from 830 of them, and information on the education, training or employment (ETE) status and offending rates before and after the programmes of all 1,142. There was a useful gain in literacy, ETE rates improved substantially, and offending fell.

Reference

Tarling and Adams (2011)

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Summer Arts Colleges

Main reference: Tarling and Adams (2011)

Research design: One-group pre-test/post-test study

Date: 2007-10

Age-range: 12-19 (average 16:6 at pre-test)

Type of participants: Low attainment; all were young people who had offended. 24% were known to have had SEN; 18% had had SEN identified and received a statement.

N of experimental group: 830 across 67 Youth Offending Team areas in England and Wales

Length of intervention in weeks: 3, 5 or 6

Literacy test: Basic Skills Agency Initial Assessment. This test delivers only raw scores, which can be converted to NQF levels. Since it provides neither reading ages nor standardised scores, impact has to be judged from the measures it does provide.

Impact on literacy: At pre-test, only 22% were at (adult) Level 1 for literacy, but by the end this proportion had almost doubled to 41%, the mean raw score had increased significantly from 53.9 to 57.5 and, overall, 69% of the young people increased their score, with around a third (35%) improving enough to reach at least one level higher at the end of the programme.

Statistical significances: Were not stated and could not be calculated

Starting and ending levels and progress: See above

Other outcomes (from the full sample of 1,142):

ETE: In the 4 weeks before the programme, 54% were not in education, training or employment; in the 4 weeks following the programme, this had fallen to 29%.

Offending: In the 13 weeks before the programme the average rate of offending was 9.1 (standardised to represent offences per 100 weeks at risk). This fell to 4.5 during the programmes. In the 13 weeks after the programmes the rate was 5.8.

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8.8 *TextNow*

Scheme

TextNow is run by the educational charity Unitas (which also runs the Summer Arts Colleges – see above) and is designed to boost the engagement with, and attainment in, reading of young people aged 10-18 who struggle with reading, both those in mainstream education and those disengaged from it. It developed from previous initiatives intended particularly for young people who have offended. In 2016 it is no longer offered to schools, but has been extended to young people in the care system – for the latter see **section 7.3.3.**

Its specific objectives are to:

- motivate young people to read, increase their enjoyment of reading and improve their reading skills
- help young people choose appropriate reading material and make sense of it through discussion and other activities
- raise confidence and self-esteem by encouraging young people to explore different reading materials, read alone, and navigate available services such as libraries.

TextNow consists of a 20-minute reading session each weekday for 10 weeks supported by a trained volunteer coach, a starter library and an awards scheme – attendance and participation generate 'credits' which young people can use to select books of their choice through an online bookshop. Since 2008 *TextNow* has been run at a substantial number of sites across England and Wales, including mainstream schools, FE Colleges, Training Provider programmes, Educational and Behavioural Difficulties schools, Pupil Referral Units, Youth Offending Team sites and Young Offender Institutions.

Evaluations

The providers of the scheme have been gathering data on it (and on a scheme it grew out of called Reading Matters), and submitting the data to outside analysis, since 2007. In the three years 2008-11 a total of 926 young people began the programme, and 696 completed it, in the sense that they undertook a reading test both at the beginning and at the end. Almost all of the latter group also completed an attitudes questionnaire at both stages.

The reading test results showed that the participants' average reading level at the outset was almost 5 years below their average chronological age, and that the scheme had remarkable impact. The young people's attitudes also improved markedly. The results were substantially better than those of earlier British programmes for teenagers and young people who had offended.

In 2012 the Education Endowment Foundation commissioned an independent RCT evaluation from Sheffield Hallam University as part of its suite of 24 RCTs investigating

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how to boost literacy at primary/secondary transition. Participating students received 20-minute one-to-one sessions with a volunteer coach each weekday for five weeks at the end of Y6 and for a further 10 weeks at the start of Y7. Children were expected to read independently for a further 20 minutes per day, and were rewarded for attendance with credits (as above). The RCT originally involved 501 pupils in 62 primary schools across England, but there was considerable attrition (22%), such that the statistical analyses were based on 391 pupils in 29 secondary schools. The results were confusing: a very small and non-significant advantage for the control group over the intervention group overall; a slightly larger but still non-significant advantage for pupils in the intervention group receiving free school meals (FSM) over FSM pupils in the control group; and then a somewhat larger again and now statistically significant advantage for non-FSM pupils in the control group over non-FSM pupils in the intervention group. The results are therefore not shown in detail here, and the lesson may be that RCTs with severe attrition need to be replicated with more reliable retention methods before conclusions are drawn from them.

Disclosure

The Unitas charity commissioned and paid me to help evaluate this scheme, using the 2008-11 data; I analysed the data in the same way as for any other scheme, and submitted the details to independent scrutiny.

References

Brooks and Tarling (2012), Brooks, Tarling and Adams (2012), EEF (2014c), Maxwell *et al*. (2014)

Contact

http://www.unitas.uk.net/*TextNow*/

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TextNow

Main references: Brooks and Tarling (2012), Brooks, Tarling and Adams (2012)

Research design: One-group pre-test/post-test study

Date: 2008-11

Age-range: 7-19

Type of participants: Young people who struggle with reading, both those in mainstream education and those disengaged from it, including some in trouble with the law

N of experimental group: 926 at pre-test, 696 at post-test, but 33 had scored at ceiling at pre-test and their data were discarded; effective post-test N was therefore 663. Within this group, 115 were young people who had offended.

