

INFERENCE TRAINING:

Inference training is both a group intervention and has classroom strategies for KS2 and KS3 to boost reading comprehension

[An information leaflet about Inference Training](#)



[TES Article 2013](#)

[BROOKS 2013](#)
[What works for children and young people with literacy difficulties?](#)



- Boosting vocabulary
- Activating background knowledge
- Making inferences
- Integrating and building meaning
- Promoting enjoyment of reading

[European Centre of Reading Recovery at the Institute of Education London – Article about Inference training.](#)



Information for Trainers

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Inference Training

– a reading comprehension intervention for pupils in KS2 and KS3 who have age appropriate decoding skills but who are experiencing difficulty acquiring full meaning and enjoyment from their reading

Dec 2013



Inference training is a group intervention for pupils in KS2 and KS3 who decode adequately but fail to get full meaning and enjoyment from their reading. Evidence suggests one in ten pupils who decode satisfactorily, fail to get full meaning and enjoyment from reading. We also provide a range of best practice comprehension material and teaching strategies for class teachers in KS2/Year 7 so that “echoes of learning” occur both in intervention and class settings so that pupils generalise their skills.

Inference training is adapted from the work of Nicola Yuill and Jane Oakhill “*Effects of Inference Awareness Training on Poor Reading Comprehension*” (1988). Subsequent work by Cain, Oakhill, Barnes and Bryant, 2001 and Cain and Oakhill 2011, shows the key role inference making plays in reading comprehension.

Inference training places importance on increasing adult sensitivity to the diverse problems pupils may experience in gaining full meaning and enjoyment from text. Studies reveal that pupils with weak comprehension skills read in different ways to effective readers.

Weak comprehenders may..



- Focus on individual words/sentences
- Attach most importance to decoding
- Have a passive style of reading
- Have lower expectations of text making sense and fewer comprehension monitoring strategies
- fewer Read books and are less sensitive to story structure
- Fail to activate background knowledge or visualise
- Apply less integration and inference
- Have a less efficient working memory

Effective readers



- Know that understanding is the goal of reading
- Activate background knowledge and working memory
- Integrate information/ideas and make inferences to get gist
- Have high expectations of text making sense
- Make predictions, ask own questions and watch out for “answers”
- Can visualise when appropriate
- Monitor meaning, notice breakdown and use breakdown strategies
- Read frequently and enjoy reading

A wide range of strategies

Inference training demonstrates key comprehension strategies through “instructional conversations” in groups to help boost reading comprehension. Through reading and interactive discussions, the group:

- Activate and apply prior knowledge to their reading and use title cues to predict
- Identify key words and elaborate on them to enhance meaning, and develop vocabulary
- Generate their own questions and answer them
- Generate inferences and integrate meaning as they read to build a gist
- Summarise a short text extract using visualisation, quick pictures, picto-words and a 10 word or less headline
- Retell an extract to emphasise the gist

The inference training materials include 45 short text extracts for KS2 and KS3 pupils with support notes for adults. Many extracts are from recent award winning titles which have been carefully chosen to contain rich opportunities for pupils to discuss and enjoy. Further readings of the novels are also recommended using multiple copies of texts so that pupils can apply their skills to whole texts.

The group intervention involves groups of 4 pupils taught by Teaching Assistants or teachers. Two sessions of 40 minutes a week for ten weeks-a total of 20 lessons- usually produces significant gains in comprehension.

Impact

Inference training featured in both the 2007 and 2013 editions of Professor Greg Brook’s study *“What Works for children and young people with literacy difficulties”*. Both editions identified inference training as an intervention that offers **significant gains for pupils with weak comprehension skills**. The latest pupil impact data from 326 pupils in KS2 and KS3 shows that during 14-20 inference training sessions, most pupils make 2 sub-levels progress in reading or an increase in reading comprehension of 12 months over 8-10 weeks.



Marriott Primary school in Leicester use a range of effective evidenced based interventions including inference training. Anthony Roberts and Shirley Ledworth work with Y4-6 pupils and agree that *“it empowers the children and gives them more control and insight in their reading. They understand that there is much more to reading than decoding. For us adults, the training and teaching makes us understand the task of the reader much more. The pupils enjoy the sessions enormously.”*

Millie aged 10 comments *“I never used to picture things in my head before and now I do.”*
George aged 11 says *“It helps to show what you have to do when you read, and I like the talking we do in the group.”*

At Sir Jonathan North Secondary School, Y8 students enjoy the small group learning context and agree that *“the talking in a group helps us to read with more understanding and enjoyment. You share ideas about how to read so you understand clearly and learn from each other”*.

