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Improving primary teachers' subject knowledge across the curriculum

A summary of evidence from subject surveys (excluding English and mathematics) 2007/08

The importance of subject knowledge and high quality teaching are main themes of the Independent Review of the Primary Curriculum. Ofsted subject reports have shown the considerable demands on teachers' subject knowledge across the primary curriculum, not least in requiring them to understand how pupils learn in different subjects and what pupils need to know by the time they complete Key Stage 2. This report focuses on aspects of good practice in subject teaching (excluding English and mathematics) and areas for improvement.

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Executive summary

The Independent Review of the Primary Curriculum accents the importance of subjects in primary education and the need for high quality teaching to ensure that pupils make all the progress that they are capable of[1]. The demands on teachers' subject knowledge are very great across the primary curriculum, not least in requiring them to understand how pupils learn in different subjects and what pupils need to know by the time they complete Key Stage 2. Literacy and numeracy, quite rightly, have been the focus of extensive national training, but with notable exceptions there has been relatively little opportunity for primary teachers to identify and remedy weaknesses in subject knowledge beyond English and mathematics.

During the autumn term 2007 and the spring term 2008, inspectors on Ofsted's subject survey programme observed a total of 937 lessons across 12 subjects in 241 primary schools and made judgements on the quality of teaching. The subjects, reported on here, spanned the range of the National Curriculum in primary schools, excluding English and mathematics, but including religious education and personal, social and health education (PSHE) and citizenship. In the sample of lessons seen, the quality of teaching was outstanding in 13%, good in 54% and satisfactory in 30%; it was inadequate in only 4%.[2] However, in the lessons where the teaching was satisfactory and even in a few where it was judged to be good overall, inspectors noted specific weaknesses in teachers' subject knowledge which meant that pupils' achievement was not as high as it might have been. This report is not about the general teaching skills that were often the best features of the lessons seen during the survey. Rather, it focuses on some of the particular demands that different subjects make on teachers' subject knowledge and what might be done to meet them.

The methodologies of the National Strategies had often been transferred successfully to subjects beyond English and mathematics. Where this happened, it showed itself in the clarity of learning objectives, good lesson structures and the effective questioning of pupils. The impact of specific training programmes, such as those developed for PSHE, also showed itself in the quality of teaching in the schools where such training had been undertaken.

Local networks of different kinds were important for providing support and advice on a range of matters, including subject knowledge and resources. The report shows the impact of these on improving provision and, conversely, the effects when such networks did not exist.

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[1] Independent Review of the Primary curriculum, DCSF, 2009, www.dcsf.gov.uk/primarycurriculumreview/.
[2] Note that the percentages have been rounded and do not add to 100%.

The last section of the report focuses on leadership, particularly the key role of subject leaders in improving teaching and training, but also that of headteachers in developing and supporting it. The report shows how subject leadership, developed comprehensively, can promote excellence and enjoyment across the curriculum. Finally, the report makes reference to the proposed revisions to the primary curriculum.

Key findings

- Across the subjects in the survey, the quality of teaching was good or outstanding in two thirds of the lessons seen. The strengths were often in general teaching skills exhibited by teachers. The quality was inadequate in only 37 of the 936 lessons seen.
- More good and outstanding teaching was seen in history, design and technology, and information and communication technology (ICT) than in other subjects; only half the teaching in art, music and religious education was good or outstanding. The best teaching showed that teachers understood the particular demands of individual subjects in relation to pupils' learning.
- Having a teacher with specific subject knowledge was often a matter of chance, although the effective primary schools knew this and took steps to minimise the risk of its absence. They also found ways to identify and tackle weaknesses in teachers' subject knowledge, such as through links with partner schools, using advanced skills teachers or other experts, or securing focused professional development.
- The role of the subject leader was vital in developing and maintaining high quality teaching in individual subjects but too many subject leaders had too limited a role and too little support to carry it out effectively.
- The methodologies of the National Strategies had often been transferred successfully to subjects beyond English and mathematics. This transfer showed itself in clear learning objectives, good lesson structures and effective questioning. The impact of major training programmes, where undertaken, such as for PSHE and physical education (PE), was also evident in the quality of teaching.
- Contact with experts through visits to galleries or outdoor centres or through involvement in music programmes had the potential to benefit teachers as well as pupils, although the work of external staff needed to be monitored carefully by teachers.

Recommendations

The Department for Children, Schools and Families (DCSF) should:

- provide support for the implementation of the revised curriculum, recognising the good practice in training, planning and teaching identified in this report.

Primary schools should:

- ensure that they do as much as possible to provide access to an expert subject leader or the resources to nurture one for each subject
- review their policies on the role of a subject leader so that these are comprehensive and include the role of training other staff
- within the context of the school development plan, develop teachers' subject knowledge, taking account of the demands of different subjects identified in this and Ofsted's subject reports
- seek links with neighbouring schools to share good practice and capitalise on local expertise
- take advantage of subject-specific opportunities for continuing professional development, such as those available in science.

Subject knowledge in primary schools

1. This report is based on the 2007/08 subject survey programme. It considers the challenges facing schools and individual teachers in developing good subject knowledge across the full primary curriculum. Inspectors observed 937 lessons across 12 subjects, spanning the range of the National Curriculum in a sample of primary schools, excluding English and mathematics, but including religious education, PSHE and citizenship.[3] The quality of teaching was outstanding in 13% of the lessons seen, good in 54% and satisfactory in 30%; it was inadequate in only 4%.[4] The proportions of good and outstanding teaching are encouraging and show that, in most schools, there is good practice to build upon. This report focuses on the specialist demands of teaching in particular subjects that need to be met if all teaching is to be raised to the standard of the best.

[3] The subjects surveyed were: science, design and technology, information and communication technology, geography, history, citizenship, art and design, music, physical education, PSHE, modern foreign languages and religious education.
[4] Note that the percentages have been rounded and do not add to 100%.

2. Lessons in which inspectors judged the teaching to be good were sometimes so because primary teachers' strong general teaching skills more than made up for any weaknesses in their knowledge of the subject they were teaching. For example, in applying the suggested methodologies of the National Strategies to their teaching of subjects other than English and mathematics, teachers had usually considered the clarity of their learning objectives and had structured the lesson well. They also questioned pupils effectively. However, they were less secure about aspects of a lesson which required subject-specific knowledge. This showed itself, for example, in:

   - a tendency to focus appropriately on objectives related to literacy in planning and assessment, but giving insufficient weight to the specific objectives of the subject being taught
   - a failure to tackle specific errors and misconceptions as they related to the subject
   - an inability to field pupils' more probing questions
   - a lack of sufficient challenge for higher attaining pupils through the tasks set.

