Report on Data Collection

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1 Executive Summary

1.1 Introduction

This document will be of particular interest to Head Teachers in Primary and Secondary schools, and more generally to anyone with an interest in the literacy of children. Its purpose is to present the compelling case emerging from data collected in state schools[1], showing that the Sounds~Write programme is highly effective in teaching literacy skills to pupils. Furthermore, this data shows pupils improving year on year, with most of them moving rapidly towards true adult-level competency between Y2 and Y4.

Further discussion of the Sounds~Write programme will be found in the 'Discussion' which comprises Section 3 of this document.

Spelling data was chosen as our focus for measuring literacy development because we think there are concerns about the meaning of reading test results that make them unreliable. It seems obvious that if pupils can spell words, they can also read them and that their reading ages must necessarily equal or surpass their spelling ages because reading is the easier task.

The average amounts by which the pupils' development of literacy skills and knowledge is ahead of chronological age in YR, Y1, Y2 and Y3 are: 14·5, 10·7, 11·6 and 18·3 months respectively. We see these variations as being due to the inaccuracies inherent in traditional testing, based as it is on populations of pupils taught by mixed methods. Beyond Y1 we note an increasing acceleration of acquisition of literacy abilities due to pupils' developing understanding of the complexity of our writing code.

1.2 Results for spelling at the end of Reception

Of the 3721 pupils taught by teachers using the Sounds~Write programme, 2939 or 79% of them were at or above their chronological age in spelling. Furthermore:

- Taking the 2939 (79%) pupils who scored on the spelling test, on average, they were 14·5 months ahead of chronological age in spelling ability.
- Within the 2939 (79%) whose spelling was ahead of chronological age, on average the girls were 0·6 of a month ahead of the boys, a difference so small as to be of no educational significance.

1.3 Results for spelling at the end of Year One

Of the 2318 pupils taught by teachers using the Sounds~Write programme throughout Reception and Year One, 88·7% of pupils reached or exceeded their chronological age in spelling. Furthermore:

- Taking the 2245 pupils who scored on the spelling test, they averaged 10·7 months ahead of their chronological age in spelling. The average spelling age for these pupils was 7y 2·1m.
- The difference of 2 months in Spelling Age between boys and girls was too small to be of any educational significance.

[1] Data collected from schools in the Kent, Milton Keynes and Wigan MBC areas

1.4 Figures for spelling at the end of Year Two

At the end of Year 2, of the 1023 pupils taught by teachers using the Sounds~Write programme since starting school in Reception, 76.7% of pupils reached or exceeded their chronological age in spelling. Furthermore:

- Taking the 1023, on average pupils were 11·6 months ahead of their chronological age in spelling. That is the average spelling age for these pupils was 8y 2·9m.

- Taking the whole 1023, there was a difference of just under 2 months between boys and girls, as in the earlier YR and Y1 results this difference was too small to be of any educational significance.

1.5 Figures for spelling at the end of Year Three

Of the 242 pupils (ten different classes in five schools) taught by teachers using the Sounds~Write programme since entering Reception, 202 (83·5%) of them reached or exceeded their chronological age in spelling. Furthermore:

- The whole 242 pupils were, on average, 18·3 months ahead of their chronological age in spelling, i.e., the average spelling age for these pupils at the end of Y3 was 9y 9·4m (average CA 8y 3·1m)

- The girls are 2.4 months ahead of the boys on average. But with an overall Spelling Age average of 9y 9.4m for this group of pupils this difference is again of no educational significance.

1.6 Conclusions

What these figures demonstrate is that, regardless of their gender, who their particular teacher is, or where they are going to school, children following the Sounds~Write programme make excellent progress towards being able to read and spell to a very high standard of proficiency. By the end of Y3, they are, on average, already a year and a half ahead of their average chronological age and are well on their way to becoming completely independent readers and spellers.

2 Data for YR, Y1, Y2 & Y3

2.1 Reception Year Data

Traditionally pupils were not expected to achieve much in the way of spelling ability during their Reception Year and this is reflected in the available standardised tests. The one that we chose to use has a lowest possible score of 5 years 11 months. Given that the average age of Reception pupils being tested in the summer term was only 5 years 3 months, it is not surprising that many did not reach this level. However, most did and their results are all shown in the two tables below. This data was collected from a total of 37 state primary schools located in three geographical areas: Wigan LEA; Milton Keynes/Bedfordshire; and East Kent.

Table 1: Reception Year – overall Spelling Age results

1	2	3	For pupils in Column 3 only
Number of pupils tested	Number not reaching a Spelling Age of 5y 11m	Number who did score a Spelling Age of 5y 11m or above	Average amount in months that their Spelling Ages were above their actual ages
3721	782	2939	14·5 months

Information Summary*:* 79% of the Reception Year group scored a Spelling Age above their actual age level and on average they were over a year ahead of traditional expectations.

Table 2: Reception Year – spread of Spelling Age scores in 12-monthly intervals

Number of pupils tested	Spelling Age below Actual Age in months		Spelling Age above Actual Age in months				
	13 to 24	1 to 12	1 to 12	13 to 24	25 to 36	37 to 48	49 to 60
3721	0	Unknown[2]	1111	1701	124	1	2

