



Leading education
and social research
Institute of Education
University of London

Evaluation of Reading Recovery in London Schools: Every Child A Reader 2005-2006

Sue Burroughs-Lange (Dr.) and Julia Douetil
Early Childhood and Primary Education
Institute of Education
University of London

The support of the Every Child A Reader evaluation advisory group, and in particular of Prof. Greg Brooks, and Prof. Roger Beard is gratefully acknowledged. Thanks are due to Dr. Stephen Hunt and Angela Hobsbaum for their assistance with analysis, and to Teresa Kourdoulos for her help in preparing the report. This study was supported by a grant from the KPMG Foundation.

Institute of Education evaluation of Reading Recovery early literacy intervention in London boroughs: class and pupil outcomes

Abstract

This study evaluated the impact of Reading Recovery early literacy intervention on children and classes in London schools. The progress in the 2005-6 school year was compared for 234 of the lowest achieving children in 42 schools serving disadvantaged areas. The children, aged around 6, who received Reading Recovery during the year, were compared with those who received a range of other interventions. Both groups started at literacy levels below that of a 5 year old. Comparison between the groups was made for reading and writing and phonic knowledge as well as oracy, work habits, social skills and attitudes to learning. Those children who received Reading Recovery achieved significant gains in all assessments compared with the group who did not.

At the end of the year the children who had received Reading Recovery had an average Reading Age of 6 years 7 months. The comparison group were 14 months behind with an average Reading Age of 5 years 5 months. Boys and girls did equally well in reaching age appropriate levels after Reading Recovery. In the comparison group the girls were 3 months ahead of boys.

Interventions for the lowest achieving Year 1 children in non-Reading Recovery schools were predominantly carried out by teaching assistants rather than teachers. A surprising number of children were not reported to receive any form of support, even though they had been identified as the lowest attaining in their class.

The study also evaluated impact at class level. A word recognition and phonic skills measure was used with all children in the Year 1 classes in schools with Reading Recovery (605 children) and without Reading Recovery (566 children). Classes in Reading Recovery schools ended the year with an average class reading age 4 months above that of comparison schools.

Early Literacy Intervention: what can it achieve?

Intervention for children experiencing difficulty in getting underway with literacy learning has become an established part of schools' provision and of national educational policy, (National Reading Panel, 2000; Earl et al., 2003; DfES, 2003). Research evidence on the effectiveness of literacy interventions with differing theoretical bases and various implementation characteristics has produced varied conclusions (e.g. McIntyre et al 2005; Vellutino et al 2004). This causes difficulties for schools and systems in trying to evaluate what will be most successful for the particular demography and learning needs of their children.

With 6% of children (including nearly 1 in 10 boys) leaving primary schools in England without the most basic skills in reading (DfES 2006), this is an urgent matter.

Brooks et al (1998) and again (2002) provided valuable reviews of evidence about the effectiveness of interventions with the intention of assisting schools and systems

to make informed choices. With one exception, however, the best performing of those programmes only offer the possibility of a doubling the rate of progress in children's literacy learning. For the 6% still unable to read and write at 11, this degree of accelerated progress still leaves them falling further behind their peers. This percentage has remained broadly static since the introduction of the National Literacy Strategy.

There is more at stake than merely raising school standards. A review of research of social outcomes for children with literacy difficulties suggest that signs of wider difficulties begin to emerge early in the primary years (Wanzek et al., 2006). The achievement gap, once in place, is highly resistant to change (Alakeson, 2005; Bynner & Parsons, 1997). Poor literacy that continues into adolescence and adulthood has many serious implications for society beyond those directly associated with education. The relationship between poor literacy and social exclusion are of concern to politicians (Feinstein & Sabates, 2006), and intergenerational persistence particularly in urban areas is even more alarming (Cooter, 2006).

Early intervention is perhaps better characterised as a preventative strategy when this longer term impact is considered. For example, Boot et al. (2006) make a "novel" suggestion in that effective instruction can be used as "a conspicuous strategy for dropout prevention". The review by Velluntino et al. suggest that after high-quality (1 to 1) tutoring, it is possible to reduce the incidence of reading difficulties to 1.5% of the population rather than 10 -15% as is commonly maintained (2004:28).

Responding to literacy difficulties early means the achievement gap is less and the potential for bridging it is increased (Pianta, 1990). The National Literacy Strategy recognised this and introduced the concept of waves of teaching responses matched to children's needs in intensity and with a particular focus for their learning. The Early Literacy Support group intervention for children in Key Stage 1 has been variously evaluated (e.g. Soler & Paige-Smith, 2005) demonstrating some success with children who experience mild difficulties in literacy. Other group teaching responses focusing mainly on early phonic training, have also reported success with children with less challenging problems, e.g. Hatcher's (2006) 'Reading Intervention' and in Clackmannanshire (Johnston, R.S., & Watson, J., 2005). But none of these evaluations of group intervention report success with the very lowest achieving children, and in some cases these were deliberately excluded from studies.

Vellutino et al.'s (2004) review of intervention studies over the last 40 years offered two positive outcomes for effective early intervention. Firstly, successful intervention can return children to a normal growth trajectory, and those studies that include follow up provide a check on maintenance of this trajectory. Secondly, the far fewer children who fail to benefit sufficiently from an otherwise effective intervention are securely identified for longer-term assistance.

Why evaluate Reading Recovery? It has been shown to be highly successful with the low achieving population which it serves (Hurry & Sylva, 2006). It is one of nineteen interventions for which Brooks (2002) found evidence of substantial impact with children making around four times the normal progress over the programme. There is follow up research on the sustainability of gains made in Reading Recovery, (Briggs & Young, 2003; Schmitt & Gregory, 2001; Fraser et al., 2001; Moore & Wade, 1998). It is far less interested in average gains and focuses attention on the proportion of children receiving the programme who reach age appropriate literacy levels. This has greater merit for schools, children, their families and society. Reading Recovery is typically available in schools serving the most disadvantaged neighbourhoods, where schools find it very hard to raise expectations of what's possible for these children.

But it is important to establish that these reported gains would not occur naturally for these lowest achieving children without the intensive, and sometimes considered expensive, intervention of Reading Recovery. Whilst every year for the last 13 years, data on the literacy progress of all children who received RR literacy support has been collected and reported publicly (Douetil, 2006), there has been no evaluation which included comparison groups since 1995 (Sylva & Hurry, 1995; follow up, Hurry & Sylva, 1998; SCAA; and Plewis, 2000 on the methodological issues).

Introduction

This study evaluated the impact of Reading Recovery (RR) early literacy intervention on children and classes in London schools where the programme has been partially supported by charitable foundations and DfES through *Every Child A Reader, 2005-6*. The literacy progress of the lowest achieving 6 year olds who had access to Reading Recovery in their schools was compared with children at similar low achievement levels in similar schools with no access to Reading Recovery.

Aims

The aims of this evaluation were:

- ◆ to evaluate the effectiveness of Reading Recovery in raising the literacy achievements of struggling readers in Year 1 and to monitor their sustained improvement one year later at the end of Key Stage 1 (Year 2);
- ◆ to explore the impact of Reading Recovery on other aspects of children's behaviour and attitudes at school;
- ◆ to explore the impact of Reading Recovery on the literacy levels of Year 1 classes through having access to the programme for the weakest readers;
- ◆ to evaluate the impact on the teaching and learning of literacy in Key Stage 1 of a Reading Recovery teacher who takes on a wider literacy leadership role.

Method

The design is a short-term evaluation comparing the literacy attainments in schools and classes with and without Reading Recovery and children who have received the programme with those who have not. Children selected for Reading Recovery in Year 1 will be monitored at the end of Year 1 and again at the end of Year 2, and their progress will be compared to similar children in schools where Reading Recovery is not available.

Year 2 follow up and wider impact on literacy will be reported at the end of the second phase of the evaluation in 2007.

The Sample

The London boroughs:

The London boroughs selected for the Reading Recovery and comparison samples are among the lowest achieving in England, with very high proportions of children entitled to free school meals. These school contexts have been shown to be among the hardest for raising the achievements of the very lowest groups.

