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# Comparison of Literacy Progress of Young Children in London Schools: A Reading Recovery Follow up Study

**Dr Sue G. Burroughs-Lange**  
Faculty of Children and Health  
University of London Institute of Education  
20 Bedford Way, London WC1H 0AL  
Phone: 020 7612 6585  
e-mail: [s.burroughs-lange@ioe.ac.uk](mailto:s.burroughs-lange@ioe.ac.uk)

# **Comparison of Literacy Progress of Young Children in London Schools: A Reading Recovery Follow up Study**

Sue Burroughs-Lange

University of London Institute of Education, UK

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**Key Words:** Reading Recovery, Early literacy Intervention; Urban Schools

## **ABSTRACT**

This study followed up the impact on children's literacy in London schools a year or more after intervention had been received. In the 2005-6 school year literacy progress was compared of the lowest achieving children in 42 schools serving disadvantaged urban areas. The children, aged around 6 years, who received Reading Recovery in their schools were compared with those in schools which provided them with a range of other interventions. At the start of the study the children had literacy levels below those of a 5 year old. In the year of the main study (2005-6), those children who received Reading Recovery achieved significant gains in all assessments compared with those who did not. At the end of the year the literacy achievement of children who had received Reading Recovery (RR) was in line with their chronological age. The comparison group was 14 months behind with an average Reading Age of 5 years 5 months.

In July 2007 the literacy achievement was again compared of those same children remaining in the same 42 schools. The phonic and word reading, and writing measures were repeated along with a new reading comprehension

measure. At the end of Year 2 the children who had received RR in Year 1 were achieving within or above their chronological age band on all measures and were still around a year ahead of the comparison children in schools where RR was not available. The RR children had an average word reading age of 7y 9m, compared to 6yr 9m for the comparison children. The gender gap that was noticeable amongst low attaining comparison children, with boys lagging behind girls, was not evident in RR schools, where there was no gender gap. Writing achievement showed a significant difference between RR and comparison children. At the end of Year 2, the children who had received RR were able to write twice as many correctly spelled, words as those children who were in the comparison group.

Over 86% of those who received RR in Year 1 went on to achieve an age-appropriate level 2+ in National Curriculum Reading assessments at end of Year 2. This percentage is higher than the whole national Year 2 cohort, of whom 84% achieved Level 2+ in 2007. 77% of RR children achieved National Curriculum Level 2b+ (the national cohort figure was 71%). None of RR children were working towards Level 1 (non-readers). Comparison figures for the lowest achieving children in non-RR schools were 57% achieving National Curriculum Level 2+ and 30% Level 2b. In the comparison groups almost 10% of low achieving group were still non-readers (Working towards Level 1). In writing, over 83% of those who received RR in Year 1 went on to achieve the age-related National Curriculum Level 2+, compared to 80% in the 2007 National Year 2 cohort, and 57.7% in the comparison groups.

The study also followed up progress in classroom literacy. A word recognition and phonic measure was repeated and 'Progress in English 7' comprehension measure was used with the Year 2 classes. Children in sample classrooms with Reading Recovery available to the lowest group when in Year 1, ended Year 2 with an average reading age 3+ months above that of children in comparison Year 2 classrooms.

## **Intense interest in literacy learning**

The flurry of debate surrounding the recent release of the Progress in International Reading Literacy Study (PIRLS 2006) demonstrates an ongoing concern with absolute and relative standards of achievement in literacy, e.g. Hilton, (2006); Whetton, Twist & Sainsbury, (2007). Literacy is often characterised as an indicator of education standards generally and therefore becomes legitimised as everyone's concern. A measure of success lies not only in achievement norms but also in how many are left behind. In England 6% of children (including nearly 1 in 10 boys) leave primary/elementary schools without the most basic skills in reading (DfES 2006). Other national systems face similar challenges, which seem to be particularly acute in poor urban areas.

Attention intensifies on methods of instruction, (e.g. DfES Letters and Sounds, 2007), use of text resources, and what to do about those children experiencing difficulty in getting under way with literacy learning. Intervening as early as a diagnosis of delay can be reliably made is an established expectation of national policy (DfES, 2003; National Reading Panel, 2000; Earl, Watson, Levin, Leithwood, Fullan, & Torrance, 2003). As a greater range of early literacy interventions, including newly introduced national programmes, become widely available, there is an ethical and financial press to demonstrate that investment, which must by definition be somewhat selective, is able to effect changes in children's learning that are not merely beneficial but are sufficient to bring them to a normal learning trajectory. Equally important is to secure evidence that the re-directed trajectory continues beyond the period of the intervention itself. This evaluation reports

on follow up, a year later, on children in London schools whose literacy progress was originally mapped across Year 1 (2005-6). In September 2005, aged around 6 years, they were all reading at a level below age 5. The follow up assessment took place at the end of Key Stage 1 (July 2007) when they were 7+ years old.

### **Can early literacy intervention work and for how long?**

In his review of research on literacy interventions Brooks (2007) states ‘ the evidence on ordinary teaching therefore proves the need for early intervention schemes: in general ordinary teaching does not enable children with literacy difficulties to catch up’, (p24). Research evidence on the effectiveness of literacy interventions with differing theoretical bases and various implementation characteristics has produced mixed conclusions, but generally short term gains can be demonstrated (e.g. McIntyre, Jones, Powers, Newsome, Petroskoj, Powell & Bright, 2005; Vellutino, Fletcher, Snowling, & Scanlon, 2004). Schools and systems need reliable evidence of gains that can be expected in order to evaluate what will be most successful for the particular demography and learning needs of their children.

There have been valuable reviews of evidence about the effectiveness of interventions with the intention of assisting schools and systems to make informed choices (e.g. In UK, Brooks, Flanagan, Henkhuzens & Hutchinson, 1998; Brooks, 2002, and again 2008; What Works Clearing House Report, 2007, in the US). The majority of those interventions for low achievers only offer the possibility of doubling the rate of progress in children’s literacy learning. For the proportion of children who are still unable to read and write

by the end of their primary/elementary schooling, this degree of accelerated progress still leaves them falling further and further behind their peers.

There is more at stake than merely raising school standards. A review of research of social outcomes for children with literacy difficulties suggests that signs of wider difficulties begin to emerge early in the primary/elementary years (Wanzek, Vaughn, Kim & Cavanaugh, 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 and costs to society beyond those directly associated with education, (KPMG Foundation, 2006). The relationships between poor literacy and social exclusion are of concern to politicians (Feinstein & Sabates, 2006), and inter-generational persistence, particularly in urban areas, is even more alarming (Cooter, 2006).

Early intervention is perhaps better characterised as a preventative strategy when these longer-term effects are considered. For example the review by Vellutino et al. (2004), suggests that after high-quality (1 on 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” (p 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 in England recognised this and introduced the concept of waves of teaching responses with their intensity matched to, and focused on, children’s needs. This has been taken up by *Every Child a Reader* initiative.

*Early Literacy Support* intervention for small groups of children aged 6-7, has been variously evaluated (e.g. Soler & Paige-Smith, 2005) demonstrating some success with children who were experiencing mild difficulties in literacy learning. Other group teaching responses, focusing mainly on early phonic training, have also reported success with children with less challenging problems. Hatcher's (2006) 'Reading Intervention', for example included group and one to one teaching with reported success, but not with the lowest attaining children. Most evaluations of group intervention do not report success with the very lowest achieving children, and in some cases these were deliberately excluded from studies.

The Year 1 evaluation followed up in the present study showed Reading Recovery (RR) to be highly successful with the low achieving population in London schools serving disadvantaged areas (Burroughs-Lange & Douetil, 2007). Every year for more than a decade in UK and more than 25 years in US, data on the literacy progress of all children who received Reading Recovery literacy support has been collected and reported publicly (e.g. Douetil, 2006; Gomez-Bellenge & Thompson, 2004).