Table 3: Reception Year –Spelling Age results by gender

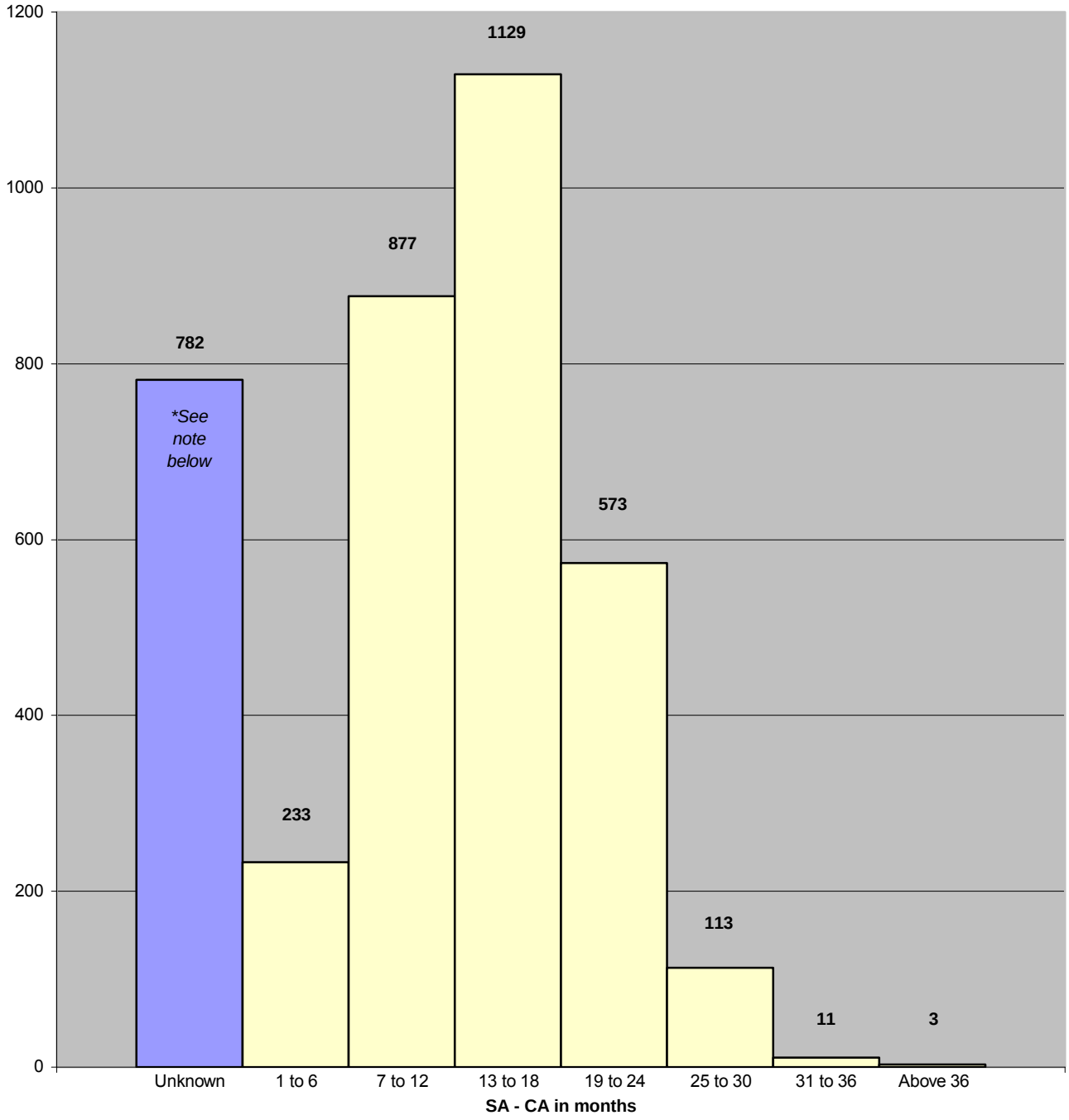
BOYS				GIRLS			
Number Tested	Number who did not score a SA of 5y11m or above	3 Number who did score a SA of 5y 11m or above	Average SA-CA in months for pupils in column 3	Number Tested	Number who did not score a SA of 5y11m or above	6 Number who did score a SA of 5y 11m or above	Average SA-CA in months for pupils in column 6
1889	511	1378	14·2	1832	271	1561	14·8

2.1.1 Summary of Findings

79% of these Reception Year pupils were spelling at or above their age level, with an average of just over a year ahead of traditional expectations. The girls are only marginally ahead of the boys and we will discuss this in greater detail later.

[2] All the pupils in this year group were younger than 5y 11m, so it is not possible to know how those that didn't score a Spelling Age should be distributed between the 1-12 months below and 1-12 months above columns.

Chart 1: Reception Year: Spelling Age ahead of chronological age in 6-monthly intervals



** The average age of pupils when tested was 5y 3m whereas the spelling test only goes down to a Spelling Age of 5y 11m. These pupils did not score on the test and therefore the difference between their actual ages and their Spelling Ages cannot be calculated.*

2.2 Year One Data

These pupils, by the end of Year One, had received two years of literacy teaching by staff trained in teaching the Sounds~Write programme.

Table 4: Year One – overall Spelling Age results

1	2	3	For pupils in Column 3 only
Number of pupils tested	Number not reaching a Spelling Age of 5y 11m	Number who did score a Spelling Age of 5y 11m or above	Average amount in months that their Spelling Ages were above their actual ages
2318	73	2245	10·7 months

Information Summary: 88·7% of the Year One group scored a Spelling Age above their actual age level and on average they were nearly a year ahead of traditional expectations.

Table 5: Year One – spread of Spelling Age scores in 12-monthly intervals

Number of pupils tested	Spelling Age below Actual Age in months		Spelling Age above Actual Age in months				
	13 to 24	1 to 12	0 to 12	13 to 24	25 to 36	37 to 48	49 to 60
2318	Unknown[3]	189[3]	1292	567	138	41	18