Training for Schools



Eighty five literacy specialists, (some employed by LAs and others independent consultants), are accredited **inference trainers** and provide training to schools in England. Training for these accredited trainers is hosted by the Institute of Education in London and trainers undertake a wide range of work in addition to inference training. For schools, training is school based and outlines both how to deliver the group intervention and whole class comprehension strategies. After initial training, follow up coaching for the group intervention and some team teaching in classrooms takes place. Training can be tailored to meet the needs of the school and involves daytime and twilight sessions but allow at least 15 hours of trainer time. Training is particularly effective when schools identify one member of staff to shadow/collaborate with the trainer to ensure work is developed after training has ended.

Initial training	Follow up training
<ul style="list-style-type: none">• Characteristics of reading comprehension and 13 barriers• Work with a sample of pupils at the school who have comprehension difficulties/share with staff• How to deliver inference training	<ul style="list-style-type: none">• Whole class strategies to boost reading comprehension• Follow up/coaching for staff delivering the group intervention• Team teaching in class trying out whole class strategies

Costs of Inference Training

The intervention involves teaching 4 pupils twice a week for 10 weeks, so we estimate the cost per pupil is under £100 if delivered by a Level 2/3 TA or £180 by a teacher. (Adults need 40 minutes teaching time for each lesson and 20 minutes planning and recording, so allow one hour per lesson) This estimate is based on 20 adult hours shared by 4 pupils.)

The costs of the training for a group of up to 24 teachers /Teaching Assistants are trainer costs plus Inference Training folders at a cost of £29 each, plus VAT and postage, (pp for 3 folders £9.04 /pp for 10 folders £14.17/ pp for 20 folders £26.22). Each folder also contains a DVD of 2 lessons (Year 5 and Year 8.) Generally schools purchase one folder between three staff.

The charge for accredited trainers varies from trainer to trainer, and has to be agreed individually, but we feel a minimum of 15 hours trainer time is needed per school.

Although the intervention is aimed at KS2/3 staff, the training sections on the characteristics of reading comprehension and barriers are extremely relevant for Foundation Stage and KS1 staff, since listening comprehension and reading comprehension is closely related.

Acknowledgements

Inference Training was adapted from the work of Yuill and Oakhill by Tony Whatmuff, with acknowledgement and thanks to the following colleagues in Leicester city for their valuable ideas and input.

Emma Kehoe	ASD Specialist
Jo Puttick	Primary Consultant
Harbans Khahra	E2L specialist
Ian Todd	Secondary Consultant
Julie McLay	Speech and Language Practitioner

A special thanks to Jane Oakhill and Nicola Yuill at Sussex University who have given advice and support in developing the November 2013 edition of inference training and acknowledgement to Kate Cain's publication *Reading Development and Difficulties 2010 Blackwell*

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Key Information about Inference Training

- Inference training was highly recommended in Professor Greg Brooks' study *What works for children and young people with literacy difficulties*
- It is for KS2/3 pupils who decode adequately but experience comprehension difficulties
- It is a group intervention but training includes whole school strategies to boost comprehension
- In the group intervention, 4 pupils work with an adult (trained Level 2/3 TA or Teacher) for 40 minutes a session, twice a week for 10 weeks. (But adults need an extra 20 minutes per lesson to include planning and recording time)
- Groups that have two sessions a week for 8-10 weeks make an average of 12 months progress in comprehension age (2/3 sub levels)
- Training can be flexible to suit the needs of a school but allow a minimum of 15 hours trainer time for initial and follow up training
- Training for accredited trainers is hosted by the Institute of Education in London. Trainers undertake a wide range of work in addition to inference training
- The Inference Folder/DVD is only available to schools that access the training.



Inference training: origins and development

**By Tony Whatmuff,
Reading Recovery teacher
leader, Leicester**

Inference training is a group intervention for pupils in Key Stage 2 and Key Stage 3 who decode adequately but fail to get full meaning and enjoyment from their reading. The techniques can also be used in guided and whole class teaching.

Evidence from researchers such as Nation & Snowling (1997) and Cain & Oakhill (2007) suggest one in 10 pupils who decode satisfactorily in Key Stage 2, read accurately but are poor comprehenders.

This article summarises the origins and development of the intervention and refers to future plans and research.

In 2004/5 large numbers of pupils in Leicester City LA seemed to have acquired age appropriate skills in decoding but were experiencing difficulties with reading comprehension and enjoyment.

This was evidenced by listening to the views of SENCOs, literacy consultants and class teachers across the city, as well as an analysis of Year 6 SATs papers. Schools used a range of interventions that focused on decoding but none that explicitly targeted reading comprehension.