Length of intervention: Average 3.3 months between pre- and post-test

Reading test: NFER Single Word Reading Test 6-16

Pre- and post-test average r.a's (in years and months) and standardised scores, and average gains (s.d's not stated), ratio gain, and effect size calculated (by GB) as gain divided by the s.d. of the test (15.0):

1) Full sample

	N	pre	post	gain	ratio gain	effect size
Reading age	663	9:0	10:6	18.7 months	5.5	n/a
Standardised score	463	85.1	92.6	7.4 points	n/a	0.49

The sample size for standardised scores is smaller than for reading ages because many of the participants were aged over 16:6 at post-test, and therefore out of range of the conversion table.

2) Young people who had offended (subset of full sample)

	N	pre	post	gain	ratio gain	effect size
Reading age	115	9:3	10:10	19 months	5.9	n/a
Standardised score	57	88.0	95.7	7.7 points	n/a	0.51

See note below previous table.

Statistical significances: $p<0.001$ for both measures in both tables

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Starting and ending levels and progress: The average chronological age of the full sample was 13:10 at pre-test and 14:1 at post-test. On average, therefore, they were 4:10 behind in r.a. to start with, but during the programme caught up by 18.7 months of r.a., and were then on average 3:7 behind, and still just below the functional literacy threshold of 11 years. The average standardised scores show that the participants were on average a full s.d. behind at pre-test, but (as the effect size shows) caught up by half an s.d. The ratio gain of 5.5 means that they made 5½ months' progress in reading for each month the programme lasted.

Given that the average chronological age of the 115 young people who had offended was 14:11 at pre-test and 15:2 at post-test, on average they were 5:8 behind in r.a. to start with, but during the programme caught up by 19 months of r.a. (and aged by 3 months), and so at post-test were on average 4:4 behind but very close to the threshold of functional literacy. The ratio gain of 5.9 means that they had made nearly 6 months' progress in reading for each month the programme lasted – a remarkable rate of improvement.

The effect sizes were moderate, but based on subsets of the participants. These improvements had come too late to benefit the education of those no longer in education or training, and probably most of those still attending at secondary level, but would better equip many of these young people to cope with the reading demands of everyday life, including employment.

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Appendix: Details of the analyses

This Appendix provides details of the approaches to data used in the analyses in this report. Before that, the nomenclature of school years and my abbreviations are explained, and the organisation of the entries is described; and that description is followed by a number of notes of clarification. The bulk of this section is comparative Tables of the schemes' impact measures, organised by stage, skill and ratio gain or effect size.

Key to school years:

Label of school year				
in England and Wales	**in Scotland**	**in Northern Ireland**	**in North America**	**Age of pupils(in years)**
Reception	Preschool	P(rimary) 1	Pre-kindergarten	4-5
Year 1	P(rimary) 1	P(rimary) 2	Kindergarten	5-6
Year 2	P(rimary) 2	P(rimary) 3	1st grade	6-7
Year 3	P(rimary) 3	P(rimary) 4	2nd grade	7-8
Year 4	P(rimary) 4	P(rimary) 5	3rd grade	8-9
Year 5	P(rimary) 5	P(rimary) 6	4th grade	9-10
Year 6	P(rimary) 6	P(rimary) 7	5th grade	10-11
Year 7	P(rimary) 7	S(econdary) 1	6th grade	11-12
Year 8	S(econdary) 1	S(econdary) 2	7th grade	12-13
Year 9	S(econdary) 2	S(econdary) 3	8th grade	13-14
Year 10	S(econdary) 3	S(econdary) 4	9th grade	14-15
Year 11	S(econdary) 4	S(econdary) 5	10th grade	15-16

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Abbreviations:

acc	(reading) accuracy	m	months
ave	average	N	sample size
AT	alternative treatment	n/a	not applicable
BASWRT	British Ability Scales Word Reading Test	ns	non-significant
c.a.	chronological age	r.a.	reading age
comp	comprehension	s.a.	spelling age
comps	members of a comparison group	s.d.	standard deviation
conts	members of a control group	ss	standardised scores
exps	members of an experimental group	stand.	standardised
LA	Local Authority	RG	ratio gain

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A.1 Introduction to the data

The entries following each programme description in chapters 3-8 are organised, as far as possible, in the order shown in Table A.1.