Table 6: Year One – Spelling Age results by Gender

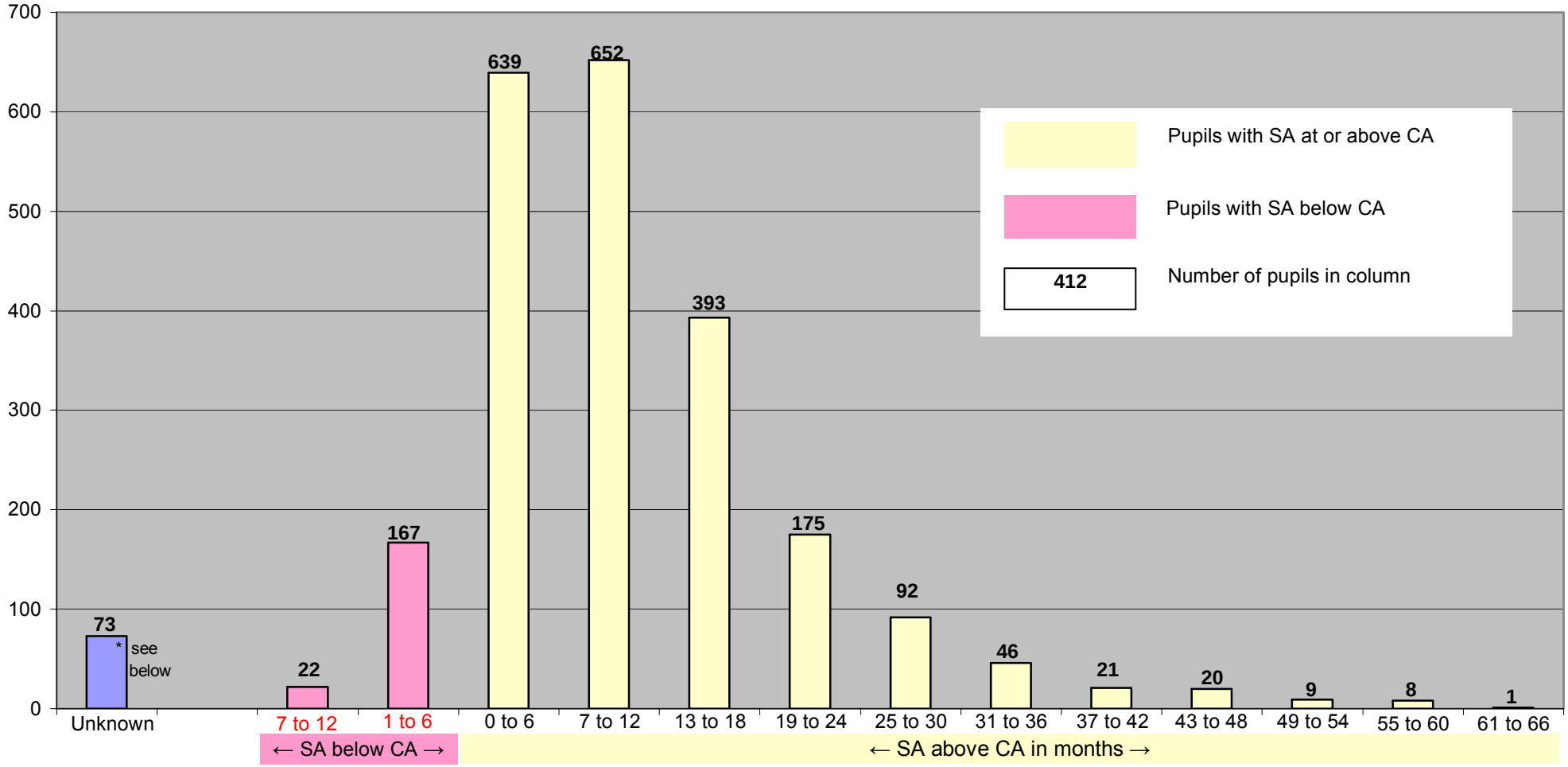
BOYS				GIRLS			
Number Tested	Number who did not score a SA of 5y11m or above	3 Number who did score a SA of 5y 11m or above	Average SA-CA in months for pupils in column 3	Number Tested	Number who did not score a SA of 5y11m or above	6 Number who did score a SA of 5y 11m or above	Average SA-CA in months for pupils in column 6
1157	55	1102	9·6	1161	18	1143	11·7

2.2.1 Summary of Findings

Nearly 89% of these Year One pupils were spelling at or above their age level, with an average of nearly a year ahead of traditional expectations. (No great significance can be placed on the fact that on average these pupils are ahead by less than they were at the end of Reception because the test norms are based on pupils taught by traditional mixed methods that do not follow the smooth, cumulative, building up of skills and knowledge inherent within the Sounds~Write programme design.)

[3] The 73 pupils that didn't score a Spelling Age of 5y 11m or above were only aged between 5.10 & 6.09 when tested and so cannot be accurately placed in these two columns.

Chart 2: Year One: Spelling Age ahead/below chronological age in 6-monthly intervals



* The average age of pupils when tested was 6y 3m with many still aged below 5y 11m (The lowest possible age-equivalent score on the test). For those pupils aged below 5y 11m who did not score on the test it is not possible to calculate the difference between their actual ages and their Spelling Ages.

Out of the 2318 pupils in this study we know for certain that 2056 scored a Spelling Age at or above their Chronological Age, i.e., 88.7%, whereas the original test standardisation found only about 52% scoring at or above their Chronological Age level.

2.3 Year Two Data

These pupils, by the end of Year Two, had received three years of literacy teaching by staff trained in teaching the Sounds~Write programme.

Table 7: Year Two – overall Spelling Age results

1	2	3	For pupils in Column 3 only
Number of pupils tested	Number not reaching a Spelling Age of 5y 11m	Number who did score a Spelling Age of 5y 11m or above	Average amount in months that their Spelling Ages were above their actual ages
1023	4	1019	11·6 months

Information Summary: 76·7% of the Year Two group scored a Spelling Age above their actual age level and on average they were nearly a year ahead of traditional expectations.

Table 8: Year Two – spread of Spelling Age scores in 12-monthly intervals

Number of pupils tested	Spelling Age below Actual Age in months		Spelling Age above Actual Age in months				
	13 to 24	1 to 12	0 to 12	13 to 24	25 to 36	37 to 48	49 to 60
1023	25[4]	213[4]	390	192	101	88	14