My role at this time was Wave 3 lead for literacy and I looked at research into successful approaches to boosting reading comprehension. When I read Yuill & Oakhill's (1988) original research on inference training I decided it would be useful to trial the intervention which focused on:

- Elaborating on key words/phrases
- Question generating
- Adding a Sentence

Pilot

Initially 20 Key Stage 2 and 3 pupils were sampled to see what kinds of difficulties weaker comprehenders were experiencing.

Pupils were asked to read around 250 words of their reading book and some unseen short texts.

Through conversations after the reading, I tried to examine issues in relation to:

- Applying background knowledge to text
- Vocabulary knowledge
- Integration of key ideas
- Inference making
- Ability to summarise

From the interviews I found that pupils usually experienced a cluster of comprehension difficulties rather than single ones, but that the application of background knowledge, integrating key ideas of a text passage and inference making were common problems.

In fact this proved to be in line with future research findings of Yuill & Oakhill (1991/2009), Cain & Oakhill (2007) and Cain (2011).

As a result of working with these pupils, and undertaking a literature review of reading comprehension, I made additions to Yuill & Oakhill's model.

Table 1

School	Key Stage	Group	No. of pupils	Time: Weeks / Sessions	Impact
School 1	KS2	A	38	8 / 15-24	average gain 20+ months comprehension Neale
	KS2	B	35	8 / 24	average gain 12 months comprehension Neale
	KS2	C	23	5 / 24	average gain 12 months comprehension Neale
School 2	KS2	A B	6 6	9 / 12	average 13+ months Neale comprehension
School 3	KS2		18	7 / 14	average 19+ months Neale comprehension
School 4	KS2		80	6 / 18-24	94% made progress 92% made 2+ sub levels 29% made 3+ sub levels 26% made 4+ sub levels
School 5	KS3		4	8 / 8	average gain 4.5+ months Neale comprehension
School 6	KS3 (Y7/8/9)	A B C	45 48 23	14-16 / 16	average gains: 12+ months RA 10+ months RA 15+ months RA (Revised Kirklees/Vernon Reading Test)
(used inference training plus vocabulary enrichment, play reading etc)					
Total number of pupils:			326		

Activating background knowledge and predicting, word definitions and question generating were incorporated into the lesson.

A subsequent working day with five other colleagues resulted in 'get visual' being added.

The final lesson components are shown below:

- Activating background knowledge about the topic before text reading/later predicting from title
- Word definitions (vocabulary) and elaborating on key words/phrases
- Question generating
- Add a sentence
- Get visual (pupils quickly draw/write key words/comments about text extract)
- Write gist as 10 word headline and summarise

The impact of inference training was evaluated by Jo Puttick, a local lead consultant, using the Neale Analysis.

An experimental group of 57 pupils in Year 5 and 6 received inference training for six weeks and a comparison group of 18 did not have the intervention.

On average the experimental group made 13.5 months gain in reading comprehension compared to 4.1 months in the comparison group. This data was included in 'What works for pupils with literacy difficulties' (Brooks, 2007).

A number of subsequent small scale studies were undertaken, including a pilot programme by Bernadette Hall (National Association of Language Development in the Curriculum, 2007).

The findings were that pupils with English as a second language showed impressive gains in reading confidence and enjoyment, with average reading comprehension gains of 18 months over 3 months.

Between 2009-2011 further data was collected for 326 pupils who received inference training (see table 1 above) in Key Stage 2 and 3.

- Average gains for 134 pupils in 6 groups tested using the Neale Analysis (comprehension) were 13.4 months (sessions varied from 8-24 over 6-8 weeks)
- 92% of pupils tested using National Curriculum measures made 2 sublevels progress (80 pupils)

Inference training featured in Greg Brook's (2013) 4th edition of *'What works for children and young people with literacy difficulties'* and found inference training showed remarkable gains in reading comprehension.

In the last 12 months some refinements have been made to inference training, both through working with pupils and due to the suggestions of Jane Oakhill at Sussex University.

The vocabulary focus has been strengthened using a semantic framework technique, placing more emphasis on pupils summarising the gist of the extract. Around 20 new texts extracts have been added.

As 35 Reading Recovery teacher leaders are now accredited trainers of inference training, we are in a position to increase the impact data for the programme. This can be done by using the IDEC site and/or using the grid in the manual and sending it to me for collation.

There are also plans in the future to undertake further research into the impact of inference training and produce case studies of schools using the approach.

