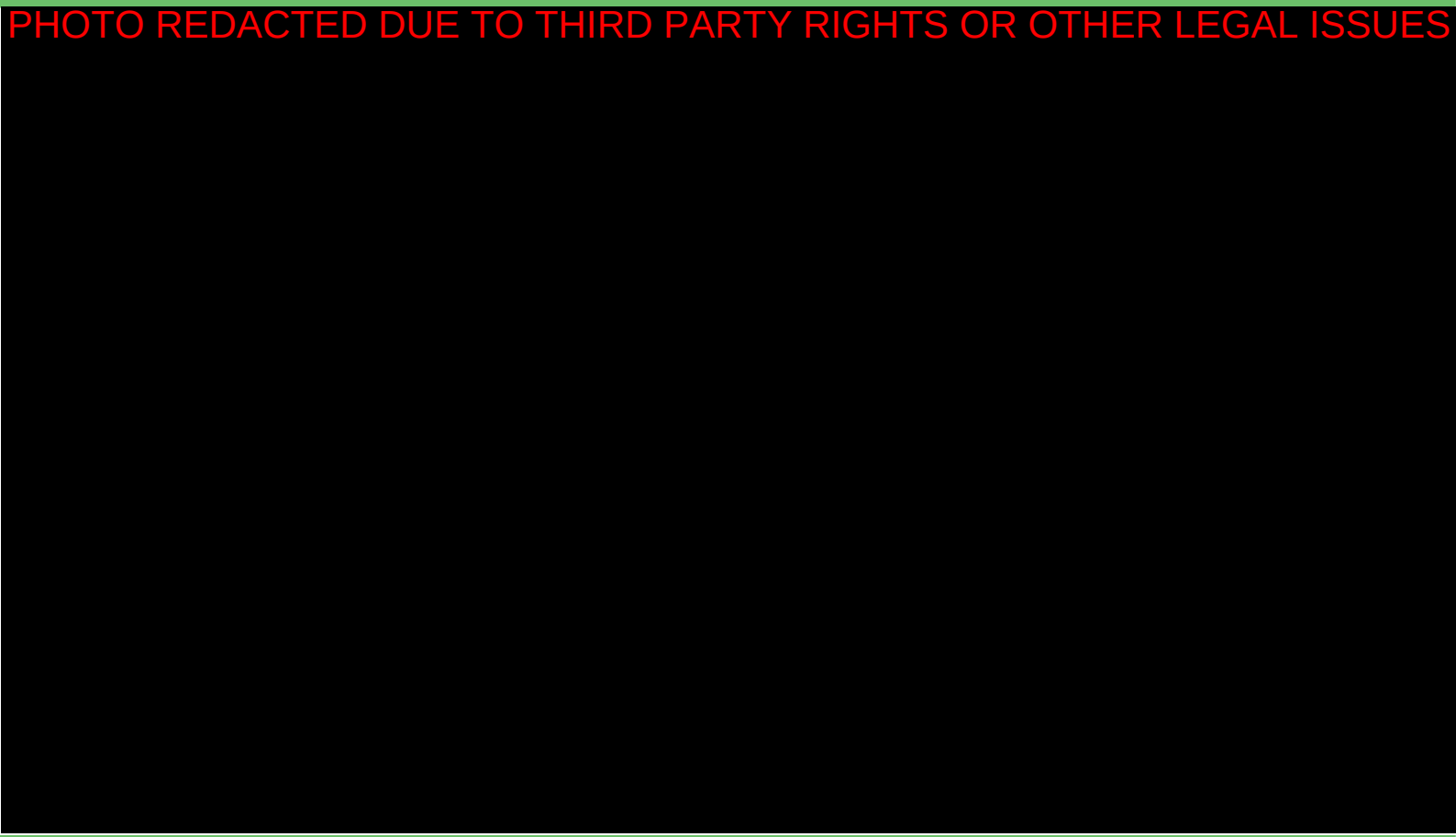
Office for Standards in Education

The national literacy and numeracy strategies and the primary curriculum



HMI 1973

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Contents

Introduction and evidence base

1. The implementation of the National Literacy Strategy (NLS) began in English primary schools at the start of the autumn term 1998 and that of the National Numeracy Strategy (NNS) in 1999. The two national strategies (NLNS) were intended to bring about a dramatic improvement in standards of English and mathematics.

2. The government's targets for 2002 – that 80% of 11 year olds should gain at least level 4 in English and 75% should gain the same in mathematics in the end-of-key-stage national tests in 2002 – were not met, although there had been some early improvements in 1999 and 2000. Before the 2002 results were known, the government had already set higher targets for 2004: that 85% of 11 year olds should gain at least level 4 in English and, separately, in mathematics and that 35% of 11 year olds should reach the more demanding level 5 in both subjects. It hopes that these targets will now be met by 2006.

3. Ofsted, through Her Majesty's Inspectors (HMI), inspected the implementation and impact of the NLS in a nationally representative sample of 300 primary schools from 1998 to 2002, and the NNS from 1999 to 2002. The evaluation continues from 2002 to 2004 with two new nationally representative samples of 120 schools for each strategy. In addition, Ofsted inspected two NLNS pilot projects – interactive whiteboards and support for low-attaining primary schools – and conducted a small survey of the NLNS in the Service Children's Education Authority.

4. Each school was visited at least once during 2002 to 2003 when HMI observed the teaching of either literacy or mathematics. In addition, HMI made a second visit to 44 of the schools to inspect a subject other than English or mathematics in order to evaluate the impact of the two strategies on other subjects in the primary curriculum. Nearly 100 lessons were seen in all the National Curriculum subjects except physical education, with six visits made for most subjects. HMI also observed a literacy hour or a daily mathematics lesson. They held discussions with school staff, examined documentation and pupils' work and, in the additional visits, held discussions with groups of pupils. During the year, HMI also inspected training related to the two national strategies.

5. As part of the evaluation, the Qualifications and Curriculum Authority (QCA) arranged to provide data on pupils' attainment and progress in English and mathematics in Years 3, 4 and 5 in the schools in the national samples, using the QCA optional tests. These data were collected and analysed by the National Foundation for Educational Research (NFER). An annex to this report summarises the results of the tests taken by these

pupils. A fuller version is available on the QCA web site (www.qca.org.uk). These data augment those available through the National Curriculum tests for Year 2 and Year 6 pupils. In 2003, there were a number of changes to the optional and end-of-key-stage tests.

6. This report provides continuing evidence about the national literacy and numeracy strategies and their effects on the primary curriculum. It summarises the standards attained by pupils in English and mathematics, reports on teaching and curriculum organisation and suggests the areas where further work is needed. It also looks ahead to the implementation of the Primary National Strategy from September 2003.

Main findings

- The quality of teaching in the literacy hour and daily mathematics lesson continues to be good in just over half of all lessons. In a stubborn core of around one in three lessons, the teaching is satisfactory and it is unsatisfactory in approximately one in eight lessons in both subjects.

- In too many lessons, teachers' talk dominates and there are too few opportunities for pupils to talk and collaborate to enhance their learning. This is a key feature of the lessons that are satisfactory rather than good and is an impediment to raising standards further.

- The management and organisation of the literacy hour and daily mathematics lesson are generally good, but the quality of teaching within the independent work continues to be a serious weakness in too many lessons in both subjects. Plenary sessions are still the weakest element of literacy and mathematics lessons. They are unsatisfactory in three in ten literacy lessons and two in ten in mathematics.

- Weak subject knowledge is a consistent common feature in unsatisfactory teaching, restricting teachers' ability to respond effectively to pupils' difficulties and to make connections with other learning. It also affects the quality of planning and assessment.

- Planning is better in mathematics than in literacy with over half of mathematics lessons being planned well compared to only one in three for literacy. It is unsatisfactory in one in five literacy lessons compared with fewer than one in ten mathematics lessons.

- Assessment is unsatisfactory in one in six lessons in literacy and one in nine in mathematics. Furthermore, the assessment of pupils' progress in English and mathematics has had little influence on assessment in other subjects.

- Unsatisfactory leadership and management of both subjects persist in a minority of schools. They are unsatisfactory in 14% of schools for English and in 10% for mathematics where a common feature is the failure to tackle unsatisfactory teaching and to make a difference to the overall quality.

- There has been a strong emphasis on intervention programmes and 'booster' provision to raise attainment. However, in too many instances, these are not targeted effectively and schools have not evaluated their impact on pupils' attainment sufficiently.

- Although, in general, there are insufficient opportunities for pupils to use ICT in literacy and mathematics lessons, the use of interactive whiteboards is now more common. The training for those teachers in Years 5 and 6 who are part of the interactive whiteboard pilot project has improved good teaching further. Through stimulating questioning and dialogue, interactive whiteboards capture pupils' interest and motivate them, especially boys. Interactive whiteboards, however, do not, of themselves, improve unsatisfactory teaching.

- Teaching assistants continue to play an important and effective role in the daily mathematics lessons and the literacy hour. Where schools have trained them to meet pupils' needs, the schools are reluctant to use their time to reduce administrative workloads.

- Although all schools set numerical targets at the end of Key Stage 2, many still do not set effective curricular targets, focusing on what pupils still need to learn, which are followed through into teaching. Even where the targets focus on pupils' weaknesses, teachers' planning seldom refers to what they are going to do to tackle the weaknesses or how they will monitor progress against the targets.

- The introduction of the two strategies has had a considerable impact on the primary curriculum, with the positive aspects outweighing the negative. The NLS has influenced literacy in other subjects because it has raised standards in writing, enhanced pupils' knowledge of different types of texts and heightened teachers' expectations of pupils' literacy in the rest of the curriculum.

- However, links between the strategies and other curriculum areas are insufficiently developed. Schools do not capitalise fully enough on the improvements in teaching, learning and standards in English and mathematics to improve work in other subjects. Equally, they do not use sufficiently well the contexts provided by foundation subjects to enhance pupils' development in literacy and mathematics.

- While some schools are in a strong position to develop the 'rich and exciting' curriculum envisaged by the Primary National Strategy, *Excellence and enjoyment: a strategy for primary schools*, (DfES, 2003), others have much further to go. There is a very strong correlation between good subject leadership and management, the quality of curricular provision and the pupils' progress across the curriculum. Conversely, where the impact of the strategies across the curriculum has been weak, there are often also weaknesses in the broader curriculum.

- Schools are beginning to be flexible in deciding how much importance they give to each subject and aspects within them. However, they do not always consider sufficiently how to provide a balanced and coherent subject curriculum. The result is that key aspects sometimes receive inadequate emphasis.

- The extent of recent training or professional development, beyond that for English, mathematics and ICT, is too variable across schools and subjects. Only about a quarter of schools have held significant training in other subjects recently. This has implications for the successful development of the Primary National Strategy.

- At the end of Key Stage 1, attainment at level 2 or above in National Curriculum tests remains at 84% in reading and has fallen to 81% in writing. Nearly one third of all Year 2 pupils transfer to Key Stage 2 with reading skills below level 2B. In writing, just under four in ten pupils transfer with attainment below this level, including just under half of all boys.

- At the end of Key Stage 1, attainment in mathematics at level 2 or above remains at 90% while results at level 2B have fallen by two percentage points to 74%. The proportion of pupils reaching level 3 has also fallen by two percentage points to 29% this year.

- At the end of Key Stage 2 in English, attainment has not changed since 2000. The proportion of pupils reaching level 4 or above in English remains firmly at 75%, with no improvement in the proportion gaining level 4 or above in writing (60%). There has been an improvement of just one percentage point in reading at level 4 or above. Pupils' attainment in writing lags behind their attainment in reading by over 20 percentage points and boys continue to do less well than girls at both key stages.

- At the end of Key Stage 2, attainment in mathematics, as measured by the National Curriculum tests, remains at 73%, still two percentage points short of the government's 2002 target. The proportion of pupils gaining level 5 has risen this year by one percentage point and now stands at 29%.

- The gender gap is as marked as ever. Girls continue to do better than boys in English at both key stages and in mathematics at Key Stage 1 at level 2 and level 2B. However, boys do better than girls in mathematics at level 3 at the end of Key Stage 1, and at level 4 and level 5 at the end of Key Stage 2. The wide gap in their relative attainment in English at both key stages continues to be a cause for concern, despite boys' good performance at the higher levels in mathematics.

- Few LEAs have been able to challenge and support underperforming schools successfully enough to sustain and build on improvements in standards at the end of Key Stage 2. Since 1998, only eight LEAs have improved in each year the proportion of pupils gaining level 4 or above in English and, since 1999, only seven have done so for mathematics.

Points for action

7. In order to build on the improvements in teaching over the last four years and to make further progress on standards, those with **national responsibility** for the management of the strategies, including the Primary National Strategy, should:

   - continue to provide support for LEAs in dealing with schools where leadership and management are weak
   - direct attention and resources to underperformance in LEAs and schools
   - support LEAs and schools in improving the quality of teaching and assessment for learning.

8. Those with responsibility at **LEA level** for the Primary National Strategy, including the NLNS, should:

   - focus efforts on the schools where the leadership and management of the strategies are weak
   - support schools in identifying unsatisfactory teaching and improving its quality
   - provide support for schools where teachers have weak subject knowledge in order to improve their teaching, planning and assessment
   - support schools in applying knowledge, skills and understanding in literacy and mathematics to work in other subjects and in implementing a more flexible curriculum
   - provide appropriate training for the non-core subjects, especially for teachers with responsibility for managing and leading them.

9. To achieve the improvements that are needed in **English and mathematics**, all schools should:

   - provide support for teachers with weak subject knowledge in order to improve their planning, teaching and assessment
   - ensure that the development of pupils' oral language is given appropriate emphasis
   - set curricular targets for groups of pupils and, where relevant, for individual pupils, ensure that these are reflected in planning and teaching, monitor regularly pupils' progress towards them and evaluate the extent to which they meet them

- ensure that intervention programmes are focused on the pupils who are most in need of support and that they are able to measure the impact of the interventions to assess the effectiveness of the provision and its value for money.

10. To implement the **Primary National Strategy**, all schools should:

- ensure that they have a clear rationale for the decisions they make about the primary curriculum, the amount of time allocated to subjects and the different aspects within them
- ensure that pupils are able to apply their learning in literacy and mathematics across the primary curriculum
- provide time and professional development for teachers with responsibility for the management and leadership of the non-core subjects.

Standards of achievement, pupils' progress and trends

11. There has been no change this year in the proportions of pupils attaining level 4 or above at the end of Key Stage 2 in either English or mathematics. The government's targets that 80% of 11 year olds should gain at least level 4 in English and 75% should gain the same in mathematics in the end-of-key-stage national tests were not met in 2002. This year's results suggest that success in meeting the 2006 targets will prove extremely demanding.

English

12. Attainment in English at the end of Key Stage 2, as measured by the National Curriculum test results in 2003, has not changed since 2000. The proportion of pupils reaching level 4 or above remains stubbornly at 75% for the fourth consecutive year. After a rise of three percentage points in writing in 2002, there has been no further improvement this year in the proportion of pupils gaining level 4 or above, and an improvement of just one percentage point in reading at this level. This is still below the 82% at level 4 or above gained in 2001, however, and marks no real change overall. Pupils' attainment in writing still lags behind their attainment in reading by over 20 percentage points.