3. In any one school, the range and quality of teachers' subject knowledge can vary from outstanding to unsatisfactory. This is largely a matter of chance. The survey found little evidence that, outside the core subjects, primary schools actively recruited subject specialists. At one extreme, therefore, there were schools where teachers had an impressive range and depth of expertise in particular subjects; in one school in the survey, several teachers had a qualification in the arts, including some with experience of working in the creative industries. At the other extreme, subject expertise was absent: in one of the schools, nobody had any qualification in geography except the subject leader, who had studied the subject only to GCSE level.

4. Acknowledging the very different backgrounds and qualifications of prospective primary school teachers, one might ask the following question: What can reasonably be expected of initial teacher education in remedying deficiencies in teachers' subject knowledge, especially in areas that are new to them or in which they have limited direct experience? Ofsted has reported previously that some trainee teachers have found it difficult to acquire the necessary breadth of subject knowledge for teaching: for example, in the more technologically demanding aspects of design and technology, or in practising and refining their own skills in order to help pupils with the more difficult technical problems, such as in using systems and control. Evidence from the inspection of initial teacher education courses shows that some trainees had fewer than 10 hours'

tuition in design and technology.[5] This does not enable new entrants to the profession to teach it effectively without further basic training through continuing professional development. This is likely to be true for most primary teachers in at least some of the subjects they teach.

5. Ofsted has also reported on the link between the quality of primary teachers' subject knowledge and the availability and take-up of training, for example in its report in 2006 on continuing professional development:

> 'In the surveys of National Curriculum subjects, inspectors found arrangements for continuing professional development in the subject they were inspecting were inadequate in about one third of the primary schools. This did not mean that the school's arrangements for continuing professional development were unsatisfactory overall but, usually, that there had been little or no recent professional development in the subject being inspected. The lack of such professional development was due partly to the schools' drive to improve literacy and numeracy and partly to a lack of specialist subject expertise, which meant that managers were failing to pick up important subject-related issues.'[6]

6. Teachers do not want to go to lessons ill prepared. Most of the teachers observed had given due thought to the lesson and series of lessons, sought out resources and planned suitable activities for pupils. The results of these efforts, however, were sometimes no better than satisfactory. One reason is that individual subjects make very different demands on teachers' subject knowledge. The report referred to above recommended that the Training and Development Agency should work with schools to 'encourage more subject-specific training and development in primary schools' to improve the professional development of teachers and support staff.

Science and technology

Science and the transfer of good practice

7. Inspectors observed 136 science lessons. In just over two thirds, the teaching was good or outstanding and it was inadequate in only three. Where science teaching was good or outstanding, it was characterised by:

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[5] *Education for a technologically advanced nation: design and technology in schools 2004/07*, (070224), Ofsted, 2008; www.ofsted.gov.uk/publications/070224.
[6] *The logical chain, continuing professional development in effective schools* (HMI 2639), Ofsted, 2006; www.ofsted.gov.uk/publications/2639.

- pupils' involvement in a good range of activities and learning styles: at their core they engaged themselves with scientific enquiry; this also promoted their independent learning as they worked as scientists
- excitement and enjoyment of science: pupils researched topics, came up with their own ideas, exchanged views, and evaluated their work individually and with others
- collaborative planning with a clear sense of progression in scientific ideas and good links to aspects of the curriculum such as literacy, numeracy and ICT
- monitoring and evaluating pupils' progress through a range of science activities, not just tests.

8. Often, in the lessons observed, some of which were good in most respects, inspectors identified specific weaknesses in subject knowledge of which the teachers were unaware. This could be linked to lack of expertise within the school, limited external support from the local authority and little or no use of the training and resources of the Science Learning Centres.[7]

9. Examples of good practice included a school which, as well as achieving good results in the national tests, made every effort to involve pupils in investigative work and promote their enjoyment of science. A strength of its work was the extra-curricular visits and activities, mostly aligned to environmental awareness. In part, this was achieved through effective resource-led training. For example, the subject leader's scrutiny of pupils' work had identified interpreting data as a weak area. The subject leader's research found a data-logging program that helped staff and pupils to understand graphs better.

10. In another school in the survey, a local authority inspection team had identified the need to raise standards in science and to improve teaching and learning.

> The newly appointed headteacher evaluated standards and drew up a plan for improvement which included appointing an advanced skills teacher for two terms. During her tenure, she provided in-service training in knowledge and understanding of science and the skills of scientific enquiry. With the collaboration of the staff, she wrote a scheme of work that set out clear progression in all the attainment targets throughout the primary phase. She introduced a system for monitoring pupils' performance and for setting targets. She also led team-teaching sessions

[7] There is a network of 10 Science Learning Centres across the United Kingdom. They provide continuing professional development for those involved in science education, at all levels. For further information, see: www.sciencelearningcentres.org.uk.

to introduce good practice to her colleagues and help them develop their own understanding and teaching in a safe and supportive environment.

11. In other schools, however, inspectors found that the subject was a very poor relation to the other core subjects in terms of the training opportunities available. However, in some lessons where (as far as was known) the teachers had not received external support for science, they used the training they had had for English and mathematics to the advantage of science. For example, one school had transferred the methodology for assessment for learning advantageously. This was improving the quality of science lessons by ensuring all pupils were engaged. As well as lesson observations to evaluate teaching and learning, the science subject leader also talked to pupils to get their feedback. This was a good initiative and transferable as a driver for improvement to other subjects, but it was rarely found in this survey.

Planning, making and evaluating in design and technology

12. In design and technology, 65 lessons were observed. Nearly all the teaching was good or outstanding; in seven lessons it was satisfactory. Where design and technology teaching was good or outstanding, it was characterised by:

- teachers who piloted making activities themselves as part of their preparation for lessons, so that they understood better the practical and cognitive difficulties that pupils might have to overcome
- teachers who drew upon pupils' experiences as users to identify clear and agreed success criteria for their products; and using the criteria at key points to inform design decisions and improve evaluation skills
- good planning that broke down activities into stages and effective use of written or pictorial instructions, particularly with young pupils and those with learning difficulties
- opportunities for pupils to test their products, learn from their mistakes and improve the functionality and efficiency.