References

- Brooks, G., 2007, *'What works for pupils with literacy difficulties? The effectiveness of intervention schemes'*, 3rd edition. London: DCSF
- Brooks, G., 2013, *'What works for children and young people with literacy difficulties? The effectiveness of intervention schemes'*, 4th edition. London: The Dyslexia SpLD Trust
- Cain, K., 2011, *'Reading development and difficulties'*. BPS Blackwell
- Cain, K., & Oakhill, J., 2007. 'Reading comprehension difficulties: Correlates, causes, and consequences'. In Cain, K. & Oakhill, J. (Eds.), *Children's comprehension problems in oral and written language: A cognitive perspective*. New York: Guilford Press.
- Hall, B., 2007, 'Developing inference training with EAL pupils in the primary phase'. In *The National Association of Language Development in the Curriculum, NALDIC Practice Paper 2*. Available at < <http://www.naldic.org.uk/eal-publications-resources/Shop/shop-products/pp2>>[Accessed 10 April 2013]
- Nation, K & Snowling, M., 1997, 'Assessing reading difficulties: the validity and utility of current measures of reading skill', *British Journal of Educational Psychology*, 67 (3), 359-370.
- Yuill, N. & Oakhill, J., 1988, 'Effects of inference awareness training on poor reading comprehension', *Applied Cognitive Psychology*, 2 (1), 33-45.
- Yuill, N. & Oakhill, J., 1991/2009, *'Children's problems in text comprehension: An experimental investigation'*. New York: Cambridge University Press

What Works for Children and Young People with Literacy Difficulties

Main Conclusions

- Although good classroom teaching is the bedrock of effective practice, ordinary teaching (no treatment) does not enable children with literacy difficulties to catch up. Children falling behind their peers need more help than the classroom can provide
- Work on phonological skills should be embedded within a broad approach. Phonics teaching should be accompanied by reading for meaning so that irregular as well as regular patterns can be grasped
- Children's comprehension skills can be improved if directly targeted
- ICT approaches need skilled adult mediation to ensure they meet children's needs
- Where reading partners are available and given training and on-going support, partnership approaches can be very valuable



Interventions in order of highest ratio gain (RG)

RG of 4+ = remarkable impact

ARROW, Bristol
 Inference Training, Glasgow, Sussex, Leicester
 Accelerate/Acceleratewrite in Devon
 Better Reading Partnership in Tameside
 Sound Training
 Photo-Graphix in Bristol
 Reciprocal Reading
 Better Reading and Writing Partners in Leicester
 FFT, Wave 3
 Reading Recovery in Britain and Ireland

RG of 3-4 = Substantial Progress

Paired Reading
 THRASS
 Reading Intervention
 Read Write in Haringey
 Reciprocal Teaching
 Catch Up

RG 2-3 = Useful Progress

Cued Spelling
 Sound Discovery
 ENABLE ONE-TO-ONE
 Lexia in York/Cumbria/Darlington/Norfolk
 Better Reading Partnership in Durham
 Catch Up Literacy – national
 Toe by Toe
 SIDNEY
 Reading Intervention in Cumbria
 Reading Recovery in London

Contact the National Trainer

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2013 November Edition

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- Promoting enjoyment of reading

Inference training was evaluated by Professor Greg Brooks for the DfE in 2007 and 2013 and found it offered significant gains in reading comprehension

Studies show that up to 10% of pupils who decode adequately experience difficulties with reading comprehension.

Inference training is a group intervention for pupils in KS2 and KS3 to boost reading comprehension. Inference Training also provides some best practice comprehension approaches for class teachers, so that intervention and class approaches can be integrated.

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Pupil literacy? The plot thickens

Learning to read may end at primary but for the best results it needs to be ongoing, Helen Ward discovers

HOW MUCH time do you spend teaching reading to children who can already read? As education priorities go it may seem very low down on a very long "to do" list, but in the US there is a move to extend high-level reading instruction into secondary schools.

While teaching children how to read is a key task for teachers dealing with four-, five- and six-year-olds, once pupils have moved from *The Cat in the Hat* to *The Wind in the Willows*, the focus in class shifts from learning to read to reading to learn.