13. This year there has been a fall of two percentage points in the proportion of pupils achieving level 5 in English, which now stands at 27%. Fewer pupils gained level 5 in writing, a decrease from 17% to 15%, with boys losing one percentage point and girls losing two. However, attainment at level 5 in reading has increased by four percentage points to 42%. Girls made gains of six percentage points; boys made gains of three.

14. The gap between the performance of boys and girls at level 4 in English narrowed from 16 points in 1998 to 11 points in 1999. It has not changed significantly since then: this year the gap is ten percentage points. In reading, the gender gap this year is unchanged at six percentage points. Girls have extended their lead in writing by one percentage point yet again this year and are now 17 percentage points ahead of boys in writing at the end of Key Stage 2. Although the performance of both boys and girls in writing at level 4 and above has improved by seven percentage points since the strategy was implemented, this gender gap is now wider than it was in 1998 and has increased, by one percentage point, at the end of Key Stage 2 for each of the last three years. It is one of the most worrying aspects of the results. About half of all boys join their new secondary school with attainment in writing below level 4; for girls, the equivalent figure is less than a third, although this is still a serious concern.

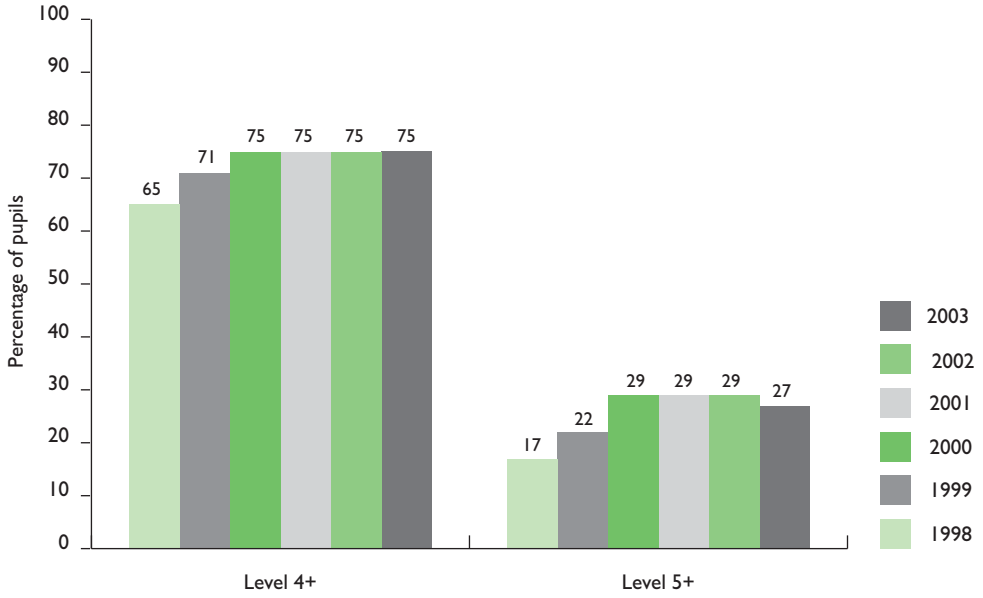

Figure 1. Attainment in National Curriculum English tests at Key Stage 2: all pupils

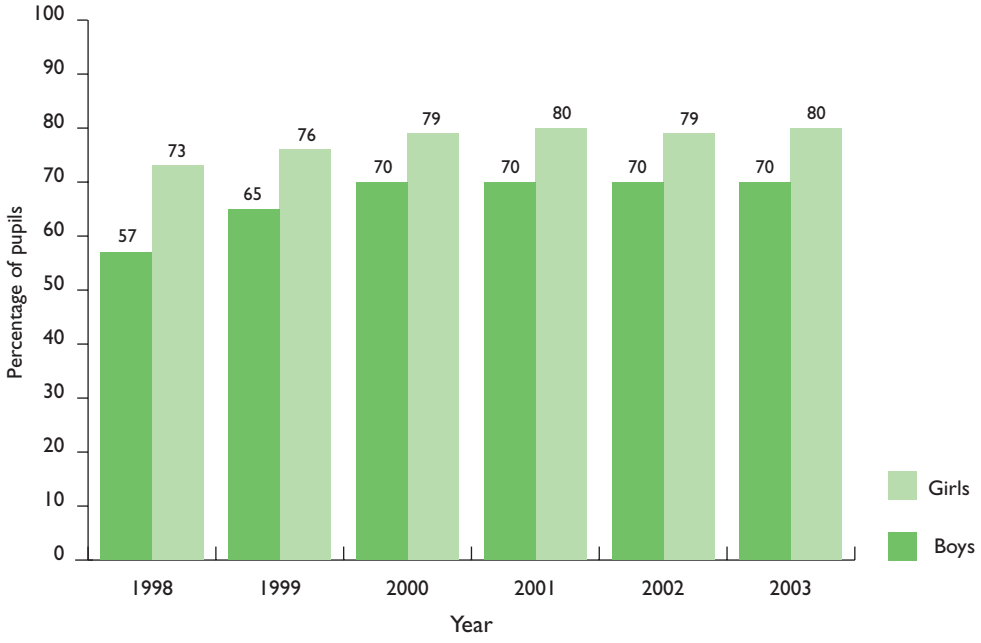

Figure 2. Percentage of pupils achieving Level 4 and above in English tests at Key Stage 2: boys and girls

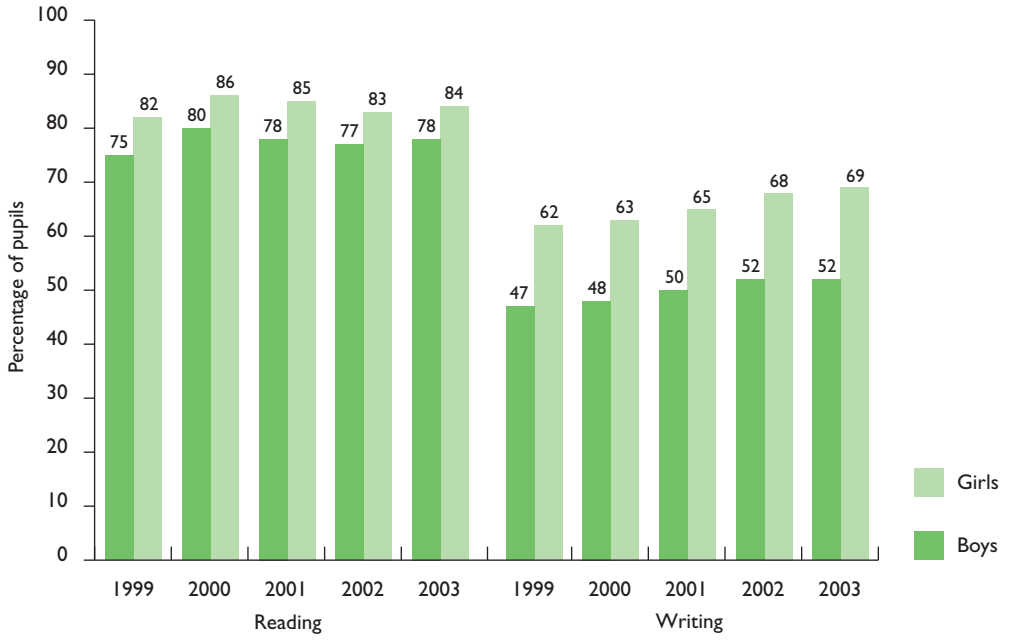

Figure 3. Percentage of pupils achieving Level 4 and above in reading and writing tests at Key Stage 2: boys and girls

15. At Key Stage 1, there are no improvements in reading at level 2 or above, where attainment remains at 84% for the third successive year. Attainment in writing at this level has fallen five percentage points to 81%, but has risen at level 3. There was no separate spelling test in 2003 so it is not possible to make direct comparisons about attainment in spelling between 2002 and 2003. The results for writing in 2003 are a combination of the testing of writing and spelling.

16. On the level 2B benchmark, there is no change in reading again this year, but an increase of two percentage points in writing at this level. The attainment of boys rose two percentage points; for girls, the gain was three points.

17. There has been a fall of two percentage points in 2003 in the proportion of pupils reaching level 3 or above in reading at Key Stage 1, but a significant increase of seven percentage points in writing to 16% gaining level 3. Boys' attainment in writing at this level improved by four percentage points; that of girls by nine points.

18. The gender gap in attainment at Key Stage 2 is also evident at Key Stage 1. At level 2 and above, girls outperform boys by eight percentage points in reading and by 11 points in writing. At level 2B and above, girls are ahead of boys by 16 percentage points in writing and 11 points in reading. This wide gap continues to be a cause for concern.

19. Nearly one third of all Year 2 pupils still transfer to Key Stage 2 with reading skills below level 2B; in writing, just under four in ten pupils transfer with attainment below this level, including just under half of all boys.

20. At the broader level 2 boundary – the expected level of attainment for seven year olds at the end of Key Stage 1 – around one in six pupils moves into Year 3 with attainment in reading below level 2 and around one in five with writing below this level.

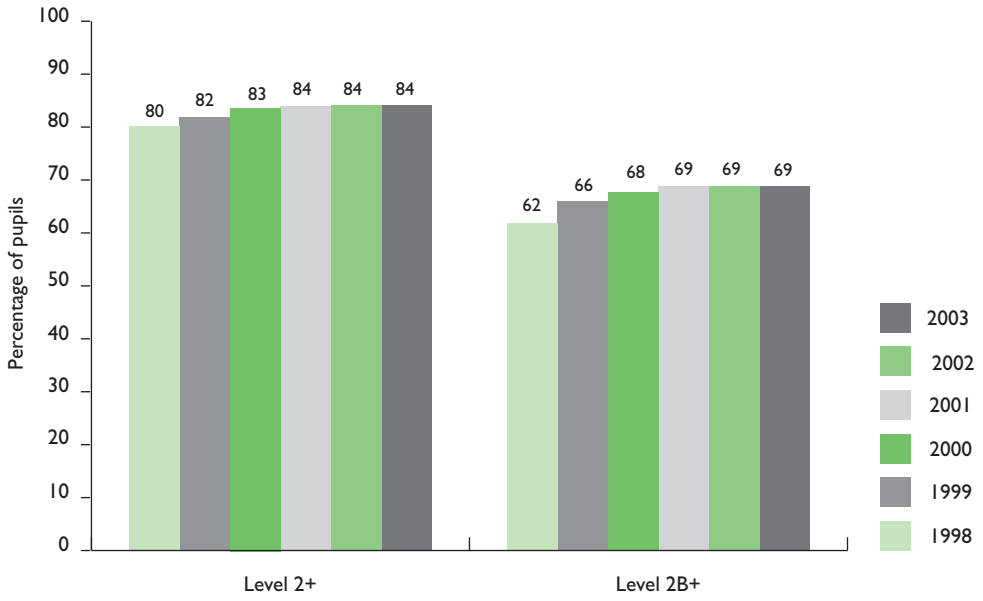

Figure 4. Attainment in National Curriculum reading tests at Key Stage 1: all pupils

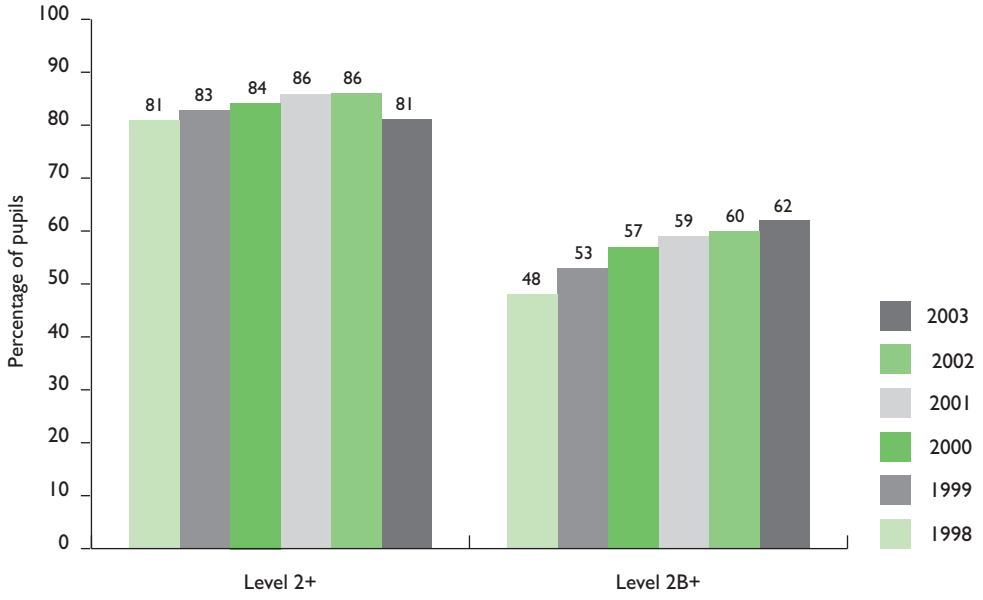

Figure 5. Attainment in National Curriculum writing tests at Key Stage 1: all pupils

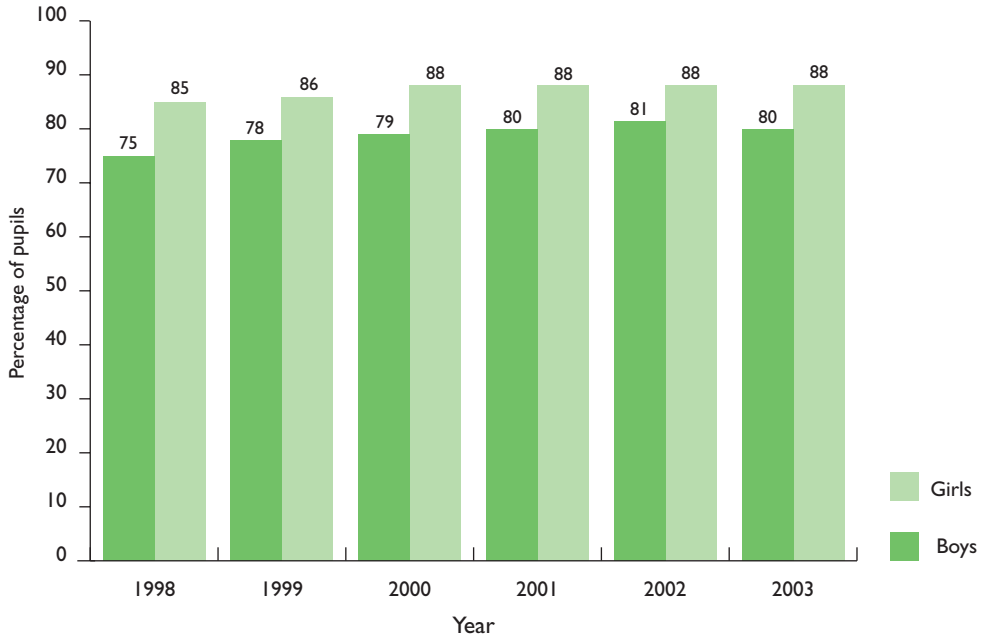

Figure 6. Percentage of pupils achieving Level 2 and above in reading tests at Key Stage 1: boys and girls