13. In design and technology, as in art and design, the teaching that was satisfactory rather than good involved the unimaginative use of externally provided schemes of work. Teachers had a satisfactory grasp of the learning objectives within particular projects, and the guidance and support they gave pupils for routine project work were often good. However, the selective use of schemes of work often resulted in a narrowness and lack of depth to the curriculum, since teachers concentrated on those aspects of the subject they felt confident in teaching. The resulting lack of balance and breadth limited pupils' access to aspects such as food technology, electronics, systems and control.

14. Ofsted's 2008 report on design and technology commented:

> Many teachers do not have sufficient subject knowledge for teaching the more technologically demanding aspects of design and technology or for helping pupils with the more difficult technical problems which arise routinely. This limits their capacity to manage practical, making lessons and to challenge pupils, and to help them to make their designs to such a standard that the products function. This situation might be improved if schools enable semi-specialised teaching to take place later in Key Stage 2.[8]

One of the schools cited in the report deployed an expert practitioner to teach design and technology to all Year 5 and 6 classes, thus overcoming the other teachers' lack of expertise in the subject.

15. Some of the schools in the survey used enrichment activities effectively in the form of visits to science and technology activity centres, visits from a local authority technology bus, and involving themselves in regional and national design and technology competitions to enhance provision. A small number of the lessons seen made effective use of skilled designers and engineers in the locality to support pupils in undertaking real design challenges, such as improving school play facilities.

The particular demands of ICT

16. Inspectors observed 55 ICT lessons during the survey. The teaching was outstanding in nine, good in 36 and satisfactory in 10. Where ICT teaching was good or outstanding, it was characterised by:

- teachers' well balanced subject knowledge and technical skills across a range of applications, including those used for presenting and communicating ideas, and simple control and programming, as well as spreadsheets and databases
- the planning of effectively differentiated activities, so that higher attaining pupils in particular learnt new ICT skills rather than just using skills they already had
- opportunities for pupils to work independently using ICT, rather than the teacher trying to take the whole class, together, through a number of steps

[8] *Education for a technologically advanced nation: design and technology in schools 2004/07* (070224), Ofsted, 2008; www.ofsted.gov.uk/publications/070224.

- assessments of pupils' achievements in ICT lessons as well as in other subjects, and then collating these assessments to inform planning of differentiated activities.

17. Teachers' subject knowledge in ICT continues to vary. The subject can pose particular problems for teachers because of its technical as well as pedagogical demands. In general, the teachers observed had good and improving skills in ICT that arose from their personal use of the technology and from better access to hardware in the classroom. In their teaching, however, they had a tendency to concentrate on the aspects of ICT – word-processing and presenting – with which they felt at ease, to the detriment of work in other aspects, such as spreadsheets and databases.

18. Examples from the survey showed that the better schools had tackled this variation, raising the quality of ICT teaching to a more consistent, high level. Self-evaluation in one of the survey schools had shown that the teachers were broadly confident in using ICT. Audits of their subject knowledge revealed that, on average, they had 80% 'levels of confidence' in word-processing, the internet, presentation software, and spreadsheets and control; however, there were rather lower levels of confidence in handling data and video-conferencing. The high levels of confidence had been reached by concerted effort on several fronts. The inspector wrote:

> Senior managers and subject leaders are enthusiastic, enabling and knowledgeable. They lead both by example and by sharing their vision with staff, creating a cohesive team approach. The school development plan makes raising standards using ICT a priority.
>
> There are two subject leaders, one of whom focuses on the curriculum, the other on the technical aspects, underpinned by commercial support for the network on two half-days each week. Their work in curriculum development, training and monitoring has given the subject a high profile. A staff audit each year identifies the strengths and weaknesses in teachers' personal and professional use of ICT. As one senior manager put it, 'Staff now know what they don't know and are now making more demands on us for training.' The needs identified were met by in-house support and whole-school training, including on assessment, the internet and interactive whiteboards, which teachers now use confidently. Local networks help to keep subject development up to date.

The curriculum is based on the Qualifications and Curriculum Authority's schemes of work.[9] Training and discussion have given teachers confidence in teaching these and applying them across the curriculum. Teachers plan together in year teams, supported by the headteacher and the two subject leaders. This has had a very positive impact on improving progression and consistency in applying ICT to enhance learning. Transfer from National Strategy methodology, as well as good resources, have improved aspects of teaching, including assessment for learning. The portfolios of work which have been developed provide a benchmark for high standards.

19. The better lessons seen were effective because they made the most of the skills of staff throughout the school.

A teacher familiar with website design worked with a school technician and a teaching assistant who had qualified teacher status. Together they developed a cross-curricular project to develop literacy skills while, at the same time, extending pupils' awareness of new technologies. The outcome was that pupils put their podcasts on the school's website, not only raising their standard of work in literacy and ICT but also giving them confidence in their own capabilities.

20. In order to reach a position where such developments were possible, the schools where inspectors saw the most effective teaching of ICT had sought external help, including support to introduce new software, such as a virtual learning environment. The outcomes of such concerted attention to developing teachers' subject knowledge were seen when ICT was at the centre of high quality work, drawing together different elements of the curriculum.

In a good ICT lesson in Year 6, pupils learnt how to evaluate, modify and improve a PowerPoint presentation. The purpose of the presentation was to combine what they had been learning about Greek mythology with the development of new ICT skills. The pupils first planned a game on paper, which they then created electronically. They used PowerPoint to add questions and answers to create a quiz and then considered how they would make the quiz appealing to their audience. The cross-curricular links made the learning meaningful and pupils enjoyed the activity.

The teacher explained to the pupils how they could reach Level 5 in the National Curriculum by thinking about and then explaining what they had changed in their work. Pupils soon began to question and justify changes, as they evaluated their work and that of others. As a result, using

[9] For further information on the scheme of work for ICT, see: www.standards.dfes.gov.uk/schemes2/it/?view=get

assessment to support and enhance learning became a key driver in helping pupils to achieve well in the lesson. This enabled them to produce high quality games using PowerPoint that were fit for purpose and tailored to their audience.

History, geography and citizenship

Making geography relevant

21. Inspectors observed 59 geography lessons. In four of these, the teaching was outstanding. It was good in just under two thirds, satisfactory in a quarter and inadequate in two. Where teaching in geography was good or outstanding, it was characterised by:

    - effective use of the local environment to raise pupils' awareness of the immediate world around them
    - the use of topical issues relevant to pupils' lives
    - purposeful use of a good range of appropriate resources including ICT, such as geographical information systems (GIS), to bring learning to life
    - the use of a variety of types of maps to develop a sense of place and space through enquiry and discovery.

