The Key Stage 3 Strategy: evaluation of the second year

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Introduction

The Key Stage 3 Strategy

1. This report continues Ofsted’s evaluation of the implementation of the Key Stage 3 Strategy, covering the second year, 2001/02.

2. The national strategy for Key Stage 3 is mounted by the Department for Education and Skills (DfES) and supported by a national team. The aim of the strategy is to raise standards by strengthening teaching and learning, developing cross-curricular skills such as literacy and numeracy, helping pupils who come into Year 7 below level 4 to make faster progress and help other groups of pupils who need additional support.

3. The strategy is based on four key principles:
   - **expectations**: establishing high expectations for all pupils and setting challenging targets for them to achieve
   - **progression**: strengthening the transition from Key Stage 2 to Key Stage 3 and ensuring progression in teaching and learning across Key Stage 3
   - **engagement**: promoting approaches to teaching and learning that engage and motivate pupils and demand their active participation
   - **transformation**: strengthening teaching and learning through a programme of professional development and practical support.

4. The strategy consists of strands covering English, mathematics, science, information and communication technology (ICT), and the foundation subjects (together with religious education).

The pilot

5. The pilot began in April 2000 and ran until March 2002. It involved 205 secondary schools in 17 volunteer local education authorities (LEAs): Barking and Dagenham, Brighton and Hove, the City of Bristol, Cheshire, Gateshead, Gloucestershire, Greenwich, Hertfordshire, North Lincolnshire, Nottinghamshire, Reading, Salford, Solihull, Staffordshire, Tower Hamlets, the City of Wakefield and the City of York.

6. The pilot phase in English and mathematics ended in summer 2001. The pilot schools then embarked on the pilot in science and the foundation subjects in autumn 2001, following preparatory training in summer 2001. In addition, 40 of the pilot schools in five LEAs also began to pilot the ICT strand in autumn 2001, again following preparatory training in summer 2001. The ICT pilot was extended to all pilot LEA schools that wished to take it up in summer 2002.

7. The pilot LEAs appointed consultants in science, the foundation subjects and leading teachers in ICT to train and support schools. They retained the posts of consultants for English and mathematics they had during the first year of the pilot.

The national programme

8. The national programme began with training for teachers in other secondary schools in summer 2001. The schools in the national programme were given funding to support the implementation of the Strategy; they were able to use this flexibly to support a range of activities. The activities included summer schools in literacy and numeracy for pupils about to join Year 7 below level 4 and the provision of a catch-up programme in the autumn term onwards for pupils to reach level 4 as soon as possible. They could also provide booster classes in English, mathematics and science for pupils in Year 9 who needed help to progress to level 5, as they prepared for national tests at the end of Key Stage 3. In addition schools were offered consultancy, optional training activities and funding to provide Year 8 mentoring.

9. Schools were expected to set targets for improved attainment. They were able if they chose to measure the progress pupils were making by using tests at the end of Year 7 and Year 8.

10. The schools undertook training to help them use and develop literacy and numeracy across the curriculum and were expected to run training in their schools to take this forward.

11. As in the pilot, the LEAs in the national programme nominated Key Stage 3 strategy managers and appointed consultants in English and mathematics. Senior managers and subject leaders for English and mathematics received briefing and training on the overall strategy and on the English and mathematics strands.
The evaluation

12. This report covers the first year of the national roll-out of the work on English and mathematics. It also covers the one-year programme in the pilot schools on science, ICT and foundation subjects.

13. HMI visited training events and held discussions with LEA consultants. They visited 126 schools during the year to evaluate developments, in some cases covering more than one strand. The number of schools visited in relation to ICT was small, but represented over a quarter of those involved in the pilot work. HMI returned towards the end of the year to a sample of the 126 schools in order to assess the progress made and the impact of the Strategy. Additional evidence came from visits made by HMI to schools for other purposes. The report also draws on evidence from 50 specially enhanced section 10 inspections and almost 100 other section 10 inspections.

14. LEA support for the Key Stage 3 Strategy was covered in detail in inspections of 19 LEAs in spring and summer 2002.
Main findings

- Teachers have responded well to the introduction across the country of the Strategy in English and mathematics, and, in the pilot schools, to the work in science, ICT and the foundation subjects. In all the strands, most teachers took to the Strategy and valued the training, the teaching frameworks and the guidance provided.

- There are promising signs of the effect of the Strategy on attainment in the schools inspected, though after only one year of the national programme in English and mathematics, and one year of the pilot of the other strands, it is too early to gauge this with certainty. In the individual strands, based on evidence of lessons seen and scrutiny of pupils' work:
  - there has been a slow but increasingly positive effect on standards in most schools in **English**, particularly in relation to reading for information and spelling. Pupils using English as an additional language (EAL) are making good progress in classes where there is support for them, but they are sometimes being taken through literacy progress units that are not appropriate to their needs
  - improvements are evident in mental skills and understanding in **mathematics**, but are less evident in the skills of investigation and of writing in mathematics
  - knowledge of scientific terminology and the use of models to explain phenomena improved in **science** in Year 7 classes, but the productive use of writing in science continues to be a common weakness
  - in **ICT**, pupils' command of software applications and their ability to analyse information has improved, but the use of applications involving mathematical understanding and the interpretation of information has not
  - the effects on attainment in the **foundation subjects** varied widely across the schools and subjects involved, but pupils' subject knowledge and understanding were improved, often as a result of an increased emphasis on finding and analysing information and on discussing ideas.

- There is as yet no evidence of widespread, significant improvement in Key Stage 3 test results in English and mathematics in the schools involved in the pilot since September 2000.

- The Strategy has had a positive impact on teaching, notably in relation to the setting out of lesson objectives, greater variety and purposefulness in activities, and more involvement of pupils in their learning. The impact on teaching was rather less marked in mathematics. Plenary discussion to clarify learning is not yet consistently effective in English and in mathematics. Staffing problems, mainly affecting English and mathematics, sometimes limited the impact of the Strategy.

- Transition from primary to secondary schools has been helped in English and mathematics by the improved availability and use of data, although these remain inconsistent. The Strategy is also leading to improvement in these respects in science. By contrast, secondary schools have little information about pupils' attainment in ICT or foundation subjects when pupils join Year 7 and, consequently, teachers generally know little about the skills and knowledge pupils bring with them.

- Assessment in secondary schools remains a common weakness which the Strategy, despite efforts, has not done much to remedy.

- More attention is being focused on the development of literacy through subjects other than English, and progress is being made, albeit slowly. The involvement of EAL specialists has been beneficial. Work on numeracy across the curriculum remains at an early stage.

- In all strands, good quality training has benefited schools. Consultants were well trained and, in turn, were able to deliver well-organised and useful training to lead teachers in schools.

- The challenge thereafter was for lead teachers in each strand to disseminate the ideas and approaches to colleagues who had not attended the training. Generally this went well in English, but in a third of schools mathematics teachers were not sufficiently well informed about the Strategy. Dissemination in schools was unsystematic in science, and often weak in foundation subject departments with large numbers of teachers. Dissemination to specialist ICT teachers was effective but did not extend so well to non-specialist teachers of ICT.
Overall, the audit of current practice in each strand and subsequent action planning have not been tackled with sufficient rigour in schools. The quality of this preparation in the national English and mathematics programmes was mixed, as it was in the pilot. In pilot schools, the audit was generally completed well in science, but action plans were less useful. The process began poorly in ICT but improved during the year; it was just satisfactory in work on foundation subjects.

The overall management of the Strategy was good, and sometimes better, in about half of schools inspected. However, the arrangements were generally not strong enough to ensure that there was consistent quality in auditing and action planning, in disseminating training and good practice and in gauging the impact of the Strategy on teaching and attainment across the strands.

Many schools need to do more to make coherent use of the Strategy in improving teaching and attainment throughout Key Stage 3. In the schools inspected, the well-informed and active involvement of a senior manager was crucial to productive connection between subject developments, to careful linkage with other improvement work in the school and to rigorous monitoring of progress.

Most of the 19 LEAs inspected in spring and summer 2002 managed their part in the Strategy effectively. LEAs were generally making good use of it to support schools in developing greater cross-phase continuity, in challenging pupils and in improving teaching.

Key issues for attention

In order to improve the effectiveness of the Strategy, the national team should:

- give more deliberate attention to assessment, including marking and other feedback and the use of individual targets to raise attainment
- seek to improve the use of catch-up materials in mathematics, the selection of materials used with EAL learners and writing in science, and emphasise the time required in schools to implement the ICT strand.