In 2005, five London boroughs had Reading Recovery provision in some of their schools. In most cases this was re-activated or expanded to enable a half time Reading Recovery teacher to work in selected schools through funding from Every Child A Reader. The five other London boroughs were selected to form the comparison group because they were similar in population characteristics and KS1 achievement levels. Their involvement was sought because they were to be among Local Authorities (LAs) beginning to implement Reading Recovery in year 2006-7 when they would have access to Reading Recovery teacher training. Information on literacy attainments provided by this study would provide these LAs with a baseline against which to evaluate their involvement in Reading Recovery early intervention in the following year.

In the five LAs with Reading Recovery, on average 8.2% of children were achieving **below** the competency of a 7-8 year old, (Level 3) at the end of KS2 literacy assessment when they were 11, with a range from 6.6% to 9.5%. The five LAs with no schools with Reading Recovery averaged 8 % of children **below** Level 3, with a range of 7.2% to 9.8%. This shows that the authorities were well matched in terms of overall levels of underachievement at the end of primary schooling. Both groups included some schools with much higher numbers achieving below that level. These were the schools that were recruited for the study.

Table 1:
Key Stage 2 Literacy and related characteristics at Local Authority (LA) level

LAs WITH SOME RR	Literacy below Level 3 at 11 years	English as Additional Language learners (EAL)	Children entitled to Free School Meals (FSM)
Greenwich	8.1%	27.5%	35%
Hackney	9.8%	52.6%	40.7%
Southwark	9.5%	39.1%	36.4%
Brent	7%	55.8%	29.5% **
Hammersmith & Fulham	6.6%	42.9%	44.8%
LAs WITH NO RR			
Islington *	8.4%	39.8%	42.8%
Lewisham	7.3%	29.2%	27.8%
Lambeth *	7.5%	47.3%	37.9%
Haringey	9.8%	52.6%	34.8%
Barking & Dagenham	7.2%	20.5%	25.6%

(2005 figures, at time of selecting sample)

* Both these LAs have previously trained RR teachers but have not provided RR intervention in the last 3 years. Not known how many ex-RR teachers remain in those schools.

** This figure is considered to underestimate the level of eligibility as Brent at this time had no kitchens offering hot meals. This has since changed and more families are claiming FSM.

The Schools:

In five London boroughs, 21 infant and primary schools were identified, who in 2005-6 had a Reading Recovery teacher providing literacy intervention in Year 1. In five London boroughs where no schools had any Reading Recovery teaching, 21 schools were nominated by the LA as of most concern for high numbers of children with poor performance in literacy. In these 42 schools the eight children considered lowest in literacy, and their Year 1 classes, formed the sample for this evaluation.

Table 2:
Demographic characteristics of schools with RR and Comparison schools

	Free School Meals		English as an Additional Language		No. children on school roll		No. children in Year 1	
	With RR	No RR	With RR	No RR	With RR	No RR	With RR	No RR
Mean	39.6%	44.2%	49.2%	48.3%	353.4	356.1	45.1	48.9
SD	21.9	15.10	16.8	21.8	118.5	113.5	17.9	16.3

21 schools from 5 London boroughs in each sample group- means and standard deviations (SD)

None of these differences reach statistical significance.

Year 1 classes and lowest achieving children:

One Year 1 class in each of the 42 schools was selected. Mixed age classes were excluded in two form entry schools the lowest attaining class as nominated by the school was selected for inclusion in the study.

Table 3:
Characteristics of Year 1 classes and lowest achieving groups, Sept 2005

	Age				Gender			
	Year 1 class		Lowest achieving group		Year 1 class		Lowest achieving group	
	With RR N=605	No RR N=588	With RR N=145	No RR N=147	With RR N=605	No RR N=588	With RR N=145	No RR N=147
Mean	5 yrs 7 m	5yrs 8m	5yrs 9m	5yrs 10m	51% boys	50.5% boys	48% boys	52% boys
SD	3.7	3.5	3.3	2.4				

None of these differences reach statistical significance.

At the start of the year the lowest achieving groups are well matched on gender and age across schools with RR and those without.

Literacy assessment

Complete Year 1 classes and the lowest achieving eight children within them, were assessed in each of the 42 schools in September 2005 and again in July 2006. Alternate forms of assessment, where available, were used at re-test.

Year 1 classes

A word recognition and phonic skills measure (WRAPS, Moseley 2003) was used with all children in the Year 1 classes, 605 in schools with Reading Recovery and

566 in schools where there was no Reading Recovery. These children constituted the complete Year 1 classes and included the 292 lowest achieving children who were also diagnostically assessed. Unique Pupil Numbers were collected for children in the study. This was to assist in checking class membership and tracing 'lost' children at the end of the year.

Class assessments were administered by the trained research assistants (RAs) with the class teachers present.

Table 4: Literacy scores of Year 1 classes in RR and Comparison schools at sample selection (September 2005)

	Year 1 classes in schools with RR		Year 1 classes in schools with no RR	
	N = 605 children		N= 566 children	
	Mean	S D	Mean	S D
WRAPS age in months	61.7	8.7	61.3	8.6
WRAPS standard score	100.5	15.2	100.5	14.3

Statistical analysis did not indicate any significant difference in word reading and phonic skills at class level between the two sample groups at the beginning of the year.

A class teacher measure, Teachers' Beliefs About Literacy Questionnaire, (TBALQ Westwood, et al. 1997), was used at the beginning and end of the year, to review whether having access to RR for the weakest readers in class, and having Reading Recovery teachers' expertise available in the school, influenced the class teachers' beliefs about literacy teaching.

Lowest achieving pupils: The previous Reception teachers and current Year 1 class teachers and school records were consulted to identify the eight children in each class whose progress in literacy learning was of most concern.

Assessment tools were selected to measure a range of early literacy skills in reading, writing and phonic skills.

The standard Reading Recovery diagnostic profile (An Observation Survey of Early Literacy Achievement, Clay 2002), (Denton et al., 2006) and the British Abilities Word Reading Test II (BAS, Elliott, 1986) were used to assess the 8 lowest achieving children in Year 1 (292 children; 145 in 21 RR schools, 147 in 21 comparison schools). This literacy profile assesses concepts about print; letter knowledge; known words in writing and phonic analysis for writing; continuous text reading in books; and word reading in isolation.

The Observation Survey and BAS word test were administered individually to each of lowest achieving eight children in a quiet space away from classroom distractions. It usually takes about half to three quarters of an hour to complete each child's assessment.

All research assistants were Reading Recovery teachers previously trained in OS assessment procedures including administering the BAS word reading test. It was previously known to most of the Research Assistants, which authorities have Reading Recovery so it was not possible to send them 'blind' to whether they were

assessing in a school with or without RR. However none of the children at the beginning of Year 1 will have had any RR teaching.

Literacy profiles of these lowest achieving children are presented at start of year, for those attending schools without access to Reading Recovery and those at schools where the pupils had not yet been assigned and were potential candidates for Reading Recovery.

Table 5: Literacy scores of lowest achieving Year 1 children in RR and Comparison schools at sample selection (September 2005)

Literacy assessment		Children in schools with RR N= 145		Children in schools with no RR N= 147	
		Mean	S D	Mean	S D
1	Book Level	0.98*	1.64	0.56	0.07
2	Concepts about Print	10	3.9	9.9	3.5
3.	Letter ID	35.6	15	34.7	15
4.	Hearing and recording sounds in words	12	10.5	12.6	9.7
5.	Writing words	5.7	5.4	6.5	7
6.	BAS Word Reading Age	4yrs 11m	2.2	4yrs 10 m	2.2
7.	BAS Word Reading Standard Score	101	15	99	15
8.	WRAPS Age	4 yrs 9 m	5.8	4yrs 10 m	5.5
9.	WRAPS Standard Score	100.3	15.4	100	15

* significant difference at $p < .05$

At the start of the year statistical analysis did not indicate significant difference in literacy measures (WRAPS), between the two sample groups of Year 1 classes. Of the sample of lowest achieving children, children in schools with Reading Recovery had slightly higher mean scores on Book Level (text reading) than children in schools without Reading Recovery. This significant difference was controlled in analysing results at end of year. However, the mean Book Level below 1 for both groups indicates that on average, none of the children in either group could read a book of any kind. Level 1 books are very simple repetitive caption books with pictures carrying the message. On all other measures the literacy achievements of the children in both groups are very similar.