22. This outstanding lesson was particularly strong in its use of maps of different type and scale.

> In an outstanding Year 5 lesson, pupils were studying London with the use of a topological map of the London Underground. The lesson started with a quick review of what pupils already knew about London. The teacher then made excellent use of the interactive whiteboard to get pupils to locate London at the scales of continent, country and region. Pupils then studied the topological map, comparing it with a real map. Very good, challenging questioning enabled pupils to use the maps together to develop their geographical skills. Additionally, they developed numeracy skills through working on travel, time and distance. Learning was reinforced by the use of a 'treasure hunt' which familiarised them with places in London as they solved the clues. This was a fast-paced lesson with pupils fully enthused by the tasks and making excellent progress.

23. The 2008 Ofsted report on geography commented on the general demise of geography in the primary curriculum and weaknesses in subject knowledge.[10] Encouragingly, this survey found schools where weaknesses had been identified and action taken to tackle them, as in this example.

> The school is tackling the weaknesses through strategies highlighted in a clear development plan for geography. This includes an audit identifying strengths and weaknesses by year group, whole-staff training on geography led by the subject leader, the development of a standards portfolio, and the monitoring of teaching. Developments in fieldwork are complemented by work to develop the school grounds, drawing on the continuing professional development of the subject leader, linked to the Action Plan for Geography. This well targeted work was having clear benefits, both in the year group and in the aspects of geography where the school had identified weaknesses.

24. The benefits of this sort of self-help were noted in another school in similar circumstances. It had drawn on its close links with a neighbouring secondary school to tackle the weaknesses it had identified in teaching and subject knowledge. Its view that geography teaching had improved was supported by inspectors' observations during the survey. For instance, in a lesson on flooding, Year 6 pupils used a wide range of resources and practical activities (such as relative permeability) and modelled the process of flooding; this was work that the teacher might previously have considered beyond the pupils' capability. This illuminates powerfully the simple link between subject knowledge, teachers' expectations of pupils and the standards they attain.

25. The geography lessons observed also underlined the importance of the subject leader's professional initiative. In a school in an area where there was no support for geography from the local authority, it was the subject leader's membership of the Geographical Association that was the main conduit for innovation and development.[11] As a result of the subject leader's work, the use of interactive whiteboards had been extended so that presentations drew from a range of good websites that were interesting and enjoyable; they prepared pupils to answer questions that developed their skills (including using ICT) as well as their knowledge.

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[10] *Geography in schools: changing practice* (070044), Ofsted, 2008; www.ofsted.gov.uk/publications/070044.
[11] www.geography.org.uk

More than content knowledge in history

26. In total, 81 history lessons were observed as part of this survey. In a quarter of these, the teaching was outstanding; it was good in more than half. It was inadequate in only one lesson. Where history teaching was good or outstanding, it was characterised by:

    - a 'sense of adventure' which motivated the pupils, engaged them in their learning, opened their minds to what had happened in the past and, by comparing it to today, helped them to understand the relevance of what they were studying
    - a focus on developing the pupils as 'historical detectives' by balancing teacher-directed and independent learning; this allowed pupils to get to grips with genuine historical questions and issues, asking questions, researching the evidence, drawing conclusions and communicating the findings in a variety of media, including ICT
    - good use of visits to historical sites and of visitors by ensuring that pupils understood the context and knew what sorts of questions to pursue to get the most from the evidence.

27. The quality of the history teaching seen was generally higher than that for other subjects in the survey. For example, the following lesson was outstanding.

> The Year 2 pupils began the lesson on the 'magic history carpet' where, with their eyes closed, they took a journey back through time. They then clasped their hands round an imaginary telescope to look at a part of a photograph which was shown on the interactive whiteboard. Pupils were challenged to 'guess' what they could see. As more of the photograph was revealed, they qualified their guesses by turning them into 'facts' or informed 'hypotheses'. This was very effective because of the teacher's questioning and soon lots of detail was 'collected' about the photograph. Then, still in role, pupils returned to their tables where resource sheets prompted discussion of whether the picture was of a 'very old time', a time 'before I was born but not too old', and 'now'. They had to present their findings to the class, including explaining 'How do you know' and 'What facts support your argument?' All the pupils had to judge the best argument. This was a very effective introduction to the historian as a detective.

28. Even so, in around a quarter of the lessons, weaknesses in teachers' subject knowledge limited the standards that pupils attained. Most of the teachers seen enjoyed teaching history and the survey found examples of teachers with no history qualifications having equipped themselves to be expert in their

knowledge of the topics they taught. The problem was that teachers' emphasis on imparting historical knowledge to pupils or telling them to 'find out' failed to take account of the specific skills that young historians needed to employ, such as using and evaluating evidence. Teachers' and pupils' enjoyment of history, often reflected in high quality classroom displays, can conceal these problems so that history is taken for granted, and given a low priority in a school's development planning. Additionally, teachers' relatively high levels of confidence in teaching history lead them to make few demands of subject leaders. Most of the work undertaken by subject leaders in the schools surveyed was in providing resources. There was very little discussion of, or support for, areas such as questioning skills in history, the sorts of tasks to set, or how to assess pupils' progress.

29. Often in history, as in geography, little support was available locally and the weaker schools in the survey found it difficult to know where to go for help. The headteacher of one school had budgeted £1,000 for history resources, but did not know how best to spend the money. Yet, in the same school, a great deal had been done by way of self-help because of the headteacher's enthusiasm for history.

> Teachers make learning interesting and fun. Although they talk to pupils and pupils listen, teachers also provide many opportunities for pupils to work as real historians by asking questions, researching, finding answers and communicating findings. Learning is effective not least because the pupils are keen to learn. A good example was the patience with which Year 6 pupils scoured the internet and books to begin to build up a picture of change in Victorian times. Another was Year 4 pupils' fascination with the content of a lesson on the history of the tea trade with India, drawing on resources such as Google Earth on the interactive whiteboard and tea and tea-making artefacts to bring the subject to life.

Citizenship and participation

30. A small number of lessons, 23, were observed in citizenship, normally as part of schools' provision within personal, social, health and citizenship education programmes.[12] Of these over three quarters were good or outstanding. Features of good teaching included:

- stimulating and creative lessons that made citizenship issues relevant to the pupils, whether their focus was local, national or international

[12] Non statutory guidelines for PSHCE are provided as part of the National Curriculum. Ofsted maintains separate survey programmes for PSHE and citizenship.