Table A.1.1: Organisation of entries in log of studies

Name of intervention	**See Note**
Main reference(s)	
Research design	1)
Date when it was implemented	
Age-range of children involved,usually in school years (Y2, etc.)	
Type of children involved	2)
Number of pupils in experimental group	
Number of pupils in alternative treatment group, where there was one	
Nature of alternative treatment	
Number of pupils in control/comparison group, where there was one	
For each group, numbers of schools and LAs, where known	
Equivalence of groups, where there was more than one	3)
Length of intervention in weeks	
Reading and/or spelling test(s) or writing assessment used	4, 5)
For each group (where known), pre- and post-test average scores,	
and units in which these are stated	6)
For each group (where known), difference between pre- and	
post-test average scores ('gain') in relevant units	7)
For each group, where scores are reading/spelling ages (r.a's/s.a's),	
ratio gain (RG), stated to one decimal place	
Effect size (where this was known or could be calculated),	
stated to two decimal places	
Statistical significance of differences between pre- and post-test	
scores, and between experimental, control/comparison and	
alternative treatment groups, where known	
Summaries of starting and ending levels and progress	
Follow-up data, if any	

Notes to Table A.1.1:

1) Research design:

categorised as one of	**N**
randomised control trial (RCT)	19
matched groups quasi-experiment	12
one-group pre-test/post-test study	at least 60

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Altogether, at least 91 studies are analysed in this review; the uncertainty is due to the bundling-together of many one-group studies under A.R.R.O.W. (England & Wales), Catch Up Literacy (national data), and various others . Also, two studies (Catch Up Literacy pilot, Paired Reading) had a mixture of designs; they have both been classified as quasi-experiments even though they also had one-group aspects. The total of 90 or so is higher than in the previous edition, in which there were 74 or so studies. The major reason for the increase is the proliferation of schemes, especially at primary level.

The numbers on the right above show how many studies had each type of design. Where effectiveness research is concerned, RCTs are the gold standard because they alone (in theory) permit all possible known and unknown biasing factors to be ruled out. This is why the only no-treatment groups that are called 'control groups' in this report are those within RCTs. However, it has been known for interventions which work fine in 'laboratory' conditions (= when administered and/or monitored by researchers) to produce little or no effect when rolled out in field conditions – for a clear example (provided by Sue Ellis, one of the authors), see McCartney *et al*. (2011).

Random allocation is not always possible, so researchers often resort to matching groups on known characteristics; such designs are designated 'quasi-experiments'.

The overwhelming preponderance of one-group studies, despite the increases in the numbers of RCTs and quasi-experiments (from 6 and 9 respectively), means that the profession still needs to raise its game.

2) Type of children:

usually categorised as one of

SEN – identified as having special educational needs

Low attainment, which will in many cases include children identified as having SEN

Mixed ability – though this still means that the group studied was underachieving, on average, by national standards.

In chapters 7 and 8 other descriptions, including 'having dyslexia' or 'with moderate learning difficulties' appear where appropriate to the children or young people studied.

3) Studies with alternative treatment groups

Only six of the studies in this edition had AT groups as part of the design. In case of Paired Reading (section 3.15) and the variant of the Reading Intervention Programme called Reading with Phonology (section 7.8), data from these groups were not analysed. The other 4 studies are listed in Table A.2.

Table A.1.2: Studies with alternative treatment groups, by method of allocation and whether also had no-treatment group

Section	Scheme	N of AT groups	Method of allocation	No-treatment group?
3.7	Catch Up Literacy (pilot)	1	Matching	Yes
3.13	Inference Training (Brighton)	4	Matching, but some differentiation on comprehension	No
3.13	Inference Training (Glasgow)	2	Matching, but some differentiation on comprehension	No
3.29	Reading Intervention (original in Cumbria)	2	Random within matched quadruples	Yes

For the purposes of this report, all of the allocations to groups in these studies are treated as reliable.

4) Choice of tests to report: Almost all these studies used more than one instrument to measure impact, and most used several. Only reading and spelling test and writing assessment results have been analysed here, on the grounds that the main focus of this enquiry is interventions designed to boost literacy attainment. Some reading tests yield more than one score (for example, depending on how it is administered, the Neale Analysis can give scores for both reading accuracy and reading comprehension); where this is so, both sets of data have been given. Except where it is clear that they yield measures of comprehension, the reading tests cited have been classified as giving measures of reading accuracy.

5) Range of tests used: A great variety of reading tests was used in the studies under consideration, ranging from various editions of the Burt test (first published in the 1920s) to much more recent and more reliable instruments. Only a few spelling tests were used, but again some were rather old, especially the Schonell. Use of old tests may limit the reliability of some of the findings. The 6 writing studies analysed used a variety of forms of assessment, most specially devised – for details, see the separate entries in **chapter 6** – but all were recent.

6) The units in which average scores and s.d's are stated are almost always either reading/spelling ages or standardised score points, occasionally both. Raw scores have been used in a few cases, namely Reading Recovery in London and Surrey, Paired Writing (both studies), ECaR in London (writing data), Grammar for Writing. However, in all these cases it was possible to calculate an effect size using information from a control/comparison group.

7) Where the units of measurement are r.a's/s.a's, gain is given in months of r.a./s.a.

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A.2 Impact measures

In order to judge whether an initiative has really made a difference, it is not enough just to ask the participants – they will almost always say it has. This 'feel-good' factor is valid on its own terms, but doesn't always correlate with measured progress, and certainly doesn't convince policy-makers and funders. So it is essential to have quantitative data on the learners' progress, measured by appropriate tests of (in this case) reading, spelling or writing.

But not just any test data will do: if the test provides only raw scores, the average gain may look impressive, but what does it mean? How good is it, compared with gains in other projects and/or with national norms? We need some way of comparing the impacts of different initiatives. The two forms of impact measure used in this report are ratio gains and effect sizes.