Attitudes to behaviour and learning: At the end of the year, a class teacher report was used to collect information on changes in attitudes to learning and self-confidence of the lowest attaining children as they were about to move into Year 2.

Literacy Interventions: Information was also collected on which, if any, literacy interventions had been provided to the 292 lowest achieving children during the year.

(Not reported here, but at the end of 2006-7 school year, at the end of Key Stage One for these children, results will be collected on WRAPS again and a whole class measure of spelling and reading. The end of Key Stage reading and writing results of children in the sample will also be collected. These sources of data will be used to monitor the sustainability of any earlier gains identified in the first year assessments).

Results - Year 2005-6

Results are reported for children in Year 1 classes in 42 London schools. The comparisons centre on the literacy achievements of children in those classes, together with more detailed profiles for those children who started the year as the lowest achieving in their class, and changes in attitudes and proficiency in learning as reported by their teachers.

Year 1 classes: Change in literacy proficiency as measured by WRAPS
(Form A & B, Word reading and phonic skills)

The alternate form of WRAPS test B was used at the end of the year with the same Year 1 classes. Children who joined the class during the year were also assessed. Their results are not reported here, but were passed to the school. If children had left the class since Easter, test booklets were sent to their new schools, where known, with administration instructions and request to assess.

Table 6: Year 1 Class WRAPS outcomes – Sept 2005 and July 2006

	Classes in schools with RR N= 600				Classes in schools with no RR N= 566			
	Beginning of year		End of Year		Beginning of Year		End of Year	
	Mean	S D	Mean	S D	Mean	S D	Mean	S D
WRAPS Age in months	61.7	8.7	77.5	11.5	61.4	8.6	73.5	11.5
WRAPS standard score	100	15	102.5	14.7	100	14.2	97	14.9

Statistical analysis indicated no significant differences between the two groups at the start of the year. Differences between groups at the end of the year were significant at $p < .05$.

At the end of the year as measured by WRAPS test, children in Year 1 classes in schools without access to Reading Recovery were 4 months behind children in Year 1 classes in schools with access to Reading Recovery. They had made 12 months progress over the school year (September to July). In schools with access to Reading Recovery the classes had made accelerated progress, i.e. 15 months progress in the school year. Given that these were low performing classes at the start of the year, accelerated progress will be required if they are not to fall further behind age norms. The standardised scores on WRAPS show the classes in schools with RR have not only kept place with expected progress for age but are 2.5 points ahead at the end of the year. In contrast the standardised scores for classes in schools with no RR have fallen 3 points below expected rates of progress by the end of the year.

This difference between schools with and without access to RR demonstrates the effect of successfully raising the literacy level of the lowest achieving group of children, but may also show some impact of RR expertise being employed in the classroom and in other less intensive interventions matched to differing children's needs.

Literacy achievement of lowest achieving Year 1 children: beginning and end of year comparisons

The full Observation Survey of Early Literacy Achievement (Clay 2002) and the British Abilities Scales Word Test II were re-administered individually to all the lowest eight children remaining in the comparison schools and schools with RR, in July 2006. Some children who had recently left their school were located at their new school and a RA went to re-assess them (including one child fostered in Norfolk). All these children were also included in the class administration of WRAPS Form B.

Firstly the progress of children who received Reading Recovery during the year is compared with children in comparison schools.

Table 7. Initial and Final Literacy profiles of lowest groups

Measure	Comparison schools with no RR N= 147				Children who received RR teaching in the year N= 87				Effect Size:d
	Initial Test		Final Test		Initial Test		Final Test		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Book Level	0.56	0.07	4.4	5.2	0.98*	1.2	15* [†]	4.7	2.1
Concepts About Print	9.8	3.5	14.81	3.6	10.1	3.4	19.4*	2.7	1.4
Letter ID	34.7	15	46.04	10	37.55	12.3	52.7*	2.5	0.81
Hearing and Recording Sounds in Words	12.6	9.7	25.9	9.9	12.4	10.2	35*	0.4	1.1
Written Vocabulary	6.5	7	20.6	13	6.2	5.2	45.4*	19	1.6
BAS Standard score	99	15	94	11	103*	16	111* [†]	15	1.3
BAS age in months	58	2.2	65	.7	59	2.1	79*	9.1	1.5
WRAPS Standard score	100	15	96	13	102	15	107*	14	0.84
WRAPS age in months	58	5.5	69	8.6	59	5.8	75*	8.2	0.76

* mean significantly greater than that of corresponding Comparison group's, $p > .05$.

† Analysis controlled for initial test scores.

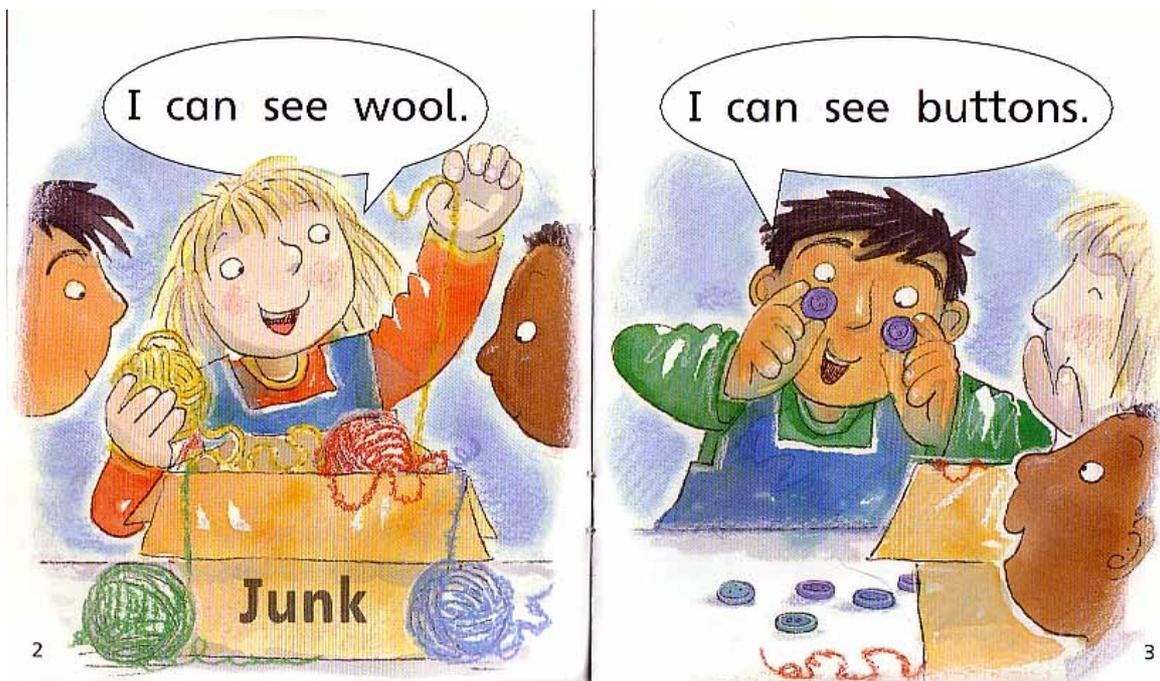
Significant differences were found on all literacy-related measures used. The effect sizes are large, calculated on a 0-3 scale with uni-variate analysis, (Coe, 2002). Children who received Reading Recovery were at age appropriate levels across all assessment measures at the end of the year. Comparison children were not.

Reading

In reading age (BAS) children without access to Reading Recovery made 7 months gain over the year, widening the gap between them and their average peers. Children who received Reading Recovery made 20 months gain during the year and were comfortably within average levels for their age.

In text reading, children who received Reading Recovery were, on average, more than 14 book levels higher than at the beginning of the year. Level 15 equates to National Curriculum level 1A. It is considered to be an appropriate text level to transfer to Year 2 and achieve nationally expected attainment (Level 2+) at the end of Key Stage 1. Children without access to RR on average made 4 book level gains. A level 4 book is a very simple text and does not enable children to access the Year 2 curriculum. Children reading at this level are still at Level W in National Curriculum terms (Working towards Level 1). They are very unlikely to achieve nationally expected attainment at the end of Key stage 1.