Table 9: Year Two – Spelling Age results by Gender

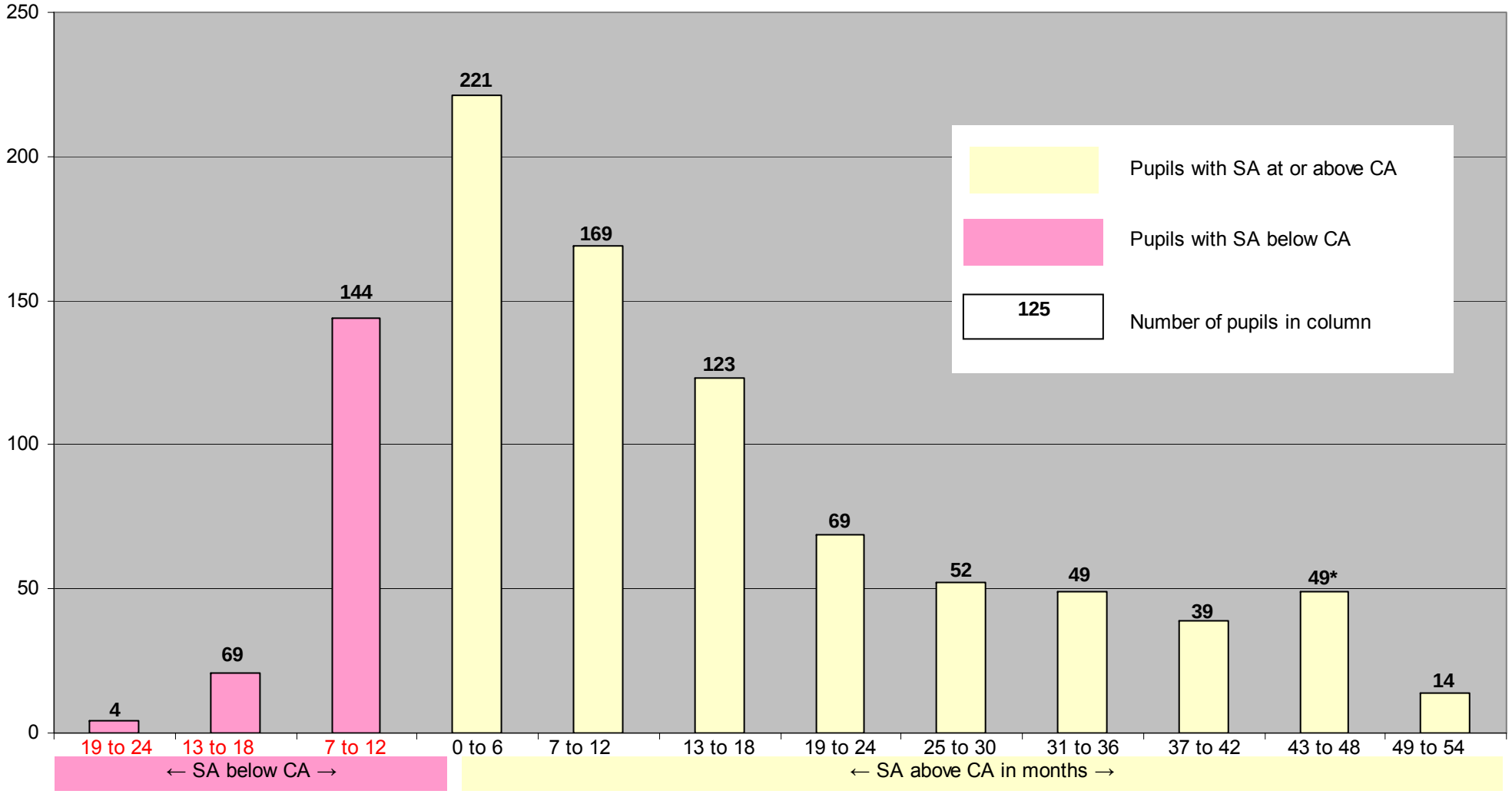
BOYS				GIRLS			
Number Tested	Number who did not score a SA of 5y11m or above	3 Number who did score a SA of 5y 11m or above	Average SA-CA in months for pupils in column 3	Number Tested	Number who did not score a SA of 5y11m or above	6 Number who did score a SA of 5y 11m or above	Average SA-CA in months for pupils in column 6
494	3	491	10·7	529	1	528	12·5

Summary of Findings

Nearly 77% of these Year Two pupils were spelling at or above their age level, with an average of almost a year ahead of traditional expectations.

[4] The 4 pupils that didn't score a Spelling Age of 5y 11m or above cannot be accurately placed in these columns.

Chart 3: Year Two: Spelling Age ahead/below chronological age in 6-monthly intervals



* The kink in the distribution at this point is caused by the number of pupils scoring above the 11y 0m upper limit for the test.

Shown below are the spelling results achieved by our sample of pupils at the end of Y2 following three years of Sounds~Write tuition. Table 10 shows the overall results. Tables 11 and 12 show the results obtained by splitting the pupils into two groups based on their test results achieved two years earlier at the end of YR. The lowest, or baseline, score that can be achieved on the Young's Parallel Test A is 5.11 years, which is why that score was used to split the pupils up into the two groups.

Table 10: Whole Year Two sample

Whole Sample			Pupils who did score on the test			
Gender	Number Tested	SA below 5.11	Number	Average SA	Average CA	Average SA - CA
Boys	494	3	491	8y 1.9m	7y 3.2m	10.7m
Girls	529	1	528	8y 3.8m	7y 3.4m	12.5m
Total	1023	4	1019	8y 2.9m	7y 3.3m	11.6m

Table 11: Year Two sample – those previously scoring a SA of 5y 11m or above at the end of their Reception Year

Those scoring SA of 5.11 or above at the end of YR			Pupils who did score on the test			
Gender	Number Tested	SA below 5.11	Number	Average SA	Average CA	Average SA - CA
Boys	382	0	382	8y 5.3m	7y 3.5m	13.9m
Girls	464	0	464	8y 6.1m	7y 3.6m	14.5m
Total	846	0	846	8y 5.7m	7y 3.5m	14.2m

Table 12: Year Two sample – those previously scoring a SA below 5y 11m at the end of their Reception Year

Those scoring SA below 5.11 at the end of YR			Pupils who did score on the test			
Gender	Number Tested	SA below 5.11	Number	Average SA	Average CA	Average SA - CA
Boys	112(63.3%)	3	109	7y 1.8m	7y 2.3m	- 0.4m
Girls	65(36.7%)	1	64	6y 11.6m	7y 1.9m	- 2.3m
Total	177(100%)	4	173	7y 1.0m	7y 2.2m	- 1.1m

The *Parallel Spelling Test*, like most modern tests, is based on the normal distribution model using a standard deviation of 12 months. It therefore predicts what is to be expected from the results of groups of pupils tested with it. The predictions for our Y2 pupils are shown in the table below together with their actual results.

Table 13: Year Two pupils. Results: Expected v Actual

Spelling Level relative to Chronological Age	Normal Distribution EXPECTED RESULTS*	ACTUAL RESULTS for Sounds~Write Y2 Group
More than 12 months ahead	**164***(16%)*	**395***(39%)*
0 to 12 months ahead	**373***(36%)*	**390***(38%)*
1 - 12 months behind	**323***(32%)*	**213***(21%)*
13 - 24 months behind	**164***(16%)*	**25***(2%)*
TOTALS =	**1024***(100%)*	**1023***(100%)*

Note: For the sake of simplicity the figures in the expected results column have all been corrected to the nearest whole number.