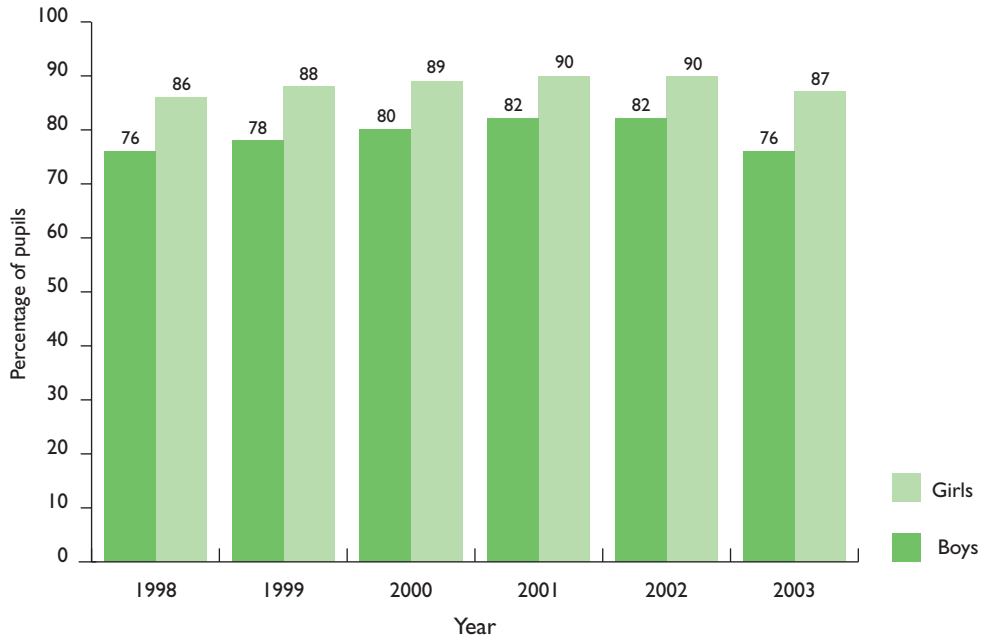

Figure 7. Percentage of pupils achieving Level 2 and above in writing tests at Key Stage 1: boys and girls

Mathematics

21. At Key Stage 2, the proportion of pupils gaining level 4 or above in mathematics, as measured by the National Curriculum test results in 2003, remains at 73%. This means that there is still a gap of two percentage points between this year's results and the government's 2002 target. The gap between the proportion of boys and girls gaining level 4 and above is one percentage point (boys 73%, girls 72%).

22. At level 5 and above, there has been a further increase in the proportion of pupils attaining this level which now stands at 29%. More boys than girls (32% and 26% respectively) now reach this higher level and this gender gap has widened in each of the last three years. Boys' higher standards are also mirrored in their performance at level 3 at Key Stage 1.

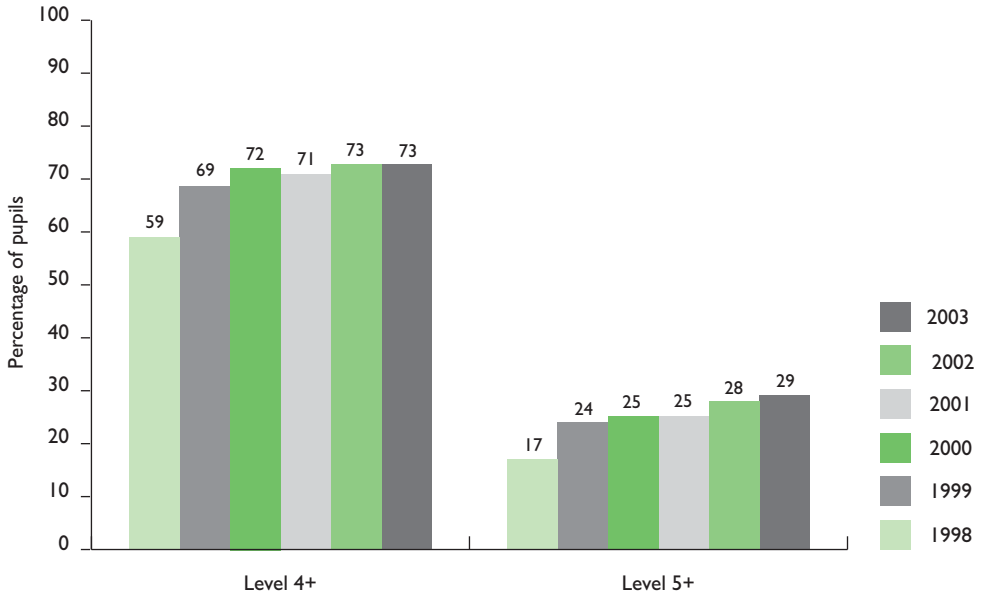

Figure 8. Attainment in National Curriculum mathematics tests at Key Stage 2: all pupils

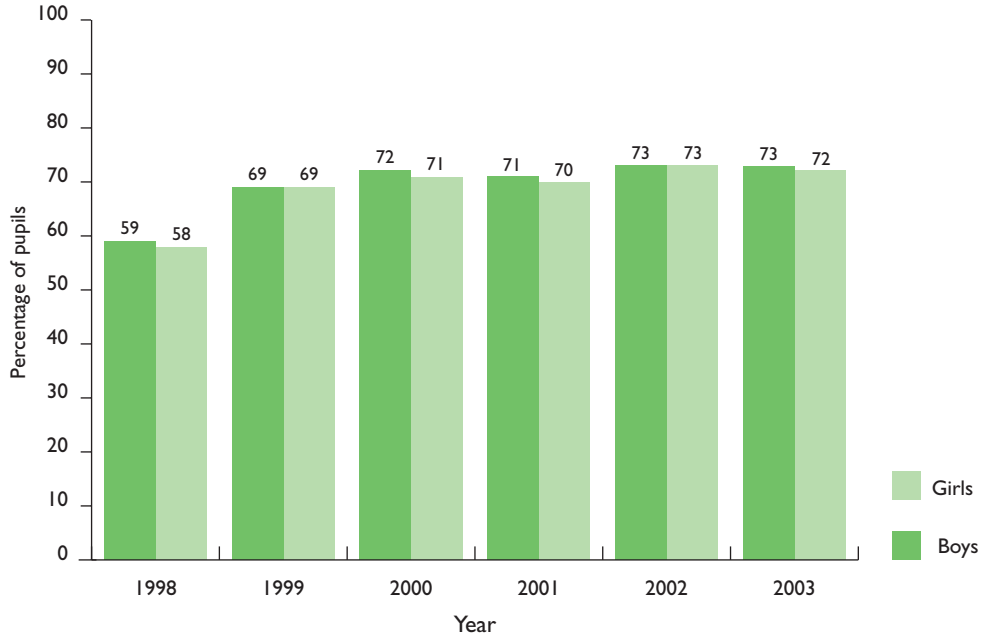

Figure 9. Percentage of pupils achieving Level 4 and above in mathematics tests at Key Stage 2: boys and girls

23. At Key Stage 1, there has been no change since last year in the proportion of pupils achieving level 2 or above, which remains at 90%. There has been virtually no change in this figure since 2000.

24. The proportion of pupils reaching level 2B has fallen two percentage points to 74% this year. Taking the four years 2000 to 2003 together, there has been very little overall shift in attainment at this level. The overall proportion of pupils reaching level 3 this year has fallen by two percentage points to 29%, although boys maintain their lead over girls at this level.

25. At level 2 and at level 2B and above, girls continue to perform better than boys, but at level 2 and above the gap has narrowed to two percentage points this year: 91% of girls achieved at least level 2 compared with 89% of boys. At level 2B, the difference is still one percentage point (boys 73%, girls 74%). At level 3, however, boys outperform girls significantly, by five percentage points (boys 32%, girls 27%).

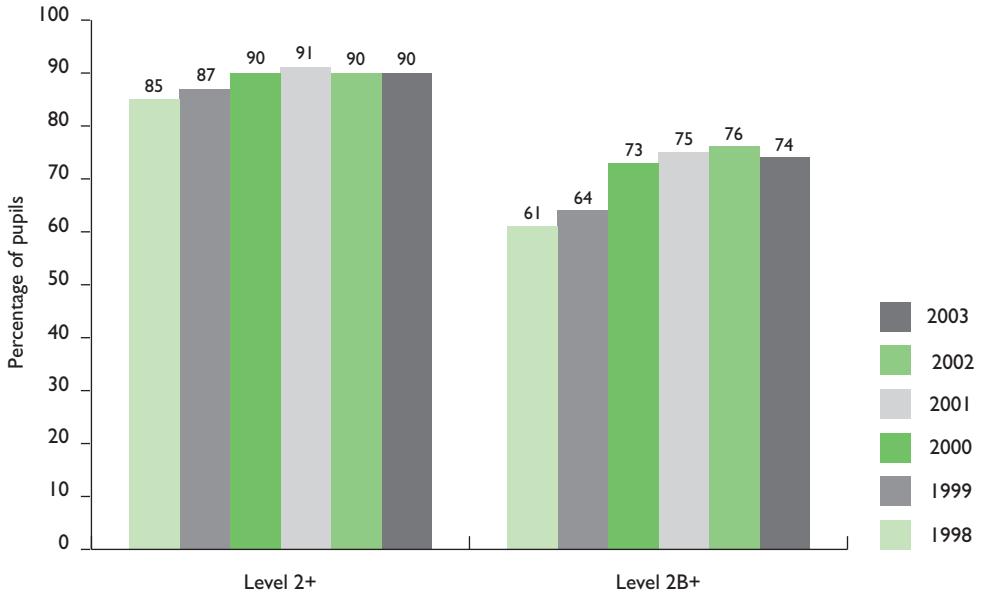

Figure 10. Attainment in National Curriculum mathematics tests at Key Stage 1: all pupils

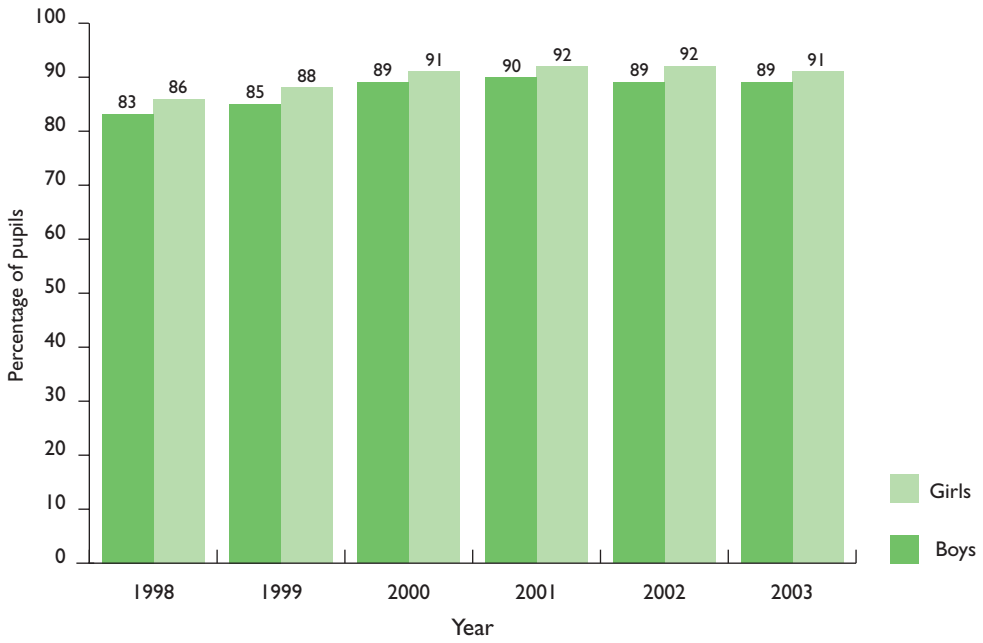

Figure 11. Percentage of pupils achieving Level 2 and above in mathematics tests at Key Stage 1: boys and girls

NFER analysis of the optional tests

26. The analysis by NFER of the QCA optional tests taken by all pupils in Years 3, 4 and 5 in the national sample shows that, in English, pupils' performance in terms of National Curriculum levels was better in reading than in writing. Girls generally had higher scores than boys in both reading and writing. The mark scheme strand, 'composition and effect', was the area where both boys and girls found it difficult to obtain higher marks. Their performance was stronger in the other strands. In mathematics, boys were more likely to achieve higher scores than girls, although the difference between them was less marked in Year 5. In Year 3, pupils performed particularly well in the questions which assessed data handling skills, while in Years 4 and 5 their performance was better in questions based on calculation. Background data provided by the schools showed that pupils attaining higher National Curriculum levels at Key Stage 1 were more likely to achieve higher scores in each year in Key Stage 2. A summary of the NFER report is included in the annex.

Standards in LEAs in English and mathematics

27. The number of LEAs improving their results at level 4 and above at the end of Key Stage 2 in English has risen since last year, with 95 LEAs showing an increase in the percentage of schools achieving level 4 and above. Test results fell in 54 LEAs. Significantly, in the first year of the NLS, virtually all LEAs improved their results, but by 2003, only 8 LEAs have shown consistent improvement each year at the end of Key Stage 2.

28. In mathematics at the end of Key Stage 2, only 35 LEAs showed an improvement since 2002 in the percentage of schools achieving level 4 and above. Results fell in 114 LEAs. Since the implementation of the NNS in 1999, only 7 LEAs show consistent improvement each year at the end of Key Stage 2.

29. One third of LEAs saw an improvement in standards in one subject and a fall in the other; this suggests that, at a national level, improvements in either subject are not yet secure. Pupil-level data show that 95,000 pupils gained level 4 or above in one subject but not in the other. Around 50,000 pupils gained level 4 or above in English, but not in mathematics, the majority of these being girls. Around 45,000 pupils gained level 4 in mathematics but not in English; the majority of these were boys. The gender gap is evident in all LEAs.

30. Although the test results can show quite dramatic rises in individual schools, such improvements are offset by dramatic falls elsewhere, for example when LEA support by consultants is withdrawn and the schools are unable to sustain their initial improvement. The overall picture nationally remains static as a result.

Quality of the teaching in literacy and mathematics

The teaching of literacy and mathematics

31. The two strategies have brought about an overall improvement in the quality of teaching of literacy and mathematics, although more remains to be done. The quality of teaching in the literacy hour and daily mathematics lesson continues to be good in just over half of all lessons. However, in a persistent core of around one in three lessons, the teaching is only satisfactory. This proportion is too high, especially when considered alongside the unsatisfactory teaching in approximately one in eight lessons in both subjects. The proportion of unsatisfactory teaching is slightly higher in literacy than mathematics. There are not enough lessons where the quality of teaching is good to be able to improve standards for the lowest-attaining pupils, around one in four, who do not gain level 4 at the age of 11.

32. In the good lessons, teachers' secure and confident subject knowledge enables them to develop and extend pupils' learning in reading, writing and mathematics. It underpins their effective questioning and assessment, as well as advancing pupils' learning. Particularly in mathematics, where teachers' subject knowledge has improved, they are more able to tackle pupils' errors and misconceptions, although such improvements are by no means universal.