A.2.1 Ratio gain (RG)

This is defined by Topping and Lindsay (1992: 201) as 'the gain in reading age made by a subject on a reading test during a chronological time span, expressed as a ratio of that time span; that is, ratio gain equals reading age gain in months divided by chronological time in months'. For a group, this can be stated as the formula

$$\frac{\text{(average r.a. in months at post-test) – (average r.a. in months at pre-test)}}{\text{time elapsed in months}}$$

(The definition and formula are obviously applicable to spelling too.)

This concept could also be called 'average monthly progress', or AMP. That label is clearer, being self-explanatory, but unfortunately is unlikely now to displace the entrenched term, ratio gain.

Calculating an RG does not require data from a control/comparison group – but where any non-experimental group and the necessary r.a./s.a. data are present, that group's RG can and should be calculated too. Some RGs for non-experimental groups are shown in this review in order to highlight the greater progress of the experimental group. Normally, RGs are the only impact measures that can be calculated for one-group studies – but see below.

The dispersal of scores (as shown in the standard deviation) is ignored in RGs – only the average reading/spelling ages at pre- and post-test and time elapsed are used. RG is therefore a statistically unsophisticated device; but, as Topping and Lindsay further point out, using raw gains instead 'renders the highly heterogeneous literature very difficult to summarise'. Also, since over half the evaluations surveyed here used reading ages as their reporting units it seemed appropriate to use RGs in attempting to estimate the effects of those interventions.

However, RGs do take account of the length of time over which an intervention achieves its impact – as shown in the formula, this is done by dividing the gain in

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months of reading/spelling age by the number of months between pre- and post-test.

Some reports do not use tests which yield r.a's/s.a's, and therefore RGs cannot be calculated for them – where this was the case I state 'Ratio gain: n/a'. For a few exceptions, see **chapter 6** on writing.

A.2.2 Effect size

This is a more statistically based metric. It involves dividing the difference between the average gains made by the experimental group and control/comparison group by a relevant standard deviation, and the result is expressed as a decimal of an s.d. Positive effect sizes show a difference in favour of the experimental group, negative ones a difference in favour of the control/comparison group.

There are various statistics in the literature called effect sizes; the most frequently cited (and the one I use) is 'Cohen's d', and this is one of the formulae used for calculating it (and the one I use):

$$d = \frac{\overline{x}_t - \overline{x}_c}{s_{pooled}}$$

where x-bar with subscript t denotes the average (mean) gain of the treatment (experimental) group, x-bar with subscript c denotes the average (mean) gain of the control/comparison group, and the bottom line stands for a pooled standard deviation. The formula for pooling two s.d's is:

$$s_{pooled} = \sqrt{\frac{(n_t - 1)s_t^{\,2} + (n_c - 1)s_c^{\,2}}{n_t + n_c}}$$

where *n* denotes a sample size, and s^2 denotes the square of the s.d. of the relevant group.

The top line of the formula can be stated in prose as (average gain of treatment group) minus (average gain of control/comparison group), and can be applied equally to r.a's, s.a's, standardised scores and raw scores derived from two appropriately constituted (= well-matched) groups.

The apparent computational simplicity of this is deceptive: statisticians differ profoundly over at least two issues, which s.d's to pool in the denominator, and whether to use pre-test, post-test or gain scores in the top line. Having taken advice

from several statisticians on these questions over nearly 20 years I have found myself buffeted by conflicting opinions.

There is one point on which all the people I have consulted agree: it is wrong to use the pooled s.d. of the gain scores in the denominator. Effect sizes calculated this way measure something rather different from those based on the other forms of s.d. mentioned here, and (depending on the size of the correlation between pre- and post-test scores) such effect sizes may be overestimated by a factor between about 1.3 and 2.2 (information supplied by Dougal Hutchison of NFER in 1998). Moreover, using this approach confounds any gain due to the programme with gain due to maturation (as pointed out to me by Ian Schagen, also of NFER, in 2007). In this edition I have shown such data only for Paired Reading in section 3.15 (see Topping and Lindsay, 1992: 211, for their formula) because this is the only effect size in the relevant report, and even in 1998 Keith Topping was unable to recover the raw data and re-calculate. In one other case (the EEF-funded RCT on *Read Write Inc.* Fresh Start at transition – see **section 4.8)** the authors had used the pooled s.d. of the gain scores, but I was able to calculate a more valid effect size using information in the research report (Gorard *et al.*, 2015a).

Otherwise, by the time of the fourth edition I had concluded that the appropriate way to calculate s.d's was as the difference in mean gain scores (or, failing those, the difference in mean post-test scores) over the pooled **post-test** s.d. of the experimental and control/comparison groups; this is because the data of most interest, those representing the population to which one wishes to generalise, arise at post-test. Almost all the effect sizes quoted in this report were calculated in this way. In many cases this has been made possible by the generosity of scheme providers sharing their data with me.

