An evaluation of the Impact of the Better Schools Fund Provision for ICT in Schools

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Introduction

1 The purpose of this advice is to provide the Welsh Assembly Government with information on the impact of the 'Better Schools Fund' (BSF) provision for ICT in schools. However as LEAs and schools do not disaggregate the BSF from any other funding used for ICT provision, the findings in this report apply to all ICT funding, but specific points regarding the BSF are made where relevant. The report builds on Estyn's 2003 report 'A review of information and Communications Technology Provisions in Schools and its Impact on Raising Standards'.

2 The evidence base includes:

- an analysis of school inspection reports for 357 primary schools and 85 secondary schools over the period September 2002 to June 2006;
- an analysis of trends in standards of information technology at key stage 3 and key stage 4 between 2002 and 2006;
- visits to nine local education authorities (LEAs); and
- visits to eight primary schools, nine secondary schools and one special school. The schools and LEAs chosen for visits comprise a sample from rural and urban areas with varying levels of social deprivation across Wales.

Terminology

3 The term 'Information and Communications Technology' (ICT) is used in this report to mean the computing and communications tools and techniques (both hardware and software) that support teaching, learning and a range of activities in education.

4 The term 'Information Technology' (IT) refers to the National Curriculum (NC) subject that deals with the knowledge, skills and understanding that pupils need to make effective use of ICT across the curriculum.

Background

5 In 2001, the Welsh Assembly Government introduced a strategic framework called 'Cymru Ar-lein' to make Wales a place where local communities actively use ICT to remove physical, geographical and linguistic barriers, and to develop social inclusion.

6 The place of ICT in education and training was set out in 2001 in 'The Learning Country'. In the same year, there was an investment of nearly £27m from the New Opportunities Fund to put all public libraries online, to digitise learning materials, and to train teachers, school librarians and public librarians.

7 The Welsh Assembly Government has continued its investment in ICT in schools. It provided funding through the 'Grants for Education Support and Training' (GEST) programme until 2004-2005, and then its replacement, the 'Better Schools Fund' (BSF) programme. The aim of this funding is to develop the effective use of ICT to enhance teaching and learning across the curriculum.

8 In 2005-2006, the Welsh Assembly Government allocated £49.43m for the Better Schools Fund (BSF). Of this total amount, £7.6m was for ICT in schools. The rest was split between the activity areas of school curriculum, governor training, pupil support, additional educational needs, Iaith Pawb mewn Ysgolion and induction/early professional development.

9 In 2005-2006, the BSF for ICT in schools supported three main areas:

- National Grid for Learning (NGfL Cymru);
- effective use of ICT in schools; and
- the broadband network for lifelong learning/networking technologies.

10 The National Grid for Learning (NGfL) Cymru is a bilingual web based service to schools and colleges in Wales. The website provides a range of services including a virtual teacher centre and gives access to bilingual teaching and learning materials.

11 The effective use of ICT in schools is intended to improve pupils' learning experiences. GEST and the BSF have been used to fund training for senior school managers, classroom teachers and support staff.

12 In 2002 the Welsh Assembly Government introduced the Lifelong Learning Network (LLN). This provided a Wales-wide high speed network to deliver broadband internet to schools, libraries, ICT learning centres and all 22 local authority corporate offices across Wales. By November 2005, 100% of secondary schools, 96% of primary schools and 93% of ICT learning centres were connected.

Main findings

Standards

13 Standards of achievement in ICT key skills and National Curriculum IT still vary unduly from school to school and between classes in the same school. This is especially the case in secondary schools. Standards in primary schools have improved at a faster rate than those in secondary schools.

14 GCSE data generally reflects the increasing popularity of information technology in key stage 4, but standards in this subject have not increased significantly.

15 Good use of ICT in lessons has improved pupils' motivation, concentration and confidence.

16 Schools and LEAs are not able to show a direct link between indicators of pupils' achievement in subjects across the curriculum, such as National Curriculum assessments and examination results, and the use of ICT to support learning and teaching.

Teaching and Learning using ICT

17 Schools and LEAs have generally used the Better Schools Fund to good effect to provide additional training to teachers on the application of ICT in different subjects. Most schools supplement this income to achieve their aims.

18 LEA advisory services provide a good variety of support and training for teachers and other staff on aspects of ICT, and its use in the classroom.

19 A few LEAs and schools note the positive impact that ICT has had on improving the motivation of those teachers whose work had become routine and uninspiring.

20 Schools are beginning to develop Virtual Learning Environments[1] to allow pupils flexible access to learning materials and resources.

21 Since our previous report in 2003, most schools and LEAs have increased their effective use of ICT and show improvements in teaching and learning.