- opportunities for informed discussion and debate, enabling pupils to articulate and refine their views
- teachers linking work in lessons to pupils' experience within and beyond school to promote and recognise their participation in citizenship action
- making very good use of outside experts including, for example, local magistrates, councillors, MPs or people representing different faiths and communities; planning for them well and following up to maximise their value.

The following is an example of an outstanding Year 6 lesson on democracy.

> The teacher recapped on the role of the local councillor, relating this to the concept of democracy, voting and the role of representatives. The teacher promoted an excellent discussion on the sorts of choices that councillors have to make and how they can be lobbied by pupils even though they are not old enough to vote. Pupils then took the role of councillor, debating the relative merits of projects competing for scarce resources, specifically a skate park and a war memorial. The lesson was ambitious and worked well because it built on prior learning, made good use of technology, was relevant to the pupils and forced them to make and defend decisions. Notably, they recognised the needs of different people in the community such as the elderly and made the case for these as well as for better facilities for young people.

31. Weaker lessons were characterised by lack of independent learning and creativity in lessons. Linked to this, opportunities were missed to use ICT to draw on topical resources and develop independent enquiry skills. Weaknesses in subject knowledge were sometimes evident when lessons remained at a general and superficial level.

32. There was little evidence of assessing pupils' learning in citizenship. A few of the schools visited had begun to assess aspects of pupils' work on a three point scale.

The arts

Range, depth and creativity in art and design

33. Inspectors observed 93 art and design lessons. The teaching was outstanding in five lessons and good in 38. In just over half of the lessons it was satisfactory and it was inadequate in four. Where art, craft and design teaching was good or outstanding:

- pupils explored a wide range of art media and the teacher frequently challenged them through discussion and demonstration, showing them how to use the media they had chosen creatively
- lesson objectives were subject-specific, linked to a 'ladder' of progression, and were often reviewed during the lesson, allowing sufficient time for pupils to refine their work
- teachers thoughtfully selected images by different artists, craftworkers and designers, clearly connected to what pupils were asked to do, and offered a range of ways in which responses could be made
- pupils were taught how to use sketchbooks to record ideas, experiments and drawings, using them to revisit previous approaches or experiences enjoyed in and out of school
- teachers taught pupils how to work 'big and bold', inside and outside, individually and collaboratively, developing care and control while also giving value to accidental discoveries.

> In one lesson seen, the teacher used her expertise skilfully. Arranged around a large blue and white patterned fabric on the floor of the school hall, the pupils in Year 1 were invited to look for a favourite pattern to draw. She explained that the patterns had been made in Africa using a technique called batik. She played African music while the children recorded their first pattern, enthusing about their responses and encouraging particular pupils to look closely, based on the accuracy and detail of their work. When the music stopped, they moved to a different side until they had worked from all four sides of the fabric. Five minutes into the lesson, the pupils each had four different patterns in their sketchbooks. Explaining that to be 'really creative', they would need to design their own pattern, she demonstrated how, using one pattern as a starting point, they could combine features of different patterns to make the design their own.

34. Art and design should be at the forefront of creativity in any school. However, over half the teachers observed in the survey lacked confidence in teaching it. They depended heavily on externally provided schemes of work that restricted opportunities to bring topics alive or respond to unexpected questions, because they had had no personal experience of the schemes of work or engagement in developing them. The teaching was directed towards a predetermined outcome, set out in the scheme of work. Many of the teachers did not know how to promote pupils' creativity, either by leaving the initiative with the pupil or by intervening. In one school in these circumstances, an expert subject leader tackled the problem, with positive results for the school's broader work and direction.

The school knew that too much of the teaching was over-directed and pupils had too little opportunity to develop creativity. The solution was to try to put related arts subjects together, but this brought no improvement and, indeed, the teaching of art and design was seen to stagnate. The appointment of an expert subject leader with a vision for art transformed what was happening. Plans were made for joint teaching sessions with staff, focusing on giving the pupils the freedom to experiment and helping teachers to know just when to intervene or stand back. In order to show what pupils could and should do, the subject leader also produced materials to support staff in assessing pupils' work.

35. When teachers extend the range of their knowledge through their own direct experience, they often communicate this with infectious enthusiasm. In one of the schools in the survey, a teacher had visited Barcelona during half-term. The artefacts brought into school and photographs shared with the pupils provided them with sufficient knowledge of Gaudi's work to imagine how familiar buildings could be transformed by the use of organic shapes and mosaic surfaces. However, the outcomes of experiences such as these, albeit valuable as a stimulus, are rarely used by teachers or pupils as a starting point for discovering and deepening subject knowledge.

36. Some lessons used visiting artists or gallery visits productively to develop the teacher's subject knowledge alongside that of the pupils. The depth of knowledge and refinement of skills that pupils developed often surprised the teacher. However, as in the example of the teacher's visit to Barcelona, such experiences were too infrequent and insufficiently evaluated or embedded in teachers' planning to sustain the level of challenge which pupils really needed in order to make progress.

Demonstrating subject knowledge in music

37. Inspectors observed 149 music lessons, and in just over a half of these the teaching was good or outstanding. It was satisfactory in over a third of the lessons and inadequate in 16. Good and outstanding teaching in music was characterised by:

- a simple clear musical focus for each lesson, developed through all activities
- clear steps of progression within the lesson (and across the key stage)
- the confidence to 'do more of less': to focus on small steps and constantly to reinforce the learning of these steps through progressive and cumulative tasks.

38. The following illustrates these characteristics.

> In an excellent singing session the teacher began by asking the pupils to use their voices to make different sounds, exploring different mouth shapes. They copied short sound patterns given by the teacher and then repeated short melodic phrases. The teacher skilfully selected these melodic phrases from the song the class later sang together. They learned the song very quickly because they were already familiar with the phrases. The quality of the singing was improved constantly through attention to parts of the song that were not quite right and to helping the class understand how breathing and posture affected how well they could sing. When the singing was secure, the teacher added a simple repeated melodic phrase which was sung at the same time as the song. Pupils performed both parts and were constantly encouraged to listen carefully to how the two parts fitted together. All the different steps were demonstrated by the teacher and pupils learned through copying and experiencing the sounds – there was very little spoken instruction.

39. It is important in music to make a distinction between teachers' subject expertise (that is, musical ability, being able to perform on an instrument or sing and so forth) and subject knowledge (that is, an understanding of music and how to teach music progressively). In primary schools, relatively few teachers have either of these. Subject expertise helps to give teachers the confidence to teach music, but it is possible for teachers without it to teach an effective music lesson. However, they need a great deal of continuing support and guidance from a good subject leader.