Compared with traditional expectations we are looking at an overall movement upwards of a quarter of the year group from a literacy functioning level below their chronological ages to above them.

Gender differences

The figures for the whole Y2 group (Table 10 p10) show the girls to be ahead of the boys by an average of 1·8 months in Spelling Age. But this simple global finding doesn't accurately represent what is happening in practice. Table 11, p10, records the progress of those pupils who had made a good start in their Reception Year. For these pupils the gap between boys and girls is only 0·6 months – too small to be of any significant educational interest. It is Table 12, p10, showing the progress of those pupils who didn't make a good start during their Reception Year, that provides the really interesting information. Two-thirds of those pupils were boys, but by the end of Year Two it is the girls whose average Spelling Age of 6y 11·6m was behind that of the boys by 2·2 months. Inspection of the individual scores shows that proportionally more of the girls in this group were at the lower end of the spelling ability range. In fact only 40 pupils (3·9% of the full 1023 sample) had Spelling Ages that were more than 9 months below their chronological ages - and this group contained 20 boys and 20 girls.

We think our data so far suggests the following:

- *Nearly twice as many boys as girls did not score on the spelling test at the end of Reception (511 boys to 271 girls).* This *may* indicate that more boys than girls are not ready to start ***formal tuition*** of literacy at age 4;
- However, for the majority of pupils who are clearly ready for formal literacy tuition in Reception and are given linguistic phonic Sounds~Write tuition throughout Key Stage One, their progress is well ahead of traditional expectations, and there is no educational significance in the small amount by which the girls are ahead of the boys;
- Those pupils who reach the end of Key Stage One with Spelling Ages more than nine months below their Chronological Ages have made unusually slow progress and should be investigated for unusual learning difficulties of a general or specific nature (including those of speech and hearing) if these investigations have not previously been carried out;
- For most pupils in this cohort, although their phonic knowledge is developing very well, phonic teaching needs to be continued throughout Years Three and Four if they are to gain the 'expert' literacy levels needed to achieve independent academic success with future high school work.

2.4 What Happens to the Children Who Make a Slower Start in Reception?

In our discussion of the Year Two data we inspected what had happened to those pupils who had made a slow start to their literacy development when in their Reception Year. There were 173 of them who didn't achieve the baseline score of 5y 11m on the spelling test at the end of Reception. What happened to these pupils during Y1 is also of interest and those scores are presented in the tables below.

Table 14: Year One – 177 pupils who did not reach a Spelling Age of 5y 11m by the end of their Reception Year

1	2	3	For pupils in Column 3 only
Number of pupils	Number still not reaching a Spelling Age of 5y 11m	Number scoring a Spelling Age of 5y 11m or above	Average amount in months that their Spelling Ages were above their actual ages
177	17	160	4·0 months

Information Summary: 90% of those who didn't score a Spelling Age at the end of Reception did achieve a score by the end of Year One.

Table 15: Year One – spread of spelling ability in 12 monthly intervals for the 177 who did not reach a Spelling Age of 5y 11m by the end of their Reception Year

Number of pupils tested	Spelling Age below Actual Age in months		Spelling Age above Actual Age in months				
	13 to 24	1 to 12	0 to 12	13 to 24	25 to 36	37 to 48	49 to 60
177	Unknown[5]	39[5]	109	12	0	0	0

Information Summary: 68% of those who didn't score on the test at the end of Reception were spelling at or above their age level by the end of Year One.

Table 16: Year One –Spelling Age results by Gender for the 177 who did not reach a Spelling Age of 5y 11m by the end of their Reception Year

BOYS				GIRLS			
Number Tested	Number who did not score a SA of 5y11m or above	3 Number who did score a SA of 5y 11m or above	Average SA-CA in months for pupils in column 3	Number Tested	Number who did not score a SA of 5y11m or above	6 Number who did score a SA of 5y 11m or above	Average SA-CA in months for pupils in column 6
112	10	102	3·1	65	7	58	4·6

The particular question we wanted to consider was: What is the effect of teaching the Sounds~Write programme on those pupils in Reception classes who are not developmentally ready for formal literacy tuition? Judging by the results shown above, we suggest that the programme has a positive effect in sensitising those pupils who develop phonic skills and understanding at a much slower rate than most of their peers to what they will be capable of learning formally in Year One and helping to optimise their phonic listening skills in preparation for that tuition.

[5] The 17 pupils that still didn't score a Spelling Age of 5y 11m or above were only aged between 5.10 & 6.09 when tested and so cannot be accurately placed in these two columns.

[Blank page left so that the Year 3 data and chart on pages 14 and 15 can be seen together.]

2.5 Year Three Data

We have so far managed to collect data from ten classes of pupils (in five schools) who have received literacy tuition from Sounds~Write trained teachers throughout Key Stage One and in Year Three as well. A total of 242 pupils are involved and their results are shown below.

Table 17: Year Three – overall Spelling Age results

	Sample size	Average Age	Average Spelling Age	Average amount in months above Actual Age
Boys	116	8y 2.7m	9y 7.4m	16·7m
Girls	126	8y 3.4m	9y 11.2m	19·8m
All	**242**	**8y 3.1m**	**9y 9.4m**	**18·3m**

The spread of these results is shown below ,compared to the results expected from the normal distribution curve used in the spelling test standardisation. These figures are shown in the 12-monthly intervals that centre on the average age of the pupils in our sample, i.e., 8y 3m.