33. Well-focused questions enable teachers to extend pupils' initial responses, assess progress and challenge higher attaining pupils. The openings of the mental and oral sections of the mathematics lessons are often characterised by a flurry of brisk, closed questions designed to heighten pupils' interest and encourage positive competition. In the better lessons, however, the teachers extend and challenge the pupils' initial responses; they know when to pause and ask them to discuss the strategies that they have been using, helping pupils to become more aware of them:

    How do you know…?

    Can you tell us how ….?

    Explain your strategy to everyone, please.

    Would you use the same method with other factors?

34. The most effective mathematics lessons include questions that encourage pupils to reflect on a variety of approaches:

    Did anyone work it out using a different method?

    Is there a quicker way to…?

    Can anyone suggest how we could…?

In a Year 5 mathematics lesson, the pupils were frequently asked to discuss and evaluate various methods of calculation. It was clear that the teacher had taught them to do this and they listened and behaved maturely as a result. In a Year 1 lesson, a group of pupils discussed a number task:

Which row does that go in?

There is a pattern… I can see it!

There, it fits into the pattern there. Can you see?

Where pupils are used to such discussion, both with the teacher and with each other, they become aware of, and are more able to talk about, different approaches to calculation and problem-solving.

35. The pupils respond more thoughtfully when the teacher allows some thinking time or brief paired discussion requiring answers to more complex questions. They are also confident to admit where they have made mistakes and used the wrong operation. Questions such as, 'Did anyone find that hard?' or 'Do you all understand that…?' give pupils the opportunity to talk about their difficulties or show the method they have been using. One Year 1 child explained how she found the difference between 12 and 25: 'Twelve and ten is twenty-two and three is twenty-five!' The most effective teachers listen carefully to such comments, use them as part of their assessment and take account of them in further teaching. They also cultivate an ethos where pupils do not mind making mistakes because errors are seen as part of learning. In these cases, pupils are prepared to take risks with their answers.

36. Higher order questioning is a crucial part of assessment for learning – hence the emphasis in the Primary National Strategy on the importance of speaking and listening in taking pupils' learning forward. There is a strong link between the quality of oral work in the classroom and teachers' assessment. If teachers use oral work well, they are more likely to:

- probe pupils' responses to find out how they are thinking, asking questions to direct and take forward their learning
- discover and deal with errors or misconceptions and adjust their own teaching in the light of these
- help pupils to reflect on and sort out ideas and confirm their own understanding.

37. Teachers do not always understand clearly enough the use they might make of pupils' oral language in relation to effective assessment. In the unsatisfactory teaching, where dialogue is limited, teachers miss opportunities to probe answers and assess how pupils have reached them. At times, teachers introduce short cuts for a particular problem but which do not help pupils to understand the methods used: 'You just have to….' said one teacher.

38. In the good lessons in both English and mathematics, teachers encourage and develop pupils' oral participation. They frequently use questions that encourage more complex responses from pupils, often asking supplementary questions to probe pupils' understanding further and to extend all pupils' learning. For example, 'You said that he is not a very friendly giant. Why do you think that?' Secure subject knowledge also enables teachers to make quick connections, for example, within children's literature, to broaden pupils' learning. A teacher in a Year 6 lesson remarked, 'There is a scene rather like this one in Philip Pullman's book…'. They are able to draw readily on such knowledge to make links with other literature and promote further discussion and comparison.

39. The literacy hour provides opportunities for pupils to discuss tasks with partners or in groups, but these are not taken up frequently enough. Pupils' plans, made before writing longer pieces of text, are only rarely discussed in depth with other pupils or the teacher before the formal writing task begins. Where such discussions do take place, the quality of pupils' vocabulary improves rapidly. In one such lesson, small groups of Year 4 pupils discussed words that would make the legend they were writing more exciting. They chose phrases such as *tilled*, *writhed in agony*, *gravel-voiced*.

40. In the unsatisfactory mathematics lessons, pupils occasionally hold discussions, but more often there is an emphasis on individual work without the enthusiasm and depth of understanding that could result from group or paired discussion. Too often the teacher does most of the talking. It is frequently restricted to explanations and predominantly closed questions which ask for recall of previous learning. As a result, the pupils spend too much time listening passively without discussion, collaboration or a chance to extend their understanding. Pupils have too few opportunities to try out their ideas orally, testing their thinking against that of others.

41. In a number of good lessons, drama techniques such as 'hot-seating' are used very effectively, with the teacher or a pupil taking on a role and others asking appropriate questions. On occasions, this led to excellent writing.

> *A Year 6 class studying slavery were able to write vividly about the plight of slaves on a slave ship after interviewing the priest who travelled on the ship, asking questions such as 'Have you ever been in the hold where the slaves are kept? How did you feel?'*

42. A Beacon school in the north-west has a policy of providing high-quality role play areas for every class throughout both key stages. This has been so successful in encouraging dramatic activities that the school has organised boxes of resources for role play that are shared systematically with other schools in the area. Elsewhere, information technology is used to encourage good quality oral work, for instance in a Year 3 class where pupils created dialogue for a short video sequence made by their teacher.

43. Teachers continue to make good use of technical vocabulary, for example in literacy, encouraging pupils to use technical vocabulary to discuss their own writing and to improve their understanding of language more generally. Similarly, in mathematics, more teachers now use technical vocabulary accurately and with ease to refine and reinforce pupils' understanding of key concepts. Where technical vocabulary is being built up, oral work often helps to ensure pupils' fuller understanding of the terms.

44. The best teaching also encourages pupils, as a matter of course, to be more aware of language structures in their own spoken language. One very effective teacher often asked pupils who gave a correct answer to a question to rephrase their answer into a 'proper sentence'. In only a few lessons, however, do teachers make a conscious decision to teach such structures specifically and directly, such as how to ask questions or use prepositions correctly.

45. The strategies have been successful in introducing teachers to a broader range of teaching approaches. They are now more effective in demonstrating, modelling and explaining to pupils, but these newly acquired skills are often put into practice without the necessary oral work to support them. In both subjects, teachers too often fail to strike a judicious balance between timely demonstration, instruction and explanation on the one hand and pupils' collaboration, discussion or independent work on the other. The result is that pupils are often too passive and the teacher's talk dominates at the expense of their learning.

46. Virtually all lessons reflect the three- and four-part structures recommended in the frameworks. As noted in last year's reports, the most skilled and confident teachers continue to adapt these structures to suit their pupils' needs and the objectives of the lessons. In effective daily mathematics lessons, for instance, teachers often ensure that the oral and mental starter prepares pupils for the work to be covered in the main teaching activity, rather than treating it as an unrelated part of the lesson.

In a Year 2 class, oral and mental work on converting pennies to pounds, and vice versa, prepared pupils successfully for subsequent work on money problems involving shopping.

47. Close links between sentence level work and shared and guided writing also serve a similar purpose in clarifying understanding and making connections between different sections of a lesson or a series of lessons. Teachers have also begun to be more flexible in introducing effective 'mini plenaries' at critical points in a lesson to review progress, clarify misunderstandings and move the work forward.

48. Teachers' organisation and management are good in both subjects. In many daily mathematics lessons, well-established routines, for example in oral and mental sessions, make sure that lessons run smoothly and help pupils to concentrate without disruptions. In group and independent work in the literacy hour, there is often effective organisation of pupils and deployment of other adults including teaching assistants. However, although the management and organisation are generally good, the quality of teaching within the independent work in English and mathematics continues to be a serious weakness in too many lessons.

49. Lessons which are unsatisfactory, around one in eight in both subjects, may look superficially satisfactory. Teachers may delude themselves that clearly structured lessons, with planning derived from the frameworks, unit plans in mathematics, exemplification materials in literacy or commercially published materials, lead to good teaching. However, this superficial sense of order can at times belie the quality of the teaching. For example, teachers may take too little account of their pupils' specific needs and therefore fail to adapt the pre-prepared materials effectively. In group and independent work, tasks are often ill-matched to pupils' needs or involve worksheets from which pupils learn very little. In particular, in both subjects, teachers frequently ask too little of higher attaining pupils.

50. Plenary sessions in both literacy and mathematics continue to be the weakest part of the lessons. In the unsatisfactory lessons, although a plenary is usually included, it merely requires pupils to talk about what they have done, and often only superficially. The weaknesses remain unchanged:

    - too little questioning by the teacher to reinforce the main objectives or assess pupils' understanding
    - insufficient diagnosis and resolution of pupils' misconceptions and errors
    - too much focus on the work of only one group of pupils, with the result that the rest of the class loses interest.

51. Weak subject knowledge is the consistent common feature in the unsatisfactory teaching. Uncertainties stemming from gaps in knowledge of English or mathematics restrict teachers' ability to anticipate and then respond effectively to pupils' difficulties or to make links between separate parts of a lesson or different stages of learning. Planning often fails to identify the key questions pupils will be asked in order for their progress to be assessed during or at the end of the lesson. Weak subject knowledge also limits effective planning for the next steps in learning, such as moving from mental to written calculation, teaching how to solve word problems or teaching phonics beyond initial sounds.

52. These two examples illustrate high-quality teaching which was part of a planned programme, including many opportunities for pupils to collaborate in pairs and small groups, to test out their ideas and to develop their understanding by listening to one another.

In a Year R lesson, the teacher's focus throughout it was on developing pupils' speaking and listening. She ensured that all pupils said something and encouraged them to build on each other's contributions. The teacher knew exactly when to pause and listen to pupils' spontaneous observations. The excellent teaching to develop oral language, listening and comprehension depended very much upon the teacher's meticulous control of her own questioning and responses and the clarity of her objectives.

In a Year 5 mathematics lesson, pupils worked in pairs to refine their initial thoughts on efficient mental calculation strategies in subtraction. The teacher concentrated on developing their ability to evaluate the levels of difficulty involved in the different approaches. She skilfully drew out from pupils how some strategies were more efficient than others, all the while keeping her key objectives in focus. All this was reviewed thoroughly in a mini plenary.

53. A key characteristic of the best lessons is the opportunity they provide for pupils to talk and collaborate. Communication between adults and pupils is good in half the literacy lessons and in six in ten mathematics lessons. Although, overall, the quality of speaking and listening is at least satisfactory in eight in ten lessons in literacy and mathematics, in a third the quality is satisfactory rather than good, and in almost one in seven lessons it is unsatisfactory.

Independent work

54. The quality of independent work in the literacy hour and the daily mathematics lesson showed some improvement last year, but this has not been maintained. There remains a worrying proportion of lessons where the independent work is unsatisfactory.

55. Independent work during the main teaching activity of the daily mathematics lesson is unsatisfactory in one in nine lessons, the same proportion as last year. In the literacy hour, however, the independent work is unsatisfactory in almost one in six lessons, slightly worse than last year and no better than in the first year of the strategy. The proportion of literacy lessons in which the independent work is good has remained the same, at just under one half.

56. The underlying weaknesses of the independent work are not new and have been reported each year since the two strategies began. Most of the weaknesses are common to both literacy and mathematics.

57. The teacher's explanations that precede the tasks are not sufficiently clear to enable pupils to begin working quickly and without the need for more help. This is made particularly difficult for the teacher when, as still happens in a small minority of cases, the independent work does not build on the whole-class work in the first part of the lesson. In a Year 1 mathematics lesson, for example, the independent work was linked to the previous whole-class work on counting, but providing a variety of board games with complex rules that the pupils did not understand resulted in no development of the counting skills that had been taught earlier.

58. Although teachers are generally more skilled at matching work to pupils' needs than they were at the beginning of the strategies, the choice of tasks is sometimes unsuitable for some of the pupils who, finding the work either too difficult or too easy, lose interest and make little or no progress,

59. The use of worksheets is a common and potentially effective way of enabling the teacher to focus on a specific group of pupils, while the rest work independently. Using 'off-the-shelf' worksheets saves teachers' time, but they are often a compromise because they are not written with a particular group of pupils in mind. In a mixed-age Year 3/4 class, for example, the whole-class work on suffixes was followed by the use of a commercially produced worksheet requiring pupils to select suffixes from a given list and match them with the correct root word. This was a low-level task that required no critical thinking about suffixes. On the other hand, worksheets written by the teacher with her own pupils' needs in mind take time to produce. Time spent on producing quality material for independent work, however, is a good investment and, where such materials work well and meet the school's and the pupils' needs, they should be incorporated systematically into the school's resources so that they can be re-used.

60. The intention in the independent part of the literacy hour and daily mathematics lesson is to give pupils tasks which they can do independently of the teacher; this does not mean, however, that they have to do them on their own. Teachers do not ask pupils often enough to collaborate in pairs or small groups in this part of the lesson. These two contrasting lessons show how pupils' speech is often essential to their learning:

In a Year 3 literacy hour, pupils were given a piece of text with selected words missing. They were not expected to discuss the possibilities for the choice of words with anyone else, so what could have been a lively debate about vocabulary and nuances of meaning became a slow, dull exercise from which pupils gained almost no benefit.

By contrast, a Year 6 lesson on haiku poetry made very good use of work in pairs to support pupils' composition on the theme of the seasons. The result was some excellent writing because pupils had had the opportunities to discuss vocabulary and to check with each other that they were meeting the syllabic demands of the haiku form:

Brown, hard conkers fall,

Red leaves crackle under foot

Hats, scarves keep us warm

61. The proportion of lessons with unsatisfactory independent work, although not as high as that for the plenary sessions, nevertheless remains a cause for concern, particularly in the literacy hour, where the twenty minutes a day for this work amount to a substantial share of curriculum time. Too many teachers still appear to lack the subject knowledge and the management and organisational skills to devise tasks that pupils understand, find reasonably challenging and can get on with by themselves or with a partner.

Planning and assessment

62. The objectives in the national frameworks for literacy and numeracy continue to be the key source for teachers' planning, supported by unit plans and exemplification materials. When they are used effectively, teachers adapt and annotate them to take account of previous learning and the full range of pupils' abilities. Teachers supplement them, however, with a wide range of other material: curricular guidance (such as the *Curriculum guidance for the foundation stage*, QCA and DfEE, 2000), the supplement of examples in the NNS framework, resources published by the strategies and commercial schemes. The use of unit plans for mathematics is widespread.

63. The quality of planning for mathematics is better than it is for literacy. Over half of mathematics lessons are planned well compared with only one in three for literacy. Planning is unsatisfactory in one in five literacy lessons compared with fewer than one in ten in mathematics. The quality of assessment overall is good in half of literacy lessons and is slightly better than this in mathematics.

64. Good planning, whether at medium- or short-term level, is clear, among other things, about:

- the learning objectives for the lesson or a series of lessons, including identifying what different groups will learn
- the key questions to be asked to support assessment during the lesson, including the plenary
- the vocabulary to be introduced or consolidated
- how one lesson links to another.

65. Good planning frequently also shows that it has been reviewed and amended in the light of assessments of pupils' progress, for example with details of pupils' difficulties and key questions for assessment. As a result, lessons then form part of well-structured, planned sequences of teaching which reflect the development of pupils' learning rather than remaining as isolated units.

In a Year 2 class, the teacher and the teaching assistant annotated their planning as the week progressed: they noted successes, weaknesses or other issues. This resulted in well-managed group work, effective links between word level work and other aspects, and writing tasks which were matched carefully to pupils' needs. The annotations provided the basis for further planning, all of which was done using ICT.