40. Pupils benefit from working with a specialist who has subject expertise as they can learn from the specialist's demonstration of what is needed. During the survey one headteacher identified the positive impact of pupils learning with a teacher who had both expertise and subject knowledge: 'Other class teachers are not so confident and this gets passed on to the children. In contrast, the confidence of the specialist teacher makes the children more confident.'

41. In the lessons seen where the teaching was no better than satisfactory, this was generally because the schools either did not have a subject leader with sufficient expertise, subject knowledge or both, or because insufficient time was given for the subject leader to work with and monitor the work of other teachers. Sometimes it was a combination of these. Frequently, the good and outstanding teaching was by a skilled subject leader or resulted from a subject leader's good support for colleagues, so that class teachers were also able to provide teaching of a similar high quality. These schools also ensured that there was a good range of extra-curricular opportunities so that pupils could extend their skills and enjoy making music with others of different ages.

42. The best examples of the instrumental/vocal programmes supported by the DCSF's Standards Fund were having a strong impact on improving teachers' confidence and subject knowledge. The class teachers were fully involved in the programme and were learning alongside their pupils. In the best practice, the class teacher provided additional experiences between the lessons, learning with the pupils.

43. However, not all the programmes were having the same positive impact because there was too little shared planning between the specialist instrumental teacher and the class teacher. In addition, the programme was sometimes too short to help teachers develop their understanding of how pupils make musical progress. There was also a lack of recognition that class teachers brought their own specialism (of teaching a whole class) to the sessions: specialist instrumental teachers often had as much to learn from the class teachers as class teachers had to learn from the specialist.

Physical and personal development

Stretching subject knowledge to the limit in physical education

44. Inspectors observed 70 PE lessons. The teaching in two thirds of the lessons was good or outstanding, and it was satisfactory in the remaining 20. Where PE teaching was good or outstanding, it was characterised by:

- teachers' good questioning skills to ensure that pupils understood the task and what they needed to do to improve
- a mix of teacher-directed activities, peer teaching opportunities and pupils being guided to make decisions for themselves when selecting skills to create a sequence
- pupils being enabled to use their skills of observation, evaluation and feedback consistently to help improve their own and others' work, for example the use of video clips to set and evaluate high expectations in dance
- tasks and equipment for PE and games planned to meet pupils' differing needs, including for those in mixed-age classes
- the effective deployment of teaching assistants to support individual pupils or groups to give them the maximum opportunity to take part in physical activity.

45. A considerable range of knowledge is required to teach the elements of PE. In most of the schools in the survey, all the teachers taught PE. In those where teachers' subject knowledge was good overall, all the staff had been involved in local authority training or in training which had been targeted carefully to meet

needs. Much of this could be traced back to the impact of the physical education, school sports and club links strategy and the coordination and increased opportunities for the roles of subject leader that derived from it, as well as to the work of some local authorities. Schools had been enabled to identify their weaknesses and remedy them. For example, a school which was strong on games but weaker on other aspects used the school sports partnership to strengthen teachers' subject knowledge in areas such as gymnastics and dance. In another example, a school sports coordinator worked alongside teachers on outdoor and adventurous activities.

46. Some of the schools had employed coaches to teach aspects of the PE curriculum. One of the schools visited had remedied weaknesses in PE teaching and, at the same time, created time for planning, preparation and assessment, by employing a private company to supply PE coaches. Although employing coaches brought the advantage of highly specialist subject expertise, it also brought the possible disadvantage of the coaches' weaker pedagogical skills.

47. The coaches seen during the survey visits had a good knowledge of the skills required to improve performance in games and gymnastics, helping pupils to acquire, develop and apply such skills. They were less effective, however, in teaching other aspects of the National Curriculum PE, such as improving pupils' knowledge and understanding of what happens to their bodies when they exercise and engaging pupils in evaluating their own and others' performances. What was important was that the employing schools did not know these strengths and weaknesses. In lessons where coaches are used, therefore, it is vital that the quality is monitored by the staff of the school.

PSHE: a showcase for national initiatives

48. Inspectors observed 50 PSHE lessons. In just under two thirds, the teaching was good or outstanding, and it was satisfactory in 13. In three lessons seen, the teaching was inadequate. Good and outstanding teaching in PSHE was characterised by:

    - detailed knowledge of individual pupils and, often, their family backgrounds
    - effective use of 'circle time' to explore feelings and opinions
    - judicious use of social and emotional aspects of learning (SEAL) materials to structure lessons and assess the outcomes.[13]

49. As noted in Ofsted's 2007 report on PSHE, primary teachers' knowledge in this subject has improved considerably and it is now an area of relative strength.[14]

[13] Further details on the social and emotional aspects of learning are available at: www.standards.dcsf.gov.uk/primary/features/primary/873235/.

A feature of many of the lessons observed in the survey was teachers' good knowledge about their pupils' personalities, abilities and family circumstances. They often used this knowledge to enhance the teaching of PSHE. Other strengths included the resources used and teachers' practical and creative methods to engage pupils in learning. In a lesson seen in the Foundation Stage, the teacher used puppets to act out scenarios about right and wrong. In another lesson, photographs of role play undertaken in the previous lesson were used to stimulate debate and reflection on behaviour towards others.

50. Schools have promoted good subject knowledge through:

- supporting teachers to complete the PSHE certificate[15]
- involving themselves in the Healthy Schools Award which often includes network meetings and subject-specific training
- introducing and providing training for teachers to use the materials on the social and emotional aspects of learning
- using external expertise, especially on drugs education, and sex and relationships education
- subject coordinators' provision of high quality planning, schemes of work, lesson plans and resources for class teachers to teach PSHE.

51. However, the picture was not entirely positive. One example, in particular, shows the need for schools to receive a range of support. A school where the staff generally lacked confidence in teaching PSHE had produced a programme using solely the social and emotional aspects of learning materials, at the expense of other aspects of the PSHE curriculum. The coordinator was unaware of this and attributed this to staff's misapprehension; they felt they had to use the materials as the training they had received on this was the most recent. In the lessons seen, teachers talked for the whole lesson, pupils became restless and did not make progress in their learning. In addition, the teaching assistants were not deployed effectively. All in all, many opportunities for learning were missed.