Those responsible for the Strategy at LEA and school level should:

- apply greater rigour to the processes of audit and action planning to ensure the activities selected are well chosen and address the areas that should be improved
- give more attention to informing and involving teachers who have not attended the initial training, especially in relation to science, the foundation strand, and for non-specialist teachers of ICT
- step up efforts to ensure efficient transfer and effective use of information from primary schools to give pupils a prompt start in Year 7
- monitor and evaluate more closely the impact of the Strategy on teaching and attainment
- take a more concerted approach to implementing the strands of the Strategy so that the benefits are applied across the key stage.
English

Key findings

- Most English departments were making considerable efforts to change previous practice, where necessary, and adopt aspects of the Strategy.
- At best, the Strategy has led to increased emphasis on the learning expected of pupils, a greater purposefulness to lessons and more involvement by pupils in their learning.
- The Strategy has had a slow but increasingly positive impact on attainment in English in most schools inspected. It has not produced widespread improvement in end-of-key-stage test results in the pilot schools.
- Pupils learning English as an additional language are making good progress in classes where there is support for them, but they are sometimes being taken through literacy progress units not appropriate to their needs.
- Most schools have made a serious effort to develop literacy across the curriculum, but, while progress is evident, it is slow and rarely apparent in more than a few subjects in a school. The involvement of EAL specialists has given new impetus to their work with subject teachers.

Points for action

- More use needs to be made of the objectives in the Framework for teaching English and in marking and target-setting.
- Efforts to involve more subjects in productive work on literacy need to be stepped up.
- The monitoring and evaluation by schools of the Strategy’s impact on teaching and attainment need to be improved.

Management

15. The implementation of the English strand was going well in a third of the schools. Progress was satisfactory in almost all the other schools, with some effective features.

16. The introduction of English in the roll-out did not go as well as it did in the pilot. Literacy progress units were not always used in a targeted way in order to meet the specific needs of groups of pupils, despite the units including guidance as to who might benefit from following them. Work covered in literacy progress units was not shared well with other English teachers who were not involved in teaching them. Unlike in the pilot phase, roll-out schools often had no steering group to co-ordinate work on literacy across the curriculum, and this reduced its impact.

17. Most English departments made considerable efforts to review and change previous practice, where necessary, and adopt aspects of the Strategy. Key factors were the attitude and quality of the head of the English department. In schools where progress was unsatisfactory, departmental leadership was often poor, or the attitude of the head of English was negative. The most successful departments were discriminating in adopting supplementary work and used the literacy audit and action plan to identify and target weaknesses. Schools where the need for literacy development was greatest, particularly those with staffing problems, sometimes found it hard to find the time or capacity to adapt planning or develop new approaches.

18. A further key factor in schools’ success in implementing change was the quality of the existing scheme of work. Schools with detailed, high-quality schemes of work used by the whole department found it relatively easy to adapt and link them to the framework for teaching English. In contrast, those with little formalised planning were faced with writing a new scheme of work from scratch. While often valuable in the longer term, this proved a slow process, especially where teachers did not regard such work as a normal part of their planning and insisted on non-contact time before they did anything. A major hurdle in some departments was complacency amongst teachers who felt their GCSE results were good enough and they could not see how much more, or what earlier mastery, might be achieved by changes.

19. The greatest changes were in Year 7, followed by Year 8. Most departments were implementing the Strategy a year group at a time. Where planning was weak, this sometimes led to insufficient overview of the key stage and a lack of focus on progression.

20. The management of literacy across the curriculum was most successful in schools where a group of teachers co-ordinated the work, including EAL specialists where relevant. Where there was no school group charged with managing whole school literacy,
development was often confined to the English department or happened in an uncoordinated way.

21. The monitoring and evaluation of the initiative were usually through established procedures. Typically, these involved lesson observation by members of the school management team. Senior managers knew the extent to which lesson structures were in use but not enough about the impact of the Strategy on attainment. Beyond some analysis of end-of-year test results, tracking pupils' progress was weak.

22. The Framework for teaching had a positive impact in many schools on the quality of departmental planning. However, it has had little impact on assessment practice. In most schools, objectives were not referred to in marking or used in target-setting, despite the explicitness of objectives in lessons.

Transition from primary to secondary schools

23. About two thirds of the secondary schools received complete transfer information from primary schools. This was an improvement compared to the pilot in 2000/2001, and enabled schools to make better use of data, in particular to make more informed decisions about grouping pupils on entry.

24. School induction was often imaginative. In one secondary school, for example, the teaching assistants worked part of their time in Year 6 classes. On the secondary school's induction day, they welcomed the pupils they would support in Year 7. On the other hand, liaison with Year 6 English teachers was weak. At the time of inspection, use of bridging units was uncommon. There was little sharing of approaches to literacy teaching between Year 6 and Year 7 teachers. Secondary English teachers' observation of teaching the National Literacy Strategy in partner primary schools was less common than in the pilot. Expectations of Year 7 pupils were sometimes inaccurate as a result.

Training for school staff

25. Generally, training for literacy across the curriculum was well received in most schools. The materials were widely praised, as was the contribution of LEA consultants and advisers. The greatest impact of the training was where departments were obliged to produce specific action plans or amend schemes of work and where these tangible outcomes were monitored and followed up, with support from a co-ordinator or consultant.

26. The best practice occurred when an existing focus on literacy across the curriculum had raised awareness of the issues and where limited, but carefully thought through, initiatives were in place. School-based training in the weaker schools focused on wrongly chosen priorities, for example the development of reading rather than writing, despite schools' evidence that writing was weaker.

Teaching and learning

27. The quality of English teaching was generally good, as it was during the first year of the pilot. There were, however, relatively few lessons seen that were very well taught. Teachers in the schools visited were still coming to terms with the Strategy.

28. Changes to English teaching to implement the Strategy entailed a more structured format to lessons, the more consistent use of learning objectives to plan lessons and teaching, and a wider range of teaching approaches. At best, this led to increased emphasis on the learning expected of pupils, greater purposefulness to lessons and more involvement by pupils in learning. The balance of the curriculum was improved in some departments that had previously focused too exclusively on literature.

29. In the best lessons, teachers often began by helpfully explaining the learning they expected of pupils. Particularly in Years 7 and 8, starter activities were well focused on pupils' needs and suitably linked to the main teaching lesson. Teachers gave models of what they required of pupils so they were in no doubt about the expectations and were well prepared to carry out tasks independently. Teachers made sure that as many pupils were directly involved in the lesson as practicable, for example, by asking all pupils to hold up their own mini-whiteboards to show their answers and thus demonstrate their understanding. They used other activities, such as asking pupils individually to highlight texts or to sort items collaboratively in groups, to promote pupils' engagement and understanding.

30. As in the pilot, final plenary sessions were often the weakest part of lessons. This was because teachers' management of lesson time and their planning of the plenary were often poor.

31. Weaknesses in lessons sometimes arose from insufficient thought about the learning intended, so that intentions were expressed in terms of what pupils would do rather than what they would learn. When teachers taught to colleagues' short-term plans, they were sometimes unsure about the purpose and as a result were more hesitant in their approach.
32. There was little guided work with pupils. In one successful example, the teacher worked intensively with four boys to the benefit of their writing; others in the class responded well to the demands of working independently. Especially in mixed-ability classes, all pupils were frequently set work at the same level and some struggled with what they were asked to do. There was some weak teaching in Year 9. In these lessons, starters were pitched too low and teachers gave insufficient time to extended writing and reading with too little use of homework for such activities as preparing for the Year 9 tests and transition to Key Stage 4 courses.

33. Pupils’ attitudes in lessons were very good overall. In particular, activities which involved the whole class in an interactive way helped motivate boys in particular. These activities included sorting or sequencing tasks, and the use of individual whiteboards. Pupils responded particularly well to short writing activities, and to discussion as a prelude to their writing.

34. In the main, teaching assistants supported pupils effectively in each part of the lesson.

35. In English classes with EAL support, the teaching was almost always good. Cross-curricular work with EAL support was often of a very high quality. Overall, EAL learners were making good progress. This is an improvement compared with the outcomes in the pilot in summer 2001. However, in a small number of cases, EAL learners were following literacy progress units that were not relevant to their needs.

Impact on attainment

36. The implementation of the Strategy has had a slow but increasingly positive impact on attainment in English in most schools.

37. The benefit is not yet affecting Key Stage 3 test results in English in the pilot schools, which do not show a significant improvement between 2000 and 2002 when compared with other schools.

38. Improvements in attainment were most evident in class work in Years 7 and 8 in the schools inspected. Pupils had a better grasp of technical vocabulary. They also had an increasing understanding of what constituted different genres and the notion of different audiences. They had an improved understanding of how writers use language for effect in a wide range of literary and non-literary texts. Pupils were more secure in spelling common words and were often able to correct mistakes themselves. They were better at reading for information and at organising the information they obtained.

Intervention to help pupils reach the expected standard

39. Intervention to help pupils reach the expected standard in English by the end of Year 7 was largely based on literacy progress units.