At the beginning of the year the sample of children with the lowest literacy scores in their Year 1 classes could scarcely read a book with a repetitive text such as the one below.



Page from Level 1 Book

The children who received Reading Recovery during the year, on average, improved their reading from below level 1 to Level 15, as shown in the example below.

The day of the competition came at last.

"I wonder who's won," said Emma.

"Let's go and find out," said Mum.



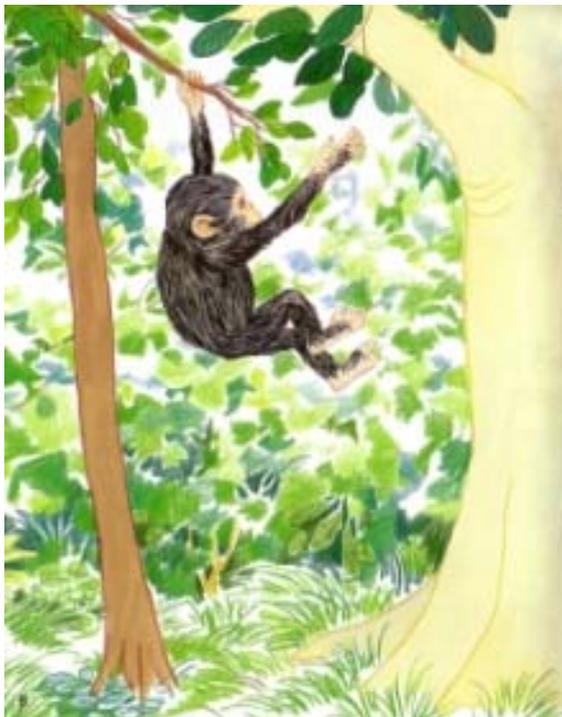
There was a big crowd outside the shop.

Emma's poster was right in the middle of the shop window.



Page from Level 15 Book

Those children in schools where Reading Recovery was not available were only able to manage to read at text like this (Book level 4) as they moved into Year 2.



Little Chimp is going
up and down,
up and down.

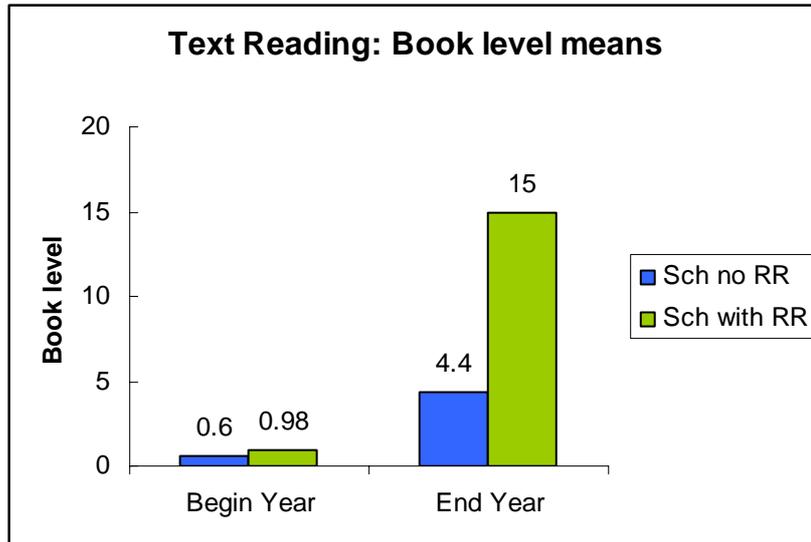


Page from Level 4 Book

Figures 1, 2 and 3 below show that children in schools unable to access Reading recovery during the year are at least a year behind the children who received Reading Recovery and also behind age expectations – whether text reading, word reading or phonic knowledge are used as indicators of reading achievement.

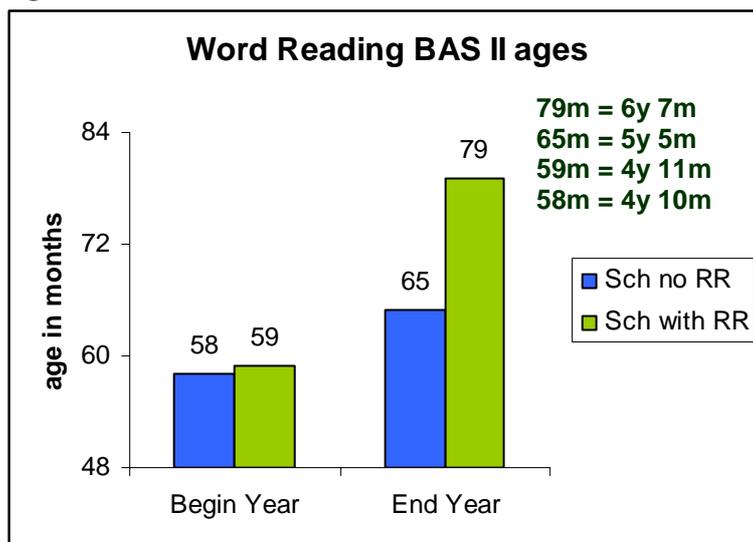
Figure 1 shows progress in text reading over the school year 2005-6, for the two groups, children who received RR and those who did not have access to RR.

Figure 1



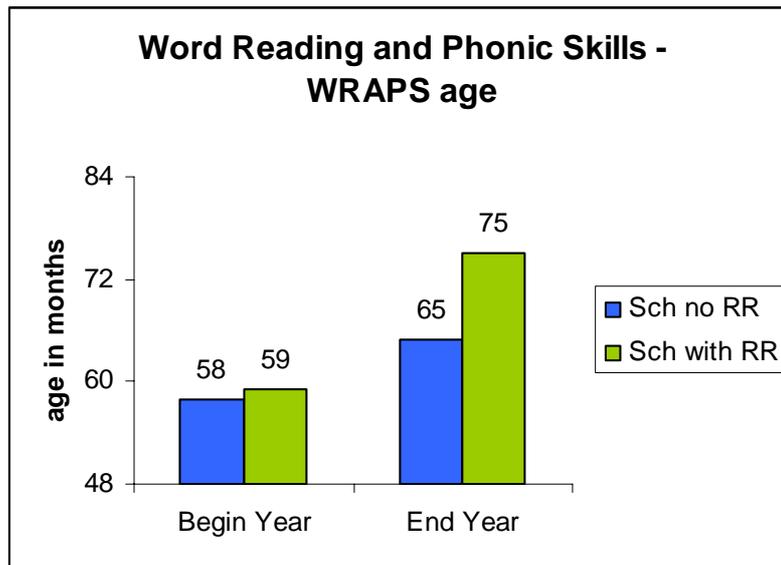
The children were also assessed on reading single words in on a standardised test. Figure 2 shows that standardised scores for ability to read single words (BAS II) confirm the same achievement gap as in text reading (Book levels), between the lowest achieving groups who did and did not go on to receive Reading Recovery literacy intervention.

Figure 2



Single word reading and phonic knowledge were also assessed (Figure 3).

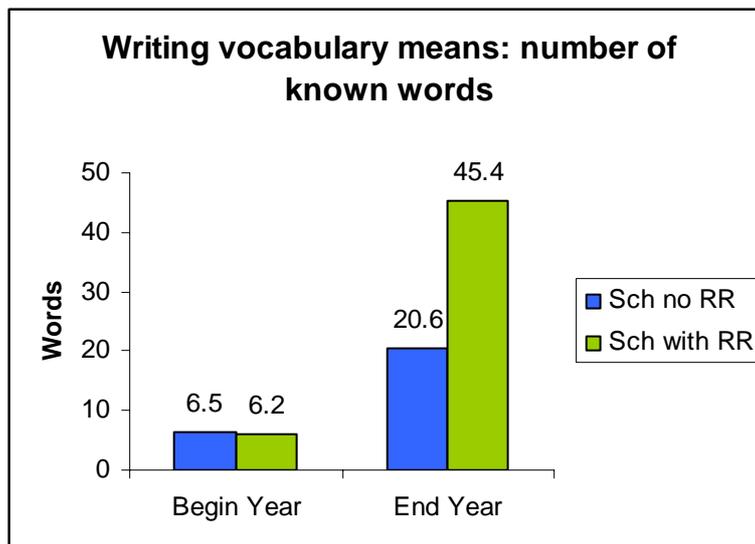
Figure 3



Writing

Significant effects were also found for writing. Figure 4 shows that in writing, children who received Reading Recovery could write around 6 words correctly at the start of year and more than 45 words at the end. Children without access to RR could write correctly fewer than half that number of words. Children able to correctly write around 45 frequently occurring words have become fluent writers for their age.