However, while preparing this edition I had detailed discussions on how best to calculate effect sizes, first with Charles Hulme of University College London, then with Ben Styles of NFER. Charles favours calculating effect sizes as the difference between the mean **gain** scores divided by the pooled **pre-test** s.d., citing Morris (2008), while Ben calculates them as the difference between mean **post-test** scores divided by the pooled **post-test** s.d. Given this amount of disagreement I have stuck with the method I had adopted before becoming confused; if there had been more time I would have shown effect sizes calculated by both of these experts' methods. What is really needed is a conference of even more experts to see if common ground can be reached.

In some cases in this edition, where authors of articles calculated the effect sizes they report by a different method from mine (e.g. using pre-test s.d's), I have substituted my own figures. In one case (Inference Training in Brighton, section 3.13) no post-test s.d's were given, so in previous editions I used the pre-test s.d's; in this edition, having thoroughly revised my understanding and description of that study, I concluded that the choice of which mean scores to use was too complicated, so

have not reported any effect sizes. In a few cases I did not have the information needed to make a calculation, and have therefore reported the effect sizes given by the authors.

In several cases I calculated an effect size even in the absence of a control/ comparison group. These were all studies which used standardised tests. Where such a test is used, there is always an implicit or 'unseen' control group, the one provided by the standardisation sample. In these circumstances the absence of an explicit control/comparison group, or of its data, can be circumvented, since an effect size can be calculated by using the s.d. (usually 15.0) and mean scores of the standardisation sample; and since the mean scores of the standardisation sample are by definition the same at pre- and post-test, the comparison group term in the top line of the formula reduces to zero, and the formula simplifies to:

$$\frac{\text{(average gain of treatment group in standardised score points)}}{\text{15 (or other relevant s.d.)}}$$

Effect sizes (however calculated) are much more statistically sophisticated than RGs because they take account of the dispersal of scores (through the s.d.) and of a control/comparison group, preferably an explicit one but sometimes the implicit one provided by the standardisation sample. They normally take no account of the length of time over which an intervention achieved its impact, but Torgesen (2005: 529) appears to have pioneered a method of taking account of time elapsed when measuring gain using tests that yield standardised scores: 'SS gains per hour of instruction'. He defines this as a 'metric … calculated by dividing the amount of gain in standard[ised] score units by the number of hours of instruction … provided, so rate of growth is expressed as the number of standard[ised] score points gained per hour of instruction'. No attempt has been made here to calculate such figures, mainly because the number of hours of instruction is very rarely stated in reports.

Almost all reported effect sizes seem to fall in the range -0.10 to +1.00, which suggests bias against publishing negative findings. The usual rule of thumb for interpreting effect sizes is that those below 0.20 are very small and probably not of educational significance; those between 0.20 and 0.50 are small; those between 0.50 and 0.80 are medium (useful); and those above 0.80 are large – I subdivide these into those between 0.80 and 1.00 (substantial) and those above 1.00 (remarkable).

Wherever it was impossible to calculate any form of effect size (i.e. mainly in one-group studies reporting only r.a./s.a. data) I have stated 'Effect size: n/a'.

A.2.3 Statistical significances

Two forms of statistical significance data would be relevant, where available, namely on the gains of separate groups (difference between pre- and post-test average scores), and on the differences between gains where there was more than one group.

When the gains of separate groups are tested for significance, the fact that children are older by the time of the post-test should be allowed for. Where standardised tests are used, the tables for converting raw scores to standardised scores provide for this automatically. Where r.a./s.a. tests are used, the need to allow for age is routinely ignored (including by me).

Where authors give information on statistical significances, I have cited (selected parts of) it. For quite a few studies I have calculated the significances – again, this was made possible by the generosity of scheme providers who gave me their datasets. However, in many cases neither was possible, and the importance of the result has to be judged 'by eye' from the RG – which was the case in the majority of studies.

A.3 Comparisons between schemes

To provide a basis for comparing the interventions, including alternative treatment and control/comparison groups, the two forms of impact measure (RGs and effect sizes) have been put into rank orders in Tables A.3-15 below. In several Tables of reading data, where measures for both accuracy and comprehension were available, both have been listed; all the blanks under 'comprehension' mean that only accuracy data were available for those groups, and vice versa.

As shown in Table A.2, in only four of the studies analysed here were different interventions compared within one study. However, these studies did provide useful comparative quantitative data, usually with statistical tests of the differences between approaches – these are included in the descriptions in chapter 3, and form part of the basis for the judgements reported in chapter 2. However, it proved impossible to indicate the statistical significance of differences between experimental and alternative treatment groups clearly in Tables A.3-15, and the small amount of such information is therefore provided in Table A.16. In the case of Inference Training (Sussex), the differences include those between the two experimental groups.