40. The use of these units started late in many schools, owing to the late arrival of information from primary schools, problems of timetabling and accommodation, and, sometimes, difficulties in recruiting staff. Withdrawal from lessons was often unpopular with other departments, pupils and even parents. Teaching in groups of six to eight pupils was more effective than whole-class teaching because pupils received more individual attention.

41. The teaching of literacy progress units was good overall, especially when teachers rather than teaching assistants led the sessions. Teachers were usually good at explaining the rationale for the learning and drew on pupils’ experience in order to involve them, while teaching assistants tended not to tailor the programme with the same flexibility. However, there were many good sessions taught by support staff who were well trained and managed by teachers.

42. A major weakness in most schools was the poorly developed link between the work in literacy progress units and the rest of pupils’ English or other curricular work. Other teachers were not informed about what pupils learned in the units and so did not reinforce their learning. There was insufficient feedback from other staff on the effectiveness of the intervention. Some of the best schools recognised this and responded to Strategy suggestions about improving communications between staff.

43. The selection of pupils was often imprecise, despite guidance from the Strategy. It was rarely based on detailed analysis of information about attainment at the end of Key Stage 2. In most cases, pupils at level 3, irrespective of need, completed all the literacy progress units taught by the school.

44. In general, the use of literacy progress units was not helpful to the language development of bilingual pupils. Often, the materials used were not given a recognisable context in a way that helped the learning of the pupils concerned. The pupils often struggled to complete the tasks required in the time allowed and there was insufficient time to check their understanding through discussion. This, rather than their ability to read the material, caused the greatest difficulty.
45. In most schools, only a proportion of the targeted pupils attended Year 9 booster classes but, where they did, their response was good. The materials were well received. Several schools extended the use of booster classes beyond pupils on the level 4/5 border to those pupils working at higher levels.

**Literacy across the curriculum**

46. Generally, progress in developing literacy in subjects other than English was being made, but it was slow.

47. The development of literacy across the curriculum was most successful in schools where a group of teachers co-ordinated the work, including EAL specialists where relevant. Where there was no school group charged with managing school-wide literacy development, it was often confined to the English department or happened in an uncoordinated way. In many schools, there was a core of staff committed to literacy across the curriculum and they took responsibility, at least in part, for meeting some of the objectives.

48. In schools that gave appropriate priority to the teaching of literacy, schemes of work identified the elements of the subject where literacy is important, and teachers gave good explanations of key words and subject-specific vocabulary. In almost all curriculum areas there were very good examples of learning that improved both literacy and subject understanding. In one school, for example, the plenary at the end of a food technology lesson focused on technical language and the way in which meaning changed according to circumstances.

49. Marking which was helpful to developing pupils’ literacy was evident in only a minority of departments. The Framework for teaching English was not well known by staff of subjects other than English. As a consequence, they were not well placed to pursue the objectives in it which are relevant across subjects.

50. Literacy across the curriculum has given a fresh impetus to the cross-curricular work carried out by EAL specialists, enabling them to support subject teachers and pay more attention to the language demands of the subject. In the main, EAL specialists were more involved in literacy across the curriculum than in implementing the Framework for teaching in English lessons.

**Learning resources**

51. Resources to support the implementation of the Strategy were good. The availability of overhead projectors, in particular, was especially helpful when teachers modelled what they required of pupils. Textbooks on literacy were increasingly in evidence, but, in general, these were not used to address pupils’ needs effectively. The use of ICT was usually confined to interactive learning systems, which tended to motivate boys in particular.

52. School librarians were occasionally involved to good effect in promoting reading and the use of information. Otherwise, school libraries were little involved in or affected by the Strategy.

53. The layout and environment in both English and other classrooms did not consistently support the teaching of literacy. Sight lines to the board were sometimes poor and the layout of furniture did not always make the best use of space, so it was difficult for teachers to circulate and check pupils’ writing.

**Support from LEA consultants**

54. Support from LEA consultants and advisers was good overall. Consultants supported departmental audits satisfactorily, provided effective assistance with planning and made helpful monitoring visits. They seldom demonstrated teaching. Typically, consultants provided phased support for schools. Their intervention was often in inverse proportion to schools’ success measured by test and examination results. As a result, in some LEAs schools with satisfactory results but poor departmental leadership received little support.
Mathematics

Key findings

- Most schools were making positive progress in implementing the mathematics strand, with extensive use of the Framework for teaching. Implementation was unsatisfactory in about a fifth of schools, often because of inadequate staffing and weak departmental leadership.

- By the end of the year the Strategy was having a significant effect on improving lesson planning and teaching methods, with more interactive teaching and more use of mental and oral starters.

- The Strategy has had a positive impact on attainment in lessons seen in over half the schools inspected. However, the results in end-of-key-stage tests in the pilot schools have shown only marginally greater improvement than other schools.

- The approach to assessment in mathematics departments was insufficiently systematic. Use of assessment, including marking and feedback, to ensure progression and development in learning remains under-developed.

- The planning and organisation of catch-up programmes were variable. None of the schools visited made full use of the Springboard 7 material, designed to help pupils move from level 3 to level 4. Improvements in provision failed to raise the attainment of significant numbers of pupils from level 3 to level 4.

- The potential of ICT to enhance teaching and learning of mathematics was under-exploited, as were opportunities for investigative work.

- There was some evidence of improved practice in numeracy across the curriculum, but many schools have not yet tackled the issue methodically.

Points for action

- Staff with limited specialist expertise in mathematics need more training and support to implement the Strategy successfully.

- More exemplification is needed of how the Springboard 7 materials can be used effectively to raise standards amongst lower-attaining pupils.

- Schools should improve assessment, marking and feedback to pupils to ensure progression and development in learning.

- Schools need to give greater attention to the use of investigative work and ICT to enhance learning in mathematics.

Management

55. Most schools were making progress with the implementation of the mathematics strand, but progress was unsatisfactory in one in five schools. The implementation was less effective in schools where the need was greatest, namely those with a high proportion of pupils starting Year 7 at level 3. The implementation in some schools where attainment was high was only satisfactory, because teachers were not always convinced they needed to change their methods.

56. The Strategy was most effective where:

- there was a core of capable teachers who were enthusiastic and committed to raising attainment
- a senior manager had overall responsibility for the Key Stage 3 Strategy
- teachers had sufficient time to discuss teaching and learning and to plan lessons together
- there was a commitment to monitoring teaching and learning, including peer observation
- the subject audit had been undertaken by the whole department as a joint exercise.

57. The Strategy was least effective where:

- senior managers had limited understanding of the Strategy
- departmental leadership of the Key Stage 3 Strategy was weak, often because of staff turnover
• the department had suffered from a rapid turnover of staff or too many lessons were taught by poorly qualified or temporary teachers
• teachers were unable to attend LEA training or disseminate the Strategy because of difficulties in finding supply cover
• there were few opportunities to discuss teaching and learning
• the subject audit was superficial or non-existent, with no clear action plan arising from it.

58. The quality of staffing was the most important factor in determining the impact of the Strategy. Half the schools had recent changes in their head or second in department. Staffing was unsatisfactory in nearly a third of schools. These schools found it difficult to recruit well-qualified teachers, turnover was rapid, many relied on the frequent use of supply teachers, and departmental management was often ineffective.

59. The quality of the subject audit varied. In nearly half the cases the audit was good, but in a third it was superficial or non-existent. The best audits were undertaken jointly by the whole department and decisions were backed up by lesson observation. The most effective action plans sensibly had only a few priorities and were realistic about the time required to effect changes. Typically, these good action plans included collaborative planning, implementing a three-part lesson structure, and improving transition and progression. The best plans also focused on enhancing the quality of classroom questioning and discussion. Weak action plans were often too vague.

60. Nearly all schools devoted a satisfactory proportion of curriculum time to mathematics. Most departments reviewed their schemes of work in the light of the Framework for teaching, at least for Year 7. In the most effective departments teachers reviewed the existing scheme of work in small groups so they could exchange ideas and think through the most effective approaches. National Curriculum ICT requirements were written into schemes of work in about a quarter of the schools. About half the schools used and amended the sample plans, adding links to textbooks and worksheets, and changes to the order and timing of modules to suit their needs. Where departments attempted to use the sample medium-term plans without the support of more detailed schemes of work, individual teachers found lesson planning more onerous because they had to identify suitable resources themselves.

61. Few schools had satisfactory arrangements for monitoring the introduction of the mathematics strand and, of those that had, few had evaluated the impact on standards.

Transition from primary to secondary schools

62. Transition from Key Stage 2 was at least satisfactory in four out of five schools visited – an improvement on the position in the pilot schools in the previous year. Where senior managers had given high priority to improving transition, mathematics teachers had visited primary schools to observe and discuss teaching and learning and as a result expectations were often higher in Year 7.

63. A few schools re-tested pupils early in Year 7, to establish their own baseline or because they found it difficult to get a full set of Key Stage 2 results. Few schools had a complete set of the Key Stage 2 attainment data for their Year 7 pupils in autumn 2001.