Figure 4



Variability within groups

In the group who received Reading Recovery not only are the mean scores on all assessments significantly higher than in the comparison group, but the standard deviations in almost all cases are lower. This suggests that whilst Reading Recovery brought all children who received it to similar levels, in the comparison group, some children may have improved but many others may have made very little progress

At the end of the year there is little overlap between the literacy achievement levels between the two groups of children. Amongst this group of children who all started the year at equally low levels of literacy, those children who were the lowest achieving at the end of the year but had received RR were ahead of the highest achieving comparison children.

Gender differences

Given the higher numbers of boys failing to reach age appropriate levels in reading and writing in national assessments, it was interesting to see the impact on boys' achievements in the schools with and without Reading Recovery (Table 8).

Not surprisingly more boys than girls were assessed as very low achieving and in need of literacy support both in RR and non-RR schools.

Within the low achieving group, however, boys and girls had similar levels at the start of the year. At the end of the year in schools without Reading Recovery both boys and girls were reading at well below age-expected levels, but the girls had overtaken the boys. This was not the case for children who received Reading Recovery, where boys and girls had similar age-appropriate reading levels at the end of the year.

Table 8: Reading age outcomes and effect size for boys and for girls

Measure	Children in comparison schools with no RR					Children in schools who received RR					Effect size:d
	N	Initial score		Final score		N	Initial score		Final score		
		Mean	SD	Mean	SD		Mean	SD	Mean	SD	
BAS score in months Boys	92	58.7	2.8	64.2	8.9	52	58.7	2.3	78.5	9.2	1.6
BAS score in months Girls	50	58.3	1.4	67.4	9	34	58.5	1.9	78.4	8.9	1.2

The effect size for progress in boys' reading is very large because boys did so badly in schools without RR, only on average making 6 months progress in the year compared to 20 months progress for boys who received RR.

The progress of children in schools with RR but who did not access RR

In schools in our sample the proportion of children who are low achieving is very high. Even in schools with a Reading Recovery teacher there may not be enough places for all those who need the intervention to access it. Our research assistants indicated that some of those children who missed out were going into RR late in the year and would continue RR lessons into year 2.

The progress of these children is compared with that of children who received RR, and comparison children in schools without Reading Recovery (Table 9).

Table 9: Initial and Final Literacy Profiles of Three Groups

Measure	Children in schools with no RR N= 147				Children in schools with RR who did not receive RR N= 58				Children who received Reading Recovery in the year N= 87			
	Initial Test		Final Test		Initial Test		Final Test		Initial Test		Final Test	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Book Level	0.56	0.07	4.4	5.2	1.2	2.2	8.2	7.1	0.98*	1.2	15.3*^	4.7
CAP	9.8	3.5	14.8	3.6	9.9	4.5	15.7	4.5	10.1	3.4	19.4*	2.7
LID	34.7	15	46.0	10	32.6	18	45.4	13.3	37.6	12.3	52.7*	2.5
HRSW	12.6	9.7	25.9	9.9	11.15	11	26.8	11.8	12.4	10.2	35*	0.4
Written Vocab.	6.5	7	20.6	13	5	5.5	28.4	22	6.2	5.2	45.4*	19
BAS standard score	99	15	94	11	98.1	14	99	15	103*	16	111*^	15
BAS age in months	58	2.2	65	9	58	2.5	69	11.4	59	2.1	79*	9.1
WRAPS standard score	100	15	96	13	98	16	100	17.6	102	15	107*	14
WRAPS age in months	58	5.5	69	8.6	59	6	71.1	11	59	5.8	75*	8.2

* mean significantly greater on all measures than that of either Comparison group's, $p > .05$.

† Analysis controlled for initial test scores.

The low achieving children who missed out on a RR place in their school, on average, still doubled the book level gains compared with children in schools without RR. A level 8 book (mean for within RR school comparison) is not at age appropriate level but national Reading Recovery data indicates that children reading at that level of complexity of text are able to continue to make average rates of progress in Year

Sample Attrition

Table 10 presents the initial literacy scores for the lowest achieving children in their classes at start of the year, but who had left school or were absent when final assessment took place. Their scores are similarly distributed across groups and their 'loss' has not affected the differences between groups at final outcomes.

The samples are too small to draw any inferences from the difference between the number of lowest achieving children who left or were absent from schools without RR at the end of Year 1 and the number in schools with RR.

Table 10. Initial Test Scores For Lowest Achieving Pupils who Failed to Complete Final Tests

Measure	Children in schools with no RR N= 20		Children in schools with RR N= 10	
	Initial Test		Initial Test	
	Mean	SD	Mean	SD
Book Level	0.86	1	1.1	1.2
CAP	11	4	8.7	4.9
LID	32	17	26	17
HRSW	11	11	9.4	13
Written	5.4	5	8	13
BAS age	59	3.5	63	7
WRAPS age	58	5	57	7

Impact of changes in literacy proficiency on children’s attitudes to learning and classroom behaviour

At the end of the year, Year 1 class teachers were asked to complete a report on change in attitudes to learning and self-confidence of the lowest attaining children as they were about to move into Year 2. Class teachers were asked to complete a report form for each child in the sample lowest group at the time of re-assessment, July 2006. This reporting format was taken from Quay et al’s (2001) study of changes in children’s classroom learning and social behaviours after experiencing success in literacy intervention. Class teachers are asked to indicate whether over the year, there has been “No growth, Marginal growth, Average growth; Above Average growth, and Exceptional growth” for nine aspects of learning and behaviour.

This measure depended on teachers’ knowledge of the individual children in the lowest achieving group at the start and end of the year. Some of the classes had a change of teacher during the year and information on those classes could not therefore be collected.

Class teacher estimates of change over the year for children in schools without RR and for children who received Reading Recovery are shown in figures 5-8 and Table 11. Estimates were summed into three categories of “None, or Marginal Growth”; “Average Growth” and “Above Average and Exceptional Growth”. Results are presented as histograms which show the percentage of children at each of these categories, in the areas of Oral Communication, Reading Comprehension, Ability to Follow Directions and Self Confidence.

Figure 5

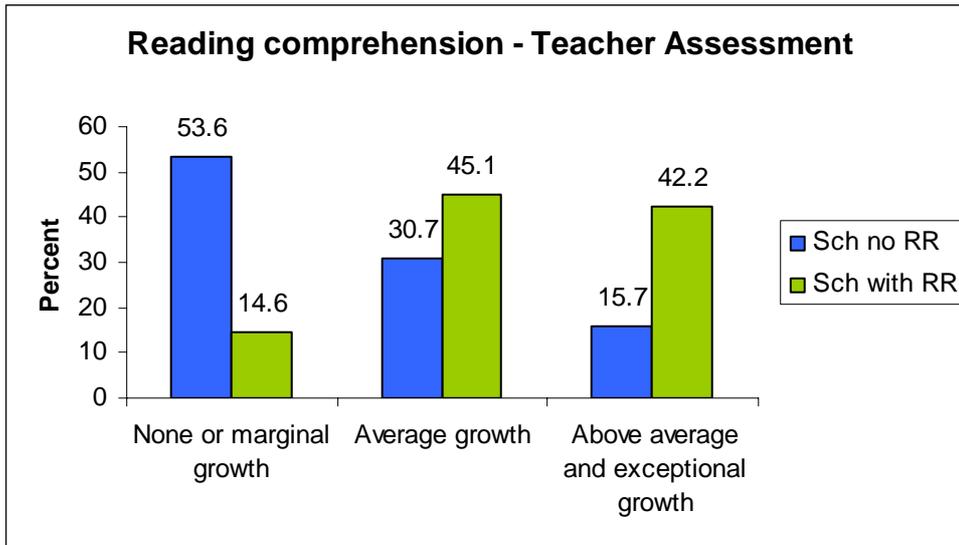


Figure 5 shows that more than half the children in schools without RR were considered by their teachers to have made none or marginal growth across the year in reading comprehension, whereas 87% of children who had received Reading Recovery were considered to have made average to exceptional progress in reading comprehension. This is not unexpected given the measured gains in reading by the RR group but it also interesting in that Reading Recovery does not include overt teaching components or measures of comprehension.