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Table A.3.1: List of reading studies for primary level in decreasing order of ratio gain for whichever of accuracy (Acc) and comprehension (Comp) is the higher

Key:

RG of 4 or above	Remarkable impact
RG between 3 and 4	Substantial impact
RG between 2 and 3	Useful impact

Study	Year group	Acc	Comp	Follow-up
A.R.R.O.W., Bristol	Y6	32.0	44.0	
Inference Training in Glasgow, exps 1 (poor comprehenders)	Y2-4		28.7	
Inference Training in Brighton, exps 1 (poor comprehenders)	Y3		17.4	
A.R.R.O.W., England & Wales, 2010-15	Y1-6	18.0		
AcceleRead AcceleWrite in Devon	Y5-6	16.1		
A.R.R.O.W., England & Wales, 2007-10	Y1-6	16.0		
Inference Training in Brighton, AT1 (comprehension exercises for less skilled comprehenders)	Y3		13.7	
Inference Training in South-East, exps 1 (poorer comprehenders)	Y3-4		13.6	
Inference Training in Glasgow, exps 2 (good comprehenders)	Y2-4		12.9	
Inference Training in Leicester, 2013-14	Y3-6	7.6	11.0	
Inference Training in Brighton, AT (rapid decoding for skilled comprehenders)	Y3		10.3	
Sound Training, 2010-11	Y5-6	9.4		
Inference Training in Leicester, 2006	Y5-6	6.5	9.0	
Sound Training, 2011-12	Y5-6	8.7		
AcceleRead AcceleWrite in Wiltshire	Y5-6		7.7	
Inference Training in Leicester, 2009-11	Y3-6		7.3	
Sound Reading System	Y2-18+	6.7	7.1	
Inference Training in South-East, exps 2 (better comprehenders)	Y3-4		6.6	
Reciprocal Reading	Y5-6	5.2	6.4	
Boosting Reading, comprehension	Y1-6		6.2	
Inference Training in Brighton, AT3 (rapid decoding for less skilled comprehenders)	Y3		6.0	
Boosting Reading, several LAs (reading age gains)	Y4	6.0		
Boosting Reading, several LAs (reading age gains)	Y6	6.0		
Inference Training in Sussex, exps 2 (good comprehenders)	Y3		5.9	
Better Reading Support Partners	Y1-7		5.9	
Boosting Reading, several LAs (reading age gains)	Y1	5.7		
Inference Training in Brighton, AT1 (comprehension exercises for skilled comprehenders)	Y3		5.4	

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Study	Year group	Acc	Comp	Follow-up
Boosting Reading, several LAs (reading age gains)	Y3	5.2		
Boosting Reading, several LAs (reading age gains)	Y5	5.0		
Better Reading & Writing Progress 2009/10	Y1-6		5.0	
Boosting Reading, several LAs (reading age gains)	Y2	4.9		
FFT Wave 3, 2008	Y1-5	4.8		
Reading Recovery in Britain & Ireland, 2011-12	Y1-2	4.7		Maintained up to 6 months
Paired Reading, experimentals in comparison-group designs	Y1-11	3.4	4.6	Continued to gain for 17+ weeks
Paired Reading, all exps	Y1-11	3.3	4.3	
THRASS in Bridgend	Y6	2.4	4.2	
Better Reading & Writing Progress 2010/11	Y1-6		4.1	
Better Reading & Writing Progress 2014/15, light touch	Y1-6		4.1	
Reading Intervention in N. Yorks, 2006/07	Y1-6	4.0		
Reading Recovery in Bristol	Y1-2	4.0		
THRASS in Bridgend	Y5	3.4	3.8	
Read Write Inc. Phonics in Haringey	Y5-6	3.8		
Better Reading & Writing Progress 2014/15, full	Y1-6		3.8	
Reciprocal Teaching	Y3-6	2.4	3.7	
Boosting Reading, one LA (word level impact)	Y5	3.6		
Reading Intervention in N. Yorks, 2009/10	Y1-6	3.5		
Hornet	Y1-9	3.5		
Catch Up Literacy, pilot (exps in matched schools)	Y3	3.4		
Reading Intervention in N. Yorks, 2007-09	Y1-6	3.3		
Reading Intervention in N. Yorks, 2005-06	Y1-6	3.2		
Project X Code	Y2	3.1		
Cued Spelling	Y2-6	2.1	3.1	
Sound Discovery in Norfolk	Y2-5		3.1	
ENABLE ONE-TO-ONE	Y2		3.0	
Switch-on Reading	Y1-6	3.0		
Lexia in York	Y2-6		3.0	
Lexia in Cumbria	Y1-8		2.9	
Boosting Reading, one LA (word level impact)	Y4	2.9		
FFT Wave 3, 2004	Y1-3	2.8		
Better Reading & Writing Progress 2013/14	Y1-6		2.8	
THRASS in Bridgend	Y4	2.4	2.7	
Lexia in Darlington				
Y1-8	2.7			

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Study	Year group	Acc	Comp	Follow-up
Catch Up Literacy, pilot (all experimentals)	Y3	2.6		
Spellwise, pilot	Y1-4	2.6		
Read Write Inc. Phonics in Bristol	Y2-6	2.3	2.6	
Lexia in Norfolk	Y2-3		2.6	
Toe by Toe	Y5-7	2.5		
THRASS in Bridgend	Y3	2.2	2.3	
THRASS in Hampshire	Y2-5		2.3	
Catch Up Literacy, national	Y2-9		2.3	Sample re-tested after 7 yrs still showed benefit
SIDNEY	Y1-2	2.3		
Spellwise, survey	Y1-5	2.2		
Boosting Reading, one LA (word level impact)	Y1	2.2		
ENABLE PLUS	Y3-5	2.2		
Reading Intervention, general use in Cumbria	Y2-10	2.0		
Reading Recovery (ECaR in London), BASWRT	Y2	2.0		Maintained up to 12 months

