

Raising literacy attainment of all pupils in a mainstream primary setting with particular reference to boys' writing - a six year longitudinal study

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The Daily Telegraph on August 27, 2003;

Hansard, The House of Lords - Boys and Girls: Academic Achievement Gap, 24 March, 2004;

The Times Educational Supplement, The Issue, How children read, July 2, 2004 and Just phonics lifts boys, October 8, 2004;

Reading for purpose and pleasure, An evaluation of the teaching of reading in primary schools, Ofsted, December 2004, Reference no. HMI 2393.

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Summary

Nationally boys fall behind girls in early literacy skills and this gap in attainment widens with age ([www.standards.dfes.gov.uk/gender and underachievement](http://www.standards.dfes.gov.uk/gender_and_underachievement)). A longitudinal study at a large mainstream primary school with low entry assessments has shown that this need not be the case. The first cohort of children who started with synthetic phonics in Reception took their Key Stage 2 SATs in Summer 2003. Level 5 boys' writing was found to be 33.3% compared with the figure of 9.5% for the Local Educational Authority and 11% nationally.

Statistically this is a highly significant difference.

Introduction

Six years ago, the author and the SEN co-ordinator at a mainstream primary school started to collaborate on developing a system of teaching which aimed to improve the literacy standards for all pupils. A synthetic phonics programme was developed, Sound Discovery®, which differed in its phonic progression from that in the NLS (DfEE, 1998) but instead was based on the complexity of English orthography. A special teaching method was also devised, Snappy Lesson®, which was underpinned by principles of psychological learning theory.

The Snappy Lesson® was a fundamental part of successful quality first teaching and of successful intervention. It comprised: whole-group work; built-in repetition and reinforcement; encouragement of active recall; active, oral, lively teaching with a good pace, and multi-sensory approaches so that pupils were able to integrate what they were hearing, seeing and doing. Direct instruction and repetition were critical to pupils' mastery of their learning and the success of the teaching: 'I do, we do together, you do.'

The Snappy Lesson® was conducted in two halves. For reading, there was work on sounds, blending, sound manipulation, reading words and reading sentences. For spelling, again, work on sounds, hearing the sounds in words, spelling words, writing sentences from dictation and reading them back to the teacher.

The Snappy Lesson® could be extended both to the reading of texts and to compositional writing. Text level work was developed through the use of carefully controlled texts. Compositional writing was developed from dictated sentences, using a modelled approach, which involved oral discussion, vocalisation of a sentence by the student which was moderated by the teacher and written down by the student. Coherent, well structured and well punctuated sentences could thus be built up.

Research data was collected from a large number of pupils. This was possible as the project school became the largest Primary school in the Local Education Authority during the course of the study. From the academic year 1997-1998 the school had a three form entry of about 90 pupils. These pupils were all taught synthetic phonics from the outset in Reception in their mainstream classes and phonics teaching was extended and developed as the children passed through the school. Individual word reading and spelling levels of all Reception pupils were assessed after the first term on the synthetic phonics programme (in the January of each Reception year). This allowed for early identification of need and early intervention which was an important part of the teaching process. Results from this early intervention are reported in this paper for two consecutive year groups. Whole Reception cohorts were assessed again at the end of each Summer Term (June/July) and results are reported in this paper for six consecutive years. The results for Key Stage 1 SATs (the national tests for seven-year-olds in England) and for Key Stage 2 SATs (the national tests for eleven-year-olds in England) are reported for 2003.