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[14] *Time for change? Personal, social and health education* (070049), Ofsted, 2007; www.ofsted.gov.uk/publications/070049.

[15] The PSHE certificate, funded by the Department of Health and the DCSF, is for teachers and school nurses. It is designed to support the quality of teaching in PSHE, including sex and relationships education. Almost 5,000 teachers have undertaken the certificate course since 2002. Applications from primary teachers exceed those from secondary teachers.

Modern languages

A new subject for most teachers

52. Inspectors observed 79 modern languages lessons. The teaching was outstanding in 16, good in half of them and satisfactory in just over a quarter. One lesson was inadequate. Where languages teaching was good or outstanding, it was characterised by:

- good pronunciation by the teacher, so that pupils had a good model of the target language
- helping pupils to develop good strategies for language learning and knowledge about language; at best, at the beginning of each language lesson, pupils focused on what made a good language learner
- developing pupils' reading strategies to help them recognise familiar language in stories and deduce meaning from clues.

53. The introduction of modern languages in primary schools has challenged teachers' subject knowledge further. Ofsted's recent report on modern languages summarised the enhanced provision made available for introducing languages teaching into primary schools[16].

> Extensive support for schools has been developed over the past two years. There is now a comprehensive Key Stage 2 Framework for languages. The National Centre for Languages was commissioned to provide training for trainers in each local authority and this has now been completed. Training was offered to staff in specialist language colleges and higher education institutions. More recently, a primary modern languages 'training zone' was launched to support professional development online and the Qualifications and Curriculum Authority has produced new schemes of work for French, German and Spanish.[17] Jointly with the British Council, primary teachers can take part in a two-week project to improve their linguistic skills in a European country and primary schools can work with other schools to employ a foreign languages assistant.[18] Currently, 250 assistants work in primary schools, and the number is increasing.[19]

[16] *The changing landscape of languages*, 070053, Ofsted, 2008; www.ofsted.gov.uk/publications/070053.
[17] www.standards.dfes.gov.uk/schemes3/subjects/?view=get
[18] See website; www.britishcouncil.org.
[19] *The changing landscape of languages*, 070053, Ofsted, 2008; www.ofsted.gov.uk/publications/070053.

54. The lessons seen during the survey showed that schools had responded in different ways to the languages framework. Some had approached this by using a specialist, either a teacher already on the staff, a teacher specially recruited (in one example, a native language speaker) or by employing a part-time teacher. Where this happened, there was a tendency for other staff not to be affected by the initiative. The problem, then, was that languages teaching was confined to the timetabled lessons each week because, when class teachers were not trained, they did not gain the confidence to introduce languages work into everyday contexts, for example by telling the time or discussing the day's weather, giving instructions for warm-up activities in PE, or simple counting and mental calculation in mathematics.

55. Other schools had decided that all teachers would be involved in training and other forms of subject knowledge development, with benefits both for pupils and for the long-term sustainability of languages teaching. An inspector recorded:

> There is extremely strong support and guidance for language learning from senior leaders who want to ensure that the teaching is sustainable. The curriculum leader for languages has a very strong vision of how to introduce and support the development of languages teaching in the school and provides excellent guidance and support for all staff. At least two teachers on the staff have extremely good language skills and they use these to help other staff. Teachers make use of resources to help develop their language skills. For example, when teaching the topic on China, they have used commercial resources and those available on the internet to help them to be able to teach the language. All teachers are expected to contribute to teaching languages. This has developed from the previous year when the teaching was done mostly by the curriculum leader. This teacher has undertaken some local training and has been keen to support the class teachers to develop both their own language skills and their knowledge of how to teach a language.

56. Several schools in the survey looked for external support and had received very good support from their local authority. In one school, the expertise of the lead teacher was developed by a combination of local authority training, booster sessions, networking with neighbouring schools and a regional primary modern languages conference. This was a considerable investment but the benefit was in the subject leader's enhanced capacity to work with other teachers. In another school, teachers went so far as to link the development of modern languages to work in English so that a common approach could be taken to literacy and the understanding of grammar.

57. Where local support was not available, successful primary schools had developed very good links with secondary schools, benefiting, for instance, from the work of an advanced skills teacher. They also invested in resources to underpin their work and ensure consistency through planning in year groups or teams, supported by the subject leader.

58. The survey visits showed the benefits of training initiatives in the standards observed. In one lesson, the inspector noted:

> New language is presented very clearly using visuals and mime/actions so that pupils rapidly understand and use it successfully themselves. Pupils particularly enjoy learning through songs and games. Their pronunciation and intonation are very good and they are beginning to identify patterns in the language from text. They are keen to speak and participate in oral activities; all the pupils hold short conversations in French with varying degrees of support, developing social as well as language skills. All of them see learning languages not only as an important skill but also as fun.

Religious education

Thinking about religion and belief

59. Inspectors observed 77 religious education lessons. The teaching in five was outstanding and was good in 33. In just under a half, the teaching was satisfactory. Where religious education teaching was good or outstanding, it was characterised by:

- a clear understanding of the wider context and direction of the learning – teachers understand how individual activities and tasks relate to the broader purpose of religious education
- a focus on key concepts and questions which drive the learning rather than on delivering content or completing tasks
- teachers' understanding of how religious material relates to the wider investigation of the religious traditions being investigated
- a consistent focus on developing an enquiry-based approach to learning in religious education – with pupils encouraged to develop their skills of asking questions about, and undertaking investigations into, religion and belief
- encouraging pupils to think creatively and critically about religion and belief – using key questions to challenge and extend their thinking.

60. In a lesson seen in the survey where the teacher's subject knowledge was outstanding, the scheme of work had been used to great advantage.

> Skilful use has been made of the very helpful schemes of work provided by the local authority and the Standing Advisory Council for Religious Education. A specific strength is the way these schemes have been adapted slightly: the use of a cover sheet draws out the key objectives and assessment criteria in ways that are easily accessible by the teachers and which relate to the pupils' needs. Teachers research the content very carefully and the resources for the subject are excellent, including very effective use of fieldwork and links to religious communities. Teachers annotate their plans carefully to indicate where they have adjusted or extended the activities. The school has established a well designed, highly effective and manageable assessment process which is implemented consistently. As a result, teachers are able to adjust their planning effectively in the light of what they know about pupils' progress. Teachers understand the relationship between the two strands of religious education and so are able to engage pupils in a high level of enquiry into religion and blend this with opportunities for them to appreciate the significance and deeper meaning of material through reflecting on their own experience.