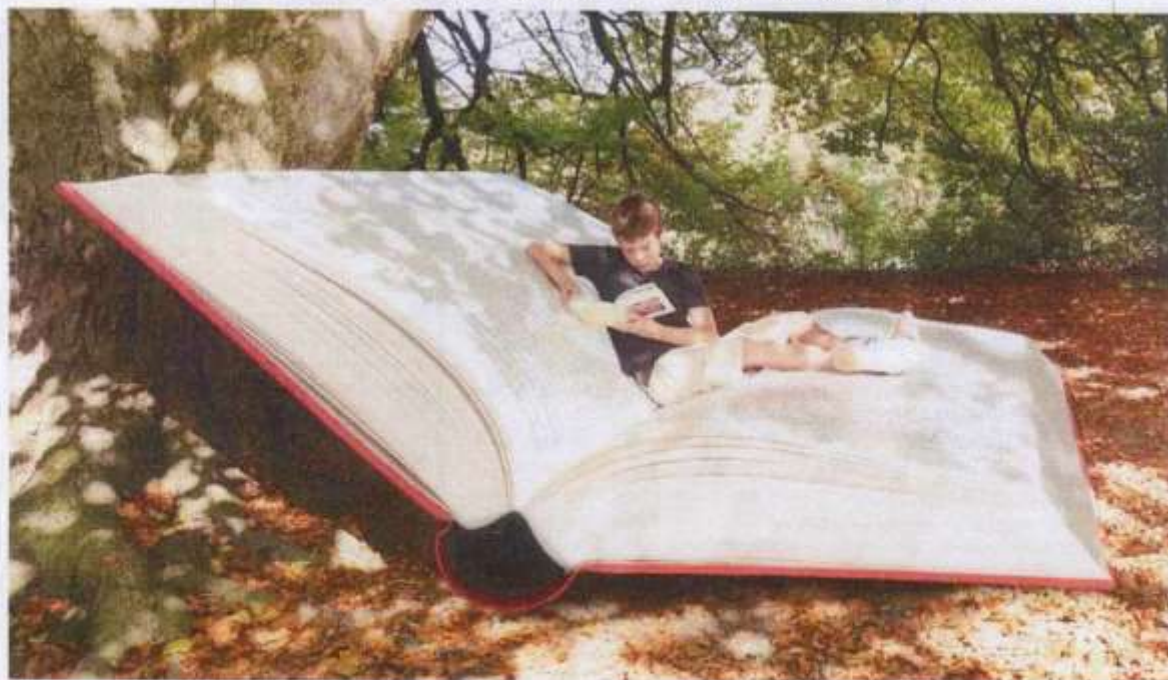
But the Alliance for Excellent Education, a US campaign group with the motto "every child a graduate", argues that while secondary teachers need not provide basic reading instruction, subject teachers should be teaching the literacy

skills that are essential to master their speciality.

"A foundation doesn't make a house," argue Rafael Heller and Cynthia L. Greenleaf in the Alliance's report *Literacy Instruction in the Content Areas*, "and basic skills don't make for high-level competence. Without ongoing literacy instruction, students who are behind in reading when they enter the middle grades likely will never catch up. And those who do read and write at grade level can easily become 14- or 18-year-olds who struggle to understand their textbooks."

Their report points out that while more help is now being given to adolescents who are obviously struggling with literacy, it still leaves them short of the higher level of literacy needed to succeed in post-18 education.

Generic comprehension strategies, such as



reviewing the vocabulary in the text before reading, making notes and summarising at the end, can take a student only so far. If students are expected to produce high-quality work, teachers should help them to become competent at reading difficult texts in their field. Yet the authors say that teachers' expertise in their subject areas can be a curse as well as a blessing, as they can assume that things are as obvious to everyone else as they are to themselves.

The authors conclude: "Literacy makes it possible for students to master the disciplines and because each discipline has its own kinds of literacy, the next step for those working to improve adolescent literacy instruction must be to integrate the teaching of reading and writing more fully into the academic content areas."

The common core standards, which have been adopted in 45 US states, set out what reading skills are required not just for English lessons but across history and social studies, sciences and technical subjects. Students aged 11 to 14, for example, are expected to show that they can distinguish between facts, display reasoned judgement based on research findings and speculate about a piece of text. Reading at this level is not just about the words, it's about discovering meaning – but is that so different in primary?

The simple view

In England, the most widespread model of how we read is the "simple view of reading" identified by Philip Gough and William Tunmer in 1986 and included in the 2006 review of the teaching of early reading by Jim Rose. The model shows two aspects – decoding and comprehension – and is depicted as a cross with comprehension on one axis and decoding on the other. The review recommended that high quality systematic synthetic phonics be taught discretely and as the prime approach in learning to decode. It led the Labour government to make phonics mandatory. The emphasis on phonics has since been stepped up by the coalition government, which introduced a phonics test at the end of Year 1.

But the Rose review was about more than phonics: it pointed out that while the simple view set out separate dimensions of reading, both were essential. It stated: "Teachers also need to be brought up to date with research into reading comprehension. As reading comprehension has now been shown to depend crucially on language comprehension, teachers also need to have good knowledge and understanding of oral language development, and of ways to foster language comprehension."

Greg Brooks, professor emeritus of education at the University of Sheffield, is about to publish the fourth edition of *What Works for Pupils with Literary Difficulties*.

For the 1998 and 2002 editions, he had found comprehension skills to be the most under-researched area of all aspects of reading, but by

The ultimate aim of reading is comprehension

DIFFICULT TO COMPREHEND



From *Children's Problems in Text Comprehension: an experimental investigation* by Nicola Yuill and Jane Oakhill (Cambridge University Press, 1991). (Dots show hesitation, words in brackets show help given by tester.)