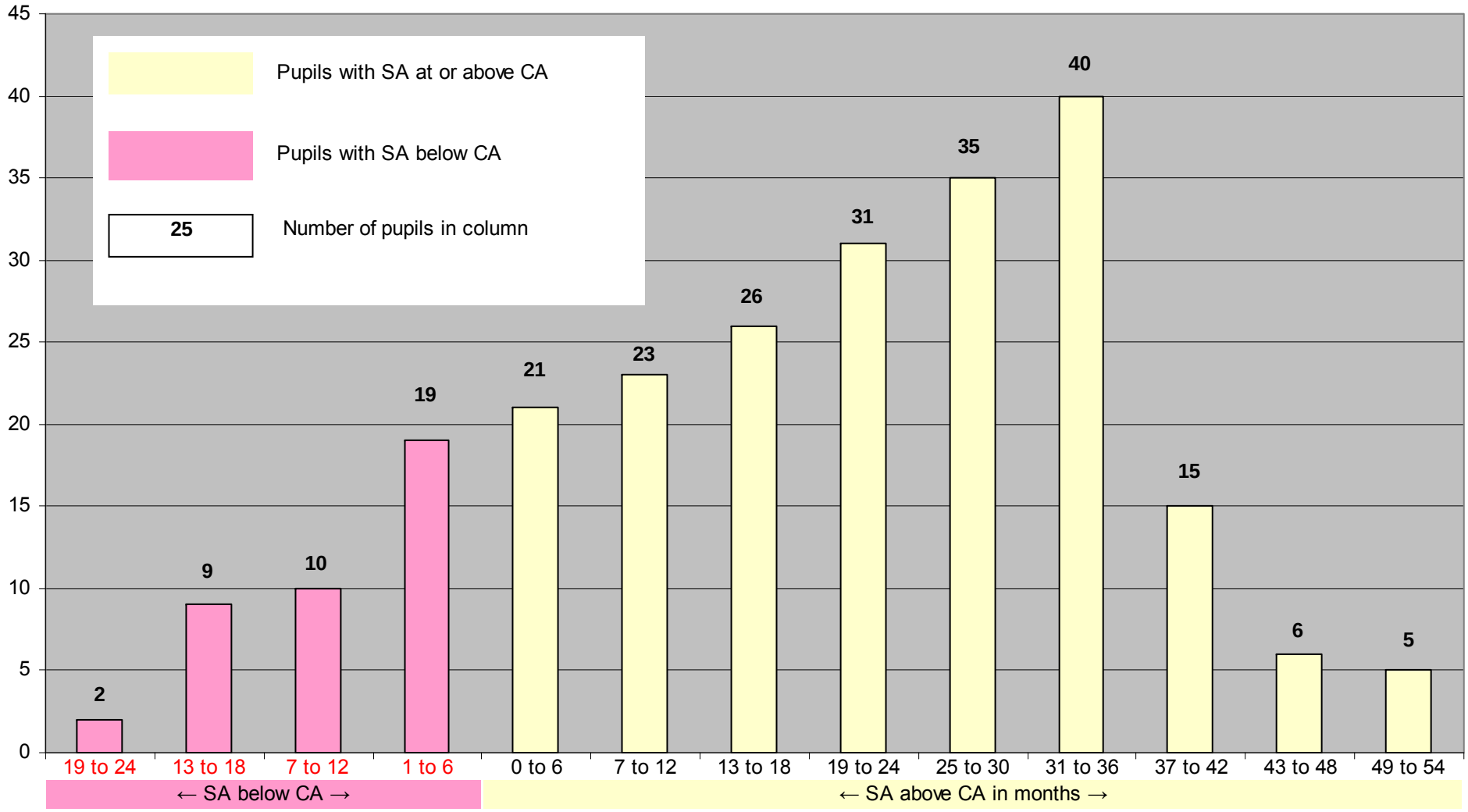
Table 18: Year Three Pupils – Results: Expected v Actual

Spelling Age	Expected	Actual Sounds~Write results
Above 10y 2m	5	104
Between 9y 3m and 10y 2m	33	58
Between 8y 3m and 9y 2m	83	32
Between 7y 3m and 8y 2m	83	38
Between 6y 3m and 7y 2m	33	10
Below 6y 3m	5	0

As can be seen, the Sounds~Write taught pupils are massively outperforming traditional expectations, with 162 (two-thirds) of them above the 9-year level that indicates they have either achieved or are close to achieving mastery of the English alphabet code. Of course, these pupils are only eight years old and still have many new words and spellings to learn, but they have been equipped with the phonic knowledge and skills to do so quite easily within the National Curriculum.

We also note here, that the Young's *Parallel Spelling Test A* has an upper limit of 11y 0m, i.e., the maximum Spelling Age that can be scored is 11.0 years. 36 of the pupils in our sample achieved this maximum score and most of these would have achieved a higher score had the norms been available to measure them.

Chart 4: Year Three: Spelling Age ahead/below chronological age in 6-monthly intervals



3 Discussion

3.1 Context & Recent Findings

It is six years since we started writing the Sounds~Write literacy programme. Our intention has always been to teach total literacy in the completely phonic direction from the sounds of speech to the way they are written in print. This basic philosophy contrasts with that of many other programmes currently in use that, we believe, attempt to make a rapid dash for teaching reading at the expense of spelling and writing. Also, in contrast to other available programmes, we announced our intention from the very beginning to collect data on the progress in literacy development of pupils being taught using the Sounds~Write programme. Our report is based firmly on the data that many schools have taken trouble to collect and return to us.

Before presenting and discussing the data collected for us by some of the schools now teaching their pupils using the Sounds~Write programme, we would firstly like to discuss a recent research finding that we think indicates a context within which our data should be considered.

There seems to be a generally accepted belief in the UK that we teach literacy effectively to about 70% of pupils, leaving 30% completing their schooling with some level of difficulty. Two relatively recent large scale studies of our adult population show a very different picture: in the 1997 report from the Organisation for Economic and Cultural Development, which published its first survey data on adult literacy levels for the world's most industrialised countries (www.oecd.org), it was found that in all the major English-speaking countries, including the USA and UK, barely 48% of the adult population were literate; and, the Moser Report (1999) *Improving Literacy and Numeracy, A Fresh Start*, subsequently corroborated the OECD findings on the considerable extent of adult illiteracy in the UK.

Adult illiteracy is the direct result of unsuccessful teaching in the primary and secondary schools and, although the government claims to be improving literacy rates year on year, very many secondary school teachers responsible for screening incoming Year 7 pupils are reporting to us that reading ages are dropping alarmingly. If pupils cannot read effectively, by which we mean having a reading age of at least nine and half years plus, they cannot access the secondary curriculum.

3.2 Concerning Tests

Having decided to collect data about the effectiveness of the Sounds~Write programme in the classroom we had to decide what actual data would be most meaningful. Traditionally, three types of tests have been carried out: reading; spelling and comprehension. Unfortunately interpreting the meaning of their results has led to much confusion, one consequence of which was that, when the National Literacy Strategy was introduced to UK schools, it was decided not to use any of these measures, but to push ahead with developing a new British Standard Assessment Tests for Mathematics, Science and English and to use the English papers as a guide to the success of the NLS. This has caused even more confusion because these English papers (set at the end of the first three Key Stages, though now abandoned for 14 year-olds) bear no clear relationship to literacy. If anything they bear a resemblance to reading comprehension testing.