The Instructional Method

The system of teaching used in the study is underpinned by the belief that instruction is the major issue in addressing literacy acquisition and dyslexia. Key skills are taught from the outset in Reception. Six grapheme-phoneme correspondences are taught each week and over a seven to eight week period the main 42 phonemes of English are covered. At the same time children are taught the two phonological skills of blending and segmenting. Hence from the beginning children are taught how to use their code knowledge for reading and writing. They are taught how to blend phonemes together in order to read words, how to segment words into phonemes and how to write down letters for the phonemes. Early identification of need is important. This allows for early intervention which contributes to the programme's effectiveness. Throughout Key Stage 1 (children aged 4+ to 7+) and Key Stage 2 (children aged 7+ to 11+) pupils follow a phonics progression of increasing orthographic complexity which differs from that laid down in the National Literacy Strategy (NLS). The synthetic phonics programme takes pupils through seven Steps:

Step 1 starts with 3-phoneme words using only alphabet phonemes (the sounds represented by single letters of the alphabet) such as 'fun' and 'bus' (at Step 1.1), moving onto 4- and 5-alphabet phoneme words such as 'went' (at Step 1.3), 'stop' (at Step 1.4) and 'crisp' (at Step 1.5 of the programme). There is also a Step 1.2 which is found to be motivating for older pupils requiring intervention. This involves compound consonant-vowel-consonant words such as 'velvet', 'fabric', 'picnic' and 'goblet'.

Step 2 involves words containing consonant digraphs such as 'ring' (at Step 2.1) and vowel digraphs such as 'toast' (at Step 2.2), 'park' (at Step 2.3) and 'soil' (at Step 2.4).

Step 3 deals with the alternative spellings for sounds. Step 3A of the programme covers vowels such as the phoneme /ai/ in 'brain', 'gate', 'day', 'they' and 'paper' (at Step 3A.2). Step 3B of the programme covers consonants such as the phoneme /c/ in 'scrap', 'king', 'duck' and 'chemist' (at Step 3B.1).

Step 4 makes a morphological analysis of polysyllabic words into units which convey meaning: prefixes, root words and suffixes such as un/break/able and dis/courage/ment.

Steps 5 and 6 deal with the six different syllable types in polysyllabic words such as **kin/es/thet/ic**, **ex/plode**, **mu/sic**, **pea/nut**, **bub/ble** and **mar/ket**.

Step 7 involves polysyllabic words which contain special suffixes which can be considered as individual chunks or units, such as the special suffix /shun/ which can be spelt as <tion> in 'vacation', <sion> in 'extension', <ssion> in 'passion', <cion> in 'suspicion', <cian> in 'musician' and <cean> in 'ocean' (at Step 7.1 of the programme).

The programme works at phoneme, word and sentence levels. Reading and writing skills are integrated rather than being taught separately. There is repetition and reinforcement built into the programme. Multisensory rather than multistrategy methods of instruction are used - in other words, the strategy is always a grapheme-phoneme one, but the children are taught to use their senses of hearing, seeing and even feeling (as they become aware of their sensations in pronouncing phonemes, flicking up phoneme fingers, manipulating grapheme cards, sky-writing graphemes in the air and writing on their individual white boards, on the classroom board and in their exercise books). The principle of little and often is stressed.

Modelled writing has also been developed which builds on a progression of skills and stresses the importance of vocalisation of ideas and regularisation of written language. For example, a child, at the stage of being able to write alphabet phoneme words at 4-phoneme level at Step 1.3, may vocalise his own sentence, "The huge hurricane blew down the garden shed." This is wonderful oral language and his verbal expression and vocabulary can be praised, valued and reinforced (and may

be scribed) but for independent writing of his own sentences in the Snappy Lesson® the success criterion is for accuracy, so the teacher would regularise the sentence for writing as, for example, "The big wind hit the hut." The child would repeat this orally and should be able to write it with 100% accuracy and include a capital letter at the beginning and a full stop at the end. Once written the child would read the sentence back for checking and reading practice. There will be other opportunities for children's extended creative writing.

Phonics at sound, word, sentence and eventually text levels is taught daily during the whole - class parts of the Literacy Hour and during group time. Every opportunity is taken to reinforce its use throughout classwork during the school day. For slow-to-start children and those with special educational needs there may be extra Snappy Lesson® sessions in small groups. In Reception, phonemes are taught at the rate of six per week and the first forty-two phonemes are covered in about eight weeks. When children have a reasonable grasp of phoneme-grapheme correspondences and can blend they are introduced to decodable books. The majority of children only need to practise with decodable texts for a few weeks before moving to other reading books. Slow-to-start children are likely to take longer. There is now additional decodable text level work specially written to support Sound Discovery®.