"Lianne: John and Ann were fishing. Sunday – no – Friday – Saturday (suddenly) suddenly they heard a ... (splash). A ... (woodman) woodman had fallen into the ... log (lake) lake. He could not swim for he was ... (hurt) hurt. The children tr- tried to pull him out (ashore) ashore. He was too hurt (heavy) heavy. Then John and ... John had the (held) held – no, hang on – John held the man's hand (head) head against (above) above water – doesn't make sense, above water, oh yeah it does – and Ann ran for help.

"Natalie: John and Ann were fishing. Suddenly they heard a splash. A woodman has found (fallen) into the lake. He could not swim for he was hurt. The children tried to pull him a...

shore. He was too heavy. Then John heard (held) the man's head above the water and Ann ran for help.

"Lianne made 10 errors and, based on this test, her reading age was six months below her age. Natalie made two errors and had a reading age one month above her age.

"Then after reading the passage the text was removed and the children were asked questions about what they had just read. Despite her halting pronunciation Lianne gives an acceptable answer for all but one question. Natalie's fluency is deceptive: although she remembers some details of the story – what the children were doing and why they could not pull the man out – her other answers are either failures to remember or confused confabulations mixed with repetitions of fragments of the wording. Her comprehension age is 16 months below her chronological age. Lianne's is just above average for her age."

propedagogy

References

Heller, R. and Greenleaf, C.L. *Literacy Instruction in the Content Areas: getting to the core of middle and high school improvement* (Alliance for Excellent Education, 2007).

Rose, J. *Independent review of the teaching of early reading* (DfES, 2006). bit.ly/TMDusi

Brooks, G. *What Works for Pupils with Literacy Difficulties*, 3rd edn (National Foundation for Educational Research, 2007). bit.ly/RDYw6Z

Draft National Curriculum documents for primary English, mathematics and science (DfE, 2012). bit.ly/Lejr22

Teaching Reading in Europe: contexts, policies and practices (Eurydice, 2011). bit.ly/ZvM2ex

Teaching Children to Read (National Reading Panel, 2000). bit.ly/b3vmUY

Gamse, B. et al. *Reading First Impact Study* (National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, 2008). usa.gov/Sm1WCB

Blancarosa, G. and Snow, C.E. *Reading Next: a vision for action and research in middle and high school literacy*, 2nd edn (Alliance for Excellent Education, 2006).

PIRLS 2011 International Results in Reading (Boston College, 2012). bit.ly/Vngb0v

2007 there had been a proliferation of research and he concluded: "From the evidence now available it can definitely be deduced that children's comprehension skills can be boosted by suitable teaching."

One of the programmes highlighted in a study for *What Works* is inference training, a short intervention aimed at key stage 2 and 3 pupils, which was developed by Tony Whatmuff, Every Child a Reader teacher leader for Leicester City, based on the work of Professor Jane Oakhill and Dr Nicola Yuill of the University of Sussex.

Whatmuff says: "Weak comprehenders and strong comprehenders are reading in different ways. Weak comprehenders are focusing on decoding: they are not activating their background knowledge, not building the gist of a piece, not making inferences."

"We need great phonics teaching, but children also need to be able to make meaning as they are reading. They need to be aware of errors in their decoding. The ultimate aim of reading is comprehension."

The inference training intervention developed in Leicester consists of 40-minute sessions, twice a week over eight weeks. Children are taught in groups of four. There are five aims: boosting vocabulary, activating background knowledge, making inferences, integrating and building meaning and promoting enjoyment of reading. During the intervention children make about 12 months of progress in comprehension.

Teachers choose from 45 texts and the sessions are structured as conversations that include a number of activities. Children circle words they are unsure of and a phrase or word is elaborated on, for example if Billy "howls" it could indicate that Billy is 3 to 5 years old. Other activities include writing a headline that encapsulates the key parts of the story and drawing a picture.

Weak comprehenders

"Because teachers are good comprehenders they don't think about how to do it," Whatmuff says. "They haven't got the sensitivity to the barriers that some pupils face. This training builds up sensitivity to the type of difficulties pupils can have."

"Weak comprehenders don't know they have a problem. If your vision is blurry but you've always had short sight, then you think what you see is normal. Because weak comprehenders have never really got the full message, they don't realise they are missing things. All they understand is that they don't enjoy reading books and therefore they read less. Once they've done this course, reading becomes exciting for them. A lot of students have said that before they did it they never got pictures in their head when they were reading. It's a short intervention, but it seems to be enough to recalibrate the way they read."

The programme is due to go nationwide, with training days planned in London and Manchester this spring.