But, as with any intervention, there should be an expectation to establish that reported gains would not have occurred naturally for these lowest achieving children without the intensive, and at the time of delivery, more expensive intervention of Reading Recovery. Until the Year 1 comparison study in 2006-7 there had been no evaluation which included comparison groups since 1995 (Sylva & Hurry, 1995; Hurry & Sylva, 1998, 2007; and Plewis, 2000 on the methodological issues), nor which has drawn from across schools where RR

was and was not available. Schwartz in 2005 used random assignment of low achieving children to receive RR early or late in the year. His design did not include comparisons with matched groups in similar schools, where RR did not form part of the schools' literacy teaching responses.

In 2007 Hurry and Sylva reviewed their study of literacy achievement of children who were randomly assigned to receive RR, or a phonic training intervention, or to the control group. Three and a half years later the earlier gains made in RR were still significantly ahead of comparison group, but only for those children who had begun RR in Year 2 as non-readers. These children received the interventions in the first year of RR implementation in UK (1992-3). Since then there have been many developments in RR teaching in response to new research on the functioning of the brain and the role of phonological knowledge in early literacy acquisition. So this follow up study is important in that it looks at schools in London, England after several years of National Literacy Strategy (NLS) and after later developments in RR, including the data-led decision to intervene earlier, in Year 1.

## **METHOD**

This follow up study was designed to assess the literacy performance of the groups of children 2 years after the original evaluation began. In 2005-6 the comparison study evaluated the impact of Reading Recovery early literacy intervention on low achieving children and their peers in London schools where the programme had been partially supported by charitable foundations and government through *Every Child a Reader*. The literacy progress across one school year 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 who elected to provide interventions other than Reading Recovery. In July 2007 as many of these children as could be located, were re-assessed to establish how their current literacy levels compared with their chronological ages, and what progress they had made since reporting their gains measured in July 2006.

## **Aims**

The aims of this evaluation were to follow up, a year later, evidence of:

- ◆ sustained effectiveness of Reading Recovery in raising the literacy achievements of children who entered Year 1 as young struggling readers;
- ◆ ongoing impact on the literacy levels in classrooms at the end of Year 2, where their weakest peers had had access to Reading Recovery in the previous year.

## **Design Summary**

The design was an end of Key Stage 1 evaluation (July 2007), comparing the literacy attainments in schools where some children had received Reading Recovery interventions with attainment in schools where some children had received a range of interventions other than RR. Children selected for the Year 1 study were re-assessed at the end of Year 2, and their progress compared to that of similar children in schools where they had received the schools' other, preferred, interventions and support.

The literacy levels of the whole classes in the Year 1 sample were re-assessed at end of Year 2 to determine whether there were any longer term

effects of their weakest peers having had access to Reading Recovery in the previous year.

The original design differed from many evaluation studies in that the researchers took no part in the work in schools, nor manipulated any features of the school provision to children. It had identified and selected already occurring circumstances and, after matching on important characteristics known to affect learning outcomes, compared children's literacy progress along lines relevant to addressing children's literacy difficulties. Equally the Year 1 assessment was not isolated to the time frame of any particular programme, but merely focused on start and end of their second year in school, the key year for getting underway with literacy. This was felt to be a particularly sensitive design in that it allowed for short intensive, or more widely spaced, early interventions to impact according to the expectations of their design.

In the year following the Year 1 comparisons, the researchers had no role with the sample schools other than to request that in July 2007, (the end of Year 2), the trained research assistants be allowed to re-assess the literacy achievements of the children in the original evaluation.

**Follow up data collection:**

Two measures were used to assess literacy for all children in the sample:

1. A word recognition and phonic skills classroom measure (WRAPS, Mosely 2003) was re-administered. This measure was used at all three data collection points;

2. "Progress in English 7 - Second Edition" was used in the follow up only, (Kirkup, Reardon, & Sainsbury, 2006, nferNelson). This was selected as appropriate for the age range and ability levels, to provide assessment that included spelling, grammar, and reading comprehension both of narrative and non-narrative text.

Those who had been in lowest achieving sub-groups at start of Year 1 were further assessed, individually, using

- The writing vocabulary item from 'An Observation Survey of Early Literacy Achievement' (Clay, 2002);
- The British Ability Scales Word Reading Test II (Elliott, 1996).

National Curriculum Assessment results for reading and writing were also collected for the lowest groups. These assessments are undertaken towards the end of Year 2, just prior to the testing for this follow up evaluation.

The other items from Observation Survey (OS), including text reading used at beginning and end of Year 1, were no longer suitable to measure the range of levels of attainment at end of Year 2, because of ceiling effects. Although the Year 1 teacher report measure (Quay, et al, 2001), had shown how the lowest achieving groups' attitudes to learning had been greatly enhanced after RR intervention, it was not considered valid for comparison purposes in follow up, as there was substantial change in class membership and class teachers for Year 2.

Analysis of the end of Year 2 data, (July 2007), was undertaken around comparisons between four sample groups. These comparisons were made using ANCOVA (analysis of co-variance) throughout.

Three groups of lowest achieving children were compared –

- those who had received RR during Year 1;
- those who were in schools with RR but had not received RR during Year 1;
- and those who in Year 1, were in schools without RR and who had received other school interventions and support.

The fourth comparison was made between children, now at the end of Year 2 (July 2007), who had been assessed in (2005-6) in entire Year 1 classrooms in sample schools with RR and those without RR.

### **The Sample**

The sample in the original Year 1 evaluation was matched on characteristics at three levels, viz. 'borough' (London's administrative divisions); schools; and children in classrooms.

#### ***The London boroughs:***

The London boroughs selected for Reading Recovery and comparison samples, and followed up a year later, are among the lowest achieving in England, with very high proportions of children whose home circumstances entitled them to free school meals. These schooling contexts have been shown to be among the hardest for raising the achievements of the very lowest groups, (Wood & Caulier-Grice, 2006).

In 2005, five London boroughs had Reading Recovery provision in some of their schools. Five other London boroughs were selected to form the comparison group because they were similar in population characteristics and literacy achievement levels in standardised national tests.

In the five boroughs with some schools with Reading Recovery, on average 8.2% of 11 year old children, transferring to secondary/high schools, were achieving **below** the competency of a 7-8 year old in literacy, (National Curriculum Level 3), with a range from 6.6% to 9.5% of the cohort. The five boroughs with no schools with Reading Recovery averaged 8% of 11-year-old children with a competency below that of a 7-8 year old, with a range of 7.2% to 9.8%. This shows that at the start of the study, the boroughs were well matched in terms of overall extent of underachievement at the end of primary/elementary schooling. Within both these borough groups were included some schools with much higher proportions of children achieving below that level in literacy. These were the schools that were recruited for the study.

***The RR comparison and follow up Schools:***

In five London boroughs, 21 infant and primary/elementary schools were identified, who in 2005-6 had a Reading Recovery teacher providing literacy intervention to children in Year 1(see Figure 1). In five other London boroughs where no schools had any Reading Recovery teaching in 2005-6, 21 schools were nominated by the borough education officers as of most concern for high numbers of children with poor performance in literacy. In each of these 42 schools, the eight children considered lowest in literacy formed one sample

for comparison, and children in their entire classroom in Year 1, formed the other sample for this evaluation.

**Table 1: Demographic characteristic at selection of sample schools with RR (21) and Comparison (21)**

2005 figures	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 reached statistical significance.*

In the UK children whose home language or mother tongue is not English are described as 'English as additional language' learners (EAL). This may include recent immigrants. In some London schools 30 or more differing languages may be spoken as a mother tongue, others serve areas almost monolingual in a language other than English. 'Free school meals' (FSM) are available for children whose families are eligible for this benefit on the basis of their low-income status.