At Easter 1997, the school started using the synthetic phonics programme Jolly Phonics (Lloyd, 1992). The following academic year (1997-1998) Jolly Phonics was introduced to Reception pupils from the beginning of the Autumn term. For the next academic year (1998-1999), decodable reading books were written to go with the Jolly Phonics programme (Phonics First Books, Grant, 1998) and were used to develop the children's blending skills further. Compared with the previous year, the little books were found to produce a 5 months' additional advancement in reading skills when measured in Summer 1999, so that the children's average reading was 17 months ahead of chronological age (with cohort of 85 pupils receiving Jolly Phonics *plus* Phonics First Books). In Summer 1998, the children's average reading had been 12 months above chronological age (with cohort of 90 pupils receiving Jolly Phonics *without* Phonics First Books.), (see Table 1).

As the study progressed, the thinking and method of teaching were shaped by influences such as: academic books (e.g. Macmillan, 1997; McGuinness, D., 1998) ,

1. literacy and language programmes (e.g. McGuinness, C and G., 1998; Steere, Peck
2. and Kahn, 1996; Wilson, 1998),
3. academic research findings from major Universities such as:
 - (a) St Andrews (Johnston and Watson, 1997 and 1998),
 - (b) Dundee (Seymour and Duncan, 1997),
 - (c) York (Muter, Hulme, Snowling and Taylor, 1997; Nation and Hulme, 1997),
 - (d) Institute of Education, London (Stuart, 1999) and
 - (e) Warwick (Solity, Deavers, Kerfoot, Crane and Cannon, 1999)
4. Visits to schools (e.g. to Kobi Nazrul School, London where Ruth Miskin was headteacher and to Woods Loke School, Lowestoft where Sue Lloyd was a teacher).

A new synthetic phonics programme, Sound Discovery® , was developed. It started being used in the project school in the academic year 1999-2000. This phonics programme aimed to extend literacy instruction through Key Stage 1 and into Key Stage 2 of the project school. It was also designed to be used in Key Stages 3 and 4 and potentially also into adulthood. Results are available for a whole cohort of Year 7 pupils at Key Stage 3 (Hunt, 2000). Sound Discovery® built on Jolly

Phonics, dovetailed with it and was designed as a programme for intervention as well as for first-time teaching.

Results for whole cohorts using standardised word reading and spelling tests

At Easter 1997, all pupils in Reception (66 children) in the project school started a trial study with synthetic phonics for one term during their mainstream class teaching. In that first term, there was a significant reduction in the SEN Register and in June 1997 the children, on average, were 6 months ahead of chronological age for both individual word reading and spelling. This was a remarkable result for the school compared with previous years given its intake: Entry assessments show that children enter the school with E for language, D for writing and D for social skills (Crown Copyright, Inspection Report, 2000). Since 1997 the school has built on these literacy gains (Wainwright and Grant, 1999).

First starting in the academic year 1998-1999, synthetic phonics teaching *plus* decodable reading books (Phonics First Books) are used from the outset in Reception. On average each year pupils now perform about 16 months above chronological age for reading and spelling by the end of Reception (see Table 1). The reading test used is Burt Individual Word Reading Test and the spelling test is Schonell B.

Table 1: average reading and spelling scores above chronological age for whole Reception cohorts in the study

Reception Pupils	No. of pupils	Reading	Spelling
Summer 1997	66	+6 months	+6 months
Summer 1998	90	+12 months	+17 months
Summer 1999	85	+17 months	+18 months
Summer 2000	86	+16 months	+18 months
Summer 2001	84	+16 months	+18 months
Summer 2002	89	+15 months	+ 16 months

Literacy standards for all pupils were raised, there was a lack of summer birthday delay, numbers on the SEN Register were reduced and the gender gap was reduced. There have been no new specific learning difficulties/dyslexia Statements of SEN since 1997, when the school started using synthetic phonics. These results represent substantial 'value-added' in view of the entry assessment data.