As a country, we are being told that literacy is improving because pupils are performing better at their English SATs papers. At the same time the CBI and the Armed Services recruitment bodies regularly inform us that literacy standards amongst young adults are falling. Getting at the truth is not easy. In a recent article on handwriting standards by Richard Garner for the *Independent* newspaper (published Saturday 6th September 2008), it was revealed that the number of requests for pupils to have adults to scribe their handwriting for them when sitting written examinations had risen from 28,324 in 2005 to 40,215 last year. It is our experience that those needing scribes also need readers to read the examination questions to them. Furthermore, there are many more pupils who need readers than need scribes. This would suggest that countrywide we may now have as many as 100,000 pupils each year needing an adult to read some, or all, of their examination papers to them. This does not seem to sit very well with DCSF pronouncements about English SAT results improving year on year showing that literacy

standards are improving.

When deciding what we should be measuring for pupils being taught literacy by Sounds~Write our thoughts on traditional testing were as follows:

3.2.1 Reading Comprehension Tests

We do not actually comprehend reading, what we comprehend is language. Writing is a way of recording our speech into a set of visual symbols and reading is the process we go through to return those written visual symbols into speech (which we can 'hear' in our heads without having to say out loud). Assuming those writing and reading processes are carried out accurately we end up with the same piece of speech originally thought and then written down by the author. Neither the writing nor the reading processes have added anything new to be comprehended.

Consequently there are four possible outcomes of administering reading comprehension tests:

(i) The pupil can read well enough to convert the set text back into speech accurately and has sufficient understanding of the words and grammatical constructions used in the text to answer questions about it correctly.

(ii) The pupil can read well enough to convert the set text back into speech accurately but does not have sufficient understanding of the words and grammatical constructions used in the text to answer correctly questions about it.

(iii) The pupil has sufficient understanding of the words and grammatical constructions used in the set text to answer questions correctly about it but cannot read well enough to convert the text back into speech accurately and so cannot correctly answer questions about it.

(iv) The pupil does not have sufficient understanding of the words and grammatical constructions used in the set text to answer questions correctly about it, and cannot read well enough to convert the set text back into speech accurately.

There is a further fifth possibility that an 'intelligent' pupil with reading difficulties may know 'tricks' about scanning texts using trained sight vocabulary techniques that enables him/her to 'discover' answers to the types of comprehension questions being set, thereby achieving 'correct' answers but without necessarily understanding them very well.

For obvious reasons we immediately rejected reading comprehension tests as not having any useful part to play in our research.

3.2.2 Reading Tests

Reading tests usually require pupils to read aloud individual words or sentences to an examiner. Unfortunately they are scored on the basis of the word(s) being enunciated correctly irrespective of how the answer was arrived at. So if a pupil is asked to read the word *choose* and correctly says □choose□ this is automatically accepted as having been read correctly.

But two completely different cognitive processes may have taken place as follows:

- The pupil may have scanned the word visually, identifying the three graphemes used to spell it, < ch > < oo > and < se >, recognised them as representing the three sounds □ch□ $_{m}$□oo□$_{n}$ and □z□ and then blended them together to say the word *choose*.
- The pupil may have previously encountered the word *choose* on several occasions and memorised it as a complete visual symbol as though on a flash card without having any understanding that it is constructed from three individual symbols (each comprising two letters) that encode the sounds within it.

Clearly these two responses are very different in quality. In clinical practice we often come across pupils

operating using visual recall memory as in (ii) above who have no phonic knowledge at all beyond single-letter-decoding[6]. In fact the most extreme case we have encountered was an eleven-year-old boy who scored a reading age of 12.0 years on the WORD (Wechsler Objective Reading Dimensions) but appeared to have no phonic knowledge at all – he could not even attempt to sound out simple CVC nonsense words such as **deg** and **hib** on the grounds that he hadn't seen them before so no-one had told him what they were. This boy therefore had achieved a test score showing him to have a reading ability level around that of an average adult, whereas in fact he had just visually memorised a number of high frequency words, many of which appear in standardised reading tests, and had no phonic skills with which to tackle any new vocabulary.

We think there are many pupils struggling at Key Stages 2, 3 and 4 in all our schools whose reading ability is restricted to single-letter-decoding and a variety of high frequency words remembered as whole units. They may well be able to score reading ages on traditional reading tests between a 7.0- and 10.0-year level, but too often this does not reflect an ability to decode from the beginning all the way through the word and with automaticity - a life-long skill. On leaving school, and without daily reminders and practice of their memorised sight vocabulary, it gradually gets forgotten, resulting in their supposed reading ability gradually dwindling as they get older. This gradual loss of 'sight memorised' vocabulary (that has been mistaken for true literacy) beyond the completion of compulsory schooling would explain the research findings of higher than expected levels of adult illiteracy referred to above in the OECD and Moser reports.

For those of us teaching pupils by a transparent phonic approach there is a further problem with reading tests. They have all been constructed using data and evidence drawn from pupils taught by mixed method approaches, i.e., a pastiche of whole language sight-memorisation of words and some traditional phonic programmes. The tests resulting from the sampling and standardisation of pupils' responses following tuition by these methods contain sequences of difficulty levels that bear no resemblance to reality.

Cyril Burt's reading test, for example, begins with the words **to** and **is**, neither of which is phonically decodeable by pupils in Reception classes who are being taught the basic sounds represented by the letters of the alphabet as in words like **sit**, **dog**, etc. Continuing on through the test we find that the relatively complex word **water** (in terms of its spelling) appears earlier (20th in the test) than the words **wet** (23rd) and **pot** (24th).

The words selected for inclusion in this type of test are usually chosen because, at the time of standardisation, the data indicated that children of a specific age were split 50:50 by their ability to read particular words. A pupil correctly 'reading' all the words up to and including **water** on the Burt Reading Test would be scored a Reading Age of 6y 2m, suggesting that (within a large range of experimental error) at the time of standardisation half the pupils tested aged 6y 2m could 'read' it, whilst the other half could not. Given that pupils of age 6y 2m are not normally being taught that the single letter **a** can represent the sound '**or**' as it does in 'water', or that at the end of words the two-letter-spelling **er** represents a schwa (weak vowel sound), one can only presume that the word **water** appeared often in classroom books that they were reading (and/or possibly in sight-word lists for use on flash cards) because its recognition by so many pupils of that age would definitely not be due to accurate phonic decoding. This may help to explain to some readers why pupils receiving Sounds~Write tuition and making excellent progress with their literacy development, exhibit this progress far more accurately on spelling tests and in writing activities than on traditional reading tests.