Teaching and learning

64. The Strategy has had a marked effect on teaching and learning in over half the schools, but only a limited effect in about a fifth.

65. The most obvious change was in the use of learning objectives. Teachers increasingly identified lesson objectives in their schemes of work, and often specified objectives for the oral and mental starters as well. The majority of teachers shared their learning objectives with pupils at the beginning of the lesson and the most effective teachers made a point of explaining them to pupils. Not all teachers used objectives well. In a few schools objectives were too vague or too numerous, and some teachers did not share them with pupils.

66. A three-part lesson helped engage pupils and gave lessons a sharper focus. As well as direct teaching and questioning, there was more teacher-led discussion, and more interactive teaching. Some pupils felt that the more direct teaching helped their understanding and they learned more. Where lessons were shorter than 50 minutes or longer than 70 minutes, teachers found it difficult to make good use of a three-part lesson. The more confident teachers interpreted the lesson structure flexibly, foregoing starters occasionally and conducting plenaries at the point when they judged they would be most effective.

67. There was more emphasis than before on aspects of literacy in mathematics teaching. In the best cases
teachers identified key mathematical terms in their schemes of work and made a point of explaining new terminology in lessons. In some schools relevant vocabulary was displayed on posters or flashcards and occasionally copied into notebooks.

68. Oral and mental starters were used well in most schools. Some departments developed banks of ideas for starters, but it was uncommon to find these linked to the scheme of work. The best starters related well to the main activity of the lesson. A few starters lasted too long or failed to engage pupils.

69. Whole-class interaction was a strong feature in many schools. In the best lessons, teachers’ questioning elicited thoughtful responses from pupils. Pupils had good opportunities to explain their strategies, often at the board, while teachers listened carefully for misconceptions. Teachers selected pupils to respond to their questions, rather than relying on hands-up or calling out. Pupils were able to apply their existing mathematical knowledge and understanding when tackling new topics. In a minority of schools, teachers spent too much time telling pupils how to solve problems rather than asking pupils about their solutions.

70. Work on using and applying mathematics was under-developed in half the schools. In the best lessons, some teachers believed that, with the introduction of the Strategy, there was insufficient time for extended investigations, but others supplemented examples from the Strategy to include more investigative work. In a few lessons teachers set mathematical problems in real-life contexts. For example, one school made imaginative use of data from the World Cup to engage pupils in interesting calculations and, in another, lower-attaining pupils were taught to use thermometers to help them understand the concept of negative number.

71. Many teachers found the final plenary difficult, in some cases because they were not entirely sure of its purpose. Teachers who shared their lesson objectives with pupils tended to be more successful with their plenaries, but, too often, teachers allowed insufficient time or allowed the session to wander. Occasionally, teachers held an extended plenary discussion part-way through a lesson to dispel common errors or consolidate learning, and so the final plenary was relatively brief.

72. Arrangements for monitoring pupils’ progress and setting targets for improvement were satisfactory in over half the schools. Targets were set and pupils’ progress was tracked to identify those who needed further support. The main general weakness was that the lack of systematic, department-wide assessment processes meant that pupils did not know what standard they were expected to reach by the end of Key Stage 3. Insufficient use was made of assessment, marking and feedback to ensure progression in learning.

Impact on attainment

73. The Strategy has had a positive impact on attainment in lessons and pupils’ work seen in over half the schools. The greatest impact was in schools that were already achieving good standards. There were signs that pupils’ mental skills, particularly in arithmetic, were developing well, mainly because of the use of starter activities. Pupils’ mathematical understanding was improving as a result of the interactive teaching approaches. Written work was, however, more limited, with insufficient opportunities for extended investigation.

74. The Key Stage 3 test results in mathematics show the pilot schools to have improved at a marginally greater rate than other schools between 2000 and 2002.

Intervention to help pupils reach the expected standard

75. Overall, the planning and organisation of catch-up programmes were satisfactory for pupils at level 3 but they did not raise the attainment of large numbers of pupils to level 4. Some schools with a high proportion of level 3 pupils were unsure how to plan a catch-up programme. A few had a well-planned three-year programme for such pupils with the aim of helping them reach level 5 by the end of Year 9.

76. None of the schools made full use of the Springboard materials, though several had incorporated some of the material into their teaching programmes, as intended by the strategy. Where the materials were used well, the teachers were aware of the need for pupils to make small steps in their learning. In the best teaching, effective question-and-answer sessions provoked interest and a keen response from pupils. Teachers devoted time to develop pupils’ understanding, rather than merely giving them practice in techniques, and used a range of methods to explain basic concepts.

Learning resources

77. Most departments had bought or made new resources, including mini-whiteboards, number fans, and number lines and sticks. The mini-whiteboards,
when well used, facilitated good whole-class interaction. Some departments had yet to build the use of textbooks, ICT, graphical calculators, games, and practical resources into their schemes of work.

78. Schools were recommended to review their schemes of work to ensure the level of challenge was appropriate and encouraged progression through the key stage. Sample medium-term plans were provided at the request of schools, to support those schools that did not have well-differentiated schemes of work. Where schools simply switched to using these sample medium-term plans it proved problematic if they had previously relied only on a textbook to specify the order of work or to provide differentiation through the different levels of textbook available. In these schools the indiscriminate adoption of the sample plans meant that their planning for differentiation did not always improve.

79. Few schools made use of ICT to enhance the teaching of mathematics, and graphical calculators were not used in any of the lessons. Even in schools where access to computers was satisfactory, the use of ICT was inconsistent because some staff lacked confidence in using ICT in their teaching. Interactive learning systems were used in a few schools, but not integrated with what pupils were learning in lessons. Attendance at booster classes was relatively low from the pupils, most attracted pupils who were keen. The materials provided for booster classes were valued by teachers, some of whom also used them in lessons.

Support from LEA consultants

82. LEA consultants provided satisfactory support for schools and the contribution they made was valued by teachers. Consultants made more impact in schools where the leadership and staffing of the mathematics department were stable. Where there were staffing difficulties consultants were not always used to good effect because teachers felt they had more urgent priorities. These were often schools with a high proportion of pupils with special educational needs and where Key Stage 3 results were low.

83. In general, where schools received regular support from a consultant the quality of the audit was better, planning was more thorough, lessons were better organised and expectations were higher. One very good consultant observed lessons and provided thoughtful feedback to teachers with practical suggestions on how to improve teaching and learning.

84. Support for schools from consultants was phased and could start at different times of the year. Some schools were scheduled to receive consultant support in their second year of the Strategy and so were not due to have their first meeting until the last quarter of the summer term 2002, which gave teachers little time to amend their plans for the following September.

Numeracy across the curriculum

80. The Strategy encouraged schools to develop the use of numeracy across the curriculum, starting with a training day for all staff. Schools were advised to organise this after similar training on literacy. Most schools ran the numeracy training, but action thereafter to pursue the work methodically was rare. There was usually some good practice evident in most schools, but, overall, numeracy was not developed consistently in subjects where it plays a part.

81. One school established a committee with representatives from each department that made good progress in carrying out an audit. This school had agreed a policy on the use of calculators, provided posters around the school on the use of number and established common practice in constructing graphs. Another school had developed a numeracy policy, supported by a booklet for non-mathematics teachers explaining how topics could be approached.
Science

Key findings

- Early indications of the impact of the Strategy on pupils’ attainment were encouraging, with pupils showing a good knowledge and understanding of scientific terminology and increasingly effective use of models to explain scientific phenomena.
- Teachers in the pilot schools have responded well to the Strategy. It was well implemented in the great majority of schools and it had a positive impact on the range of teaching and learning approaches used in science lessons.
- The quality of training for lead teachers and the consultants’ support for schools was good overall. However, in many schools the training and dissemination of information to other teachers were unsystematic.
- The audit proved to be effective for clarifying development needs but action plans were often too brief, with little evaluation of previous progress and imprecise success criteria.
- The impact of the guidance and training provided by the Strategy for developing the ‘key ideas’, scientific enquiry and contemporary science has been limited.
- The range of pupils’ writing in science remains narrow and pupils have too few opportunities to express their own ideas.

Points for action

- Subject leaders in schools should adopt a systematic approach to dissemination to ensure that successful approaches are incorporated into schemes of work.
- Schools should make better use of the action plan to identify how priorities will be addressed and how they will evaluate progress.
- When planning lessons teachers should give more attention to developing the ‘key ideas’ of science, scientific enquiry, and the use of contemporary science.
- More emphasis should be placed on extending the range and improving the quality of pupils’ writing in science in order to develop their scientific understanding.