66. In both literacy and mathematics, good subject knowledge supports and enhances teachers' planning because they know the next steps pupils need without usually having to write them down. Their written planning, which is sometimes sketchy, is not necessarily an indicator of the quality of the teaching, which is often better than the plans suggest. The quality of their teaching shows in their knowledge of and sensitive responses to pupils' learning and difficulties.

67. In contrast, teachers' weak subject knowledge undermines both lesson planning and the quality of the teaching because:

- teachers do not always understand the meaning of particular objectives
- they are unclear about how objectives might be linked
- inappropriate activities are planned that do not help pupils to make progress
- there is sometimes a failure to distinguish between learning objectives and activities, so that the activities become the focus of assessment rather than the learning
- if the objectives are not clear, teachers do not know what it is they want to assess
- lack of assessment leads to a poor selection of objectives and activities in subsequent lessons.

68. It is helpful for teachers with weak subject knowledge to write things down and, with support from others, at least to plot in advance the stages through which pupils need to progress. However, if difficulties arise, these teachers still have too little subject knowledge on which to draw instinctively and are unable to respond to pupils' learning as effectively as teachers whose subject knowledge is more secure. Improvements in teachers' subject knowledge of English and mathematics are therefore crucial in improving the quality of planning, teaching and assessment and the links across them.

69. There are a number of reasons why the quality of planning is weaker in literacy than in mathematics. These include:

- a large number of objectives across word, sentence and text level in the NLS framework where the connections across the three levels are not immediately obvious to teachers
- teachers' difficulties in drawing together a range of objectives to form a short block of work
- a lack of a supplement of examples, as in mathematics, to provide illustrations
- difficulties in assessing progress in reading and writing, so that it is not clear what the next steps might be in learning or which earlier steps pupils might benefit from revisiting.

70. The good lessons show teachers making assessments during the lesson, for example through:

- observing pupils and discussing their work with them
- scanning pupils' responses on mini whiteboards
- questioning pupils to assess their understanding and deal with misconceptions
- using mini plenaries mid-lesson.

71. The clarity of teachers' objectives is important in the quality of assessment. If the objectives are clear to both the teacher and the pupils, there is a shared sense of direction and purposefulness: talk, including questions, is directed towards the common goal of the lesson and the teacher and the pupils have a sense of whether progress is being made towards it. Assessment then becomes a continuing check on learning and progress and enables timely interventions and sensitive adjustments.

72. Plenary sessions contribute to assessment, but they cannot carry its whole weight. They do, however, act as an important summary of what has been learnt and provide the teacher and the pupils with links to the next lesson.

In a mixed Year R/1/2 class, the teacher reminded pupils what they had been learning – to partition numbers into tens and units. She rehearsed the process to check pupils' understanding and asked questions such as 'Can you show me?'; 'What is this number made up of?' The session ended with the teacher setting homework to count Christmas decorations at home and then partition the number before coming to school the next day.

In a plenary at the end of a Year 3 lesson about recognising $^1/_2$ and $^1/_4$ of small numbers, the teacher reviewed pupils' learning successfully. She circled four of eight shells and asked "What fraction have I circled?" She repeated this for $^1/_4$ and $^3/_4$ and introduced the term $^1/_3$ which one group had been learning. She finished with a challenge "What is half of 42?". Many pupils were able to apply their knowledge to complete the calculation.

73. The effective plenary sessions show:

- careful revisiting of learning objectives
- the tackling of misconceptions and the checking of the accuracy of pupils' work
- summary assessment of what pupils have learnt in order to inform and plan for the next steps
- application of learning to new areas and links to past or future lessons.

Plenary sessions, however, are still the weakest element of both literacy and mathematics lessons. They are unsatisfactory in three in ten literacy lessons and two in ten in mathematics. Assessment more broadly is unsatisfactory in one in six lessons in literacy and one in nine in mathematics.

The use of ICT to support literacy and mathematics

74. The quality of oral language is often a significant feature of good lessons which include ICT. The use of ICT in teaching literacy and mathematics continues to develop well in many schools, although the picture remains mixed. Overall, the gap between the best and the weakest applications of ICT continues to widen. This range is unacceptable.

75. The improvements this year derive mainly from broader and more varied, rather than more frequent, use of ICT resources. In the best instances, teachers make judicious use of ICT equipment in literacy hours and daily mathematics lessons. For example, they often draw on CD-ROM, network and on-line resources, using a range of hardware of good quality. The use of interactive whiteboards in particular is now more common. Increasingly, teachers use the Internet to access resources, for example unit plans from the strategies' web site. In schools where the use of ICT remains weak, lack of confidence and subject expertise still hold back far too many teachers. This situation is often made worse by limited and unreliable equipment.

76. The use of interactive whiteboards brings an exciting new dimension to teaching and learning, particularly in stimulating questioning and dialogue. Teachers who have the confidence and expertise to use them successfully are almost always those who also use ICT extensively in their planning and the rest of their teaching. When the use of interactive whiteboards is less successful, it is usually because the teaching fails to engage pupils enough in discussion and lacks a focus on key learning objectives. The whiteboards improve good teaching further, but they do not do the same for unsatisfactory teaching. They are not the solution to improving it.

77. Teachers who are part of the Year 5 and 6 pilot have been trained well and most use interactive teaching resources effectively, not only in literacy and mathematics lessons but, increasingly, also across the rest of the curriculum. Many plan all their work on laptop computers and use multimedia facilities to model, demonstrate and explain work to pupils. Pupils are usually highly motivated by the quality of such presentations and engage themselves fully in discussion:

In a Year 6 literacy lesson, the interactive whiteboard was used to display texts for pupils to compare. The ease with which the teacher could draw attention to different opening paragraphs on the whiteboard enabled her to ask searching, pertinent questions and invite pupils' views about the quality of the writing. The teaching extended pupils' speaking and listening skills, took good account of their suggestions and led to texts being annotated successfully with pupils' ideas.

In a Year 5 mathematics lesson, the teacher made very good use of the interactive whiteboard to demonstrate how to change fractions to decimals. The pupils were completely absorbed and grasped the process easily. The teacher asked them to use a number line on the whiteboard to explain how they worked out their answers. Towards the end of the lesson, earlier examples were retrieved easily.

In a Year 5 mathematics lesson, the main teaching activity began with an interactive teaching program displaying a measuring cylinder. The teacher gave the pupils the opportunity to use the program to change the scale on the measuring cylinder and add specified amounts of liquid to the cylinder. The teacher linked the numbers of millilitres with fractions of a litre and asked challenging questions with further 'show me' tasks. While the pace of the lesson slowed as pupils used the interactive whiteboard, the visual impact of the display held pupils' interest and supported their learning.

78. Many teachers report that boys, in particular, respond and concentrate better in their literacy and mathematics lessons when they use interactive whiteboards rather than conventional boards. Pupils recognise the benefits of teachers' use of interactive whiteboards:

Teachers show more examples using an interactive whiteboard than they did using a blackboard.

It makes it easier to learn because the teacher can show things in different ways.

Lessons go much faster now.

It's an amazing creation. It's really cool to be able to go up to the board and change shapes or text without having to mess about using a mouse.

Pupils also like the way that they can return easily to work done in previous lessons and how their own work can be scanned electronically and shown to the rest of the class.

79. Teachers continue to use ICT in literacy lessons mainly to highlight and manipulate text. They do this most effectively using a data projector or interactive whiteboard so that all pupils can see the texts clearly. In the best examples, teachers draw on pupils' comments effectively to edit and improve text. They are making more use of the Internet than previously, for example to access information for pupils' persuasive writing on environmental issues. Pupils' own use of ICT in literacy lessons still remains rather limited: word level activities, including spelling; the use of the Internet for research, and activities to improve writing. Pupils word-process stories, although some teachers express concern about pupils' keyboard skills and the time it takes for them to complete writing.

80. In mathematics, teachers continue to use ICT for pupils to practise number, use calculators, handle data and investigate the properties of shapes. Pupils use programmable robots as well as commercial software to practise work on angles. Some teachers who use interactive whiteboards or data projectors draw on interactive teaching programs to capture pupils' interest and demonstrate effectively key mathematical skills. Teachers value the interactive capability of programs such as those which help pupils to read from different measuring scales or change fractions to decimals and percentages. Pupils also use ICT to interrogate information on databases and spreadsheets, often in computer suites.

81. In addition to the level of teachers' subject knowledge, the extent and arrangement of ICT equipment in schools are key factors in the effective use of ICT in literacy and mathematics lessons. While some schools have interactive whiteboards and several classroom computers supplemented by a suite of computers, others have only two or three classroom computers. However, teachers and pupils usually use equipment in classrooms or clusters of computers rather than computer suites, which are mainly timetabled for ICT skills lessons. Irrespective of the circumstances in which they work, teachers use ICT best when they match it closely to specific literacy or mathematics objectives.

Teaching literacy and mathematics in reception classes

82. Although the quality of teaching in literacy and mathematics in reception classes (Year R) continues to be good in the majority of lessons, it is generally better in mathematics than in literacy. Over four in five mathematics lessons are good compared to only three in five in literacy.

83. The teaching is often better in single-age Year R classes than in classes where Year R pupils are taught with pupils from other year groups. In mixed age classes, teachers and teaching assistants sometimes focus too much upon older pupils in the class, leaving younger pupils to work independently or to choose from a range of activities which have only limited value in developing reading, language and mathematics. Teachers plan opportunities for the development of literacy and mathematics through structured play, but the full potential of play to develop pupils' language beyond the formal literacy lesson is not realised often enough.

84. In classes containing only Year R pupils, teachers are particularly effective in integrating the QCA *Curriculum guidance for the foundation stage* and the NLS or NNS frameworks in their planning. In Year R mathematics lessons, teachers use questions well to encourage pupils to explain their learning. They create good opportunities for pupils to work together on practical mathematics activities which capture their imagination. They challenge their thinking through pertinent questions and by giving them time to reflect before they respond. Pupils have a chance to think, share ideas and learn from each other.

85. In literacy lessons, although guidance is used well to plan for progression in pupils' reading and writing, there is sometimes too much emphasis on asking pupils to record their ideas in writing before they have been able to talk about them, at the expense of the development of their spoken language. Pupils not working directly with an adult – either a teacher or a teaching assistant – miss oral interaction. They are too frequently occupied with work which is not well matched to their language needs and which does not enable them to make progress, as in this example:

Year R pupils were given printed instructions on how to make and bake gingerbread men. They had to cut out the instructions, re-arrange them in the correct sequence and stick them on cardboard. They did not have the reading skills to know in which order the instructions should be placed, so the task had little value beyond the development of their manipulative skills.

Intervention and inclusion

Intervention programmes

86. The intervention programmes, Early Literacy Support (ELS), Additional Literacy Support (ALS), Further Literacy Support (FLS) and, to a lesser extent, the Springboard programmes for mathematics have been received positively by schools. They believe that the intervention programmes make a difference for pupils, but there is too little firm evaluation. Schools also consider the training to have been good. In many schools, both teachers and teaching assistants have attended training, with the intervention programmes taught subsequently by either teachers or teaching assistants, according to the school's needs and staffing.

87. Schools have also welcomed the funding to run 'booster' classes, especially because of the flexibility such funding provides. The vast majority of schools provide these classes. Where they do not, this is usually because the schools are small and do not feel such provision is necessary for a particular cohort. 'Booster' provision takes a wide variety of forms. It is almost always under way in the spring term, and very frequently in school hours, but occasionally it begins in September. In one school, for example, the lowest attaining pupils always worked in a small group of around ten from the start of Year 6. The main materials used for 'booster' provision include FLS materials or adaptations of them, 'booster' materials taken from the DfES web site or commercial materials.

88. Typical examples of 'booster' provision include:

- a qualified teacher who worked alongside the usual teacher before taking a smaller group aside
- a supply teacher who taught for two mornings a week, supporting pupils at the borderline of level 3/4 and those who needed extra help
- two Year 6 classes split into four groups during the spring term: two teachers taught two groups, a part-time teacher taught the third and an experienced teaching assistant taught a very small group of low-attaining pupils.

89. In too many instances, the provision is not targeted effectively enough. For example, one class was divided on two days each week: the two groups were taught at different levels, but the whole class followed the same objectives. When schools use 'booster' and, to a lesser extent, intervention programmes too flexibly, they fail to focus their efforts on the right groups of pupils. Sometimes, the desire to treat everyone equally gets in the way of appropriate provision for the pupils who need it most and they dilute the potential of the available resources, as in these examples:

- one school ran a 'booster' class after school for all levels (levels 2 to 5) one day each week because it was committed to 'not discriminating'
- one school assigned a weak teacher to Year 6 who had previously taught in Key Stage 1 and deployed a newly qualified teacher to provide the 'booster' support.

90. In some cases, because the groups requiring support are not identified accurately enough, the materials are not matched to the needs of the pupils and, as a result, some find the work too easy while others fail to meet the targets set for them. Where schools follow the scripted programme and its methodology closely, such as ELS, this is less likely to be the case.

91. Schools believe that the impact of the literacy and mathematics intervention programmes on pupils' attainment is good. They report that pupils make good, and often rapid, progress and increase their confidence. However, only a minority of schools are able to evaluate their impact methodically, by measuring the progress pupils make when undertaking such programmes. Many schools are using more clearly defined individual education plans to monitor progress; by implication, they also evaluate the work of the teaching assistants who support them. In many cases, however, pupils' knowledge and understanding are not assessed in detail before and after the interventions, and so schools have difficulty in measuring accurately the success of intervention in raising attainment and the overall value for money.

Teaching assistants

92. Teaching assistants continue to play an important and effective role in the daily mathematics lesson and the literacy hour, and they are increasing the range of their work within other subjects. The focus of their work remains support for small groups of pupils in literacy and mathematics and leading intervention programmes such as Springboard, ELS and ALS. In some LEAs, well-trained teaching assistants also lead separate speaking and listening programmes for younger pupils as part of a planned, whole-school intervention to develop pupils' oral language.

93. Schools still do little to measure the impact of teaching assistants' work on pupils' attainment, especially where they are working with individuals or small groups within whole-class lessons. Unless the school has good systems for tracking pupils' progress, for example in intervention programmes, or has a good performance management system which includes teaching assistants, the impact of their work on pupils' attainment is difficult to ascertain.

94. In many schools, the intervention programmes led by teaching assistants are monitored by the special educational needs co-ordinator (SENCO). This can be effective because the focus on pupils' progress is heightened and backed up by regular reviews, scrutiny of pupils' work, and reference to their needs and to the targets set. Most schools report improvements in pupils' behaviour, confidence and self-esteem. They also believe their support increases pupils' access to the rest of the curriculum.

95. Schools manage teaching assistants in a variety of ways, but some common approaches emerge. Those who support pupils with special educational needs (SEN) are often managed by the SENCO, while the deputy head teacher, a key stage co-ordinator or a year group leader manages those who provide more general support. In some cases, a senior teaching assistant is responsible for the day-to-day management of her colleagues, supervised by a member of the teaching staff. Regular meetings between teaching assistants and their line managers are now common. Very few schools, however, have formal performance management systems for teaching assistants, although increasing numbers have some form of annual discussion or review.