Figure 6

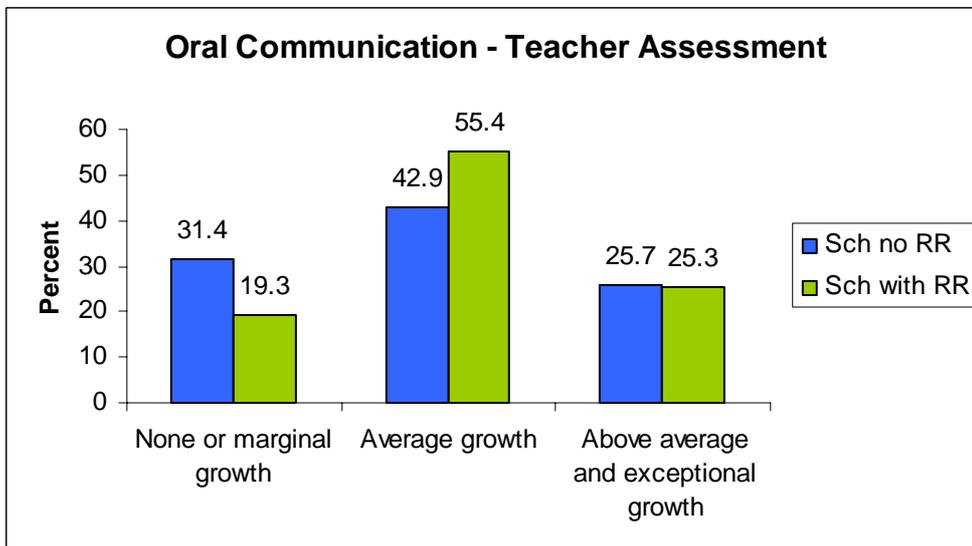


Figure 6 shows that more than 80% of children who had RR in the Year were considered by their teachers to have made average to exceptional progress in oral communication over the year. It would appear that learning how to read and write and talking about that learning with an adult each day has enhanced these children's oral skills. It cannot be determined which learning opportunities promoted development in the other, the likelihood is of a reciprocal learning relationship.

Figure 7

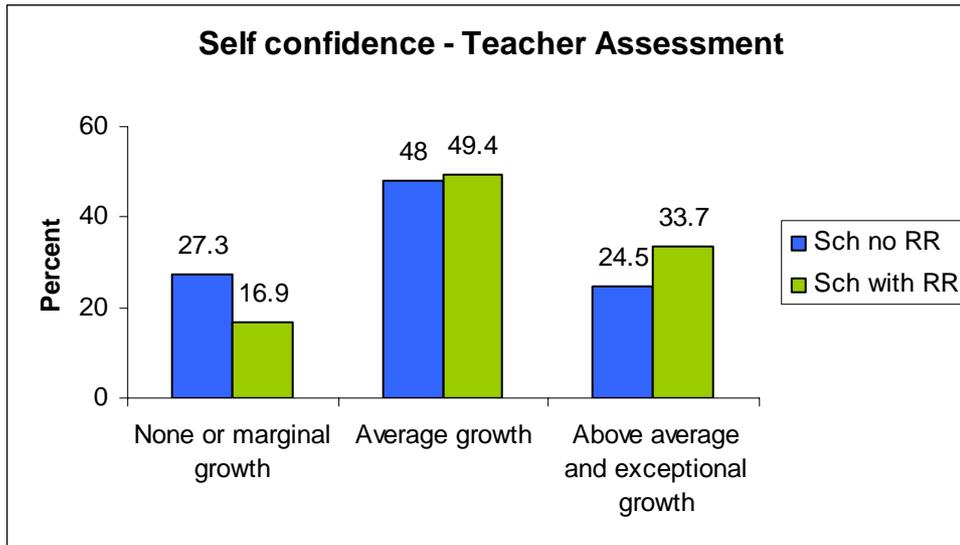
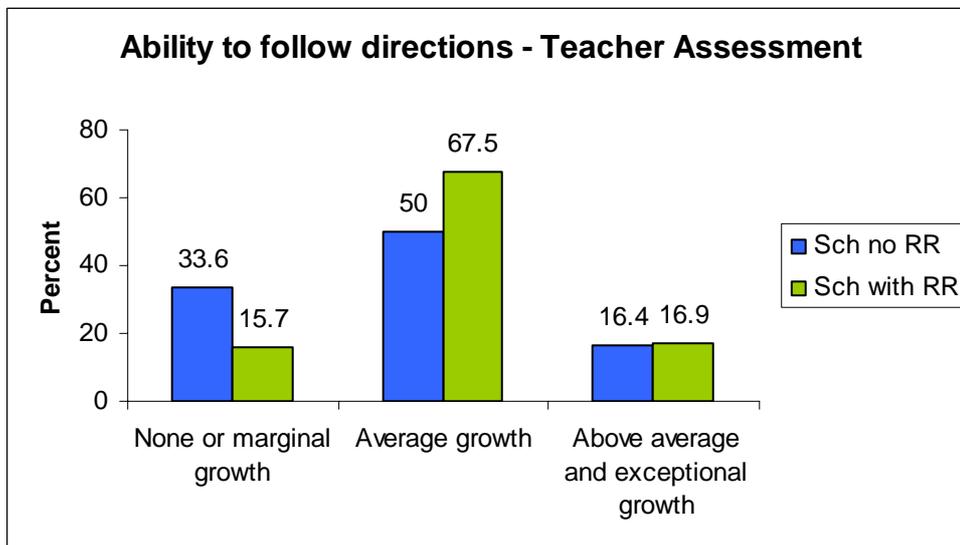


Figure 7 shows that almost half the children who began the year as the lowest achieving in their class were considered by their teachers to have made only average growth in self confidence, whereas a third of the children who received RR were thought to have made above average and exceptional growth. More than a quarter of the children in schools without RR were described as making none or marginal growth in self confidence.

Figure 8



Ability to follow directions (Figure 8), a significant aspect of becoming an effective learner in the classroom, is reported by class teachers to have grown at average to exceptional rates for almost 85% of children who received RR in the year.

Another way of analysing the teacher-reported changes is to allocate scores to the teachers' judgements on a five point scale running from 0 (No growth) to 4 (Exceptional growth).

Table 11 presents mean scores for all three groups of low achieving children as mean scores (rated from 0-4) under each area of learning and behaviour. This analysis includes children in schools with RR but who did not get a place in the programme.

Table 11: Attitudes to Learning: Change in lowest groups over the year

Measures	Children in comparison schools without RR N= 138		Children in RR schools but Not accessing RR N= 54		Children in Reading Recovery N= 83	
	Mean	SD	Mean	SD	Mean	SD
Reading Comprehension	1.5	0.88	1.5	0.1	2.3**	0.09
Written Expression	1.5	0.95	1.6	1	2.3**	0.1
Oral Communication	1.9	0.81	1.7	0.77	2.1*	0.09
Maths Concepts	1.9	0.78	1.7	0.78	1.9	0.09
Ability to Follow Directions	1.8	0.77	1.5	0.77	2.0*	0.07
Work Habits	1.8	0.84	1.7	0.77	2.1*	0.09
Social Interaction with Adults	1.9	0.67	1.7	0.73	2.0*	0.08
Social Interaction with Peers	1.9	0.67	1.8	0.66	2.0*	0.07
Self Confidence	1.9	0.83	1.6	0.83	2.2**	0.09

All measures on a 5 point scale from 0 – 4.