Management

85. The management of the pilot by heads of department and Key Stage 3 co-ordinators was satisfactory. The quality of the audit to identify departmental priorities was often good but unsatisfactory in one in seven schools. Departments with the most useful audits allocated sufficient time for the process, involved all staff and the science consultant and evaluated current approaches critically. In addition, individual teachers identified precisely the areas where development was necessary and these were matched to the training courses available. In contrast, a minority of departments completed the audit superficially and only involved a few staff. A common problem was that teachers did not pinpoint specific weaknesses in pupils’ knowledge and understanding.

86. Overall, the quality of action planning was variable. The best action plans were linked to the original audit, were manageable, identified appropriate areas for development, linked well with LEA training, and included precise success criteria. In the most effective departments the action plan was integrated into a departmental development plan that supported a coherent approach across all areas of work. Unsatisfactory action plans were very brief, were written with little formal evaluation of previous progress and had imprecise criteria for judging the success of the actions to be taken.

87. A common weakness was that departments had no formal arrangements for disseminating information and teaching approaches after the training provided by the LEA. In the best practice, schools established a range of complementary approaches. They often allocated time in departmental meetings; produced regular departmental newsletters, and used time within the staff training allocation to share and develop ideas. In many schools ideas were disseminated unsystematically and successful strategies used by some teachers were not included in the department’s scheme of work.

88. At the beginning of the year the support provided by senior managers was often inadequate, but as the pilot developed the situation improved markedly. Initially senior managers often concentrated exclusively on organisational matters, such as staff release and supply cover. As a consequence many were unclear about the rationale and specific objectives of the science strand.

89. The most effective senior managers:

- actively supported the science subject leader through regular meetings and rigorous joint evaluation of progress
The Key Stage 3 Strategy: evaluation of the second year

- provided time for key teachers, or the whole department, to disseminate information and organise development work
- co-ordinated all the strands, often making good use of a curriculum working party.

90. Less effective senior managers did not give work on the strand a sufficiently high priority. Monitoring was often cursory and arrangements for linking the science strand with other Key Stage 3 developments were inadequate, with the result that good practice was not shared.

### Transition from primary to secondary schools

91. The quality of the procedures to aid transition into the secondary school was generally satisfactory. In three out of ten schools bridging units were used effectively and this enhanced secondary science teachers’ understanding of the approaches and activities used at Key Stage 2. Good liaison with contributory primary schools commonly included:

- giving one teacher within the science department specific responsibility for primary school liaison
- use of regular meetings and visits to maintain contact between primary and secondary science teachers
- time allocated for joint training sessions involving staff from the secondary and partner primary schools
- discussions between teachers which focused on teaching and learning.

92. However, in one school in five there were no joint meetings and visits by science staff were rare or arranged only after the Key Stage 2 tests, when there was often no science teaching taking place in the primary schools.

93. The arrangements to track pupils’ progress during Key Stage 3 were generally good. Most schools had ready access to pupils’ scores and levels from Key Stage 2 tests and used the data to establish a baseline to judge future performance. The majority of schools used end-of-unit tests to gauge pupil progress. In the best practice these tests took little time and were supplemented by other forms of teacher assessment, including those based on short assignments and investigative work. A minority of schools, however, had no systematic approach to assessment and consequently were not able to measure the progress made by pupils during Year 7.

### Training for school staff

94. The quality of training was good. Overall, the trainers were generally well prepared, displayed relevant experience and knowledge and approached the sessions with enthusiasm. The best trainers made the objectives explicit, created a good atmosphere, maintained a brisk pace and encouraged high levels of participation. The training materials were comprehensive and provided detailed guidance for the trainers.

95. The time allocated to the different sessions within the training units was very tight, leaving little flexibility to deal with issues raised by teachers. Some trainers sensibly made modifications in order to meet the needs of the participants. However, early in the pilot many of the trainers were unclear about the extent to which they could modify the content and approach. As the pilot progressed this issue was helpfully resolved with further advice from the National Strategy team.

96. A few of the trainers were particularly successful in demonstrating approaches in their training which teachers could use later with their pupils, for example by using sequencing activities. Trainers who interpreted the programme less flexibly placed the emphasis on disseminating information and listing teaching approaches rather than on helpfully illustrating them.

97. Almost all teachers responded well to the training. Typically they were enthusiastic and positive about the need for development in science at Key Stage 3. They were actively engaged in the sessions and were keen to discuss the issues raised. However, teachers frequently did not complete the pre-course tasks and this limited the effectiveness of discussions relating to the tasks. Teachers cited as reasons for this lack of advance notice, shortage of time in school and uncertainty about the requirements.

### Teaching and learning

98. By the end of the year the pilot had made a positive effect on the type and range of teaching and learning approaches employed in lessons. In almost all schools teachers adopted a three-part lesson structure and routinely shared learning objectives with the pupils. Strategies for eliciting pupils’ prior learning and understanding were regularly extended beyond whole class question and answer sessions to include a range of activities which encouraged active involvement of the
whole class. For example, the use of individual whiteboards and small group work based on sorting and sequencing activities were increasingly more common. Some progress was made also in developing approaches to assessment for learning and promoting higher order thinking skills. However, nearly a third of science departments made little progress in improving differentiation and almost half made little or no progress in developing the use of ‘free response’ or imaginative writing by their pupils.

99. There was considerable variation in the extent to which schools had implemented various aspects of the curriculum guidance covered by the training. For example, generally good progress was made in emphasising scientific terminology and the use of models to represent scientific ideas but there was much slower progress in developing ‘key ideas’, scientific enquiry and the use of contemporary science.

100. By the end of the pilot, the overall quality of teaching was usually good. The proportion of good teaching increased during the pilot as teachers became more confident about employing approaches they had seen in their training. However, in most schools there was still a significant variation in the impact of the strand on different teachers, reinforcing the need for more effective sharing of good practice.

101. Nearly all departments made effective use of the Qualifications and Curriculum Authority (QCA) schemes of work, either directly or to enhance existing schemes of work. As a consequence, lesson plans frequently referred to pupils’ prior learning. By the end of the pilot half the teachers were making effective use of starter activities, which involved all the class and helped to elicit prior knowledge and understanding. Many lessons were lively and interesting. In these, teachers based their plans on a good knowledge of the pupils’ previous learning, learning objectives were shared with the pupils and lessons were well structured, ensuring that all pupils were fully involved.

102. The Framework for teaching science was introduced half-way through the pilot phase. It was well received by teachers who appreciated the year-by-year teaching objectives and guidance on the five key scientific ideas. However, by the end of the pilot many departments were only just beginning to make use of it and so its overall impact was limited.

103. The quality of learning was generally good. Pupils usually responded positively in lessons and particularly so when the lesson included a variety of activities. In the best lessons pupils shared their ideas willingly in both group work and in whole-class discussions. Pupils enjoyed activities such as sorting exercises, sequencing activities and the use of individual whiteboards that generated interest and stimulated discussion. Boys and girls were equally engaged in the lessons and made good progress in developing knowledge and understanding. In many lessons pupils practised and developed their practical and analytical skills, but opportunities to develop the investigative skills of planning and evaluation were less frequent.

104. The impact of the Strategy on the quality of pupils’ written work was limited. Pupils’ writing concentrated on recording basic information and they had very few opportunities to write freely about their own ideas and provide explanations. Too often, the work included activities of little value, such as drawing and labelling scientific equipment. There was little detailed consideration of scientific misconceptions, reference to contemporary science nor much extended or imaginative writing. Much of the pupils’ writing about their practical work conformed to a pattern of recording the method, results, and conclusions.

Impact on attainment

105. Firm judgements about the impact of the Strategy on pupils’ attainment were not possible at the end of the pilot, but early indications were encouraging with, for example, pupils showing a good knowledge and understanding of scientific terminology and increasingly effective use of models to explain scientific phenomena. In most schools development work was concentrated on Year 7 and so the full impact on attainment at the end of Key Stage 3 will not be felt for a couple of years.

Support from LEA consultants

106. Most of the support from the LEA was good. Generally schools appreciated the quality and range. Teachers reported that the quality of the training improved during the pilot and was more closely matched to their needs as the year progressed. The impact of the more effective consultants was apparent in the departments with which they had worked. They provided a stimulus for development. They knew the schools well and provided a range of in-school support tailored to individual needs. Where consultants established development groups for teachers these were very successful in sharing and disseminating good practice.
Key findings

- Most of the schools involved in the pilot now have a well-articulated approach to teaching ICT at Key Stage 3 but a significant minority do not allocate sufficient time for teaching ICT.
- The Strategy is beginning to have a positive effect on teaching.
- There was evidence of the impact of the Strategy on pupils’ attainment as pupils became more confident in their use of applications and developed more effective reading skills when searching for information and evaluating its usefulness. Pupils were generally less capable in tasks calling for the application of mathematical understanding.
- Training was generally effective and delivered well. Non-specialist teachers often needed more time to attend training sessions and familiarise themselves with the materials.
- At the beginning of the year audits and action plans were not completed well, but the quality of these improved as the year went on.
- Assessment of pupils’ work was weak in most schools. There was insufficient information about pupils’ ICT attainment when they transfer from primary schools.
- In some lessons teachers and pupils were constrained by the limited space for computer equipment and the poor organisation of classrooms.