Catherine Stretton, head of Marriott Primary in Leicester, has introduced the intervention but also uses the techniques across Years 5 and 6, with books such as *Private Peaceful* and *War Horse* by Michael Morpurgo. She says: "It has changed children's approach to reading. A lot of inference training is about stopping when you can't read for meaning and having strategies for finding out what words mean. Our children a long time ago would realise they didn't know a word but wouldn't stop or think they should find out. But now the children have the skills to work out those hard questions and infer what people are meaning or what the author is trying to portray."

Reading comprehension is already part of the national curriculum and remains in the proposed new primary curriculum for 2014. The draft calls for children in Years 3 and 4 to be taught to understand what they read by drawing inferences, predicting what might happen, recalling and summarising, and discussing words and phrases that capture their imagination.

But a report from the European Commission's education information network Eurydice on reading literacy, *Teaching Reading in Europe*, published last year, says reading comprehension is being neglected and that encouraging pupils to read for pleasure – which is closely linked to reading attainment – depends upon it.

"Reading for pleasure is not enough – an awareness of effective reading comprehension strategies is also essential," the Eurydice report states. "Therefore, when boys enjoy reading, read diverse material and adopt reading comprehension strategies, they can attain a higher level of performance in reading than girls."

"Similarly, disadvantaged students who read a diverse range of texts and employ effective reading strategies tend to perform well in reading."

In the US, teaching reading comprehension was one of the National Reading Panel's recommendations in its 2000 report *Teaching Children*

COMPTON



to Read. But some suspect it has not received the same amount of attention as decoding.

In the US the NRP report led to the \$1 billion-a-year Reading First grant programme, which distributed funds to schools for training and resources in five key areas: phonemic awareness, phonics, vocabulary, fluency and comprehension. But an evaluation in 2008 for the National Center for Education Evaluation and Regional Assistance found that while there had been a positive impact on decoding skill, there was no impact on comprehension.

In their 2006 report *Reading Next*, Catherine E. Snow, Henry Lee Shattuck professor of education at Harvard Graduate School of Education, and Gina Biancarosa, assistant professor of educational methodology at the University of Oregon's College of Education, say educators must ensure adequate ongoing literacy development which includes teaching comprehension skills to adolescents and pre-adolescents.

They state: "It is clear that getting third graders to read at grade level is an important and challenging task. But many excellent third-grade readers will falter or fail in later grade academic tasks if the teaching of reading is neglected in the middle and secondary grades."

Fostering motivation

They also point out that motivation becomes an issue among older pupils – explaining why even some skilled readers and writers do not progress in secondary schools. Professor Snow and Dr Biancarosa suggest that students should be given some choice – perhaps built-in independent reading time, common in primaries but often dropped for older children.

Motivation has been an issue in England, even at primary level. The 2006 Progress in International Reading Literacy Study (Pirls) caused concern when it revealed not only that achievement scores had fallen but that pupils in England

had less positive attitudes to reading than many other countries.

The latest Pirls report, published in November 2012, revealed that attitudes are now improving, with just 9 per cent of pupils saying they "strongly agreed" that reading was boring – down from 15 per cent in 2006. And achievement has risen, too. England rose from 15th place to 11th in reading achievement overall, and over the same period the US rose from 10th to 6th.

The survey also assesses four different comprehension skills. In England, scores on reading comprehension were significantly higher in 2011 than 2006. In England and internationally, the average achievement of pupils who began learning a range of reading skills earlier was higher than the average achievement of those who were introduced to the skills later.

Professor Dominic Wyse of the Institute of Education, University of London, and co-author of *The Early Literacy Handbook*, says that one of the difficulties in highlighting the importance of reading comprehension is that it has been seen as something that is done after phonics.

He says: "It is absolutely true to say that vocabulary and reading skills grow through more and more reading but that is not saying that all teachers need to do, once children can decode, is expose them to books. It is a perfectly good idea to develop comprehension and to plan activities in different subject areas – history, science or geography – to encourage comprehension."

But you don't need to wait to talk to children about comprehension skills: predicting what is going to happen in a story, summarising and inference can all be done before phonics teaching begins. "Children engage with text, with their names and the names of objects, before they go to school," Wyse says. "They are exposed to sentences, paragraphs, books. I believe literacy should be taught basically by the context approach. It begins with whole texts, and you use the experiences the child has had to connect the narrative with their lives."

Reading comprehension is attracting interest from researchers and politicians. Research shows that it can improve children's literacy skills if such skills are supported into lower secondary. Comprehension skills can also be taught early and some aspects, such as vocabulary, can begin even before reading starts.

What Works author Brooks says: "A broad vocabulary is a key indicator, in fact a predictor, of comprehension. There are highly imaginative preschool programmes for ages 3 to 6 and that will have an immediate pay-off in early learning of reading and spelling."