Whole school planning using ICT

22 The best whole school plans and schemes of work in curriculum subjects clearly show the activities where pupils will develop and use their ICT skills, clear progression for pupils and take account of pupils' abilities and prior knowledge.

[1] A **Virtual Learning Environment (VLE)** is a software system designed to allow teachers to manage educational courses and resources for pupils. The system allows secure access to enrolled users from anywhere connected to the internet.

23 Providing effective continuity in ICT between key stage 2 and key stage 3 is still an issue for many schools.

Recommendations

24 In order to ensure continued improvement in the impact of the BSF for ICT in schools, the following actions need to be taken:

The Welsh Assembly Government should:

R1 continue to provide the BSF for ICT in schools and ensure that it is prioritised towards improving achievement in secondary schools; and

R2 provide clear guidelines to schools and LEAs on how they can accurately evaluate the impact of the use of ICT on pupils' learning in all areas of the curriculum and in the development of key skills.

Local Education Authorities should:

R3 work with schools to ensure greater consistency in standards in ICT from school to school, especially in secondary schools;

R4 ensure that there is continuity and progression in the development of pupils' ICT skills between Year 6 and Year 7; and

R5 provide guidance to schools to enable them to develop greater consistency in their planning for the development of ICT in school development plans.

Schools should:

R6 develop greater consistency in standards of achievement in ICT between classes in the same school, especially in secondary schools; and

R7 ensure that there is continuity and progression in ICT skill development between key stage 2 and key stage 3.

Standards of Achievement

Standards of achievement in the ICT key skill and National Curriculum information technology

25 Standards of achievement in using information and communications technology were grade 1 or grade 2 in 66% of the primary schools inspected during 2005-2006. The proportion of schools in which standards were grade 3 or better was 97%. These figures show some improvement from 2004-2005, when the comparative figures were 59% and 94%. The figures are much better than those for 2001-2002 when good or very good standards were found in about 50% of classes, with satisfactory or better standards in just under 90%. This improvement reflects the hard work of teachers and LEA advisory staff in developing the use of ICT in schools. However, there is still scope for further improvement, particularly in those schools where good features in standards achieved outweighed shortcomings.

26 Standards were grade 1 or grade 2 in 51% of the secondary schools inspected during 2005-2006. Standards were grade 3 or better in 92% of the schools. These figures show an improvement from 2004-2005, when the comparative figures were 50% and 84%. The figures are much better than those for 2001-2002 when there were good or very good standards in just over 20% of cases, with satisfactory or better standards in just over 60%. Despite these improvements, standards of achievement in ICT in secondary schools remain lower than in primary schools. Standards in ICT are also lower than in each of the other key skills.

27 In those schools where standards were grade 1 or grade 2, pupils were generally able to:

- use ICT equipment competently and confidently in a wide range of contexts;
- apply their understanding of ICT to enhance their learning in many aspects of the curriculum;
- combine text, graphics and, where appropriate, sound from various sources to produce well structured and well presented coursework;
- purposefully undertake research using the internet in a safe and responsible manner;
- use a wide range of software to communicate ideas and findings; and
- use appropriate software to handle and model information to help solve problems.

28 In those schools where standards were grade 3 or lower, the factors contributing to under-achievement included the following:

- the range of opportunities to use ICT was confined to particular classes or certain subjects;
- the ICT experiences that teachers planned for pupils were not fully implemented because of teachers' lack of confidence with particular aspects of ICT;
- too little account was taken of pupils' use and knowledge of ICT outside the school in the planning of sessions using ICT;
- pupils worked uninterrupted for too long at a computer without the teacher intervening to stimulate discussion about the work; and
- teachers did not always have high enough expectations of the level of skills that pupils could achieve.

29 National Curriculum assessments indicate improving standards in IT in key stage 3. Between 2002 and 2006, the proportion of pupils gaining level 5 or above in teacher assessments for IT increased from 64% to 73%.