Points for action

- Schools need to make better use of the audit and action planning processes to identify and tackle weaknesses.
- Schools should find better ways of sharing information about attainment when pupils transfer from primary to secondary school.
- To implement the Strategy successfully, schools need to allocate the recommended weekly time of discrete ICT teaching throughout Key Stage 3.
- Teachers, particularly non-specialists, need sufficient training time to familiarise themselves with the Strategy.

Background

107. The ICT pilot strand started early in 2001 in 40 schools in five LEAs. Initial training began in 2001, and schools started implementing the Strategy in summer or autumn 2001 or spring 2002. In summer 2002 the ICT strand was extended to 16 pilot LEAs. Schools could choose to trial one ICT teaching unit and review another. In each LEA a trained consultant or adviser will support teachers in the classroom over the next three years.

108. The ICT strand aims to support teachers, many of whom are not specialists, by providing material to help them interpret and teach the National Curriculum ICT programmes of study. Teaching units developed for the Strategy exemplify how discrete ICT lessons could be taught. The materials include: a subject audit guide; a teaching framework (available to teachers from September 2002); sample teaching units for Years 7 and 8 with detailed lesson plans; and optional training to improve teachers’ knowledge, skills and understanding to enable them to teach the appropriate yearly objectives.

Management

109. The management of the work on ICT was usually good. The best ICT co-ordinators produced coherent development plans that they discussed with the senior management team and consequently matched well with whole-school planning. These co-ordinators also led effective training for other teachers with detailed guidance and materials to match pupils’ needs. In weaker schools audits were incomplete, and there was inadequate use of assessment and target-setting.

110. ICT at Key Stage 3 was usually taught in a discrete one-hour or 50-minute lesson each week. However, in one school, there was only one hour per fortnight; in another ICT was taught for only half the
year; and in a third school there was no discrete ICT teaching in Year 8. Inevitably, the lack of curriculum time hindered the implementation of the Strategy and teachers were unable to cover the National Curriculum programmes of study.

111. Early in the year ICT audits and action plans were often completed poorly, usually with more emphasis on the availability of hardware and software and access for staff and pupils than on strengths and weaknesses in the teaching and learning. The quality improved, however, as the year progressed, often with help from an LEA consultant. Most schools included the development of assessment in their action plans, but these plans varied in their level of detail. In the more effective practice, teachers worked together to audit provision and plan how to meet shortcomings.

112. In a few schools ICT teachers discussed developments from the introduction of the Strategy and were able to share good practice with colleagues working on other strands. For example, in one school, teachers discussed the use of different ways of starting lessons and identified strengths and weaknesses in their teaching.

Transition from primary to secondary schools

113. There was very little information on pupils' attainment or experience with ICT in primary school transfer documents, although a few provided useful portfolios and other information. With only limited information, secondary teachers found it hard to know what pupils had achieved in Year 6, or what targets to set Year 7 pupils. Schools often used Key Stage 2 test results in core subjects, or assessed their first unit of work, to establish levels and targets. About half gave new pupils a test suggested by LEA consultants, but not all found this helpful, as the language was too difficult for some pupils to understand.

114. There was some good practice in a small number of schools. Most often secondary teachers visited Year 6 ICT lessons and jointly assessed pupils' work, or primary teachers accompanied their pupils to secondary schools and observed lessons taught by ICT specialists. LEA consultants recognised that they were well placed to assist with the transfer of information and were planning to do so.

Training for school staff

115. At least one teacher from each school, usually the ICT co-ordinator, attended the training provided by the LEA consultant. In places, other staff also attended local training. Teachers reported that the LEA training was often challenging and met their needs. A few teachers, mostly non-specialists, felt that consultants assumed they understood more than they did. In general, however, teachers found the trainers helpful and the materials useful.

116. In all the schools those who attended the LEA training disseminated the information to other teachers involved in the pilot. Although adequate time was made available in a few schools, the dissemination was not well planned in the majority. ICT co-ordinators were sometimes inventive; for example, in one school, staff put two classes together to allow a teacher to observe an introductory lesson. More commonly, teachers used non-contact time or arranged training sessions out of school hours. There was good support for non-specialist teachers, but because of their limited subject expertise they often needed more time to become familiar with the materials. This was particularly so when non-specialists were assigned to teach ICT late in the year.

117. Teachers valued involvement in the development of the pilot units and this gave them increased familiarity with the objectives of the Strategy. The late arrival of some materials hindered planning at the beginning of the year. Teachers found the detailed lesson plans very helpful, although a few felt there were inconsistencies in the demands made on pupils and the accessibility of the language in some of the early units.

Teaching and learning

118. The majority of lessons observed were for Year 7 and Year 8. Teaching was good or better in over half the lessons and the rest were at least satisfactory. However, most ICT lessons were taught by capable and experienced specialist teachers and inspectors did not always see a full cross-section, which would typically include non-specialist teachers.

119. Most teachers prepared lessons with careful attention to detail. The best teachers provided paper-based or on-line guidance and adapted pilot material so that it was suitable for pupils of different abilities. Lesson introductions were generally clear, aims were shared with pupils, and teachers used a wide variety of activities. Teachers moved lessons along quickly but, even so, some teachers found it difficult to ensure that pupils completed all the work they had planned. Teachers were not always systematic at checking pupils' understanding, and sometimes gave inadequate feedback. Consequently pupils did not always know what they needed to do to improve. Final plenaries were
often too brief, so teachers had insufficient time to summarise thoroughly what had been learnt or to discuss with pupils what they might need to learn in the next ICT lesson.

120. In the majority of lessons pupils were absorbed in their work, were articulate about their understanding and confident in the use of technology. In a minority, when the purpose of the activity was unclear, concepts were not explained well and understanding was not checked, learning was erratic. This was most often when pupils were using computers to control events and make things happen, so some pupils would resort to guesswork or copy the answer without understanding. Where pupils fully understood the nature of the task, were well supported in their acquisition of skills and were allowed to develop their ideas, they often surprised their teachers by the quality of work and their level of understanding.

121. The use of assessment to guide pupils was often weak. There was little consistency in the amount and type of work saved in pupils' portfolios. Printing electronic files was often time-consuming or prohibitively costly. Two schools had developed prompts for pupils' self-assessment; another had usefully included assessment criteria in each unit of work. More often, assessment to improve pupils' learning was restricted to brief comments in the classroom. In most schools end of unit assessment was helpfully linked to attainment targets. A few LEA consultants organised helpful meetings so that teachers could compare and discuss assessment judgements and share good practice.

Impact on attainment

122. The lack of reliable assessment information makes it difficult to judge the impact of the Strategy on the attainment of pupils. In the schools visited attainment was broadly average. There were signs that pupils were becoming more confident in their use of applications and more adept at moving information between applications and at presenting findings with appropriate software. They were also developing more effective reading skills when searching for information, and were better at evaluating its usefulness and the standpoints represented by it. Pupils were generally less capable in tasks calling for the application of mathematical understanding, for example in their use of spreadsheets, and in interpreting data.

Learning resources

123. All the schools had sufficient, appropriate software, although few had access to the range of software used in partner primary schools and there were occasions when this would have aided transition from Year 6. Teachers were beginning to produce materials and guidance notes to help pupils of different abilities to use particular applications, but this was still at an early stage.

124. In several lessons the poor organisation of classrooms had an adverse effect. Although many of the audits focused on organising software and hardware, few schools considered how best to teach in difficult circumstances. In some classrooms pupils had to share a computer and this was only occasionally managed well. Teachers had not considered how they could ensure that all pupils had fair access to the keyboard or how to attribute work to particular pupils. Few desks had enough space for pupils to refer to books and papers alongside their computers. Sight lines were sometimes poor and there were often times when pupils could not hear the teacher clearly because of noisy cooling fans. When pupils were working on screen, teachers did not always make sure pupils were paying attention at the point they intervened to introduce new information.