In September 2005, children in Year 1 classrooms in the RR and comparison schools, as well as the lowest achieving sub-groups, did not differ significantly on these characteristics. Similarly in 2005, means for school size and number of children in Year 1 did not differ significantly for the 2 groups, (See Table 1).

**Year 1 classrooms and lowest achieving children:**

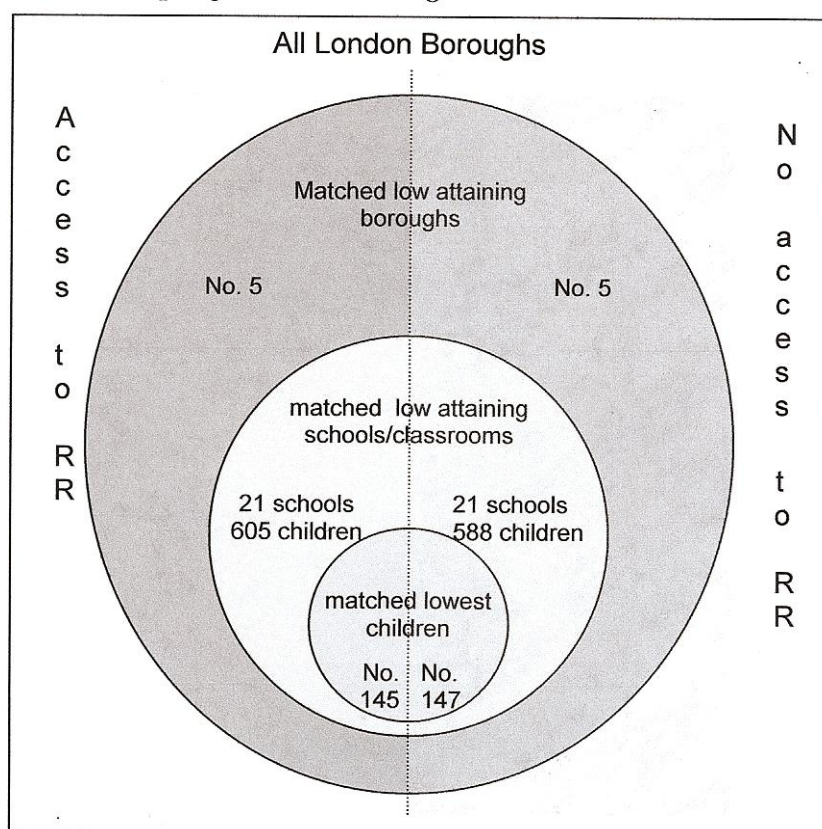
In September 2005, a Year 1 classroom in each of the 42 schools was selected. Mixed age classrooms were excluded; where there were two or more Year 1 classrooms in schools, the lowest attaining one, as nominated by the school, was selected for inclusion in the study.

**Table 2: Characteristics of children in sample Year 1 classrooms and lowest achieving groups, at selection - Sept 2005**

	Age				Gender			
	Year 1 classroom		Lowest achieving group		Year 1 classroom		Lowest achieving group	
	With RR	No RR	With RR	No RR	With RR	No RR	With RR	No RR
	<b>N=605</b>	<b>N= 588</b>	<b>N=145</b>	<b>N= 147</b>	<b>N= 605</b>	<b>N=588</b>	<b>N=145</b>	<b>N=147</b>
Mean	5yrs 7m	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 reached statistical significance.*

**Figure 1: Purposive Sampling – London boroughs - 2005-6**



At the start of the 2005-6 school year, means for the Year 1 classrooms and for the lowest achieving groups within those classrooms were well matched on gender and age across schools with RR and those without, (See Burroughs-Lange & Douetil, 2007).

### **Literacy assessment**

Children in complete Year 1 classrooms and the lowest achieving eight children within those classrooms 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. In July 2007 as many of these children as could be located were assessed to measure their literacy levels a year later, at end of Year 2.

### ***Assessment in Year 1 classrooms and follow up at the end of Year 2***

In September 2005 and July 2006 a word recognition and phonic skills measure (WRAPS, Moseley 2003) was used with all children in the sample Year 1 classrooms, 605 children in schools with Reading Recovery and 566 children in schools where there was no Reading Recovery. These class samples showed no significant differences in their results on WRAPS at start of Year 1, September 2005.

These children constituted the complete Year 1 classrooms and included the 292 lowest achieving children who were also individually assessed on additional measures.

In the July 2007 these same classroom children were identified for follow up: 457 children remaining in schools with RR and 398 children still in these schools where there was no RR in 2005-6.

Two literacy measures were used at follow up with the Year 2 classes – Word Recognition and Phonic Skills classroom measure (WRAPS, Mosely 2003); and “Progress in English 7 - Second Edition”, (Kirkup, Reardon, & Sainsbury, 2006).

### ***Lowest achieving pupils in September 2005***

In September 2005 classroom teachers from the previous year, current classroom teachers, and school records, were consulted to identify the eight children in each Year 1 classroom 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. As well as WRAPS, the standard Reading Recovery diagnostic profile (An Observation Survey of Early Literacy Achievement OS, Clay 2002), (Denton et al., 2006); and the British Abilities Word Reading Test II (BAS, Elliott, 1996); were used to assess the 8 lowest achieving children in Year 1 classrooms, (In 2005-6, 292 children; 145 in 21 schools with RR, 147 in 21 comparison schools). This OS literacy profile assessed children's concepts about print (CAP); letter knowledge (LID); known words in writing (Written Vocab); and phonic analysis for writing (HRSW); and continuous text reading in books (Book level). Books were selected from a gradient of difficulty developed from extensive data collected from use with young readers, and updated biannually, (RRNN, 2005). These literacy profile measures have a ceiling effect around the level of an average 6-7 year old. For this reason only the Writing Vocabulary measure was retained for use in the Year 2 follow up (July 2007). The BAS II, (1996), assessed word reading in isolation, and provided a standardised reading age across the primary/elementary age range. This measure was used at all 3 data collection times, including the Year 2 follow up.

As in 2005 and 2006, the 'Writing Vocabulary' from *Observation Survey* and *BAS II word test* were administered individually in July 2007, to each of the children in the initially identified sample as lowest achieving at the start of Year 1. Key Stage 1 assessment levels for reading and writing were also collected for these lowest groups.

All research assistants in the original evaluation and follow up were previously trained in these assessment procedures as well as administering the BAS II word reading test; WRAPS; and Progress in English 7 Second edition.

At the start of the Year 1 statistical analysis did not indicate significant difference in the literacy measures (WRAPS) between the two sample groups of children in Year 1 classrooms. Of the sub-samples of lowest achieving children, those in schools with Reading Recovery had slightly higher mean scores on only one measure, Book Level (text reading ). This significant difference was controlled in analysing results. However, a mean Book Level below 1 for both groups indicated that on average, none of the children in either group could independently have read a book of any kind when they began Year 1. On all other measures the literacy achievements of the children in both groups at the start of Year 1, were similarly low.

Table 3 shows the changes in literacy achievement across these groups during Year 1 (2005-6), for those who received RR intervention and those who had other forms of assistance during the year. The effect sizes were large, calculated on a 0-3 scale with uni-variate analysis, (Coe, 2002).

Children who had received Reading Recovery were at age appropriate levels across all assessment measures as they began Year 2. Comparison children were not. The July 2006 results show the literacy levels for these groups starting Year 2. Literacy achievement was again assessed at the end of Year 2 (July 2007) with the particular aim of establishing whether gains, and rate of gain, had been maintained.