Table A.3.2: List of reading studies for primary level in decreasing order of effect size for whichever of accuracy and comprehension is the higher

Key:

Effect size above 1.0 = Remarkable impact
Effect size between 0.80 and 1.0 = Substantial impact
Effect size between 0.50 and 0.80 = Useful impact
Effect size between 0.20 and 0.50 = Modest impact

Study	Year Group	Effect Size		Follow-up
		acc	compre	
Reading Recovery, ECaR in London, BAS	Y1	1.67		
Catch Up Literacy, pilot, exps in matched schools	Y3	1.11		
Easyread, pre-test/post-test 2	Y3-4	0.94		
Paired Reading	Y1-11	0.87	0.77	Gain was maintained up to 17 weeks on
Inference Training in South-East, exps 1 v. comparison	Y3-4		0.85	
Reading Recovery (L&S), exps.	Y2	0.84/ 0.81 †	0.55/ 0.33 †	Some gains maintained, some lost, over 3 years
Easyread, pre-test/post-test 1	Y3-4	0.68		
Reading intervention, orig., exps (reading & phonology), Neale	Y2	0.54	0.77	1 year on, exps still ahead relatively, but all groups making less than standard progress
Easyread	Y3-4	0.68		
Academy of Reading	Y6		0.59	
Reading Recovery, ECaR in London, WRAPS	Y1	0.58		Maintained up to 12 months
AcceleRead AcceleWrite in Jersey	Y3-9	0.55		Continued to gain for up to 10 months
Sound Check	Y2	0.53		
Inference Training in South-East, exps 2 v. comparison	Y3-4		0.40	
Spellwise	Y1-6	0.37		
Inference Training in South-East, exps 1 v. exps 2	Y3-4		0.34	

Key to symbol:

† = 1st effect size is versus between-schools comparison group, 2nd versus within-schools comparison group

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Table A.3.3: List of spelling studies for primary level in decreasing order of ratio gain

Key:

RG of 4 or above = Remarkable impact
RG between 3 and 4 = Substantial impact
RG between 2 and 3 = Useful impact

N.B. None of these studies had follow-up data.

Study	Year Group	RG
ARROW, Bristol	Y6	16.0
ARROW, England & Wales, both studies	Y1-6	12.0
AcceleRead AcceleWrite in Devon	Y5-6	9.8
Sound Reading System	Y2-18+	6.4
AcceleRead AcceleWrite in Wiltshire	Y3-6	6.2
ENABLE ONE-TO-ONE	Y2	3.5
Cued Spelling	Y2-6	3.1
Switch-on Reading	Y1-6	2.7
Reading Intervention, general use in Cumbria	Y2-10	2.6
THRASS in Bridgend	Y3	2.5
Lexia in Cumbria	Y1-8	2.4
Lexia in York	Y2-6	2.0
Sound Discovery in Bedfordshire	Y5	2.0

Table A.3.4: List of spelling studies for primary level in decreasing order of effect size

Key:

Effect size above 1.0 = Remarkable impact
Effect size between 0.80 and 1.0 = Substantial impact
Effect size between 0.50 and 0.80 = Useful impact
Effect size between 0.20 and 0.50 = Modest impact

N.B. None of these studies had follow-up data.

Study	Year Group	Effect size
The CSP Spelling and Language Programme	Y2-4	1.19
Switch-on Reading	Y1-6	0.53
Sound Check	Y2	0.37

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Table A.3.5: Only reading study for primary/secondary transition yielding ratio gains

Key:

RG of 4 or above = Remarkable impact
RG between 3 and 4 = Substantial impact
RG between 2 and 3 = Useful impact

N.B. This study did not have follow-up data.

Study	Year group	Acc	Comp
Everyone Can Read	Y6-7	13.0	15.8

Table A.3.6: List of reading studies for primary/secondary transition in decreasing order of effect size for whichever of accuracy and comprehension is the higher

Key:

Effect size above 1.0 = Remarkable impact
Effect size between 0.80 and 1.0 = Substantial impact
Effect size between 0.50 and 0.80 = Useful impact
Effect size between 0.20 and 0.50 = Modest impact
Effect size below 0.20 = Questionable impact

N.B. None of these studies had follow-up data.

Study	Year group	Effect size	
		acc	compre
Helen Arkell Y7 Transition Pilot	Y7	0.52 *	
The Accelerated Reader	Y7		0.26
Switch-on Reading	Y7		0.24
Read Write Inc. Fresh Start	Y7		0.19

* Also an effect size for fluency of 0.36

Table A.3.7: List of spelling studies for primary/secondary transition

N.B. Neither of these studies had follow-up data.

Everyone Can Read (Y6-7) had an RG of 9.9 (remarkable).

Helen Arkell Y7 Transition Pilot (Y7) had an effect size of 0.61 (useful), but this was possibly unreliable because mainly due to comparison group having lost ground.

Table A.3.8: List of writing studies for primary/secondary transition in decreasing order of effect size

Study	Year Group	Effect size
Improving Writing Quality	Y6-7	0.74
Grammar for Writing	Y6	0.24

Table A.3.9: List of reading studies for KS3 level in decreasing order of ratio gain for whichever of accuracy (Acc) and comprehension (Comp) is the higher

Key:

RG of 4 or above = Remarkable impact
RG between 3 and 4 = Substantial impact
RG between 2 and 3 = Useful impact

N.B. None of these studies had follow-up data.