Support from LEA consultants

125. Consultants were well trained by the national Strategy team and received good support from specialist advisers in their LEAs. The training by LEA consultants was generally well received by teachers and they valued other support given to them by the consultant. Teachers found it particularly helpful when consultants taught alongside them or took demonstration lessons in their schools. Teachers could see more easily how the Strategy could be applied effectively with their own classes. Most consultants used newsletters to disseminate good practice.
## Foundation subjects

### Key findings

- **By the end of the pilot year, nearly all schools were making good progress with the implementation of the foundation subjects strand and there were significant improvements in the quality of teaching.**
- **Improvement in attainment varied widely across the schools and subjects involved. Pupils' subject knowledge and understanding were sometimes better as a result of an increased emphasis on finding and analysing information and on discussing ideas.**
- **In the schools where the work on the strand was more effective, senior managers were well informed about it, the work was led by capable teachers in each department, it built on existing good practice and it was often linked with other improvement initiatives.**
- **The quality of audit and action planning was satisfactory overall but in a third of schools audits were completed superficially and did not help departments identify the most pressing priorities for improvement.**
- **In schools where progress was unsatisfactory it was often because the training was poorly disseminated and teachers needed more time to plan and reflect on developments.**
- **Very few schools had satisfactory arrangements for monitoring the impact of this strand or evaluating its effectiveness.**

### Points for action

- **LEA consultants should help schools make better use of the audit and action plan to identify priorities, plan how they will be addressed and to provide a basis for evaluating progress.**
- **Senior managers should provide those leading the foundation strand with adequate support and ensure that good practice is considered within the school.**

### Background

126. The purpose of the Teaching and Learning in the Foundation Subjects (TLF) strand, renamed the Foundation strand at the end of the pilot, is to raise standards by supporting and developing high quality teaching and learning in the foundation subjects and religious education. As part of the pilot, participating schools were expected to identify two departments to lead this strand. Each LEA appointed a consultant to develop the work in the authority.

127. The principles behind the strand are in line with those for the rest of the Strategy. The principles include:

- using clear teaching objectives to plan lessons
- setting challenging expectations to raise pupils' attainment
- using good questioning, explaining and modelling, to make concepts clear
- using a clear lesson structure with starters and plenaries to help learning
- active learning using problem-solving, investigation and enquiry to develop pupils' understanding and skills
- making learning engaging and motivating by using stimulating activities and materials
- developing well-paced lessons with high levels of interaction including collaborative tasks and talk to aid learning
- providing support for pupils through prompts and frames to help them learn independently
● encouraging pupils to think about what and how they learn and involve them in setting targets.

Management

128. The management of the strand was broadly satisfactory at the beginning of the pilot and improved as the year progressed, so that it was generally good by the summer term.

129. The full range of foundation subjects and religious education was involved in the work in the schools that HMI visited. Almost all the schools created a team consisting of the two heads of department involved and a member of the senior management team. The majority of schools chose a capable team of enthusiastic and experienced teachers to lead the strand, and in about half the schools they were building on earlier work to improve teaching and learning.

130. Where the management was most effective senior staff had a good grasp of what was happening and often took part in meetings and in the planning. They also established good links with other initiatives, for example literacy across the curriculum. In the best practice senior staff took care to ensure that the work in each department developed at an equal pace and that first hand evidence was gathered to gauge progress.

131. The two departments were required to complete an audit of their strengths and areas for improvement to form the basis of an action plan. This was a new activity for most of the schools and LEA consultants. The audit document was well designed and easy to use and overall schools completed it satisfactorily. In the best practice all the teachers were involved in analysing the department’s work and as a result they all had a clear understanding of the issues they needed to tackle. However, in a third of the schools audits were completed superficially and did not help departments identify the most pressing priorities for improvement. In a minority of schools no audit was undertaken. In schools where the audit was weak they generally did not have enough guidance from the senior management team or the LEA consultant.

132. Action planning was completed satisfactorily overall. The better examples included clear links to the school development plan and the careful use of a range of evidence, for example recent Ofsted inspection reports, to identify significant areas for improvement. A common weakness, however, was that points for action were not linked to the priorities identified in the audit. A further weakness was that schools included insufficient detail to make the action plans useful and some lacked clear success criteria to show how outcomes would be measured.

133. On the whole, schools did not monitor the introduction of this strand sufficiently well. In most departments, there was insufficient thought about how the content and approaches would be shared with colleagues who had not attended the training. In a third of the schools, the management of the strand was ineffective because of poor communications between members of the foundation team, there was limited involvement by senior staff, and there were no plans for disseminating good practice to others in the school. The link made between work in the strand and raising standards was generally under-developed. For example, subject-specific target-setting for pupils was rare.

Training for school staff

134. The training of LEA consultants was well organised, and delivered effectively by the national Strategy team. Most of the consultants were new to the role and the training successfully equipped them with the skills they needed to deliver the training to teachers from pilot schools. The training introduced consultants to the broad range of material so they were well informed about the Strategy.

135. A measure of the success of the consultants’ training was their ability to deliver the training to teachers. The LEA training seen by HMI was good or very good. The training was well received by teachers in all the LEAs. Teachers from a few schools were unable to attend because of supply problems, but this was the exception. The training was well organised and focused on key aspects of the Strategy. However, it was sometimes difficult to cover all the content and give sufficient time for discussion.

136. There were weaknesses in the dissemination of the Strategy to teachers in schools, especially at the beginning of the year. This was usually because senior managers and those who had attended the LEA training had given insufficient thought or had been able to give insufficient time to the issue. Some subject departments included as many as eight teachers and the training was a considerable task that had not been started. As the year progressed the dissemination improved, but, even by the summer term, teachers in about a quarter of the schools had insufficient understanding of the strand.
Teaching and learning

137. Throughout the year HMI observed teaching in the various subjects leading the strand in particular schools. Schools selected the lessons, and often chose those that demonstrated new approaches they were introducing as part of the Strategy.

138. Although there were variations, the quality of teaching was generally good, and increasingly so later in the year as teachers became more familiar with the implementation of the Strategy. The best lessons were lively and interesting. Teachers were good at sharing learning objectives with pupils at the beginning of the lesson, they adopted a broad range of teaching strategies and brought lessons to a well-structured conclusion.

139. In planning these good lessons, teachers had clearly given a great deal of attention to the lesson content. Plans were usually detailed and incorporated a variety of teaching methods, including many drawn from the training materials or developed in schools as a result of involvement in the Strategy.

140. Most of these good lessons started with a brisk and engaging opening activity so that pupils' attention was quickly caught. Teachers sometimes noted that there were more varied activities for pupils to do throughout the lessons than in the past. For example, teachers often devoted more time to oral work, in plenary and in groups. Pupils had increased opportunities to gather information, explore ideas, put forward hypotheses and suggest answers. They were encouraged to share their thinking, even when they were uncertain about the accuracy of their answers. Teachers also provided models to demonstrate how pupils might tackle problems successfully or to illustrate answers to questions. Pupils had good opportunities to speak in front of others and to feed back their conclusions, which they did with confidence. Teachers used time to best advantage, often switching between activities to make lessons more enjoyable.

141. The result of this good teaching was that lessons moved at a swift pace, both boys and girls found the teaching engaging and pupils were enthused. Their attitudes to learning were often very positive, behaviour was good and pupils remained on task with rarely a moment for idle chatter. Lower-attaining pupils, particularly the boys, enjoyed the increased amount of oral work as it was often the writing they had found most difficult in the past. Levels of understanding were often much improved and the rate of progress was good amongst pupils of all abilities.

142. In about a quarter of the schools teachers had focused on marking and assessment as part of their work in the pilot, often attempting to clarify assessment criteria and seeking ways of giving feedback to help improve subsequent performance. As a result, some of the assessment and marking was helpfully detailed and provided pupils with carefully recorded targets for improvement which they could easily understand. However, the pattern varied, with some assessment work still at an early stage of development even towards the end of the year.

143. In a handful of schools there were significant variations between the quality of teaching in the two pilot departments, with good teaching in one subject but not the other. The weak teaching was usually in departments where dissemination was incomplete or where teachers had been given insufficient time to implement changes. In these weaker departments the teaching had not been affected and was often humdrum, with insufficient attention given to capturing and maintaining pupils' interests.

Impact on attainment

144. Improvements in attainment varied widely across the schools and subjects involved. Limitations in schools' assessment arrangements made it difficult for many of them to identify the extent of progress. HMI judged that, as the year progressed, some general learning skills were developing well, mainly because of the explicit focus on and increased practice of them in lessons. Pupils' subject knowledge and understanding were also improving, often as a result of an increased emphasis on finding and analysing information and on discussing ideas. While some of these improvements were only modest, there were some stronger examples, such as:

- work on thinking by an art department in one school had led pupils to consider how they approached the tasks they were set
- in a Year 7 religious education lesson pupils developed good understanding of the background of sacred sites through a series of well-designed activities that, among other things, asked them to empathise with the religious groups associated with them
- in a Year 7 history lesson, pupils prepared for a debate on the reign of King John, by giving close attention, assisted by models from the teacher, to the persuasive presentation of key positive and negative points.
Support from LEA consultants

145. Schools received satisfactory support from their consultants. The support was most effective when they made regular visits to schools and gave specific help with the audit and action planning. Schools particularly valued the participation of consultants in school-based training, the work they did alongside teachers and the helpful links they made with senior managers to ensure they were well informed. None of the schools expressed concern about inadequate subject knowledge when consultants were supporting subjects outside their own specialisms.