96. In the most effective schools, the training of teaching assistants is very closely related to the needs of pupils and is identified through a review of the teaching assistants' skills and knowledge. Schools continue to provide access to training for the NLNS' intervention programmes. This year the NLNS held pilot training in 18 LEAs for teaching assistants working with Year 6 pupils. One teaching assistant said she left the training with 'a clearer idea of the level of work a Year 6 child should be doing'.

97. Teaching assistants also attend induction training and a variety of local courses. Of particular note is the Talking Partners project which is developing in several LEAs and is influencing in-service training in a number of others. The project provides a short-term intervention programme, led by a trained assistant, for a small group of pupils over ten weeks. The data gathered by the schools concerned show some significant improvements in the pupils' understanding of forms of language after this relatively brief period of intervention. The involvement of speech therapists in the preparation of teaching materials has been a fruitful development.

98. Many schools have invested much in the training of teaching assistants to meet pupils' needs. Not unreasonably, they aim to maximise this investment and therefore do not want to reduce the time teaching assistants spend with pupils. This example provides an illustration:

A Year R class contained two role play areas: a television studio equipped for presenting the weather forecast and a hospital environment where the teaching assistant acted as a patient. The teacher had prepared a written brief for the teaching assistant:

Julie: *Work in the hospital role play area, please.*

Objectives:

Pupils should:

enjoy listening to and using spoken and written language and readily turn to it in their play and learning

experience play and learning as part of a group.

Activity:

Think about the various roles in the hospital e.g. doctor, nurse, patient, receptionist, porter, paramedic, cleaners, catering staff.

What do they all do? Discuss.

Decide who they are going to be and what their role is before beginning to play.

Observation notes:

Do children fall into role and use appropriate language?

Note comments children make in their play.

Do they play as part of the group?

Do they develop their role?

99. Because of this level of involvement in pupils' learning, teaching assistants are often not used to reduce teachers' workload but rather, as one headteacher put it, 'to reduce the pressure in the classroom'. Planning the work of teaching assistants, briefing them before lessons and gaining feedback from them afterwards, as required in the example above, can create more work for teachers. In most schools, therefore, a 'mixed economy' of work has developed. In some, all teaching assistants are undertaking a little administrative and clerical work; in others, a designated teaching assistant has responsibility for tasks such as photocopying, producing and filing resources and displays. In many schools, however, the tasks are shared between teachers and teaching assistants.

Leadership and management

The national focus

100. As the strategies have developed, the national focus has moved on from ensuring the implementation of a daily literacy hour and mathematics lesson in all schools. This has been achieved. Previous reports from Ofsted have noted that literacy hours and daily mathematics lessons, or similar provision, are now in place in virtually all schools in England. Attention at a national level, as well as in LEAs, now focuses much more on low attainment and underperformance, as well as on the continuing weaknesses in leadership and management in a small proportion of LEAs and schools. Nationally, the strategies have responded swiftly to areas of weakness identified in English and mathematics, notably by providing five-day training in mathematics, supporting teachers' planning and by developing intervention programmes in both subjects. The strategies' web site provides comprehensive information and materials and is updated regularly.

101. One of the strategies' key successes has been the gains made in attainment at the end of Key Stage 2 in the lowest attaining schools, so that the gap between the highest and lowest attaining schools is now narrower than it was when the strategies were implemented in 1998 and 1999. Overall, however, the quality of leadership and management in schools is not consistent. As a result, there are significant variations in attainment even where schools admit pupils from similar backgrounds. To tackle part of this problem, the strategies put in place a pilot project in late summer 2002, Intensifying Support for Low Attaining Primary Schools, thus responding to issues identified in Ofsted's evaluation of the strategies. This project continues in 2003/04.

Intensifying support for low attaining primary schools

102. The DfES selected 13 LEAs in which to pilot the Intensifying Support Project (ISP) to strengthen leadership and management, improve standards and tackle weaknesses. The LEAs were chosen because they were among those with the highest proportions of schools with attainment in English and mathematics at level 4 or above which was lower than 50%.

103. The key figure within each LEA is the project consultant, who is expected to work intensively with approximately ten schools. Most project consultants have been experienced literacy (mainly) or numeracy consultants, although a small number of headteachers or deputy headteachers have also been appointed. Their work is wide ranging, including observing lessons, meeting headteachers to assess progress, leading professional development meetings and using their knowledge of literacy or mathematics to work with teachers in lessons. A crucial role is to act as a 'broker' to gain additional support

from NLNS consultants, or inspectors and advisers, within the LEA to support work which the school has identified as a priority.

104. So far, the quality and impact of project consultants' work in schools are at least good in four in five schools. However, a small number of consultants do not receive sufficient support from their LEA when they try to work with headteachers who are not fully committed to the project or when difficulties arise. The project consultants' main success has been developing work on curricular targets to track pupils' progress, an area of continuing weakness in many schools, not just in those which are lower attaining.

105. At the start of the pilot project, each school was required to draw up a raising attainment plan to tackle three priority areas: raising attainment and accelerating progress; improving the quality of teaching and learning; and developing the school as a sustainable learning community. However, despite the attention given to the attainment plans in the national training and by project consultants, one in three has significant weaknesses. Although schools usually identify clearly the areas of their work which are a priority for improvement, their criteria for measuring their success, as well as the monitoring and evaluation procedures, are often vague. Link advisers/inspectors have plenty of expertise in school improvement, but a few of them have not been sufficiently rigorous in assuring the quality of the raising attainment plans and in challenging schools.

106. On the whole, however, link advisers and inspectors have become more involved with the pilot schools as the project develops and, as a result, have improved their knowledge of them. In most of the pilot LEAs, the project consultant and the advisers and inspectors meet regularly to exchange information about the schools with others who support them. This exchange of information has been one of the positive outcomes of the pilot. However, in a few LEAs, there is insufficient co-ordination when a variety of school improvement teams is involved in providing support.

107. Many headteachers have gained confidence as a result of their involvement and understand more clearly the qualities required for good leadership and management. Consistent challenge from project consultants and from link advisers and inspectors, and the fact that they are held firmly accountable for improvements, have stimulated their leadership and management skills. The headteachers are also aware that the pace of change has quickened in their schools. However, a significant number of them have not yet developed their skills sufficiently. For a small number of schools, weaknesses remain which still need to be tackled. The project has been successful in identifying these schools.

108. In many instances, deputy headteachers and co-ordinators have benefited from the project. They have a better knowledge of the quality of teaching and learning in their own school, have strengthened their role in curriculum management and, in particular, have sharpened their focus on target-setting and the tracking of pupils' progress.

109. Most teachers in the pilot schools have a clear understanding of the project's main objectives in raising standards of attainment. They receive good support from project consultants in identifying strengths and weaknesses, setting targets and assessing progress. They have gained self-confidence and a sense that goals set can be achieved. One teacher wrote in an evaluation:

> *I feel much more confident in sharing my concerns with colleagues, asking for advice and being observed by peers. This has helped me to focus more clearly on my own strengths and weaknesses, instead of feeling everything needs improving straightaway. I feel pleased with the successes noted and more capable of setting myself achievable targets for specific areas where improvement is necessary and a priority.*

Underperforming schools

110. This year, LEAs were asked to set up a programme to raise standards in underperforming schools. The most effective planning for this derived from careful analysis of schools' attainment data, usually carried out jointly by LEA school improvement teams and NLNS regional directors. This led to accurate identification of the relevant schools, focused support and training and regular reviews of their progress to evaluate the impact of the support being provided. In the successful examples, such programmes became an integral part of LEAs' drive to raise attainment.

> *In one LEA, officers and link advisers/inspectors wrote intervention plans jointly with schools, ensuring that headteachers and NLNS teams had common expectations and understood exactly what needed to be done to raise standards. Link advisers and inspectors were given additional time for monitoring and evaluation, while consultants and advisers and inspectors made joint visits to review progress and tackle sticking-points. A strategic management group gathered reports from the teams involved in supporting schools and tracked overall improvement. The programme enhanced the monitoring role of link advisers and inspectors and focused on outcomes which could be quantified at management and classroom level. High expectations were established and challenge and support were complementary.*

111. In some LEAs, schools and LEA officers are reluctant to face the fact that some schools are not performing as well as those with similar intakes and circumstances; they shy away from using the term 'underperforming'. In

others, however, the term is used to discuss underperformance openly with schools as part of the LEA's role to challenge and support them.

112. Where results have risen each year or where, at the very least, improvements have been sustained, the LEAs:

- have good relationships with their schools and good knowledge of their strengths and weaknesses
- undertake thorough and searching data analysis to identify and then tackle underperformance
- provide high-quality training and excellent support from NLNS consultants
- have strong advisory teams where link advisers and inspectors are involved closely in the implementation of the strategies and understand very clearly what needs to be monitored
- communicate comprehensively to ensure that all staff involved with schools are informed of progress and the findings from monitoring and evaluation
- liaise effectively across support services in the LEA
- promote active and successful 'leading teacher' schemes
- give good support to new headteachers and co-ordinators
- challenge underperformance and provide the necessary support to raise standards.

113. In LEAs which lack these characteristics, test results in English and mathematics at the end of Key Stage 2 have improved very little since 1999. In some schools, even where consultants have provided intensive support, test results have fallen. Most LEAs, however, include some schools which, despite support over a number of years, make little or no progress in improving their test results. These schools, with weak leadership and management, unsatisfactory teaching and poor behaviour, draw in a disproportionate level of resources and are the most difficult to shift. LEAs recognise the lack of high-quality leadership and management as the main obstacle.

114. The leadership programme, developed by the Primary National Strategy in partnership with the National College for School Leadership, is designed to support LEAs in focusing on schools where pupils could make greater progress in Key Stage 2 than they do currently. In identifying the schools to take part in the programme, LEAs were asked to consider pupils' rates of progress in both English and mathematics and those in the LEA's underperforming schools plan. It is intended that, in its first year, the programme will involve around 5,000 schools across all LEAs in England.

115. This development characterises the second stage of implementation of the strategies: tackling underperformance and low attainment and directing resources where they are most needed to raise standards. Key to the success of the leadership programme will be the extent to which the programme's consultant leaders – current headteachers who have been appointed by their LEAs – are able to draw on their own expertise, experience and knowledge of English and mathematics to provide both challenge to and support for schools which are less successful than their own.

Leadership and management in schools

116. The evaluation of the strategies continues to draw attention to the crucial importance of headteachers' and co-ordinators' leadership and management in raising standards in English and mathematics. The quality of leadership and management is at least satisfactory in more than 80% of schools and good in around half, although it is better in mathematics than English. In the schools where leadership of the strategies is weak, the overriding factor is weakness in the headteacher's leadership, even where the co-coordinator's leadership is strong. Leadership and management of English are unsatisfactory in 14% of schools; for mathematics, the figure is 10%.

117. The most effective schools continue to have:

- clear vision and purposefulness from leadership teams
- successful teamwork
- confidence in identifying priorities and decision-making
- good knowledge of the strategies
- straightforward and cohesive systems for managing school improvement.
- effective use of data
- a high priority given to staff development.

118. Particularly important is vision: the headteacher's ambition for the school and single-minded clarity about how to make a difference. One inspector, summing up a school's work, wrote:

> *The headteacher exudes a strong sense of vision, purposefulness and confidence. He recognises the positive features of the NLS, but has not been a slavish follower and has taken forward the broad aims of the strategy in ways that meet the needs of his school.*

Such vision and confidence will be especially important in the implementation of the Primary National Strategy, as headteachers seek to match their curriculum more closely to the needs of their pupils and to their own school's aims.

119. Teamwork is important. When the headteacher and co-ordinator share the drive to make things happen, there is a sharper focus on progress and it is directed at the right priorities. Rigorous, systematic analysis of data identifies where improvements are needed and informs numerical and curricular target-setting.

120. Headteachers who have a very good understanding of the strategies and the needs of their school are able to involve themselves effectively both in whole-school planning and in making sure that plans and targets are followed through into teaching. They monitor teaching regularly, link it to the identified priorities and follow it up with worthwhile feedback. However, not all headteachers have good enough subject knowledge. The result is that monitoring of teaching fails to identify weaknesses clearly and the headteachers are not able to suggest how it might be improved.

121. Co-ordinators are particularly effective when they have a good grasp of their subject, including good subject knowledge as well as ways to teach it, and can provide support and guidance where it is needed. They are confident in demonstrating teaching approaches and providing staff development which matches the school's specific needs. In many instances, successful co-ordinators have been leading teachers in their LEA or NLNS consultants or have attended training regularly to update their knowledge and skills.

122. Unforeseen changes in management can reduce schools' effectiveness significantly, for example where the headteacher or co-ordinator is absent through a significant period of illness. Where the leadership and management are weak, the issues remain similar to those identified in previous years: the headteachers do not have the capacity to identify the school's key areas for development, to lead the improvement necessary to raise standards or to enable their co-ordinators or other staff to do so.

Numerical and curricular target-setting

123. Setting numerical targets for pupils at the end of Key Stage 2 is well established in all schools. This is not the case at the end of Key Stage 1, where only 6 in 10 schools set such targets.

124. Over half the schools base their Key Stage 2 targets on an analysis of data, including Key Stage 1 test results, optional QCA tests in Years 3, 4 and 5 and teachers' assessments, enhancing these analyses by monitoring pupils' progress closely and acting on evidence. Where numerical target-setting is weak, as it is in slightly less than half of all schools, the targets reflect a prediction based only on pupils' level of attainment at the end of Key Stage 1, with too little attention given to the expected rate of improvement brought about by good teaching. Strategies to raise attainment include 'catch-up' programmes for individual pupils or, more broadly, setting pupils by ability groups, employing additional teachers and teaching assistants or focusing on aspects of the curriculum which are causing difficulty, supported by professional development for staff.

125. One in four schools still do not follow through their numerical target-setting by setting effective curricular targets. Even where they do so, having identified pupils' strengths and weaknesses, teachers' planning seldom refers to what they are going to do to tackle the weaknesses and raise standards. Few schools set targets for groups or individual pupils and pupils are often not aware of targets which have been set for them.

NLNS training

126. Where curricular targets contribute successfully to raising standards, they are tackled as priorities for the whole school and form part of the school improvement plan, but few schools link their training programmes well enough to the curricular targets they have identified.

127. Many staff attend training events and most schools are able to identify particular NLNS training courses which they feel have improved teachers' subject knowledge and confidence. Headteachers highlight the success of the five-day mathematics courses in enhancing teachers' subject knowledge and in improving the quality of teaching. In many schools, a significant number of teachers have attended these, with plans for more to follow. Schools use these courses as a key strategy to improve the teaching of mathematics across the school, in contrast to NLS training where courses tend to focus on topics for particular year groups, such as Progression in Phonics for Year R and Year 1 teachers. Schools continue to consider this training, as well as Grammar for Writing and Developing Early Writing, as some of the most influential training in literacy.

128. While headteachers usually know about the courses and support which NLNS consultants provide, about half are unaware of the relaunch of the Leading Mathematics Teacher scheme or have used it to support teaching; even fewer use the Leading Literacy Teachers. Both these 'leading teacher' initiatives form an important part of the Primary National Strategy's approach to training and development and it is a concern that so few schools use these

teachers as a resource. Some headteachers are critical of the leading teacher initiative because they feel that teachers gain little from it. Yet there are examples where the leading teachers have been used well.