*differences between means significant at $p < .05$

** differences between means significant at $p < .001$.

As can be seen from Table 11 there are significant differences between means on all aspects of literacy and learning behaviours reported by class teachers of children who received Reading Recovery compared with these who did not. Only the Math Concepts score failed to reach significance at the $p < .05$ level.

Interventions accessed by lowest achieving children Year 1

All schools try to respond to children's learning needs appropriately. In our London boroughs these schools have high numbers of children underperforming compared with national norms. All children in this study identified at these low levels would be entitled to Wave 3 intervention. Data was collected on the additional teaching offered to the 'lowest 8' children during the year, summarised in Table 11. Some of these interventions are recognised programmes, but many are locally developed and therefore it is not clear from our data what learning was included in each. "Supported

reading “ for example was developed by Reading Recovery teachers to provide short (10 minutes) daily sessions of reading with an adult and a number of RR schools have adopted this, thus making greater use of the Reading Recovery teachers’ expertise to manage these other interventions.

The most commonly reported recognised interventions for children not receiving RR were Early Learning Support (ELS, 31 children), Ruth Miskin Literacy (RML, 24 children), Supported Reading (18 children) and 15 Minutes a Day (7 children), but for many support was only listed as “small reading group with TA” or “SEN support” or simply “differentiated planning” of normal classroom provision.

The focus of additional support tended to be on phonics (31 children), additional reading practice (28 children) or speech and language including support for children speaking English as an additional language (23 children). Only one child was reported as having additional help with writing, which may be surprising in the light of concerns about attainment in this area.

Almost all the provision for struggling readers outside Reading Recovery (87 children) was through Teaching Assistants rather than teachers. There were 80 instances of TA support, compared with only 10 children reported as being supported by the SENCO. However, some specialist support such as EAL and speech therapy may have been through professionals qualified in that role, or teachers or TAs with additional training.

A surprising number of children were not reported to receive any form of support, even though they had been identified as the lowest attaining in their class. In the schools which had Reading Recovery 31 children (21% of the 145 identified as the lowest attaining group), did not receive any additional help. In the comparison schools 93 children, (63% of the 147 identified as the lowest achieving group), were not reported to receive any additional help.

Table12**Support given to lowest achieving children not receiving Reading Recovery**

Recognised Interventions	Number of children in schools with RR	Number of children in schools without RR	Total number of children
ELS	11	20	31
RML	0	24	24
15 minutes a Day	0	7	7
Nature of support			
Phonics	2	29	31
Reading	18	10	28
Writing	1	0	1
Speech and language (including EAL)	6	17	23
Differentiated planning	3	0	3
Behaviour support	1	3	4
Learning difficulties	0	3	3
Occupational Therapy	0	2	2
Provider of support			
Class teacher	7	17	25
TA	20	60	80
Others (including EAL)	3	8	11
Intensity of support			
Individual	5	4	9
Group	4	51	55
Within class	2	5	7
SEN Code of Practice			
Statement	1	2	3
IEP	0	5	5
School Action or school action +	4	3	7
No reported support			
Number of children	31	93	124
% of lowest attaining children in the class	21%	63%	

In all except RR sample sizes are too small to test for significance against start of year literacy assessment data.

The outcomes for children receiving alternative forms of support

All children in the lowest group were assessed at the end of the year, and average scores calculated for intervention sub groups of 19 or more. All of the sub groups remained at low levels of literacy at the end of the year, with particularly low growth in writing vocabulary. There was little difference in outcomes for children, whatever the support they had received, although children who had received ELS and Supported Reading were reading at National Curriculum level 1c, and others were still working towards Level 1c as they prepared to go into Year 2.

Table 13: Average scores at end of year assessment for non-RR children, by alternative forms of support.

Support provided	Number of children	Literacy attainment at final assessment			
		Book level	BAS Reading Age	WRAPS Reading Age	Writing Vocabulary
ELS	31	7	5y 6m	5y 10 m	3.2
RML	24	3	5y 4m	5y 8m	2.1
Supported Reading	18	7	5y 7m	5y 10m	2.7
Phonics practice	31	4	5y 6m	5y 8m	2.3
Speech and Language	23	2	5y 3m	5y 7m	2.5
TA support	80	5	5y 6m	5y 9m	2.6
SENCO+EAL support	19	1	5y 1m	5y 4m	2.2

Class teachers' attitudes to teaching literacy

A questionnaire was completed by Year 1 class teachers in September 2005 i.e. prior to the implementation of Reading Recovery or any other interventions for these children, and in July 2006. This questionnaire was developed by Westwood, Knight, & Redden (1997) to assess class teacher attitudes to various aspects of literacy teaching and learning, on the premise that their particular beliefs underpin teachers' practice in classrooms.

Statistical analysis did not indicate any significant differences between the means of two groups of teachers on the measure at either point of the year. The results are reported in the Appendix to this report.

Concluding statement

This study of 42 primary schools serving disadvantaged areas in 10 London boroughs showed that very little progress in literacy was made by children who commenced Year 1 as the lowest achievers in their classes. The exception was for children who received Reading Recovery intervention during the year. These RR children who had entry levels similar to comparison children in schools without RR, had, by the end of the year, on average gained 14 book levels, had gained 20 months on word reading age and could write 45 words spelt correctly. Their class teachers assessed them as having made good progress during the year, in literacy, oracy, work habits, social skills and all learning related attitudes.

Children without access to RR had made very little progress in learning and the gap between them and their age peers had widened considerably by the end of the year.

This gap widened even more for boys than it did for girls in schools without RR. In schools with RR boys and girls did equally well.

The wider impact of having a Reading Recovery teacher's expertise in a school was also examined in this study. Classes in schools with RR ended the year four months ahead of classes without RR on a group test of word recognition and phonic skills. This difference demonstrates the effect of successfully raising the literacy level of the lowest achieving group of children, but may also show some impact of RR expertise being employed in the classroom and in other less intensive interventions matched to differing children's needs. Further evidence of the wider impact of the RR teacher comes from the finding that, in schools with RR, the lowest achieving children who were unable to get a place in RR within the year of the study still made greater progress in literacy than the lowest achieving children in schools without RR.

The second phase of this evaluation, which will track the progress of these Year 1 children to the end of Year 2, will further test out both whole-class impact and the sustainability of the very significant gains made by the lowest achieving children.

References:

- Alakeson, V. (2005). *Too much, Too late: Life chances and spending on education and training*. London: Social Market Foundation.
- Boot, L.W., Riccomini, P.J. (2006). Effective Instruction: An inconspicuous strategy for dropout prevention. *Remedial and Special Education*, Vol 27(5), pp 301-311.
- Briggs, C., & Young, B.K. (2003). Does Reading Recovery work in Kansas? A retrospective longitudinal study of sustained effects. *Journal of Reading Recovery*, Vol 3 No 1, pp59-64.
- Brooks, G. (2002). *What works for children with literacy difficulties: the effectiveness of intervention schemes*. London DfES research report 380.31.
- Brooks, G. (1999). What works for slow readers? *Support for Learning*, Vol 14 (1), pp 27-33.
- Bynner, S., & Parsons, P. (1997). *It doesn't get any better*. London: Basic Skills Agency.
- Clay, M.M. (2002). *An Observation Survey of Early Literacy achievement*. 2nd Edition. Auckland, NZ: Heinemann.
- C. Coe, R. (2002) *It's the Effect Size, Stupid: What effect size is and why it is important*. Paper presented at the Annual Conference of the British Educational Research Association, University of Exeter, England, 12-14 September 2002.
- Cooter, K.S. (2006). When mama can't read: Counteracting intergenerational illiteracy. *The Reading Teacher*, Vol 59, No 7, pp698-702.
- Denton, C.A., Ciancio, D.J., Fletcher, J.M. (2006). Validity, Reliability, and utility of the Observation Survey of Early Literacy Achievement. *Reading Research Quarterly*, Vol 41, no 1, pp 8-34.
- DfES (2003). National Literacy Strategy. *Targeting support: choosing and implementing interventions for children with significant literacy difficulties*. www.standards.dfes.gov.uk/literacy.
- Earl, L., Watson, N., Levin, B., Leithwood, K., Fullan, M., & Torrance, N. (2003). *Watching and Learning 3: Final Report of the External Evaluation of England's National Literacy and Numeracy Strategies*. Ontario: OISE:UT
- Elliott, C.D. (1996) *British Abilities Scales Word Reading Test II*. London: NFER Nelson
- Feinstein, L. & Sabates, R. (2006). Predicting adult life outcomes from earlier signals: Identifying those at risk. Briefing paper. <http://www.pm.gov.uk/output/page10033.asp>
- Fraser, H., MacDougall, A., Pirrie, A., & Croxford, L. (2001). *National Evaluation of the Early Intervention Programme*. Strathclyde University, Scotland.