Some general observations were made about the learning of the children undertaking the synthetic phonics teaching:

- there was no significant difference in literacy skills between boys and girls
- there was no significant difference in literacy skills between children with summer birthdays and others
- there were no children with English as an Additional Language on the SEN Register
- there was no significant difference in literacy skills between children eligible for free school meals and others
- SEN children benefited from early identification and intervention

- few children moved beyond School Action Plus (Stage 3) of the SEN Code of Practice
- on average, Reception pupils could read 40 out of 45 of the NLS List 1 High Frequency Words; 53% could read all 45 words
- there was a significant improvement in the listening skills, concentration span and ability to follow instructions for all children
- low language levels were impacted by increased awareness of sounds, the ability to segment and blend at word level and the exposure to increased vocabulary and good sentence structure found in extension work at sentence level
- group work teaching was effective at developing attention, focus, social skills and social interaction.

In summary, the method of instruction appeared to be more powerful than the effects of gender, birth, first language, poor initial language levels and social factors (as measured by free school meals).

Results for top and bottom quartiles

In the academic year 1999-2000 a analysis was made of the achievements of the top 25% and bottom 25% of the whole cohort.

Table 2: average reading and spelling scores above chronological age for the top and bottom quartiles of the 1999-2000 cohort of Reception pupils in the study

	Reading	Spelling
Top quartile	+ 26 months	+ 26 months
Bottom quartile	+ 8 months	+ 11 months

The results in Table 2 show that the more able did extremely well but that the achievements of the less able children were also raised. It is not surprising that few children moved beyond School Action Plus level of the Code of Practice and the numbers of children on the SEN Register were reduced.

Results relating to early intervention

The importance of early identification and intervention is recognised in the programme for all pupils with literacy difficulties. To identify the slow-to-start pupils the whole cohort's individual word reading and spelling skills are assessed in January when they have all experienced one term of synthetic phonics. Most children will have made measurable progress but some will not.

In the 1999-2000 cohort, eight children (out of 86) were identified as having no measurable reading or spelling ages in the January 2000 tests. This constituted about 9% of Reception pupils as a potential tail of underachievers. All other children in the cohort were making good progress. In the 2000-2001 cohort all 84 pupils scored on either the reading or the spelling tests in January 2001. However an intervention group was still selected as two pupils had a measurable reading age but failed to score on the spelling test and two pupils failed to score on the reading test although they achieved a measurable spelling age. This group of four pupils was about 5% of the Reception cohort and were considered as a potential tail of underachievement. All other children in the cohort had made measurable progress in both reading and spelling in the January tests.

In both years, the slow-to-start Reception pupils followed a group intervention programme in the form of extra Snappy Lesson sessions. These were delivered about three times per week for 15 minutes per session with their Nursery Nurse, during the Spring and Summer Terms, until June. They took place during Registration and were in addition to the Snappy Lesson sessions of synthetic phonics teaching the children were receiving during the Literacy Hour with their whole class and in the small group time during the Hour when the curriculum was being matched to level of need. We did not think that these children needed a different form of teaching or programme, but rather that they needed a little bit more teaching a little more frequently. The programme is multisensory and has reinforcement and repetition built in, to take account of differing learning styles and poor memories, so that children with poor visual or auditory memories will not be penalised as the programme integrates what the children see, with what they hear and with what they do in a multisensory way which particularly assists such children.

The results show in Table 3, that the early intervention virtually eliminated the potential tail of underachievement. It shows the average reading and spelling scores above chronological age by the end of the intervention in the Summer Term.