146. In general, consultants were not rigorous enough at supporting schools with the audit and action planning processes. Schools needed an external perspective to ensure that audits were well founded and targeted on key weaknesses. There were occasions when teachers were unable to make good use of the consultant because of pressure of time.
LEA Support

Key findings

- Most LEAs inspected managed their part in the Strategy effectively, providing training and support that were generally appreciated by the schools.
- The Strategy was implemented on time in most LEAs, but there were delays in a fifth of authorities, mainly due to difficulties in recruiting key staff.
- LEAs were generally making good use of the Strategy to support schools in developing greater cross-phase continuity, in challenging pupils and in improving teaching.
- There were several examples of the good use of data by LEAs to identify schools and specific groups of pupils that needed support. Improved data was used to track pupils’ progress and target-setting was well advanced in most cases.

Points for action

- LEAs need to develop further their arrangements to monitor and evaluate the Strategy, especially to gauge its impact on the progress made by individual schools and the effect on attainment across the LEA.

147. From January 2002, inspections of LEAs included judgements about the support they provide to help raise standards at Key Stage 3. The 19 inspections conducted during spring and summer 2002 show that the quality of support for raising achievement at Key Stage 3 was very good in six LEAs, good in six, satisfactory in a further six and unsatisfactory in one authority. Of the LEAs judged to be good, two had been involved in the piloting of the Strategy.

148. There was careful preparation for implementing the Strategy. In over half of the LEAs, firm foundations had been laid well ahead of the national programme. These included: making contact with pilot LEAs to learn from their experiences; setting targets for the end of Key Stage 3; sharing good practice between primary and secondary schools; and identifying factors affecting pupils’ progress from Key Stage 2 to Key Stage 3.

149. The scheduling of the implementation of the Strategy matched the national timescale in most cases. Through the use of LEA funding, two LEAs were able to introduce support for science and ICT ahead of the national programme. In four cases, however, there were delays. In one case, this resulted from a failure to take up the full Standards Fund allocation. Others delays were caused by difficulties with recruitment and retention. One LEA, for example, failed to appoint a Strategy manager or literacy consultant and had to arrange for other officers to take temporary responsibility for those areas.

150. In most LEAs, the management of the Strategy was effective. The support provided by LEA consultants and Key Stage 3 managers was generally appreciated by schools who saw them as credible, well-qualified and having relevant expertise in working with schools.

151. LEAs were providing the recommended training for senior managers and subject leaders and there was generally a good level of satisfaction amongst teachers with the support and training provided. In one authority, training and support for science were unsatisfactory and support for cross-curricular numeracy under-developed. Good arrangements were made to release teachers to attend training and to provide supply cover. Only in one authority was this a difficulty.

152. There were several instances of good practice in the use of data to identify and target schools and specific groups of pupils in need of additional support. In one LEA, departments within schools receiving intensive support undertook self-evaluation prior to negotiating a programme of support. There was good use of data to track pupils’ progress from Key Stage 2 to Key Stage 3 and effective use of interim tests to monitor progress in Years 7 and 8.

153. Increased continuity between Key Stage 2 and Key Stage 3 was being fostered through the use of improved data to track pupils’ progress, assess value added and set more challenging targets for pupils. In several LEAs, there was effective use of visits by secondary teachers to primary schools to observe good practice and analyse various teaching styles. The schools reported that this was having a positive effect on continuity and leading to helpful adaptations of methodology and schemes of work. The use of transition units was also making a clear contribution to fostering cross-phase continuity.

154. Target-setting was well advanced in most of the LEAs inspected. In the best, good use of Key Stage 2 data was leading to raised expectations of pupils and the setting of challenging targets for Key Stage 3.

155. Arrangements for monitoring and evaluating the Strategy were developing satisfactorily. Where LEAs
had a basis for judgement, there was clear evidence that it was having a positive effect on teaching. It was leading, for example, to the use of a wider range of teaching methods across Key Stage 3 and, in a range of subjects, to a greater awareness by teachers of the literacy content of their lessons.

156. There was considerable variation between the LEAs inspected in terms of attainment and progress at Key Stage 3. It is too soon to evaluate the contribution of the Strategy to bringing about greater consistency. However, LEAs were generally making good use of the Strategy to support schools in developing better cross-phase continuity, in challenging pupils and in improving teaching.
Annex: test results

Progress tests

In 2001 all pilot schools were required to administer the progress tests in English and mathematics to gauge the progress of pupils who had not achieved level 4 at the end of Key Stage 2 in 2000, but who had attained level 3 or were deemed to be working at that level by their Year 7 teachers. (Other schools volunteered to run these tests, but had not then implemented the Key Stage 3 strategy.) Ofsted's report on the first year of pilot gave the percentages of eligible pupils in pilot schools and nationally who achieved level 4 in the progress tests.

In 2002 the progress tests were optional in pilot schools, as well as in other schools. Nationally, about half the pupils eligible took the tests, which were marked externally, as they had been in 2001. Separate results for pilot and non-pilot schools are not available for 2002. In all schools that took the 2002 progress tests:

- a slightly higher proportion of pupils moved from level 3 to level 4 in English compared to the corresponding figure for 2001
- there was a near doubling of the proportion of pupils that moved from level 3 to level 4 in mathematics compared to the corresponding figures for pilot schools and all schools in 2001.

These figures need to be treated with caution. Comparing results in the progress tests between 2001 and 2002 is difficult because many schools that took the tests in 2001, including many pilot schools, elected not to do so in 2002. (Some pilot schools opted to trial a new version of the test instead.)

| Percentage of level 3 pupils who sat the progress tests and achieved level 4 |
|----------------------------------|-----------------|-----------------|
|                                  | 2001            | 2002            |
|                                  | Pilot schools   | All schools     | Pilot schools   | All schools     |
| English                          | 28%             | 29%             | not available   | 30%             |
| Mathematics                      | 10%             | 11%             | not available   | 18%             |

DfES data

Key Stage 3 tests

An analysis of the results of Key Stage 3 tests in 2002 in English and mathematics is given below. The results do not yet provide a reliable guide to the effects of the Strategy because schools were advised to focus the Strategy initially on Year 7 pupils. The first pupils to experience the Strategy throughout Key Stage 3 will be those in pilot schools taking the 2003 tests.

The table compares the mean Key Stage 3 points scores for English and mathematics in pilot and non-pilot schools for the years 2000/02. The table includes a matched sample selected to have similar locations, deprivation and special educational needs to pilot schools. The table shows that, in 2000, before the pilot began, the pilot schools were achieving an average of roughly one point less than the matched-sample schools. English and mathematics results improved in 2001 and 2002 both in pilot schools and in the matched-sample schools, but with some variations:

- in English, the results in pilot schools improved slightly faster than in similar non-pilot schools between 2000 and 2001. The following year, with all schools implementing the strategy, the improvement was almost the same in pilot and non-pilot schools. The rate of improvement was lower than the previous year
- in mathematics, the results in non-pilot schools improved at a similar rate to those in the pilot schools between 2000 and 2001. In the following year, the improvement was slightly greater in the pilot schools.

The analysis indicates that there is not yet widespread, significant improvement in Key Stage 3 test results in the pilot schools.
Key Stage 3 average points in pilot schools and a matched sample of non-pilot schools, showing annual improvements

<table>
<thead>
<tr>
<th>Year</th>
<th>Pilot Schools</th>
<th>Matched Sample</th>
<th>All Schools</th>
</tr>
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<tbody>
<tr>
<td>2000</td>
<td>31.62</td>
<td>32.70</td>
<td>32.62</td>
</tr>
<tr>
<td>Improvement 2000/01</td>
<td>+0.57</td>
<td>+0.37</td>
<td>+0.57</td>
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<tr>
<td>2001</td>
<td>32.19</td>
<td>33.07</td>
<td>33.19</td>
</tr>
<tr>
<td>Improvement 2001/02</td>
<td>+0.17</td>
<td>+0.16</td>
<td>+0.20</td>
</tr>
<tr>
<td>2002</td>
<td>32.36</td>
<td>33.23</td>
<td>33.39</td>
</tr>
</tbody>
</table>

**Ofsted analysis of provisional results**

<table>
<thead>
<tr>
<th>Year</th>
<th>Pilot Schools</th>
<th>Matched Sample</th>
<th>All Sample</th>
</tr>
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<tbody>
<tr>
<td>2000</td>
<td>33.10</td>
<td>34.27</td>
<td>34.26</td>
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<tr>
<td>Improvement 2000/01</td>
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<td>+0.30</td>
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<tr>
<td>2001</td>
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<td>34.56</td>
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<tr>
<td>Improvement 2001/02</td>
<td>+0.43</td>
<td>+0.31</td>
<td>+0.31</td>
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<tr>
<td>2002</td>
<td>33.81</td>
<td>34.85</td>
<td>34.87</td>
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</tbody>
</table>

**Ofsted analysis of provisional results**