"The idea that Jim Rose was trying to get out in 2006 – that reading is built on a richness of spoken language – was lost sight of almost at once. What is additional to phonics should be the use of lots of imaginative language, which should have an emphasis on the fun of reading."

RECIPROCAL TEACHING

Reciprocal teaching is a method designed for pupils who typically score in the bottom third of standardised reading measures.

The teacher models four critical strategies:

- Questioning: pose questions based on a portion of text the group has read, either aloud or silently.
- Clarifying: resolve confusions about words, phrases or concepts, drawing on the text when possible.
- Predicting: suggest what will happen next in the text.
- Summarising: sum up the content, identifying the gist of what has been read and discussed.

Source: Palincsar & Herrenkohl, 2002 cited in *Reading Next* report

Further reading

Kispaal, A. *Teaching Inference Skills in Reading* (National Foundation for Educational Research, 2008). bit.ly/UYrPGJ

Further reading about comprehension

- Almasi, J. F. & Fullerton, S. K. (2012). *Teaching strategic processes in reading ((2nd edition))*. New York: Guilford Press
- Cain, K. (2010). *Reading development and difficulties*. Oxford: Wiley-Blackwell.
- Cole A.D, (2003) *Knee to Knee, Eye to Eye* Heinemann
- Keene, E. O. & Zimmermann, S. (2007). *The mosaic of thought: The power of comprehension strategy instruction (2nd edition)*. Portsmouth: Heinemann.
- Kispal, A. (2008). *Effective teaching of inference skills for reading: Literature (google and on net) review* (DCSF research report 031). London: DCSF.
- Oakhill, J. V., & Cain, K. (2012). The precursors of reading ability in young readers: Evidence from a four-year longitudinal study. *Scientific Studies of Reading*, 16(2), 91-121.
- TES Pro 25 Jan 2013 Pupil Literacy? The plot thickens
- Tovani, C. (2000). *I read it, but I don't get it: Comprehension strategies for adolescent readers*. Portland, M E: Stenhouse Publishers

Illustration of Training Model

Key Features

- Around 15 hours of trainer time, incorporating both initial and follow up training
- Gather sample of pupil profiles with 1-3 staff
- Involve a "link Teacher" who attends all the training and coordinates ongoing support
- Include training for the group intervention *and* class strategies for teachers



Closing the Gap Model used in the National College/CfBT/Curee/University of Oxford project 2013/14 and 2014/15

Pre training model agreed with school/arrangements/roles and timetable agreed

Day 1

10 30 start	Meet with Head/SLT to check overview of training
11.00	Trainer models using the profiler with 2 pupils. Link teacher and staff who will teach the group intervention observe. Filming a few pupils can be powerful (or include sharing DVD clips to promote discussion. A 4 DVD pack available April 2014) Staff try out profiles and work with pupils
After lunch to 2.15	Continue with profiles with above staff.
2.15	Meet together to discuss emerging issues/select one or two profiles to share at twilight meeting
3.15	90 minute Twilight Characteristics of comprehension/barriers

Before Day 2, Link Teacher shares more profiles with staff. Staff try profilers.

Day 2

10.30 start	Trainer begins group intervention training (with Link teacher) Parts 3 of manual to end
lunch	
pm	Initial Training continues and completes
3.15	90 minute Twilight 2 Strategies to use in class

After Day 2 and before Day 3, some options are... Link teacher shares parts of inference lesson with staff eg DVD clips of lesson/shows structure/staff have a go at a lesson with staff trained on day 2 leading groups. Link teacher organises group intervention arrangements. Group intervention starts/link teacher supports

Day 3

Day 3 needs to be tailored around the needs of the school but should happen after group lessons have started and include observation/feedback of group lessons. Possible structure...

9.00	Discussion with link teacher/staff teaching group intervention
	Observation of group lessons eg 3 TAs teach groups in same room simultaneously and trainer/Link teacher observes/feedback
	Observe/team teaching in class with staff trying out strategies from Twilight 2
3.15	Use of DVDs(4 sets) to promote further discussion Meet with link teacher/SLT to action plan

Resources available for accredited inference trainers

- 1 New trainer CD (Nov 2013) with PowerPoint of Nov 2013 edition of manual.
Also contains pdfs of slides to mail to schools accessing training.
- 2 Two DVDs (plus notes) showing examples of whole class comprehension teaching (Read Aloud Think Aloud) plus CD of white board materials.
- 3 *From May 2014...*four DVDs of pupils in Y4-8 reading and talking about texts and reading strategies.
- 4 Single DVD copy of 2 inference training lessons (same one as in new edition of manual)

NB

Items 2 and 4 can also be purchased by schools accessing inference training from accredited trainers (tony.whatmuff@leicester.gov.uk)