Chart 1: 2004-2005 Standards in IT lessons in key stages 1, 2, and 3

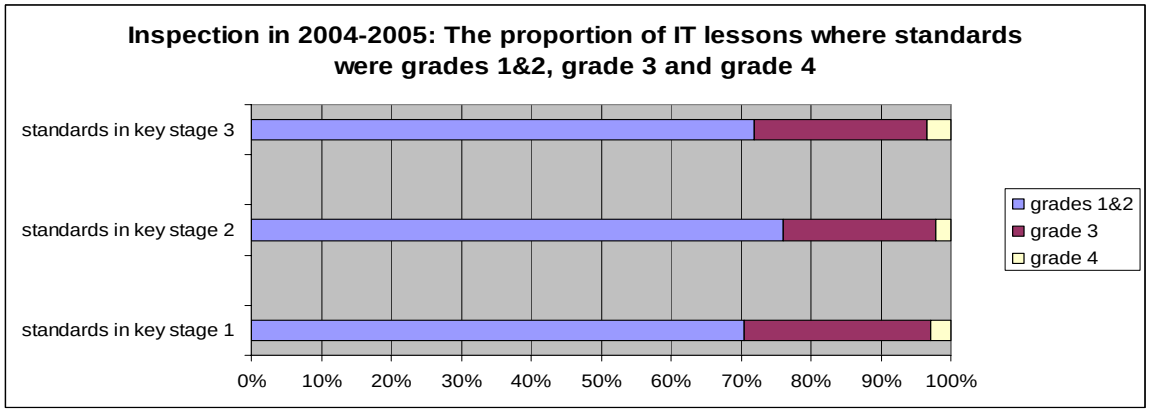
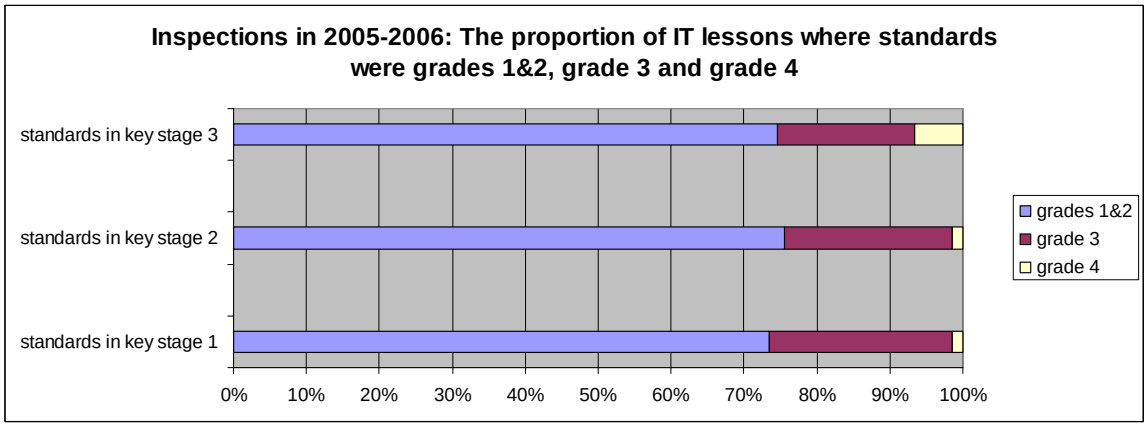


Chart 2: 2005-2006 Standards in IT lessons in keys stages 1, 2, and 3



30 Standards are satisfactory or better in most lessons across key stages 1, 2 and 3. Charts 1 and 2 above show the standards of National Curriculum information technology lessons in key stages 1 to 3 in 2004-2005 and in 2005-2006. The charts show similar outcomes for key stages 1 and 2 but with some improvement from key stage 1 to key stage 2. They also show a drop in standards between key stage 2 and key stage 3 with less very good or good work in key stage 3 in 2004-2005, and with more unsatisfactory work in 2005-2006.

31 The overall figures indicate that, within each of key stages 1 to 3, standards in ICT and IT are improving. However, standards of achievement still vary unduly from school to school and between classes in the same school. This is especially the case in secondary schools.

32 Important factors contributing to the overall lower standards in ICT in secondary schools compared with primary schools and the lower standards in IT in key stage 3, are:

- the greater emphasis placed by some LEA advisory services on supporting the development of ICT in primary schools than in secondary schools;
- the inadequate attention given in many secondary schools to building progressively on pupils' experiences of ICT in primary school; and
- the wide variation, within and between secondary schools, in the extent to which subject departments effectively develop pupils' ICT skills.

33 Inspection data for information technology for key stage 4 is not comparable with data from the other key stages. This is because it includes lessons that pupils choose to take as one of their options, such as a GCSE examination, as well as separate lessons that a majority of schools provide to help all key stage 4 pupils develop their ICT skills.

34 GCSE data generally reflects the increasing popularity of information technology in key stage 4. In 2005 and 2006, just over 33% of the year 11 cohort entered the full[2] GCSE information technology examination, a rise of three percentage points since 2002. In 2005 and 2006, just under 45% of year 11 pupils entered GCSE information technology or the short course GCSE in information technology. Performance in the full GCSE information technology examination has increased slightly between 2002 and 2006. About 63% of pupils entered attained grades A*-C in 2006 compared with 61% in 2002.