Table 3: average reading and spelling scores above chronological age for Reception pupils in the intervention group at the end of the early intervention in Reception

	No. of Pupils	Reading	Spelling
Summer 2000	8	+ 5 months	+ 9 months
Summer 2001	4	+ 8 months	+ 12 months

Results relating to Key Stage 1 SATs in 2003

The study's Key Stage 1 SATs results in Summer 2003 (see Table 4) show achievements which lie above the national and the LEA's averages. The cohort number was 81 and no children were disapplied.

Table 4: Key Stage 1 SATs results 2003 for the study

Reading	Level 2 +	95%
	Level 2B +	88%
	Level 3	40%
Writing	Level 2 +	95%
	Level 2B +	88%
	Level 3	31%

The 'expected level' nationally for Key Stage 1 SATs is Level 2 but this is subdivided into 2A, 2B and 2C. It is generally considered that Level 2B and above at Key Stage 1 SATs is required in order to reach Level 4 (the 'expected level') at Key Stage 2 SATs. In 2003, 69% nationally reached Level 2B (31% did not reach this level) compared with the figure of 88% for the study who reached Level 2B (12% did not reach this level). This indicates the advantage that the study's cohort is likely to experience with Key Stage 2 SATs, with the secondary school curriculum and also looking further ahead in taking the General Certificate of Education at 16 years. It can also be postulated that the 31% of pupils nationally who did not reach Level 2B in 2003 may not read well enough at 11 years

of age to cope with the secondary school curriculum. The figure of 31% nationally compares with 12% from the study, which is significantly different at the 1% level. An analysis of girls' and boys' Level 3 reading results in the study (see Table 5) indicates that these are virtually identical for girls and boys.

Table 5: Key Stage 1 SATs results 2003 - Level 3 reading for girls and boys in the study

	Boys and Girls	Girls	Boys
Level 3 Reading	40%	40%	39%

An analysis of girls' and boys' Level 3 writing results in the study does show a gender gap (see Table 6).

Table 6: Key Stage 1 SATs results 2003 - Level 3 writing for girls and boys in the study

	Boys and Girls	Girls	Boys
Level 3 Writing	31%	35%	24%

However when compared with the LEA's averages the gender gap in the study is not so pronounced and both the girls and the boys in the study achieved significantly higher (at the 1% level of significance) than the LEA and national figures (Table 7).

Table 7: Key Stage 1 SATs results 2003 - Level 3 writing for girls and boys in the study compared with the Local Education Authority figures.

	Girls	Boys
Study's Level 3 Writing	35%	24%
LEA's Level 3 Writing	20%	8%
National Level 3 Writing	12%	7%

Results relating to Key Stage 2 SATs in 2003

The first cohort of 66 children starting synthetic phonics in Easter 1997 took their Key Stage 2 SATs results in 2003. The group comprised 33 girls and 33 boys. No children were disapplied from taking Key Stage 2 SATs. The cohort of 66 pupils achieved 89.4% Level 4+ English without a significant gender gap (see Table 8). This achievement for the whole cohort (89.4%) is significantly higher, at the 1% level, than the comparable LEA figure of 79% and the national figure of 74%.

Table 8: Key Stage 2 SATs results 2003 - Level 4+ English for the cohort

	Girls plus Boys	Girls	Boys
Level 4+ English	89.4%	90.9%	87.9%

Level 5 reading results also did not show a gender gap for the cohort, with boys and girls performing exactly the same (see Table 9).

Table 9: Key Stage 2 SATs results 2003 - Level 5 Reading for the cohort

	Girls plus Boys	Girls	Boys
Level 5 Reading	42.4%	42.4%	42.4%

Also of interest are the figures for Level 5 boys' writing for the cohort. The boys performed significantly better than the girls, at the 1% level (see Table 10).

Table 10: Key Stage 2 SATs results 2003 - Level 5 Writing for the cohort

	Girls plus Boys	Girls	Boys
Level 5 Writing	27.3%	21.2%	33.3%

It is interesting to compare the cohort's Level 5 writing results with the LEA and national figures. The Year 6 boys in the study performed significantly better than the LEA and national figures for boys, at the 1% level (see Table 11).