**Table 3: 2005-6 Literacy profiles of lowest groups, beginning and end of Year 1**

Measure		Comparison schools with no RR N = 147		Children who received RR teaching in year 1 N = 87		Effect Size: d
		Sept. 05	July 06	Sept. 05	July 06	
Book Level	Mean	0.56	4.4	0.98*	15*†	2.1
	SD	0.7	5.2	1.2	4.7	
Concepts About Print	Mean	9.8	14.81	10.1	19.4*	1.4
	SD	3.5	3.6	3.4	2.7	
Letter ID	Mean	34.7	46.04	37.55	52.7*	0.81
	SD	15	10	12.3	2.5	
Hearing and Recording Sounds in Words	Mean	12.6	25.9	12.4	35*	1.1
	SD	9.7	9.9	10.2	0.4	
Writing Vocabulary	Mean	6.5	20.6	6.2	45.4*	1.6
	SD	7	13	5.2	19	
BAS age in months	Mean	58	65	59	79*†	1.5
	SD	2.2	7	2.1	9.1	
WRAPS age in months	Mean	58	69	59	75*	0.76
	SD	5.5	8.6	5.8	8.2	

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

† Analysis controlled for initial test scores.

**Children's attitudes to learning and behaviour:** At the end of Year 1 re-assessment in July 2006, the class teachers were asked to complete a report form for each child in the sample lowest groups. This format was taken from the study by Quay, Steele, Johnson & Hortman (2001) of changes in children's classroom learning and social behaviours after experiencing success in literacy intervention.

Positive attitudinal growth was reported by teachers for those children who had made good progress in literacy learning through receiving RR in Year 1.

For example:

- More than half of the lowest children in schools without RR were considered by their teachers to have made none or marginal growth across Year 1 in reading comprehension, whereas 87% of children who had received Reading Recovery were considered to have made average to exceptional progress in reading comprehension.
- More than 80% of children who had RR in Year 1 were considered by their teachers to have made average to exceptional progress in oral communication over the year.
- Almost half the children who began Year 1 as the lowest achieving in their classroom were considered by their teachers to have made average growth in self confidence, whereas a third of the children who received RR were also thought to have made above average and exceptional growth. More than a quarter of these children in schools without RR were described as making none or marginal growth in self-confidence.
- Ability to follow directions, a significant aspect of becoming an effective learner in the classroom, was reported by Year 1 classroom teachers to have grown at average to exceptional rates for more than 80% of children who received RR in the year.

(See Burroughs-Lange & Douetil, 2007, for full report)

Children who had experienced success through RR had begun Year 2 with enhanced attitudes towards learning and greater self-confidence.

**Literacy Interventions:** In July 2006 information was also collected on which, if any, literacy interventions had been provided to the 292 lowest achieving children during the year. Schools in England are provided with resources and training through the National Strategies. Schools may choose to implement these, or select from a wide range of commercially available literacy support schemes, or develop their own. At the start of Year 1 it was not known what, when, and if, these 292 children would receive additional literacy teaching. Results for children in the sample who received various interventions, where group sizes were large enough to be viable, were provided in the Year 1 evaluation report, (Burroughs-Lange & Douetil, 2007).

Children had begun Year 1 with very similar literacy levels, in very similar classes, in very similar schools, in very similar boroughs, but much was known about the changes in their literacy proficiency and attitudes to learning, as they entered Year 2.

## **RESULTS OF YEAR TWO FOLLOW UP**

Results are reported and discussed for children in Year 2 classrooms in 42 London schools. The comparisons centre on the literacy achievements at the end of Year 2 of children who had been in those sample Year 1 classrooms. More detailed literacy profiles were analysed for those children who started Year 1 as the lowest achieving in their classroom.

### **Differences between literacy achievement in classrooms at end of Key stage 1: Year 1 and 2**

Two literacy measures were used at end of Year 2 in the same sample classrooms.

Change in literacy proficiency as measured by WRAPS (Word Reading and Phonic Skills, Form A & B), was the one classroom measure that was used at all three assessment points in this evaluation and follow up. If children had left the school during Year 2, test booklets were sent to their new schools, where known, with administration instructions and request to assess.

At the end of Year 1, in word reading and phonic skills, children in classrooms in schools without access to Reading Recovery were 4 months behind those children in Year 1 classrooms in schools where Reading Recovery was available. They had made 12 months progress over the school year (September 2005 to July 2006). In schools with access to Reading Recovery the Year 1 classroom children had made accelerated progress, i.e. 16 months progress in the school year. Given that these were low performing classrooms at the start of Year 1, accelerated progress was required in Year 2 if they were not to fall further behind age norms.

**Table 4 Classroom in Year 1 & 2 WRAPS raw scores – Sept 2005, July 2006, July 2007**

	<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
<b>Sept 2005</b>	<b>Comparison schools no RR</b>	532	15.04	8.73	.38
	<b>Schools with RR</b>	630	14.74	9.24	.37
<b>July 2006</b>	<b>Comparison schools no RR</b>	494	26.98	11.64	.52
	<b>Schools with RR</b>	591	30.57	11.73	.48
<b>July 2007</b>	<b>Comparison schools no RR</b>	398	40.32	13.44	.67
	<b>Schools with RR</b>	457	43.40	12.04	.56

Analysis indicated no significant difference between the groups of Comparison schools and schools with Reading Recovery for WRAPS scores at start of Year 1.

Significant differences were observed between the two groups at the end of Year 1 and end Year 2 outcomes.

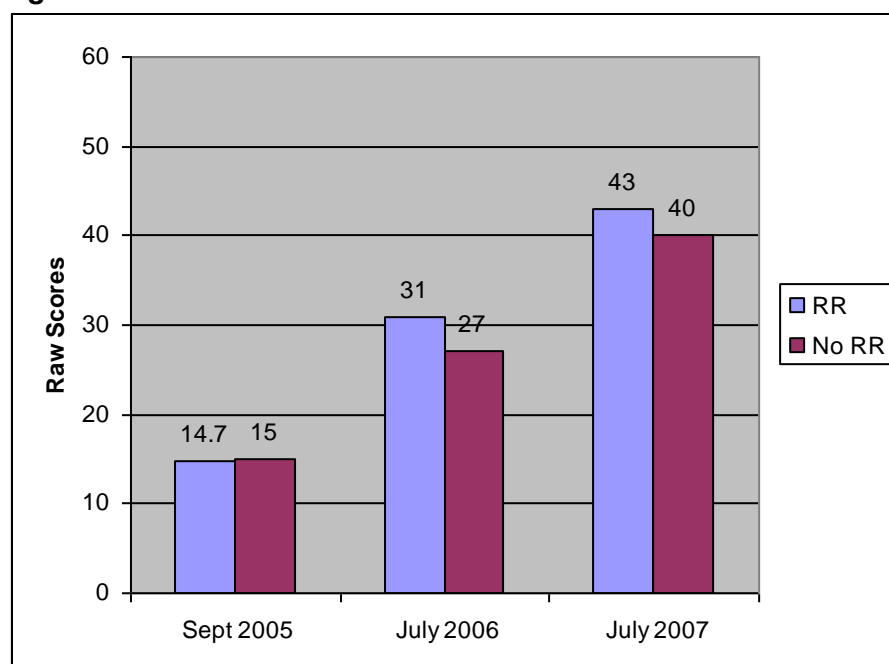
WRAPS Year 1 end:  $t = -5.04$  (d.f. 1083),  $p < .001$ , with an effect size of .31  
WRAPS Year 2 end:  $t = -3.51$  (d.f. 804.11),  $p < .001$ , with an effect size of .23

At the end of Year 2, at average age of seven and a half, the classes of children had mean word reading and phonics skills ages of:

- 7 years in schools without access to Reading Recovery and
- More than 7 years 3 months in schools with access to Reading Recovery for the lowest children when in Year 1.

At the end of Year 2 there was also a wider spread of achievement levels in the classes in schools without access to RR. Both groups of schools were below age levels in word reading and phonic skills, confirming that these remain below average achieving schools. Classes where RR was available were on average 4 months ahead at end of Year 1 and still more than 3 months ahead at end of Year 2.