In one school, teachers were enabled to observe leading mathematics teachers over a period of two years. The mathematics co-ordinator agreed an observation focus for each member of staff and, after the visit, they completed an action plan for improving their own teaching. The co-ordinator also organised a staff discussion on lessons learned from visiting the leading mathematics teachers.

129. Training is more effective for some schools when they commission it themselves, often basing it on an audit led by the literacy or mathematics co-ordinator and a consultant. Consultants focus their support on meeting the school's identified needs through demonstration lessons, support for planning and staff meetings to focus on key areas.

130. Staff turnover is a major problem for some schools: the impact of training is diminished and gaps in knowledge and expertise arise when there is significant turnover. A small number of schools face considerable pressures in recruiting and retaining teachers; the result is a need to return to training which has already been done so that new staff gain the relevant expertise. For some schools, attendance at training courses outside school is difficult to organise because of problems in employing experienced, competent supply teachers.

131. In the summer and autumn terms 2002, most schools sent their co-ordinators to the conferences for literacy and mathematics co-ordinators organised by LEAs, using training materials provided by the strategies. A majority of co-ordinators found them very useful, not least for the opportunity to work with others. Some co-ordinators used the training as a starting-point for further development, for example, using the handbook, an important element of the training materials, to audit strengths and weaknesses and to organise additional training. Some co-ordinators also understood better how to analyse attainment data. In too many schools, however, the conferences had little impact. Some new co-ordinators considered the material too advanced, particularly the session on data analysis; for others, they made too little use of the handbooks, putting little into practice and giving only minimal feedback to other teachers.

132. Few schools make direct links between the training and the broader priorities for school improvement or the needs of individual teachers. Few headteachers are able to explain how they monitor and evaluate the impact of training in their schools.

The strategies and the primary curriculum

133. The introduction of the two strategies has had a considerable impact on the whole primary curriculum, with the positive aspects outweighing the negative. However, schools do not capitalise fully enough on the improvements in teaching, learning and standards in English and mathematics brought about by the strategies to improve work in other subjects.

The impact of the strategies

134. The positive impact of the strategies on other subjects showed in:

- teachers' sharper focus on objectives, as well as pupils' improved knowledge of their own learning when the objectives were clarified for them
- better teaching of subject-specific vocabulary and pupils' more confident use and understanding of it
- the use of a wider range of genres in writing in other subjects, and greater explicitness by teachers about their structure and style
- improved support for pupils in organising their own writing through the use of writing frames, lists of key words and shared or guided planning
- more planned opportunities for talk to support learning
- an improved structure to some lessons, particularly the use of a plenary session to consolidate learning
- texts selected from topics being studied in other subjects being used well in the literacy hour to reinforce learning in the subject, as well as for meeting objectives in literacy
- improvements, albeit limited, in the use of mathematics in science and other subjects to record and present data accurately.

135. The negative impact on other subjects showed in:

- pressure on curriculum time, often resulting in:

  – less investigative work in science

  – fewer extended practical sessions (for example in design and technology, art or physical education)

  – lack of continuity in pupils' learning where subjects were taught in alternating blocks of time, with long gaps between the blocks

- an emphasis on extended written work in the humanities (history, geography and religious education) which, while giving opportunities for pupils to write at length, often led to learning and assessment which

focused too much on literacy rather than on the subject

- limited professional development of staff (with the exception of ICT) or limited time for dissemination of training by co-ordinators.

136. When teachers missed opportunities to use in other subjects what pupils have learnt in literacy and mathematics, they:

- did not make enough use, in the literacy hour, of texts and language from other subjects in order to integrate pupils' learning of literacy with learning of concepts
- provided too few opportunities for library skills (including ICT-based work) to be used for finding information in other subjects
- did not provide enough opportunities for pupils to read and write at length in other subjects, too often confining them to worksheets
- did not build enough on pupils' mathematical learning and apply it in subjects such as science, geography, ICT or design and technology
- allowed pupils too little scope to make choices and be creative in subjects such as science or design and technology because the writing tasks or activities were too tightly structured or repetitive.

137. Teachers applied to other subjects the practice of clarifying the objectives for the lesson with the pupils. This had a direct impact on pupils' awareness of their own learning and on the progress they made. It also made learning more purposeful for them.

138. The strategies' emphasis on subject-specific vocabulary, as well as higher expectations by teachers about how much pupils might understand and use it in their learning, have both influenced other subjects.

In a Year 2 religious education (RE) lesson, the key words 'shabbat', 'synagogue', 'havdalah' and 'Torah' were displayed and, throughout the lesson on the Hebrew Sabbath, the teacher insisted on the pupils using the correct terms, rejecting the term 'Jewish church' and insisting on accuracy. Most pupils used the terms with confidence, enjoying their (to them) unusual sound and striving to pronounce them correctly.

139. In the best teaching, there was careful development of both general and subject-specific vocabulary:

A Year 1 art lesson on investigating materials, using the QCA scheme of work, started with pupils passing round material to touch to their faces and note the different textures. The teacher emphasised and demonstrated the meaning of words such as 'shiny', 'soft', 'stretchy' and 'smooth' before moving on to the topic of weaving and the meaning of more specialist terms such as 'warp' and 'weft'.

She enacted the process of weaving by arm movements, using prepositions such as 'up' and 'under'.

140. In several respects, the NLS had had a positive impact on reading and writing in other subjects. Writing frames, in humanities subjects particularly, were widespread and although, at times, they were overused, allowing too little creative decision-making for older and higher-attaining pupils in Key Stage 2, they helped most pupils to demonstrate their understanding in writing.

141. Pupils' experience of a range of genres was encouraging the raising of standards in several subjects. In ICT lessons in one school, for example, pupils' awareness of the appropriate layouts and styles of different types of text showed the benefits of work in literacy. In history, RE and, occasionally, in geography, pupils' ability to write extended narratives, letters and play-scripts was exploited to develop their understanding or empathy effectively.

142. Schools with the highest standards in the humanities subjects were also those where the range of pupils' writing was widest. There was a positive impact on both attainment in English and pupils' response to the subjects. Their writing demonstrated empathy and involvement, for instance when writing as eyewitnesses of an historical event or as participants in a religious festival. However, in some schools, cross-curricular tasks did not always contribute as much as they might: a poem about the rain forest may support the learning of geographical concepts or provide evidence that they have been understood, but this is not always the case if the learning objectives for the particular subject have not been clear enough.

143. Reading and writing for information, such as note-taking or researching from a range of sources (using books and ICT), initially taught in literacy, had led to higher expectations and a better standard of work in history and other subjects in several schools.

In a Year 6 history lesson with a visiting speaker, pupils made very good notes during the presentation. These enabled them to have an informed discussion about the nature and status of different forms of evidence later in the same session.

144. More focused oral language was a positive feature in several schools. The use of 'talk partners' or time to rehearse ideas before contributing to class discussion or plenaries not only raised the standard of spoken language but also the quality of the ideas discussed in many subjects.

In a very effective design and technology lesson on packaging, the teacher used a range of techniques to ensure that all pupils were able to contribute to discussion and to support each other. Sometimes pupils noted ideas individually

to give them confidence to speak out; at other times, 'buzz groups' were used to solve problems or suggest ideas.

145. There were, however, missed opportunities. Pupils' growing ability to write in a wider variety of genres was limited in subjects such as science. In several schools, the range of writing in science was still narrow, with a formulaic approach to recording practical experiments; although the amount of writing in design and technology had increased, it also often lacked variety. Such writing hampered pupils' progress, giving them too little opportunity to be creative in posing and solving problems and thinking scientifically. Although these are not problems generated by the strategies, they illustrate the need for the work which has already been done successfully in literacy and mathematics to be applied more broadly in the primary curriculum.

146. The impact of the numeracy strategy on other subjects was less evident. In some schools, the accuracy and presentation of numerical data in science lessons had improved. However, inspectors more often remarked on the missed opportunities in subjects such as geography, science or design and technology for pupils to handle and analyse data.

Quality of the curriculum

147. Inspectors judged the overall quality of the curriculum not only by whether all aspects of the statutory programme of study or locally agreed syllabus were covered, but also by the richness and depth of pupils' experience, taking account of the inevitably limited time for each subject. On this basis, the quality of the curriculum was good in one school in three, satisfactory in one in three and unsatisfactory in one in three.

148. In most cases, schools were careful to allocate at least the minimum recommended time for each subject over the term or year. It was common for history and geography, or art and design and technology, to be taught in alternating blocks of half a term or a term. This allowed pupils longer to become involved with the content; they often showed good knowledge of the most recent unit, for example, a local study in geography or the Great Fire of London in history. However, they found difficulty in seeing connections between the units or developing a sense of concepts such as chronology or causation, or the impact of the environment on human societies. In the best cases, schools were careful to maintain continuity in pupils' learning, referring to time-lines on display or choosing texts in the literacy hour which might reinforce past learning. Similar blocking of subject work occurred between design and technology and art. In such practical subjects, however, the alternating focus slowed the development of skills such as drawing, music-making or the use of tools,

particularly where teachers did not provide opportunities for pupils to apply these skills in other subjects.

149. Some schools taught each subject every week. In these cases, the pressure on time, once literacy and mathematics were covered, was considerable. The short time available for, say, design and making or art constrained the nature of the work which could be undertaken, so that while pupils could draw adequately they had too little practice in three-dimensional work or more advanced construction; as a result, their ability to solve problems and develop practical skills in these areas was limited.

150. Although some of these difficulties were evident before the implementation of the strategies, the literacy hour and the daily mathematics lesson have highlighted the timetabling difficulties. Most work on subjects other than mathematics and English now takes place in the afternoons, although several schools have introduced useful short lessons of music or science in the mornings. There were examples of timetables which affected quality adversely: one school always squeezed RE into the time between a full literacy hour and morning break-time with the result that pupils' concentration and responses flagged; in another, short design and technology sessions meant that teachers rarely challenged pupils to make complex constructions.

151. There were few examples where the statutory curriculum was not being covered in schemes of work, and schools were beginning to take note of the guidance from the QCA – reinforced recently in the implementation of the Primary National Strategy – that they have 'the flexibility to decide how much importance they give to each subject and which aspects they emphasise within subjects'. However, in making their choices about what to cover, some schools gave insufficient consideration to key subject objectives. In history, for example, some topics were covered minimally so that pupils were left with little idea of context or significance. In art, although many schools rightly emphasised painting and drawing, little at all was done on three-dimensional work or the work of artists. In giving greater emphasis to some aspects, as recommended by the QCA and the DfES, individual schools – rather than individual teachers – need to decide which aspects of subjects need to be taught in more depth, making balanced decisions within the broader context of what is being studied.

152. Most schools used the QCA schemes of work as the basis for planning in most subjects. These, and the objectives, provided a coherent framework and a strong subject focus. But although they were followed closely, schools did not always make enough effort to match them to local circumstances or to make links with other subjects. Occasionally, schools made sensible decisions to use the schemes more selectively, following

only certain units in any detail. Knowledgeable subject co-ordinators were able to inject local life and colour; to integrate the work with other subjects (including literacy and mathematics); and to guide teachers in selecting tasks most central to pupils' progress. This led to rich and effective curricular provision.

153. As Ofsted reported last year in *The curriculum in successful primary schools* (2002), the effective schools were skilled at augmenting pupils' experience through extra-curricular provision, especially in PE and arts subjects; by using the time for collective worship to build on music lessons; and by developing cross-curricular links in their planning. For example, one school made excellent use of time in literacy for pupils to study and write song lyrics, while considering rhythm and rhyme, then using the lyrics in music lessons and assemblies. The curriculum was often enriched by relevant visits and field trips (to historical sites or museums for history; churches, mosques or temples for RE; and the local area for fieldwork in geography) and by specialists in art, drama, dance or music (for example, advisory teachers or peripatetic music teachers). Pressures on time, however, either for the curriculum or relevant meetings and training, sometimes meant that schools struggled to prepare adequately for or to follow up such work in order to ensure that key concepts and skills were being developed sufficiently.

154. In schools where the impact of the strategies across the curriculum was weak, there were often also weaknesses in the broader curriculum. For example, there was excessive use of worksheets in history, geography and religious education and too little discussion, role play, imaginative writing or wider reading and research. Science lessons involved the copying of notes and the writing-up of carefully prescribed 'experiments' rather a challenge to pupils to investigate, analyse data and calculate purposefully. The problem in these schools lay not so much in the lack of impact of the strategies, but in the quality of teaching overall. While some schools were in a strong position to develop the 'rich and exciting curriculum' advocated by the Primary Strategy, others had much further to go.

Quality of teaching in other subjects

155. Of the lessons observed in subjects other than English and mathematics, the teaching was at least good in half, with around one in ten lessons being very good and a similar proportion being unsatisfactory. While the proportion of teaching that was at least good is similar to that in English and mathematics, there is around twice as much very good or excellent teaching in these two subjects – nearly one in five lessons in English and at least one in five in mathematics – than in other subjects of the curriculum. Most subjects of the curriculum showed some very good teaching. Unsatisfactory teaching was most frequently encountered in art, geography and RE.

156. On several occasions, teachers made good links with literacy or mathematics and often used ICT effectively:

In a very good Year 2 geography lesson on finding places on the map, the teacher used the interactive whiteboard to teach key vocabulary to do with weather (using pictures and symbols to reinforce learning) before asking pupils to locate places for themselves.

In a Year 5/6 science lesson on micro-organisms, digital photographs showing decay were graphically presented, using the data-projector, and the scientific aspects of decay were well explained, but the teacher also took time to explore similes (capitalising on the pupils' imaginative responses to the images) as well as dwelling on key words and effective adjectives in the plenary session.

In a Year 6 history lesson in the ICT suite, the pupils used Excel spreadsheets to record data from web sites about the numbers of planes available to Britain and Germany for the Battle of Britain. ICT and mathematics skills were reinforced, but pupils' interest remained focused on the historical situation.

Key Stage 1 pupils studying food for science began the session with a story of The Magic Cooking Pot *to engage their interest, before examining a basket of fruit and vegetables. They began by estimating the number of items of fruit in the basket, explaining their thinking, before moving on to discuss the characteristics of the fruits and vegetables.*

The main subject objectives of the lessons were highlighted, not overshadowed, by the development of literacy, mathematics and ICT.

157. Several of the very good lessons were taught by subject co-ordinators. The lessons were characterised by strong subject knowledge, well-chosen objectives and a clear structure. They clearly showed the influence of the two strategies, although the teachers had adapted the lesson structures to fit the subject or the learning objectives. A number of them included good use of a plenary session – a direct reflection of the emphasis on this in literacy and mathematics:

The teacher ended a Year 2 lesson on basic ICT keyboard skills with the pupils returning to the front of the class and using the Smartboard to revisit the objectives of the lesson. After this visual recap, she posed a new problem: to rearrange a string of fruit on the screen into a list. Pupils came up to demonstrate their ability to use the keyboard to manipulate the text and pictures and, as they did so, the teacher was able to consolidate the main skills learned.

158. In the unsatisfactory teaching, the objectives were often unclear. Such lessons had not benefited from the tight focus on objectives in the teaching of literacy and mathematics. These three examples were typical:

In a Year 6 geography lesson on the rain forest pupils tasted foods, used a computer program, painted their faces and engaged in drumming – all of which interested them – but their progress in knowledge, skills and understanding of geography was minimal.