- Hatcher, P.J., Goetz, K., Snowling, M.J., Hulme, C., Gibbs, S., & Smith, G. (2006). Evidence for the effectiveness of the Early Literacy Support programme. *British Journal of Educational Psychology*, 76, pp351-367.
- Hurry, J & Sylva, K (2006) *Long-term outcomes of early reading intervention*. (in press)
- Hurry, J & Sylva, K (1998) *The long-term effects of two interventions for children with reading difficulties*. London: QCA.
- Johnston, R.S. & Watson, J. (2005). *A Seven Year Study of the Effects of Synthetic Phonics on Reading and Spelling Attainment*. Insight 17. Scottish Executive Education Department: Edinburgh.
- McIntyre, M., Jones, D., Powers, S., Newsome, F., Petrosko, J., Powell, R., Bright. (2005). Supplemental Instruction in Early Reading; Does it matter for struggling readers? *The Journal of Educational Research*, Nov/Dec 2005, Vol 99(2), pp99-107.
- Moore, M., & Wade, B. (1998). Reading Recovery: Its effectiveness in the long term. *Support for Learning*. Vol 13 (3), pp123-128.
- Moseley, D. (2003). *Word Recognition and Phonic Skills*, (2nd Edition) Abingdon: Hodder & Stoughton.
- National Institute of Child Health and Human Development. (2000). Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. Washington, DC.
- Pianta, R.C. (1990). Widening the Debate on Educational Reform: Prevention as a Viable Alternative. *Exceptional Children*. Vol 56 (4), pp 306-313.
- Plewis, I. (2000) Evaluating Educational Interventions Using Multilevel growth Curves: the Case of Reading Recovery. *Educational Research and Evaluation*, 6 (1), 83-101.
- Quay, L, Steele, D, Johnson, C, Hortman, W (2001) Children's Achievement and Personal and Social Development in a First Year Reading Recovery program with teachers in training. *Literacy Teaching and Learning* 5 (2) 7 – 25.
- Schmitt, M. C., & Gregory, A.E., (2001). The impact of early intervention: Where are the children now?. Paper presented to National Reading Conference. San Antonio, Texas.
- Soler, J., & Paige-Smith, A. (2005). The Early Literacy Support Programme (ELS) and the blend and clash of national educational policy ideologies in England. *Early Years*, Vol 25, No 1, March 2005, pp 43-54.
- Sylva, K & Hurry, J (1995) *Early Intervention in children with reading difficulties*. SCAA Discussion papers no.2. London: SCAA.
- Vellutino, F., Fletcher, J.M., Snowling, M., & Scanlon, D.M., (2004). Specific Reading Disability (dyslexia): What have we learned in the past four decades? A comprehensive review of intervention studies. *Journal of Child Psychology and Psychiatry*, 45, pp2-40.

Wanzek,J., Vaughn,S., Kim,A.H., Cavanaugh,C.L. (2006). The effects of reading interventions on social outcomes for elementary students with reading difficulties : A synthesis. *Reading and Writing Quarterly*, 22, pp121-138.

Westwood,P. Allen Knight,B. & Redden,E.(1997) Assessing teachers' beliefs about literacy acquisition: the development of the Teachers' Beliefs About Literacy Questionnaire. (TBALQ). *Journal of Research in Reading*, 20 (3), 224-235.S

APPENDIX

Class Teacher Beliefs about Literacy teaching and learning

A questionnaire was completed by Year 1 class teachers in September 2005 i.e. prior to the implementation of Reading Recovery or any other interventions for these children, and July in 2006. This questionnaire was developed by Westwood, Knight, & Redden(1997) to access class teacher attitudes to various aspects of literacy teaching and learning on the premise that their particular beliefs underpin teachers' practice in classrooms.

The questionnaire takes the form of 24 statements about goals and practices of literacy teaching and learning. The attitudes were measured on a five point scale. Teachers select a level of support for the statement ranging from 'strongly agree' and 'strongly disagree', where 'strongly agree' is associated with the lowest mark of 1, and 'strongly disagree' with the highest mark of 5. The 24 questions are divided into 2 halves: 1 to12 on reading and 13 to 24 on writing. In each half there are six aspects addressed with a question valenced in one direction and recurring again in a form valenced the other way. The scoring guide addresses this bi-directionality. There is no alternative form of the questionnaire.

As with the teacher report on children's behaviour, some classes had different teachers at end of year. As we were interested in change over time we did not ask new teachers to participate in the questionnaire.

Table 14a. Teacher Belief about literacy teaching and learning.

Year 1 teachers with no RR N=21				Year 1 teachers school with RR N= 23			
Begin year		End year		Begin Year		End year	
Mean scores Q1-24	St.Dev.	Mean scores Q1-24	St.Dev.	Mean scores Q1-24	St.Dev.	Mean scores Q1-24	St.Dev.
61.8	11.2	60.4	10.6	61.5	8.7	61.1	7.9

Mid point score is 72

Table 14b. Teacher Belief about teaching reading

Year 1 teachers with no RR N=21				Year 1 teachers school with RR N= 23			
Begin year		End year		Begin Year		End year	
Mean scores Q1-12 Reading	St.Dev.	Mean scores Q1-12 Reading	St.Dev.	Mean scores Q1-12 Reading	St.Dev.	Mean scores Q1-12 Reading	St.Dev.
29.3	5.7	28.9	5.2	28.5	5.7	27.7	5.0

Mid point score is 36

Table 14c. Teacher Belief about teaching writing

Year 1 teachers with no RR N=21				Year 1 teachers school with RR N= 23			
Begin year		End year		Begin Year		End year	
Mean scores Q 13-24 Writing	St.Dev.	Mean scores Q 13-24 Writing	St.Dev.	Mean scores Q 13-24 Writing	St.Dev.	Mean scores Q 13-24 Writing	St.Dev.
32.5	6.6	31.5	6.2	32.9	4.6	33.4	4.4

Mid point score is 36

Across the 24 questions there are no significant differences between means of the two groups in teachers' beliefs about teaching literacy with one exception - "direct teaching of phonics not necessary", where at the beginning of the year, teachers in schools with Reading Recovery recorded a higher rate of 'disagree': *significant at p* < .05.

On average, class teachers in this London sample tend slightly towards a more holistic approach but are within a middle band who could be said to adopt a balanced approach towards teaching and learning in literacy. It would be interesting in further study to look at teachers who are outliers to the average pattern but the standard deviations suggest a homogeneous group. After four years of the National Literacy Strategy in England and its associated professional development and inspection regime, perhaps it is not surprising to find teachers adopting very similar approaches in classrooms.

Structure in the Literacy curriculum

A further single question, (25) concerns how the teacher believed that reading and writing should be organised for young children. This question is measured on a 7 point scale where 7 is associated with 'child centred & least structure' and 1 with 'teacher directed and highly structured'. This question was asked at the beginning and again at the end of the year.

Table 15. Teacher Belief about Structure in the Teaching of Literacy

Year 1 teachers with no RR N=21				Year 1 teachers school with RR N= 23			
Begin year		End year		Begin Year		End year	
Mean scores	St.Dev.	Mean scores	St.Dev.	Mean scores	St.Dev.	Mean scores	St.Dev.
3.4	1.1	3.7	1.3	3.5	1.1	3.7	1.0

Mid point score is 4

Statistical analysis did not indicate any significant differences between the means of two groups of teachers on the measure at either point of the year.