**Figure 2: Classrooms in Year 1 & 2 WRAPS scores**



Max. score 60

The second, class level measure used was 'Progress in English 7' 2<sup>nd</sup>. Edition. The provision of RR in Year 1, to some children in the class, meant that on a broad literacy assessment as provided by Progress in English 7, the classes had a higher overall literacy level than in the comparison schools where the spread of abilities in class was also wider. The raw score differences in Table 5 convert to standard scores of 91 and 94 respectively, within the average band but below the norm of 100, and still showing sustained gains for the classes a year or more after some of the lowest children had received RR intervention.

**Table 5: Classrooms end Year 2, July 2007 Progress in English 7, raw scores**

	<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
<b>End Year 2 July 2007</b>	<b>Comparison schools No RR</b>	381	21.09	8.88	.45
	<b>Schools with Reading Recovery</b>	455	24.61	8.38	.39

NB Score range 0-35

*There was a significant difference between groups on Progress in English scores  $t = -5.85$  (d.f. 790.2),  $p < .001$ , with an effect size of .39*

This difference between Year 1 and 2 classrooms in similar schools but with and without access to RR, demonstrates the effect of successfully raising and sustaining the literacy level of those who enter Year 1 as the lowest achieving group of children. These differences at classroom level may also include some impact of RR expertise being employed in the classroom and in other less intensive interventions matched to differing children's needs, e.g. training, supporting and monitoring group interventions led by teaching assistants and volunteer helpers. The slight closing of the gap may have been affected by 8 of the 21 schools without RR in 2005-6, having trained a RR teacher in 2006-07, the year the comparison samples were in Year 2. No children in either

sample groups received RR in Year 2 but the influence of the RR teacher on classroom practice may have begun to have some impact.

### **Literacy achievement of lowest Year 1 entry children: beginning and end of Year 1, and end of Year 2**

In September 2005 and July 2006, the full Observation Survey of Early Literacy Achievement (Clay 2002) and the British Abilities Scales Word Test II were administered individually to all the lowest eight children remaining in the comparison schools and schools with RR. All these lowest group of children were also included in the classroom assessment using WRAPS. In July 2007, the lowest group samples were re-assessed individually on BAS II Word test, and the Writing vocabulary task only from OS; and they were also included in the class assessment using WRAPS and Progress in English 7.

Eighty seven (87) of the lowest achieving children in schools with RR received RR intervention during Year 1, 77 of these were able to be re-assessed at end of Year 2. Of the 147 children who received other Year 1 interventions or support in schools with no access to RR, 109 were able to be re-assessed at end of Year 2, (See Table 13 and discussion of sample attrition).

### **Reading**

At the beginning of the evaluation (September 2005), the sample of children with the lowest literacy scores in their Year 1 classrooms could scarcely read any book, even one with a short repetitive text and picture support for meaning.

### **Word Reading**

On the standardised word reading test (BAS II), children without access to Reading Recovery made 7 months gain in reading age in Year 1, widening, by 5 months, the gap between them and their average peers. Children who had received Reading Recovery made 20 months gain during Year 1 and were comfortably within average levels for their age.

In Year 2 the children who had received RR previously had gone on to make a further 14 months progress over the year, and were still reading comfortably at age appropriate levels. Children in the comparison schools groups had made steady progress in Year 2 but were on average 12 months behind children who had received RR in Year 1, (Table 6).

**Table 6: BAS II Word Reading Standardised Age in months Lowest Literacy Group July 2007**

<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>S.D</b>
<b>Comparison</b>	108	81.18	16.23
<b>RR</b>	77	93.21	14.26

*The means indicated that the Ex-RR group had significantly greater scores than the Comparison group,  $p < .001$ ., with an effect size of: 0.74.*

### **Word reading and phonic skills**

Word reading and phonic knowledge (WRAPS) were assessed at beginning of and end of Year 1 and also at end of Year 2. This assessment was undertaken with their classroom peers, (See Table 7 and Figure 3).

This lowest group began Year 1 on average, with reading and phonic skills, just one month ahead for children in schools with RR, both at levels below that of a five year old. After receiving RR during the year, the gap between RR and comparison groups had widened to 10 months. Children who received

RR in Year 1 had made 16 months progress on phonic knowledge and word reading ability during the school year.

Table 7 shows the WRAPS score in months at end of Year 2 for previously lowest achieving groups.

**Table 7: WRAPS Standardised Age Scores in months, lowest literacy Groups – July 2007**

Group	N	Mean	S.D
Comparison	109	81.10	12.86
RR	77	89.60	10.89

*The means indicated that the Ex-RR group had significantly greater scores than the Control group,  $p < .001$ , with an effect size of: 0.66.*

By the end of Year 2, children who had received RR previously had made, on average, a further fourteen and a half months progress in the school year and were at their chronological age expectation. As they moved into Key Stage 2, the ex-RR group were still eight and a half months ahead of the comparison group in word recognition and phonic skills.

When viewed as standard scores (Table 8), the ex-RR group can be seen as achieving right at the norm for their age group, with the comparison group 10 standardised points behind.

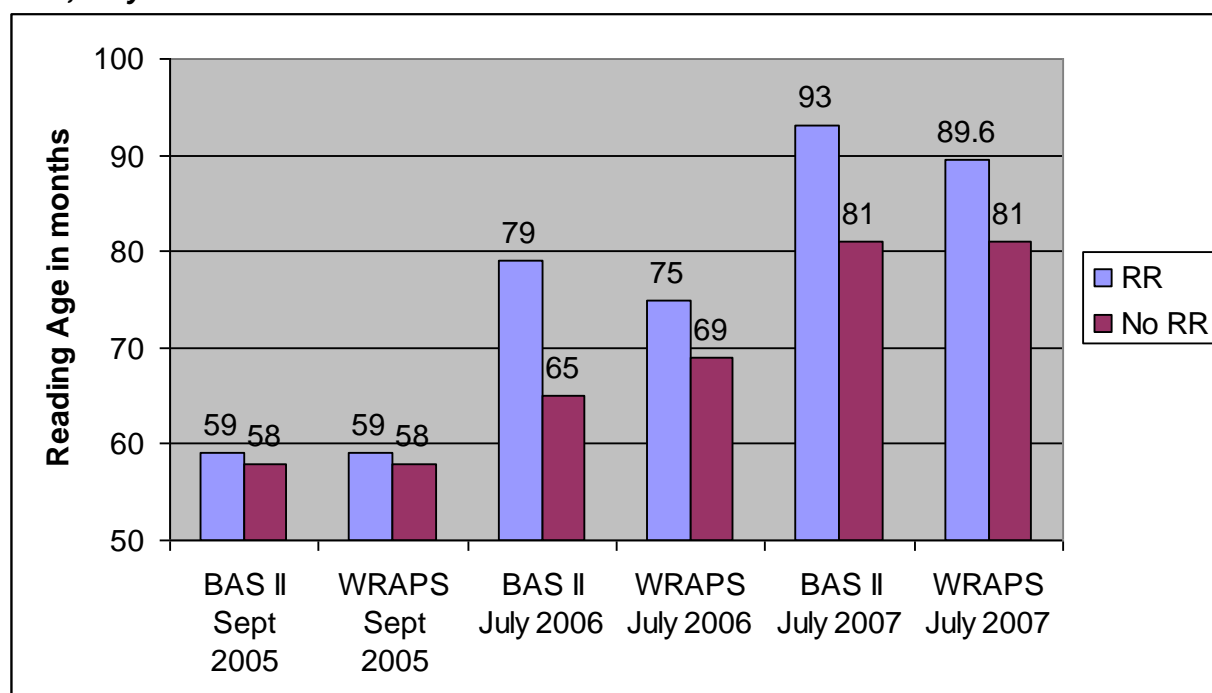
**Table 8: WRAPS Standardised Scores by lowest literacy groups, July 2007**

Group	N	Mean	S.D
Comparison	109	90.17	12.81
RR	77	100.32	10.86

*The means indicated that the Ex-RR group had significantly greater scores than the Control group,  $p < .001$ , with an effect size of: 0.79.*

Comparing groups on both reading and phonic measures (BAS II & WRAPS) at three times shows clearly the gains made by children who received RR and their sustained effect on literacy levels a year or more later, (Figure 3).