In a Year 3 art lesson, pupils enjoyed using materials and paint to make panels representing the stages of an aboriginal journey but no real development was taking place in their understanding of art and their skills were not being developed.

In a Year 4/5 RE lesson the teacher used an extract from T.S. Eliot's 'The Journey of the Magi' in a lesson on how beliefs can be expressed in literature. The link to literacy could not have been stronger, but the activity set after reading the opening of the poem – to write a short dialogue between the three kings on their journey – while testing pupils' literal comprehension, did not deal with issues of belief at all.

159. The one in three lessons which were satisfactory were characterised by broadly appropriate activities and content, but lacked sharpness both in the teaching of subject-specific skills and concepts and in the assessment of progress. As with literacy and mathematics, such teaching often failed to challenge the higher attaining pupils sufficiently.

Assessment

160. The assessment of pupils' progress in English and mathematics has had little influence on assessment in other subjects. The end of key stage tests, optional tests for Years 3, 4 and 5, as well as standardised tests mean that, in English and mathematics, teachers have a good sense of attainment at different levels (or even sub-levels). They also had some sense of 'levelness' in science, particularly at the end of Key Stage 2. This is not the case for other subjects.

161. Beyond English and mathematics, the best practice in assessment was in science where, in some schools, co-ordinators had devised simple checklists, based on the attainment targets of the National Curriculum. Teachers were able to assess and record pupils' progress as they worked on practical investigations or completed worksheets, in some respects reflecting the assessment of activities such as guided reading.

162. One school had particularly good practice in assessing pupils' understanding of history and linking this to planning for progression:

The co-ordinator had examined in detail the use of the level descriptions to chart pupils' depth of understanding of historical concepts and had used these for long and medium term planning to ensure pupils' progress. This was combined with clear learning objectives for each task in the scheme of work and guidance as to how staff should assess the tasks according to these objectives.

This approach, however, was very much the exception.

163. A few schools made good use of pupils' self-assessment and peer evaluation, for example in class reviews of art, a practice partly influenced by plenary sessions. Useful oral feedback to pupils as they worked on art, design and technology or music activities focused clearly on improving their skills. Effective marking, too, not only of written work but also of sketchbooks in art, helped pupils to improve their work. Most of these approaches have the advantage of linking assessment closely to the work in hand without making excessive demands on teachers' workloads.

164. There were, however, missed opportunities to build on improvements brought about by the NLS to develop good assessment in the humanities without adding to workload. Pupils' writing in a range of genres provides a way for teachers to gain some sense of their learning in subjects beyond English. Too often, however, teachers missed this opportunity in setting a task or marking it:

A Year 6 history lesson had engaged pupils' interest in the topic of agricultural changes, in particular the impact of enclosures on the lives of the poor. The teacher was well informed and explained the issues clearly, giving the viewpoint of both landowners and villagers. However, following some very good discussion, pupils were asked only to design a 'Wanted' poster for a suspected poacher. This task did not develop their understanding of the social and historical concepts and did not provide a basis for assessment.

165. The use of writing frames was common in many of the schools, often influenced directly by the NLS. However, their potential for assessment was frequently not realised. A short piece of writing, using a frame, could easily be used to assess pupils' understanding of causation in history or science if the frame provides outline grammatical support for the recording of pupils' ideas. Teachers seldom asked for such writing, however, even though other writing tasks, such as the completion of simple worksheets or the copying out of information, provided almost no basis for assessing understanding.

166. It was usual for pupils to be given projects in both history and geography, for example to research and write about a particular country, river or aspect of life in a historical period. When set carefully, with clear guidance about sources of information and what questions needed to be answered, these were valuable in developing literacy, ICT and library skills and in broadening pupils' interest in the subject. However, the marking of such projects usually focused on presentational skills, the accuracy of the writing and pupils' perseverance. There was very little assessment of historical or geographical understanding.

167. Headteachers and co-ordinators expressed the view frequently that assessment in non-core subjects was a relatively low priority because almost all their time and energy had been absorbed by English and mathematics. Training in assessment and revisions to test procedures, the scrutiny of pupils' work and moderation had all been part of national testing and broader accountability for standards in English and mathematics. It was therefore common for subject co-ordinators to hold no view about the impact of the two strategies on standards in their subject, because they had no basis on which to make the judgement.

168. Assessment for learning is a priority in the Primary National Strategy. The weaknesses in the assessment of non-core subjects, and in the use of assessment to influence planning and teaching in these subjects, are not new and are not the result of schools' emphasis on the strategies. They derive rather from many teachers' lack of confidence and expertise in recognising subject-specific achievement and using the National Curriculum level descriptions. However, in the schools where there was strong subject leadership, teachers were more likely to have such confidence, resulting from sound guidance, regular discussion and the informed monitoring of work beyond English and mathematics.

Subject leadership and management

169. The leadership and management of English and mathematics have developed better than those of other primary subjects: the extensive training, published guidance and support from NLNS consultants for co-ordinators and senior managers have widened the gap. The leadership and management of the subjects inspected were at least good in over a quarter of schools, at least satisfactory in two schools in three, but unsatisfactory in the remaining third. There was a very strong correlation between good subject leadership and management, the quality of curricular provision and the pupils' progress.

170. The considerable emphasis in recent NLNS training on the role of the subject co-ordinator and senior managers in monitoring quality and analysing assessment data to set curricular targets has not influenced other subjects to any significant extent. There was regular scrutiny of pupils' work or observation of lessons by the headteacher or the subject co-ordinator in only a quarter of schools, although the monitoring of planning to check coverage of the planned curriculum was more common. Where regular scrutiny of work or lesson observation took place, it was almost always associated with good standards and progress by pupils. It was also usually found alongside better assessment, because where teachers were clear about what progress in the subject looked like, there was a better basis on which to scrutinise work, to evaluate standards and progress and to amend planning or teaching methods where necessary.

171. Many of the schools had programmes of monitoring, but the core subjects had often been the priority, partly because of the pressure for improved standards in English and mathematics, but also because assessment data were more easily available, making it easier to identify trends in performance.

Training and professional development

172. There was too much variation across schools and subjects in terms of recent training or professional development. In half the schools, subject co-ordinators had received some recent training or were part of a regular cycle of meetings for co-ordinators organised by the LEA. In some LEAs, the music service provided strong support to co-ordinators and, sometimes, to other teachers too. For most subjects, however, the availability of training and support was very uneven, dependent very much on staffing within LEAs.

173. With the exception of ICT, too little attention has been given to training in the non-core foundation subjects. Only about a quarter of schools had held significant subject training in recent years, often in the form of a twilight session or part of a closure day. Only a minority of co-ordinators had been able to lead school-based sessions to disseminate to colleagues any training they had received. In many cases, headteachers or co-ordinators reported that the literacy and numeracy strategies had been priorities for training, leaving little time for anything beyond the occasional mention of other subjects in staff meetings. This has significant implications for the successful development of the Primary National Strategy and is a cause for concern.

Conclusion

174. The national literacy and numeracy strategies introduced a systematic, practical approach to teaching English and mathematics, underpinned by a recommended daily entitlement of time. These initially lifted standards. However, further improvements are proving increasingly difficult to achieve – in particular, enabling more of the lowest attaining 25% of pupils to reach level 4.

175. This report indicates that the available resources are not focused accurately enough on the pupils who need them most. Over the past year, the intervention programmes, including 'booster' classes for Year 6 pupils, have not been shown to bring about improvements in overall standards, as judged by national test results. Schools must take a broader view of the needs and development of the lowest achieving 25% of pupils and direct resources more profitably to raising their attainment. They should identify these pupils more accurately and focus much more specifically on exactly what the pupils need to learn.

176. The quality of teaching remains a crucial factor. The subject knowledge of too many headteachers and some teachers is still not good enough where literacy and mathematics are concerned. Training and support, both nationally and in LEAs, needs to focus on improving unsatisfactory teaching in, for example, independent work (especially in the literacy hours), assessment (including the plenary session) and the use and application of literacy and mathematics in the rest of the curriculum.

177. Many schools try to raise standards in English and mathematics by focusing too much on these subjects in isolation. This is detrimental to the subjects themselves, the secure development of sustainable skills and to the curriculum more generally. Further, although schools try hard to minimise the risk, 'booster' classes and other intervention strategies can mean that pupils miss the lessons they might enjoy most: they spend more time with teaching assistants, less time with teachers and follow a narrower curriculum.

178. Too many schools are not convinced that more creative work will really make a difference to standards and may be unwilling to take a risk. Ofsted's report, *The curriculum in successful primary schools*, demonstrates that a rich and balanced curriculum can contribute to high standards in the core subjects. The focus on curriculum leadership in the new *Framework for the inspection of schools* should reassure schools that Ofsted supports curriculum innovation where it leads to higher standards. Significantly, however, the Primary National Strategy is beginning with a legacy of under-investment in training and support for the non-core foundation subjects (with the exception of ICT) which has implications for its successful development.

Annex – Executive summary of the technical report

The National Foundation for Educational Research (NFER) was commissioned by the Qualifications and Curriculum Authority (QCA) to organise the collection, marking and analysis of optional tests from the two samples of schools selected by Ofsted to take part in their monitoring programme for English and mathematics in 2003 and 2004. The test results in 2003 and 2004 and the progress made by pupils between the two years are intended to provide assessment data to add value to the observational data collected during HMI visits. Ofsted had identified two samples of 120 schools: in one sample the focus is on the teaching of English and in the other on mathematics. In each case, NFER collected optional test results for all eligible pupils for the appropriate subject.

The optional tests were being used for the first time in 2003 and had been redesigned following QCA's assessment review in 2000. The English tests assess performance in reading, writing and spelling through four separate assessment tasks in each year group and form part of a coherent package of assessment from Key Stage 1 to Key Stage 3. In mathematics, there is more emphasis on the assessment of skills associated with using and applying mathematics. Written and mental mathematics are assessed for each year group. In Years 3 and 4 pupils were tested using one tiered written paper and a short test of mental mathematics; for Year 5 there were two written papers and a mental mathematics test.

Participating schools were asked to administer the optional tests during a two week period in May and to return all booklets to NFER for marking. At the same time, background data on each of the pupils was collected to inform and enrich the analysis. One hundred schools in each sample returned test results and data, providing a substantial basis for the analysis of results since test outcomes for over 3,000 pupils in each year group and subject were available. The characteristics of the schools in the samples were checked and found to be a good match with the characteristics of the school population as a whole. It was therefore reasonable to regard these two samples of pupils as providing a sound indicator of performance in the optional tests generally.

In English there are four outcome measures for the optional tests in each year: National Curriculum levels in reading and writing and age-standardised scores for reading and spelling. The spelling score is incorporated into the overall score and level for writing. Across all three year groups, pupils' performance in terms of National Curriculum levels was better for reading than writing. For example, in Year 3, half of the pupils achieved level 3 or better in reading, but just less than a quarter of the group reached the same level in writing. By the end of Year 5, the

proportion of pupils at level 3 or better was the same for reading and writing (84%) but more of these pupils were at level 4 in reading than in writing. Age-standardised scores in reading and spelling were very slightly below 100, indicating that the group of pupils had achieved results marginally below that which might have been expected.

For mathematics, there are two outcome measures in each year: National Curriculum levels and age-standardised scores. In Year 3, 51% of pupils reached level 3 or better. By the end of Year 4, the proportion of pupils at level 4 was 18% and in Year 5 this had increased to 41%. The average age-standardised score for the group of pupils as a whole was consistent with performance of a group of pupils of average ability.

Wherever possible, schools provided Key Stage 1 results for the pupils in both English and mathematics. This meant that the relationship between National Curriculum levels at the end of Key Stage 1 and the test results at the end of either Year 3, 4 or 5 could be investigated. Taking level 2B in reading as the expected level for most pupils at the end of Key Stage 1, just less than one third of these pupils reached level 3 or better at the end of Year 3. By Year 5, 91% of such pupils had reached level 3 or better. The pattern of progress in mathematics was very similar: at the end of Year 3, a quarter of pupils who had achieved level 2B had moved up to level 3 or better at the end of Year 5, just as, in reading, 91% of these pupils were at level 3 or better.

Using the background data provided by schools, a range of statistical techniques was used to examine whether any factors were related to performance in the optional tests. A number of significant relationships were found. By far the strongest of these relationships was between prior performance in the Key Stage 1 tests and age-standardised scores for reading and mathematics and raw score for writing. Pupils attaining higher National Curriculum levels at Key Stage 1 were more likely to achieve higher scores in each year in Key Stage 2. Once this effect had been taken into account, a number of other factors were also found to be significant.

In English, girls generally had higher scores than boys in both reading and writing. This difference was reflected in the pattern of distribution of National Curriculum levels. For example, in Year 3 the number of girls obtaining level 4C in reading was one and a half times greater than the number of boys and, conversely, one and a half times more boys than girls were working below level 2. In mathematics, however, boys were more likely to achieve higher scores than girls. The difference between the performance of boys and girls in mathematics was less marked in Year 5 where, for example, the proportion of boys and girls working below level 2 was the same.

For both English and mathematics, pupils eligible for free school meals were likely to have lower scores than those not eligible and all pupils in schools where there was a higher proportion of eligible pupils were generally more likely to have lower scores. In both subjects, pupils with identified special needs at the later stages in the Code of Practice were likely to have lower scores. Fluency in English as a second language was only a significant factor across all year groups in relation to scores for reading and writing where greater fluency was associated with higher test scores.

Pupils who had remained in the same school between the end of Key Stage 1 and summer 2003 were more likely to have higher scores. In Year 3, term of birth was found to have an effect on scores in mathematics, with summer-born pupils having lower scores. Interestingly, this effect was not observed in Years 4 and 5 for mathematics. No significant, consistent trends were observed across all three years to indicate a strong relationship between test performance and ethnic origin. Across both subjects, there was no significant relationship between the Ofsted rating for management and leadership and test results.

The structure of the study allowed performance at item level in mathematics to be investigated. In Year 3, pupils performed particularly well in the questions assessing data handling skills, whilst in Years 4 and 5, their performance was better in items based upon calculations.

The mark scheme structure for the new optional tests in English meant that, for the first time, it was possible to look at pupils' strengths and weaknesses in specific aspects of writing. The mark scheme strand 'Composition and Effect' assesses ability to:

- write imaginative, interesting and thoughtful texts
- produce texts which are appropriate to task, reader and purpose
- select appropriate and effective vocabulary.

This strand was the area where both boys and girls appeared to find it difficult to obtain higher marks. Their performance was stronger in the other strands which assess ability to:

- vary sentences for clarity, purpose and effect
- write with technical accuracy of syntax and punctuation
- construct paragraphs and use cohesion with/between paragraphs (Years 4 and 5)
- organise and present whole texts effectively (Years 4 and 5).

The contents of the report offer useful comparative data generally, illustrating patterns of performance between Key Stage 1 and Years 3, 4 and 5 for a representative group of pupils. Essentially, a snapshot of optional test performance is presented and this will form a baseline for comparison in 2004. Next summer, when it is possible to link performance for each individual pupil across two academic years, there will be a valuable opportunity to assess progress within Key Stage 2 as well as any changes in the pattern of performance, against the background of current issues related to the implementation of the Primary Strategy.