Study	Year group	Acc	Comp
Sound Training, large dataset	Y7-9	18.4	
ARROW	Y7-9	18.0	
Sound Training, pilot	Y9	8.7	
Read Write Inc. Fresh Start in Cornwall	Y7		8.0
Boosting Reading, recent data	Y7-9	7.8	
Rapid Plus	Y7-10	4.6	5.7
THRASS in Bridgend	Y7	4.0	5.7
Thinking Reading, 2007-10	Y7-11	5.6	
Thinking Reading, 2010-13	Y7-11	5.4	
Boosting Reading in Derbyshire	Y8		5.0
Boosting Reading in Derbyshire	Y7		4.1
Word Wasp	Y7-9	3.8	
ENABLE PLUS (KS3)	Y7-9		3.7
That Reading Thing	Y7-13	3.5	
Inference Training in Leicester	Y7-9	3.4	
Catch Up Literacy in Nottingham	Y8-9	3.3	
Easyread	Y7-10	3.0	
The LIT Programme	Y7	2.2	2.6
Catch Up Literacy in Wales	Y7-9	2.4	
Read Write Inc. Fresh Start in Leicester	Y7	2.3	
Toe by Toe	Y8-9	2.0	

Table A.3.10: List of reading studies for KS3 level in decreasing order of effect size for whichever of accuracy and comprehension is the higher

Key:

Effect size above 1.0 = Remarkable impact
Effect size between 0.80 and 1.0 = Substantial impact
Effect size between 0.50 and 0.80 = Useful impact

N.B. None of these studies had follow-up data.

Study	Year group	Effect size	
		acc	compre
Sound Training, large dataset	Y7-9	0.83	
Sound Training, pilot	Y9	0.68	
Catch Up Literacy in Nottingham	Y8-9		0.58
The LIT Programme	Y7	0.35	0.46

Table A.3.11: List of spelling studies for KS3 in decreasing order of ratio gain

Key:

RG of 4 or above	=	Remarkable impact
RG between 3 and 4	=	Substantial impact
RG between 2 and 3	=	Useful impact

N.B. None of these studies had follow-up data, or yielded an effect size.

Study	Year Group	RG
ARROW	Y7-9	12.0
THRASS	Y7	4.0
Word Wasp	Y7	2.6

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Table A.3.12: List of writing studies for primary and KS3 levels in decreasing order of ratio gain

Key:

RG of 4 or above	=	Remarkable impact
RG between 3 and 4	=	Substantial impact
RG between 2 and 3	=	Useful impact

N.B. Neither of these studies had follow-up data.

Study	Year group	RG
Write Away Together	Y2-6	4.0
Better Reading and Writing Progress	Y1-6	2.6

Table A.3.13: List of writing studies for primary and KS3 levels in decreasing order of effect size

Key:

Effect size above 1.0	=	Remarkable impact
Effect size between 0.80 and 1.0	=	Substantial impact
Effect size between 0.50 and 0.80	=	Useful impact
Effect size below 0.50	=	Modest impact

Study	Year group	Effect size	Follow-up
Reading Recovery, ECaR in London	Y1	1.63	Further progress over next 12 months
Paired Writing	Y6	0.63	
Paired Writing, cross-ability v. control	Y4	0.33	
Paired Writing, same-ability v. control	Y4	(0.29) *	
Grammar for Writing	Y8	0.21	

* probably unreliable because experimental group made little progress, and the effect size is mainly due to the control group having fallen further behind

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Table A.3.14: Comparisons between experimental and alternative treatment (AT) groups at primary level

N.B. There were no other studies with AT groups yielding analysable data.

Scheme	Finding
Catch Up Literacy, pilot and national studies	Not stated, but experimental sub-sample matched to AT group clearly made much greater progress than that group
Inference Training, Sussex	- On accuracy, all differences in gains among the two experimental and two AT groups were non-significant - On comprehension, Inference Training was more effective for less skilled comprehenders than for skilled comprehenders; Inference Training was more effective than rapid decoding (AT2) for less skilled comprehenders; BUT comprehension exercises (AT1) were just as effective as Inference Training
Inference Training, Glasgow	No stats given, but less skilled comprehenders in experimental group made much more progress than those in AT group
Reading Intervention (original, in Cumbria)	The experimental intervention (Reading with Phonology) was significantly better than both ATs (reading-only, phonology-only) on all three measures

Follow-up data

In many cases the impact observed during educational interventions is found to diminish or even vanish afterwards. Was this true of the schemes analysed here? Of all the schemes studied, only five provided any information on re-tests of participating children at some point after the end of the intervention, namely AcceleRead AcceleWrite in Jersey, Catch Up Literacy, Paired Reading, Reading Intervention (original in Cumbria), and Reading Recovery (in three studies: London and Surrey, ECaR in London and ECaR across Britain and Ireland). For details, see the entries in **chapters 3 and 6**. This paucity of evidence means that generalisations would be unsound, and none are offered in this edition.

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