



National Research and Development Centre  
for adult literacy and numeracy



# Research Review

## Adult literacy and numeracy interventions and outcomes:

an exploratory study a review of controlled trials

### Synopsis

Systematic reviews of controlled trials relevant to adult literacy and numeracy, plus an 'expert' review, were undertaken by NRDC as part of its work in support of *Skills for Life*. The aim was to provide complementary answers to the question 'What is known from research about effective pedagogy?' The scoping and systematic reviews provide rigorously-derived answers to the question 'What factors in teaching cause adult learners to make progress in adult literacy and numeracy?' The expert review broadened the scope to look at evidence from correlational studies and expert opinion, and to take in the evidence on using ICT to boost adults' skills, and on workplace learning. The reviews concluded that there were very few studies which provided quantitative evidence to answer these questions.

### Key Points

- ❑ The systematic reviews found just enough evidence to demonstrate rigorously in a meta-analysis that participating in adult literacy and numeracy tuition does produce more progress for the learner than not participating.
- ❑ Reciprocal teaching had positive effects on reading comprehension. Of all the pedagogical findings in these reviews this is the best established. Reciprocal teaching is a procedure in which teacher and student take turns leading a dialogue concerning sections of a text. Initially the teacher models the key activities of summarising (self-review), questioning (making up a question on the main idea), clarifying and predicting. Gradually the learner takes over and both the level of

comprehension and the ability to self-monitor it improve.

- ❑ For inmates at a US prison, a 'community-building group process' accompanied by the SRA reading programme had a positive effect on reading.
- ❑ A 'modified numeracy' approach involving relaxation training and other psychological techniques, plus self-directed mastery learning, had positive effects on arithmetic.
- ❑ Phonemic awareness and/or word analysis instruction can lead to increased achievement in other aspects of reading for adult beginning readers.
- ❑ Regular attendance was associated with greater progress.
- ❑ Few other factors thought to influence progress are supported by quantitative, empirical evidence; this is especially true of ICT, workplace provision, numeracy, and writing.

### Background and rationale of research

This study was undertaken by NRDC because no previous systematic reviews had been carried out in the UK in the field of adult literacy and numeracy, so that very little was known about pedagogy based on rigorously conducted trial-based research. To broaden the scope of the project, an expert review carried out in a traditional narrative manner was also carried out.

## Main elements of research

The systematic reviews were carried out according to the most up-to-date and rigorous approach. Over 4,500 references were screened according to explicit exclusion and inclusion criteria. Nine randomised controlled trials\* and nine other controlled trials were double data extracted and quality appraised. The expert review also looked at evidence from correlational studies and expert opinion.

*\* A randomised controlled trial (RCT) is an experiment in which investigators randomly allocate eligible people into intervention groups to receive or not to receive one or more interventions that are being compared. The results are assessed by comparing outcomes in the treatment and control groups.*

## Research team

### Directors

Carole Torgerson, University of York  
Professor Greg Brooks, University of Sheffield

### Research fellows

Jill Porthouse, University of York  
Maxine Burton, Manchester

### Consultants

Kath Wright, Independent information consultant  
Professor Ian Watt, University of York, systematic reviews consultant

### Research Secretaries

Alison Robinson, University of York  
Jacquie Gillott, University of Sheffield

## References and further reading

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## Contact for further information:

Carole Torgerson  
Department of Educational Studies  
University of York  
Heslington  
York YO10 5DD

Telephone: 01904 433 462  
email: cjt3@york.ac.uk



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