61. In another lesson seen, a teacher had responded well to the school's own evaluation that pupils' ability to think creatively and critically about religion was very restricted. The school had begun to focus attention on the place of creativity in religious education, rightly identifying it as a development need in terms of curriculum planning and pupils' learning. This involved a whole-school training programme, to help teachers elicit more challenging questions from pupils and promote deeper thinking within religious education lessons.

62. Teachers who lacked confidence in teaching religious education depended heavily on external schemes of work; the questions they asked did not take pupils beyond superficial description or narrative. The challenge in teaching this subject is to interweave successfully the two strands of learning: learning about religion and learning from religion. As in teaching history, the teachers needed to move beyond the obvious content, making the links that would develop pupils' broader understanding and promote higher achievement.

Drawing it together: the key role of subject leadership

63. The responsibility for supporting teachers in developing their subject knowledge and contributing to the school's response to curriculum changes should be a key part of any subject leader's job description. However, in many of the schools visited, the role was limited or the subject leaders were deployed inconsistently.

64. In a few schools, the absence of a subject leader and any direction from senior leaders meant that teaching for a subject floundered. Because of a lack of monitoring of teaching and learning, the schools were unable to say how well pupils were doing in a particular subject or what areas needed to be tackled. Such schools also did not know where to go for help.

65. Across the survey, even where schools had subject leaders, inspectors met those who either had a limited view of their role or were frustrated by the lack of opportunity to exercise it properly. In some ineffective cases, subject leaders told inspectors that they provided advice when asked, maintained a resource base and largely worked with other staff 'informally'. In these circumstances, as in those that had no subject leaders, the schools were unable to provide any view of standards or strengths and weaknesses in the subject because nobody made it the job of the subject leader to do so. Typically, these subject leaders had no time to observe lessons or take part in team-teaching, and their monitoring was limited to scrutiny of teachers' planning or, occasionally, of pupils' work.

66. More often, however, subject leaders had found practical ways to help teachers to develop their subject knowledge, such as by supporting year-group teams in their planning and in selecting resources.

67. The responsibilities of subject leaders to promote high standards across the curriculum were well illustrated in one school's policy statement. In addition to noting that all staff should have generic skills for leading a subject which would be transferable between curriculum areas, the policy statement – which applied not just to the core subjects – included requirements for subject leaders to:

    - develop their own subject knowledge, keep up to date with current thinking and practices, and aim to enhance the subject knowledge and expertise of others
    - ensure continuity and progression in the key skills curriculum
    - gain a whole-school view of the subject and ensure provision and attainment were in line with (or better than) national expectations
    - carry out monitoring tasks and contribute positively to the cycle of whole-school curriculum development
    - develop a strategic plan for the review of policies, monitoring and so forth
    - maintain a subject leader's file, to be updated termly.

    Subject leaders were also to be given the opportunity to liaise regularly with other subject leaders, as part of working parties. All the subject leaders were to receive training on how to conduct lesson observations and carry out paired observations with a member of the senior leadership team. They were also to

receive training and support from senior leaders on how to scrutinise teachers' planning and pupils' work.

Postscript

68. The recommendations of the Independent Review of the Primary Curriculum emphasise the importance of subjects within the six 'areas of learning'.[20] Subjects will continue to provide the underpinning purpose and content of the curriculum and the basis of planning for progression. Teachers' subject knowledge therefore continues to be important if they are to make the most of the opportunities offered by the revised curriculum. The evidence from this survey shows the benefits to pupils of the good subject teaching that takes place in most lessons observed. The challenge to primary schools is to raise all lessons to the same high quality and to ensure that series of lessons, areas of learning and the curriculum as a whole promote consistently good progress through the years of primary schooling.

Notes

During the academic year 2007/08, as part of Ofsted's continuing programme of subject survey visits, inspectors made one-day visits to 241 primary schools. The schools were selected in order to represent a range of schools of different sizes and in a wide variety of contexts. In gathering evidence, inspectors observed a total of 937 lessons across the primary subjects (excluding English and mathematics).

The lessons observed across the primary curriculum cannot be compared directly because of the different ways in which the lessons were selected for inspectors to observe during the one-day visit. In some cases, the schools themselves selected them in the light of inspectors' requests to see teaching in each key stage, including the Foundation Stage. The choice of lessons available for observation was also sometimes constrained by what was being taught on the day of the visit. Further, if there was a choice of lessons, there was sometimes a tendency for schools to select lessons taught by teachers who were more confident in teaching a particular subject. None of these lessons was in schools in categories of concern.

In judging teaching, inspectors take various components into account, including planning, objectives, teaching strategies, the extent to which pupils make progress, are interested and engaged, the degree of challenge demonstrated, use of methods and resources, the use of time, the deployment of teaching assistants, equality of opportunity, as well as teachers' knowledge and understanding. Her Majesty's Chief Inspector's Annual Reports have consistently identified subject knowledge as a

[20] See www.dcsf.gov.uk/primarycurriculumreview

weaker aspect of teaching. In judging teaching as a whole, inspectors also take into account evidence from discussions with pupils, teachers, subject leaders and headteachers, and the scrutiny of documentation and pupils' work.

Further information

This report draws on evidence from survey inspections in 2007/08. This is part of the evidence base used for three yearly subject reports. For more details on individual subjects, the following reports published over the last four years can be found on the curriculum section of Ofsted's website at: www.ofsted.gov.uk.

Drawing together: art, craft and design in schools, 2005/08, 080245, Ofsted, 2009

Education for a technologically advanced nation: Design and technology in schools, 2004/07, 070224, Ofsted, 2008

English 2000–05: a review of inspection evidence, HMI 2351, Ofsted, 2005

Geography in schools – changing practice, 070044, Ofsted, 2008

History in the balance – History in English schools, 2003/07, 070043, Ofsted, 2007

Making more of music: an evaluation of music in schools, 2005/08, 080235, Ofsted, 2009

Making sense of religion – A report on religious education in schools following a locally agreed syllabus, 070045, Ofsted, 2007

Mathematics: understanding the score, 070063, Ofsted, 2008

Physical education in schools, 2005/08: working towards 2012 and beyond, 080249, Ofsted, 2009

Success in science, 070195, Ofsted, 2008

The changing landscape of languages. An evaluation of language learning 2004/07, 070053, Ofsted, 2008

The importance of ICT: information and communication technology in primary and secondary schools 2005/08, 070035, Ofsted, 2009

Time for change? Personal, social and health education, 070049, Ofsted, 2007