Table 11: Key Stage 2 SATs results 2003 - Level 5 writing for girls and boys in the cohort compared with LEA and national figures.

	Girls	Boys
The cohort's Level 5 Writing	21.2%	33.3%
LEA's Level 5 Writing	19.4%	9.5%
National Level 5 Writing	20%	11%

The Year 6 girls in the study performed better at Level 5 than the LEA and national figures for girls but not significantly so, (see Table 11). However, it should be noted that when Level 4 and Level 5 writing results were considered together, the girls figure (88%) *was* significantly above the national average (69%) and also above the LEA average (75%), although not significantly so.

Discussion

The evidence suggests that the school under study is effective in teaching literacy to all its pupils. The school has shown this effectiveness with respect to pupils with literacy-related learning difficulties whether these are specific to literacy (Specific Learning Difficulties/dyslexia) or associated with wider difficulties in learning. The school has shown a high level of literacy attainment for its intake.

It is believed that the major issue in addressing literacy difficulty, whether related to dyslexia or to more general learning difficulties, is one of instruction. It is significant that the school uses a strategy for teaching literacy which differs from the National Literacy Strategy (NLS). The school has demonstrated greater gains in pupils' literacy attainments than would be expected from using the NLS.

The strategy for teaching literacy is called synthetic phonics. The essence of synthetic phonics is that key skills need to be taught from Reception using a staged introduction of 42 grapheme-phoneme correspondences coupled with the use of this knowledge to blend phonemes for reading and to segment words into phonemes for spelling and write down the letters. Synthetic phonics

instruction is then used throughout the school to reinforce, extend, generalise and develop literacy skills.

It is significant that synthetic phonics is used for first-time teaching and throughout the school in mainstream classes as a primary strategy for reading and spelling. It is not just used for intervention. It is hypothesised that schools who use synthetic phonics solely for intervention and not as a primary strategy in mainstream classes and for first-time teaching will not be as successful at raising literacy standards for all their children. Early identification of need and the effectiveness of early intervention are also vitally linked to raising literacy standards for all.

Success has been shown in terms of lack of a summer birthday lag, reduction of numbers on the SEN Register and reduction of the gender gap. There have been no new specific learning difficulties/ dyslexia Statements of SEN since 1997, when the school started using synthetic phonics. These results represent substantial 'value-added' as children enter the school with low language, writing and social skills.

The study's Key Stage 1 SATs results in Summer 2003 show achievements which lie above national and LEA figures.

It has been possible to track through the first cohort of children being taught synthetic phonics from Easter 1997 in Reception to their Key Stage 2 SATs in Summer 2003. There was no gender gap for Level 5 reading and boys did significantly better than girls for Level 5 writing. Perhaps the most impressive statistic was that a third of the boys achieved Level 5 writing which is significantly above national and LEA figures. When Level 4 and Level 5 writing results were considered together, however, the girls, too, significantly outperformed the national average. They also outperformed the LEA average, but not at a level which was statistically significant.

The systematic and structured nature of synthetic phonics teaching was found to be successful at raising literacy standards for all pupils but the positive effects appear to be more pronounced with boys. It can be hypothesised that the pedagogy underpinning synthetic phonics is particularly effective with boys. There are parallels with the strategies suggested by other research workers as being particularly successful with boys (Hannan, 2000).

This study indicated that 11 year old boys appeared to be more able writers than girls, but that the girls as well as the boys in the study outperformed national averages for writing.

Conclusions

National figures indicate that boys underachieve in early literacy skills and that this gap in attainment widens with age. This research has demonstrated that underachievement in boys is by no means inevitable. The synthetic phonics approach has been shown to raise literacy attainment for all pupils and to reduce the gender gap with respect to literacy in general and with respect to writing in particular.

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