**Figure 3: Word Reading and Phonic Skills, lowest groups at Sept.2005, July 2006, July 2007**



**1 year follow up July 2007- BAS 93 = 7yrs 9m. WRAPS 89.6 = 7yrs 5.6 m.  
81 = 6yrs 9 m. 81 = 6yrs 9 m**

### **Achievement in English at end of Year 2 (July 2007)**

At the end of Year 2, the profile developed from the Observation Survey assessment (Clay 2003), in Year 1, was replaced by a comparable measure more suited to access text reading and related skills including comprehension of narrative and non-narrative text, spelling and grammar for this 7+ age group of children.

Therefore it is only possible to compare groups on this measure at the end of Year 2, Key Stage 1. However the *Progress in English 7 – Second Edition* assessment can provide a broad assessment of literacy skills suitable for transfer to Key Stage 2.

**Table 9: Progress in English Lowest groups Standard Scores -July 2007**

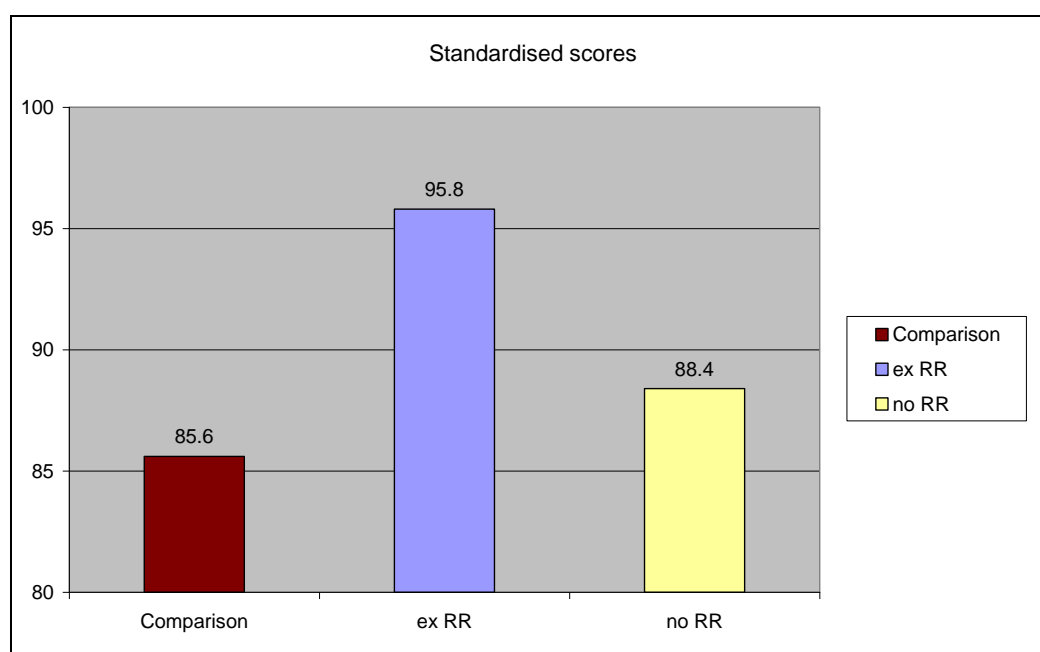
Group	N	Mean	S.D
Comparison	104	85.56	11.56
RR	74	95.77	13.25
RR School No RR	32	88.40	13.30

*The means indicated that the RR group had significantly greater scores than the Comparison group,  $p < .001$ , with an effect size of: 0.88.*

The standard deviation for *Progress in English*, (Table 9), interestingly shows a slightly wider spread of scores for the ex-RR group. This is because all reporting in this evaluation has taken the entire RR sample as a whole. Most evaluations of RR report separately on the children who reach age appropriate levels at end of RR from those who are ‘referred’ during or after RR. Because of the rapid progress of 85% of the RR sample, the few children with remaining complex needs, when included in a total ex-RR group, results in a wider spread (SD) being recorded.

The lowest achieving children who received RR in Year 1 are still well in advance of the comparison children in literacy at end of Year 2. (Table 9 and Figure 4 show 10+ standard points difference).

**Figure 4: Progress in English 7, lowest groups, end Year 2, July 2007**



Some schools in the lowest group in schools with RR were not able to access the RR intervention through lack of sufficient available places. Fig. 4 shows this group’s literacy levels at end of Year 2, (See later discussion).

The initial evaluation study, using the Observation Survey profile, showed that low achieving children in schools unable to access Reading Recovery during Year 1 were well behind age expectations and at least a year behind the

children who received Reading Recovery. One year later (end Year 2) the children in comparison schools, on the two measures used, are still on average between eight and a half months and a year behind the ex-RR children. Ex-RR children have sustained average rates of learning and remain within the average band for their age, whether text reading, word reading, or word recognition and phonic skills, are used as indicators of reading achievement.

National Curriculum levels at end of Year 2 show a similar picture (Table 10).

**Table 10: READING**  
**Lowest groups National Curriculum (NC) assessments, 2007**

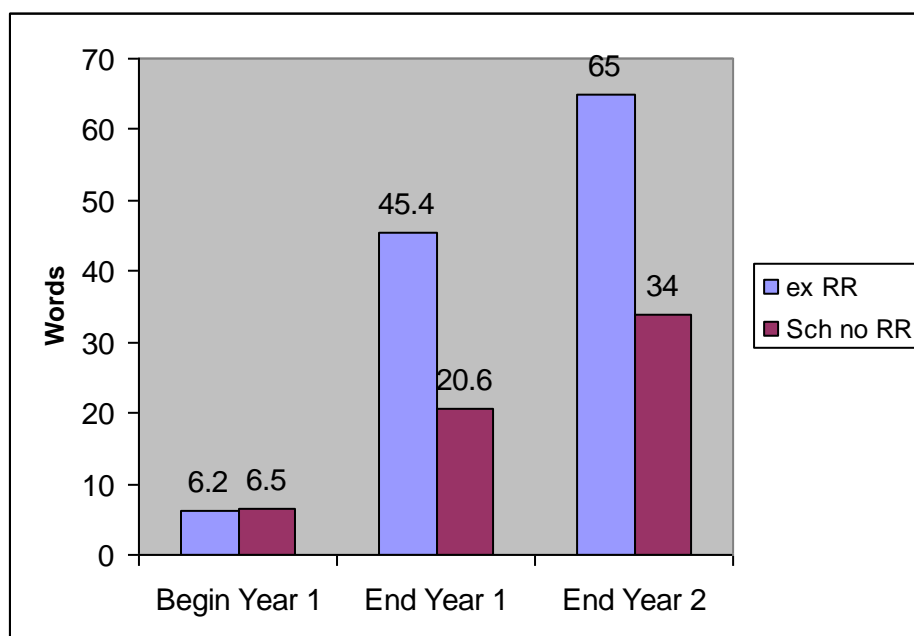
NC Reading Level	Comparison groups		Children who received RR		Children in RR school did not access RR	
	Number	%	Number	%	Number	%
<b>W</b>	13	9.6%			3	11.5%
<b>Level 1</b>	45	33.1%	10	13.5%	4	15.4%
<b>Level 2</b>	76	55.9%	64	86.5%	19	73.1%
<b>Level 3</b>	2	1.5%				

Over 86% of those who received RR in Year 1 went on to achieve Level 2, the expected level for their age in reading, (and 77% were at level 2b+). This percentage is higher than that of the whole national cohort, of whom 84% achieved Level 2+ in 2007, and 71% 2b+ (DCSF 2007). None of them were left in the 'W' category of non-readers. Almost three quarters of those children in RR schools who did not access RR, went on to reach age levels in reading, which suggest that other interventions in those schools supported by RR teachers, were effective in helping those with slightly less severe needs, although 27% of this lowest group had obviously needed RR but were unable to access it. In comparison schools more than 42% of children in this lowest group were below age level, (only 30% were at levels 2b+). In comparison schools almost 10% were still non-readers (W).