3.2.3 Spelling Tests

Spelling tests require pupils to write down words spoken to them by the examiner. In well-constructed tests these words are also spoken in sentences to help ensure that pupils hear them correctly and have the extra advantage of hearing them spoken within a grammatically accurate short sentence. Success at this task is heavily dependent on recall memory because the pupils are given no sight of the word to help stimulate their visual recognition. This is therefore a much harder task than is simple word recognition for

[6] Single-letter decoding means trying to decode all words as though each single letter represents its basic alphabet sound. Doing this would mean trying to read the word **choose** by blending the sounds "**c**" "**h**" "**o**" "**o**" "**s**" and "**e**" together!

reading purposes. In order to write words correctly from memory they have to be sequentially segmented into their component speech sounds and then each speech sound written using the correct grapheme. To return to the example word **choose**, in a spelling test the pupil has to break this down into '**ch**', $_{m}$'**oo**'$_{n}$ and '**z**' and then select the spelling for each sound.

At the start of this discussion we said that we wanted to teach literacy and for us that means we think pupils should be successfully taught how to read and spell the English language. Spelling is by far and away the most difficult issue and therefore we have chosen to collect spelling data to provide evidence of how effectively the Sounds~Write programme is working in practice. We also considered the fact that many pupils can only correctly spell about half the words they can read. When writing, this leads pupils to want only to use words that they are confident of spelling correctly. Most teachers and many parents are familiar with the situation where a child who uses the words 'gigantic' and 'enormous' accurately and confidently in conversation, reverts to writing the word 'big' in stories, due to fear of spelling those linguistically better alternatives incorrectly. This information is completely hidden in reading tests. In spelling tests pupils normally have no difficulty in reading the words they can spell accurately[7] and so their spelling ability gives a good guide to their reading ability as well as to how we would expect them to cope with written tasks.

Teaching literacy and measuring it involves both spelling and reading and the two are inseparable. We believe that to achieve accuracy and fluency in both they need to be taught together. The fact of the existence of both reading and spelling tests shows that our belief is not one that was held historically. Traditional construction of such tests requires each to be based upon the idea of a normal distributional spread of knowledge and ideas where a pupil of average ability/attainment will achieve reading and spelling ages equivalent to their chronological ages. The problem is that by the very nature of this test construction we end up with a situation where, on testing, half our pupils can be expected to have reading ages above their spelling ages, whilst the other half have spelling ages above their reading ages. We do not believe that this has any scientific validity.

And finally, a reminder list of the ideas and principles underlying the Sounds~Write programme:

1. Sounds~Write is a totally phonic programme in line with current DCFS thinking about phonics first. However, it is theoretically underpinned by a bottom-up analysis based on knowledge of child development, rather than the traditional top-down analyses of the past that have led to flawed concepts such as magic-e, silent letters, long/short sounds, etc, which have been causing considerable confusion to parents, teachers and children for over fifty years.

2. Teachers teach children to read and spell, NOT worksheets and tick-box systems. Sounds~Write is not a programme in the sense that most teachers and parents think of programmes as a progression of worksheets. On the Sounds~Write training courses, we give teachers a clear rationale for why and how phonics can be taught successfully to their pupils, i.e. it is of central importance that teachers themselves fully understand the subject of phonics and what needs to be done in order to impart that understanding to their pupils. In terms of learning theory we have been particularly guided by Vygotsky's ideas about apprenticeship learning. It is the teacher's expertise that should determine factors such as the speed of introduction of new knowledge and ideas, the amount of practice necessary, and, most importantly, what needs to be done to correct the errors pupils make when reading and spelling.

3. Alphabet codes are artificially constructed systems and the English one is highly complex, requiring very precise tuition, which is why literacy levels are much higher in countries whose languages are written using a much simpler code. Mastering the English alphabet code requires a level of knowledge and skills that, for us at least, clearly mark literacy as an expert activity. We have drawn heavily on both the idea that people become expert in an activity as a result of expert, focused instruction and Erik Candel's discovery that a great deal of the neural basis of memory and learning

[7] Pupils sometimes spell a word correctly and then misread it in text. We think this a reflection of inadequacies in their previous teaching because you can often see this happen when words have been taught as visually memorised sight vocabulary, eg, the word **brother** appears in one of the NLS sight vocabulary lists. If you ask pupils to spell the word **bother** then some of those who spell it accurately may still glance at it when reading and say **brother** because of the overall visual similarity of the two words. This problem with visual similarity is an excellent reason for not recommending the tuition of sight vocabulary.

is to do with the strength and number of the nerve connections associated with a memory or skill, and that these increase in proportion to the frequency and intensity with which the activities are practised. This is the basis of achieving the automaticity in phonic skills and phonic information recall that is shown by fluent readers and writers.

The data presented in this report is collected by sending out research packs to about thirty schools that have sent staff on Sounds~Write training courses and are interested in sharing information about their pupils' progress in the form of spelling test results. We particularly want to see how pupils' progress improves year on year. We have only collected data on pupils who are being taught by staff who have attended one of our training courses and do not include pupils who have changed school mid-year, or whose literacy teacher has been replaced mid-year by someone who is not Sounds~Write trained. We particularly want to find out what progress can reasonably be expected from pupils consistently taught by staff who have an accurate understanding of what phonics is and how to teach it.

Given the amount of data that is collected in so many walks of life, it strikes us as both curious and regrettable that so little data has been collected on the development of literacy, surely one of the most important issues for the development of future generations. Sounds~Write will continue to gather and present such information, and we hope to address the following specific areas in the future:

- Y7 data on reading and spelling, linking this to the English SAT result achieved in Y6
- Data (at any age level) that tests whether pupils can accurately write words they have read successfully (i.e., pupils are given a word recognition test and the words read correctly are then *re-presented* orally as a spelling test a few days later)

We take this opportunity to invite readers who are able to provide such data to contact us.