## Writing

In Year 1, significant effects of RR intervention were also found for writing. The OS task was to write as many words as they could in ten minutes. Each correctly spelled word was scored. Table 10 and Figure 5 show that in writing, children who received Reading Recovery could, on average, write around 6 words correctly at the start of Year 1 and more than 45 words at the end, within a ten minute time limit. Children without access to RR during Year 1 could write correctly fewer than half that number of words. This measure was the only one of OS tasks to be repeated at end of Year 2 with the lowest groups. Thus results for all three data points are available.

**Figure 5: Lowest Achieving groups - Writing vocabulary means**



There is some ceiling effect operating on this task as the Year 2 children tend to write more complex words and may not increase their pace very greatly. The measure does however provide insight into the word writing/spelling skills of those still operating at low levels. It is clear from end of Year 2 data that the children who received RR in Year 1 continue to be able to correctly spell

around twice as many words in a short time frame than children from lowest groups who did not access RR in their schools. These differences were statistically significant at end Year 1 and remain so at end Year 2.

**Table 11: Lowest Achieving groups - Writing vocabulary means**

	<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>Sept 2005</b>	<b>Comparison schools no RR</b>	162	6.8	6.9
	<b>RR in Year 1</b>	95	6.0	5.3
	<b>Schools with RR Not RR group</b>	43	4.7	4.9
<b>July 2006</b>	<b>Comparison schools no RR</b>	140	20.8	13.3
	<b>RR in Year 1</b>	94	42.9	19.8
	<b>Schools with RR Not RR group</b>	43	30.0	20.6
<b>July 2007</b>	<b>Comparison schools no RR</b>	114	34.1	17.4
	<b>RR in Year 1</b>	77	65.1	28.1
	<b>Schools with RR Not RR group</b>	33	47.0	32.1

:

- *Begin Year 1: the between subjects effects did not indicate a significant difference between the groups,  $p > .05$ .*
- *End Year 1: the Ex-RR group had significantly greater scores than the Comparison group,  $p < .001$ , with an effect size of: 1.78*
- *End Year 2: the RR group had significantly greater scores than the Comparison group,  $p < .001$ , with an effect size of: 1.77*

Over 83% of those who received RR in Year 1 went on to achieve age average, (Level 2) in National Curriculum assessments for writing, (See Table 12), compared to 80% in the 2007 national Year 2 cohort. Only 1 child was left in the 'W' category. More than two thirds of those children in RR schools who did not access RR went on to reach age levels in writing, which suggest that other interventions in those schools supported by RR teachers, were

effective in helping those with less severe needs, to learn to write. In comparison schools more than 42% of children in this group were below age level, with almost 15% of those still unable to write much at all, (Level W).

**Table 12: WRITING**  
**Lowest groups National Curriculum (NC) Assessments, 2007**

NC Writing level	Comparison group		Children who received RR in Year 1		RR School did not access RR	
	Number	%	Number	%	Number	%
<b>W</b>	20	14.8%	1	1.3%	5	17.2%
<b>Level 1</b>	37	27.4%	12	15.4%	4	13.8%
<b>Level 2</b>	77	57.0%	65	83.3%	20	69.0%
<b>Level 3</b>	1	.7%				

### **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 11).

More boys than girls were assessed as very low achieving and in need of literacy support both in schools with RR and schools with no RR.

Within the low achieving groups in this study, however, boys and girls had similar low levels at the start of the year (differences possibly hidden by most being at the floor level of assessment measures). At the end of Year 1 in schools without Reading Recovery both boys and girls in these low achieving groups were reading at well below age-expected levels, but on average the girls had overtaken the boys by 4 months. This was not the case for children

who received Reading Recovery, where boys and girls attained similar age-appropriate reading levels at the end of the year. The effect size for progress in reading of boys who received RR in Year 1 was very large, ( $d = 1.6$  on BAS II), because boys did so poorly in schools without RR, only on average making 6 months progress in Year 1 compared to 20 months progress for boys who received RR (See Burroughs-Lange and Douetil, 2007).

**Table 13: BAS II word reading scores for boys and for girls - Sept.2005, July 2006, July 2007**

	Sept. 2005			July 2006			July 2007		
	No RR	RR	RR school No RR	No RR	Ex RR	RR school No RR	No RR	Ex RR	RR school No RR
<b>BOYS</b> N=	101	57	22	91	57	21	76	47	19
<b>BOYS</b>	58.8	58.4	58.4	64.0	77.7	67.4	77.9	93.9	83.3
<b>BAS standardised age in month</b>	SD	SD	SD	SD	SD	SD	SD	SD	SD
	3.1	1.6	2.7	8.8	9.2	11.3	13.9	10.1	14.3
<b>GIRLS</b> N =	60	36	21	51	36	20	38	30	14
<b>GIRLS</b>	58.5	58.5	59	67.2	77.7	70.8	84.5	92.2	80.1
<b>BAS standardised age in month</b>	SD	SD	SD	SD	SD	SD	SD	SD	SD
	1.7	1.8	2.9	9.0	9.2	12.5	14.1	10.6	17.8

No RR: Begin Year 1:  $t = .105$  (d.f. 159),  $p > .05$ ; End Year 1:  $t = -2.06$  (d.f. 140),  $p < .05$ ; End Year 2:  $t = -2.38$  (d.f. 112),  $p < .05$ .

RR: Begin Year 1:  $t = -.223$  (d.f. 91),  $p > .05$ ; End Year 1:  $t = -.345$  (d.f. 91),  $p > .05$ ; End year 2 -  $t = .686$  (d.f. 75),  $p > .05$ .

No RR in RR school: Begin year 1:  $t = -.741$  (d.f. 41),  $p > .05$ ; End Year 1:  $t = -.918$  (d.f. 39),  $p > .05$ ; End Year 2:  $t = .558$  (d.f. 31),  $p > .05$ .

Calculating the differences between means at 3 points of assessment shows that the groups in schools without RR had significant differences in reading between the boys and girls at end of Year 1 and end of Year 2. Gender differences in reading achievement were not significant for the ex-RR group

nor the children in schools with RR who did not access it at end of Year 1 and end Year 2.

By end of Year 2 the gender difference had reversed slightly though not significantly, and girls who had received RR in Year 1 were on average a month and a half behind the ex-RR boys, but both had made steady progress all year and were still at age appropriate levels in reading. For the other groups girls were on average a significant 6 and a half months ahead of boys in schools where there was no RR in 2005-6. For boys and girls in school with RR but where they had been unable to access the intervention, the boys were on average, but not significantly, 3 months ahead of girls. In schools without RR the differences in reading between boys and girls in these groups, remained significant at the end of Year 1 and at end of Year 2.

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

In all 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. The progress of these children is compared with that of children who received RR in their school, and comparison children in schools without Reading Recovery (Table 14).

**Table 14: Literacy Profiles of Three Low Achieving Groups – Sept 2005, July 2006, July 2007**

		Children in schools with no RR			Children in schools with RR but did not receive RR			Children who received RR in Year 1		
Measure		Sep05 N= 147	Jul 06 N=147	Jul 07 N=108	Sep5 N=58	Jul 06 N=58	Jul 07 N=33	Sep05 N=87	Jul 06 N=87	Jul 07 N=77
Writing Vocab. Raw score	M	6.5	20.6		5.0	28.4		6.2	45.4*	
	SD	7.0	13		5.5	22		5.2	19	
BAS age in months	M	58	65	81.2	58	69	81.9	59	79*	93.2*
	SD	2.2	9	16.2	2.5	11.4	18.9	2.1	9.1	14.3
WRAPS age in months	M	58	69	78	59	71.1	79	59	75*	87*
	SD	5.5	8.6	8.8	6.0	11.0	10.9	5.8	8.2	8.5

\* mean significantly greater for RR in Year 1 group on all measures than that of either Comparison groups',  $p < .05$ .

(For *Progress in English 7*, end of KS 1 comparisons see Table 9 and Fig. 4)

RR is a Year 1 intervention, around the age of 6 years. Children are not taken into RR in Year 2. In Year 1 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, (see Burroughs-Lange & Douetil, 2007). A level 8 book (mean level at end of Year 1 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 2. In Year 2 these low achieving children in schools with RR but who did not receive it in

Year 1, as assessed on BAS II word reading, made almost 13 months progress. They had maintained average rates of progress in Year 2 but were still around 8 months below age levels, whereas children in their classes who had received RR in Year 1 had made 14 months of progress in Year 2 and were on average around 3 months ahead of age norms in word reading assessment. Table 14 shows a similar pattern for other literacy measures.

The Progress in English 7 (end Year 2) results confirm that these children in the low achieving sample but in RR schools, had made steady progress and were approximately 7 standard points behind ex-RR children but 3 standard points ahead of Comparison group. These results also point to the need for sufficient early intervention places being available for those at low levels entering Year 1, even in classrooms where literacy teaching and other interventions are supported by a RR teacher on staff. Without the direct 1 to 1 intervention of RR with its personalised teaching, these children do not reach age expectations.

### **Sample Attrition**

Mobility of children in these disadvantage urban areas is of concern to schools, and also to studies seeking to compare groups of children within and across schools.

In the Year 1 evaluation we reported on the initial literacy scores for the lowest achieving children in their classrooms at start of the year, (Sept 2005), but who had left school or were absent (July 2006), when end Year 1 assessment took place, (Burroughs-Lange & Douetil, 2007). Mobility and other attendance problems meant that there were children who had been in

the Year 1 evaluation who could not be re-assessed at end of Year 2, despite our attempts to overcome this. Table 13 shows the Year 1 WRAPS scores for children who failed to complete end Year 2 assessment. Again their literacy scores were similarly distributed across groups, there were no significant differences between groups, and therefore their 'loss' has not been deemed to have differentially affected the comparisons between group means on end Year 2 literacy measures (July 2007).

**Table 15: WRAPS scores children from lowest groups who were missing by end Year 2 (July 2007)**

Lowest Literacy Group		WRAPS Raw July 2006
In school with no RR in 2005-6	Mean	20.5
	N	30
	S D	7.1
Received RR in 2005-6	Mean	24.2
	N	17
	S D	8.3
RR in school, but did not receive RR	Mean	26.3
	N	10
	S D	11.6

*There were no statistically significant differences in mean WRAPS scores between the three groups . WRAPS July 2006 :  $F = 2.253$  (d.f. 2,54),  $p > .05$ .*

The group sizes are too small to draw any inferences from the difference between the number of lowest achieving children who left or were absent at the end of Year 2, from schools without RR (74) and from schools with RR (54), although it would be interesting to speculate whether the benefits of RR at least reduce local mobility!

## **Summary and Conclusions**

This evaluation adopted a naturalistic design. Across one school year (2005-6), it assessed literacy achievement of low performing children in urban schools which overall had high percentages of children falling below age norms in educational achievement and in literacy in particular. The researchers had no role in respect of these schools and therefore did not set up experimental conditions relating to the focus of the study. The goal was to assess outcomes of 'real' teaching activity, as it was occurring in these urban schools. The design did not elect to compare or report on the full range of intervention measures with their differing lengths, frequency and delivery. It was anticipated that, in the normal way of schooling, children would be selected for various forms of support according to assessed level of need, that some children would receive interventions early and late in the year, and some interventions would still be incomplete at end of Year 1 assessments. The setting was exceptionally challenging, identifying low performing London boroughs, and within these boroughs low performing schools, and within these schools the lowest attaining children in the age cohort. The lowest attaining children identified for the most scrutiny were performing well below expectations for their age at the outset of the study in September 2005.

Firstly children's literacy progress was compared across the year in which they reached their sixth birthday. At this time "Educators have their one and only chance to upset the correlation between intelligence measures and literacy progress, or between initial progress and later progress", (Clay 2005, p16). More detailed data were collected on the lowest achieving children than their peer group overall and showed that they made very little progress in

literacy during the year. The exception was for children who received Reading Recovery intervention during Year 1. These RR children, who had entry levels similar to comparison children in schools without RR, had, by the end of year 1, on average gained 14 book levels, gained 20 months on word reading age and could write 45 words, spelt correctly. They were operating within average expectations for their age in reading and writing. Their classroom teachers assessed them as not only having made good progress during the year in literacy, but also in oracy, work habits, social skills and a range of learning related attitudes.

Children without access to RR had made very little progress in learning in Year 1. The gap between them and their age peers had widened considerably by the end of the year, and they were still operating well below the expectations for their age. 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 potential for wider benefit of having a Reading Recovery teacher's expertise in a school was also of interest in this study. Children in Year 1 classrooms in schools with RR ended the year, (2005-6), four months ahead of classrooms without RR on a group test of word recognition and phonic skills (WRAPS). This difference demonstrated some effect on norms 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. Some wider impact of the RR teacher's influence is also suggested, in that in schools with RR, the lowest achieving children who were

unable to get a place in RR in Year 1 made greater progress in literacy across the year than the lowest achieving children in schools without a RR teacher.

The second phase of this evaluation tracked the progress of these children to the end of Year 2. At the end of Year 2 (July 2007), 218 of those children who were lowest literacy achievers 2 years previously, were re-assessed. The end of the 2006-7 school year was the end of Key Stage 1 for these 7-year-old children. Literacy achievement of classes was measured on WRAPS assessment again and a further whole class measure of spelling and reading comprehension, Progress in English 7 (2<sup>nd</sup> Edn). The results of national Key Stage 1 assessment of reading and writing of children in the sample were collected. These results are discussed and their implications suggested alongside reporting of literacy outcomes measures in each section of this report. The slight closing of the gap between literacy achievement in classes, whilst still in favour of classes in schools with RR, may have been affected by 8 of the 21 comparison schools without RR in 2005-6 having trained a RR teacher in 2006-07, the year the comparison samples were in Year 2. No sample children received RR in Year 2 but the influence of the RR teacher on classroom practice may have begun to have some impact. This inference was not able to be tested, however.

At the end of Year 2 most children had made some further progress. Those who began Year 1 as non-readers but who had received RR in Year 1 were, a year later, still achieving at age appropriate levels in literacy and at higher levels than those similar children to whom their schools had provided, and probably continued to provide, other forms of support.

This follow up study demonstrated continuing whole-classroom impact on literacy and the sustainability of the significant gains made by the lowest achieving children who received Reading Recovery as 6 year olds.

The consequences of failure to learn literacy efficiently and at an appropriate time make it imperative that effective early intervention is available for those at risk. This study provides strong evidence that schools could enable almost every child to read and write appropriately for their age, if those who were failing were given access to expert teaching in Reading Recovery. This follow up study has shown that their progress was sustained at average levels a year or more after having accessed RR intervention.

But it should also be noted that non-readers who missed out on RR places in their schools were not able to catch up even with 'good' classroom literacy learning opportunities or 'other' intervention provision. There is ample evidence in this Year 1 study and Year 2 follow up that without RR children, with low literacy understanding do not catch up to age appropriate levels during Key Stage 1. But even those children in deprived social and economic, inner-city environments who had made no start into literacy after a year or more in school, can catch up if the right help comes early enough. With access to Reading Recovery this is demonstrably an attainable goal.

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