Standards of achievement in subjects through the use of ICT and other key skills

35 During the period that the Welsh Assembly Government has implemented the ICT funding strategies, including the BSF, outlined in the introduction from 2002 to 2006, there have been improvements in the main indicators of national pupil attainment in each key stage. However schools and LEAs are not able to show a direct link

[2] Includes information technology vocational qualification in 2006 and information studies in 2002.

between indicators of pupils' achievement in subjects across the curriculum, such as National Curriculum assessments and examination results, and the use of ICT to support learning and teaching.

36 In the period 2003-2006, teachers and managers have increased the monitoring and evaluation of pupils' experiences in lessons, often as part of school self-evaluation procedures. Schools and LEAs monitor and evaluate pupils' work, and use evidence from inspections to identify ways in which the use of ICT influences important aspects of pupils' learning and contributes to raising standards.

37 Despite this monitoring, however, schools and LEAs are not able to show a direct link between indicators of pupils' achievement in subjects across the curriculum, such as National Curriculum assessments and examination results, and the use of ICT to support learning and teaching.

38 In lessons where inspectors observed effective use of ICT to support teaching and learning across the curriculum, they found that good use of ICT:

- significantly improved pupils' motivation and eagerness to engage in the content of the lesson;
- improved pupils' level of concentration and the length of time they paid attention to key parts of the lesson;
- generated discussion, between pupils and between pupils and staff, of the key ideas presented in the lesson;
- provided virtual experiences to help pupils clarify their knowledge and understanding of topics they are studying; and
- facilitated stimulating learning activities that would be too long or too complicated without the use of ICT.

39 In lessons where inspectors observed the use of an interactive whiteboard, they found that the good use of an interactive whiteboard:

- provides the stimulus for probing questioning by teachers and thoughtful responses by pupils;
- encourages pupils to listen to what others have to say and help them learn to explain their own ideas to the rest of the class;
- develops pupils' ability to report to the class their findings from research and investigations; and
- extends pupils' understanding of key ideas of numeracy and hone their skills in mental mathematics.

40 Inspectors found that carefully planned activities for individuals, pairs or small groups of pupils, who have good access to ICT resources in the classroom or ICT suite, developed the ability of pupils to:

- critically evaluate their writing and to improve it through redrafting using a word processing package;
- collect, display and analyse data using spreadsheets and computer generated diagrams and graphs;
- research for information on the internet, from DVD or CD-ROM;
- work collaboratively using ICT resources to investigate solutions to problems; and
- present findings to a wider audience, including in other schools through the use of a Virtual Learning Environment (VLE).

41 The shortcomings that inspectors observed in the use of ICT in subjects across the curriculum were that pupils were:

- engaging in ICT activities that were not related clearly enough to the learning objectives for the lesson;
- not being critical of the results of research and printing out large amounts of irrelevant information;
- producing graphs and diagrams using given data rather then data they had obtained themselves; and
- using commercially produced software, or software designed by other teachers, that had not been adapted enough to meet their needs.

Using ICT to develop subjects across the curriculum and to develop other key skills

In one primary school, a small group of Year 6 pupils worked on a project based on the work of a famous Welsh artist. They used the internet confidently to research the artist. They downloaded examples of his work and prepared a presentation that included pictures, animation and text that described his life and work in their own words. The pupils presented their project to the rest of the class using the interactive whiteboard. The pupils were very highly motivated. They used their highly developed ICT skills to help them to gain a very good understanding of the life and work of the artist.

In a special school, pupils with learning difficulties in a mixed age key stage 4 class used ICT very well to reinforce and develop work they were doing in mathematics on three-dimensional shapes. On a visit to a local supermarket, they had taken digital photographs of a range of containers. In class, they used the photographs to prepare a presentation with a well-composed written commentary that highlighted the names and properties of the shapes of the containers. Pupils concentrated on the work for substantial periods of time. They used their well developed ICT skills to reinforce and extend their knowledge of three-dimensional shapes.

Key benefits

The use of ICT enhanced the learning because:

- ✓ it contributed to the main objectives of the lessons to develop pupils' knowledge and understanding in art and mathematics;
- ✓ it helped to develop appropriate skills in speaking, listening, reading and writing; and
- ✓ it encouraged pupils to work together to a common goal.

Teaching and learning using ICT

42 Schools and LEAs have generally used the BSF to good effect to provide additional training to teachers on the application of ICT across different subject areas. Most schools supplement this income significantly to achieve their aims.

43 LEA advisory services provide a wide variety of support and training for teachers and other staff on aspects of ICT and its use to support teaching and learning. This includes:

- centrally delivered training courses;
- training for a whole school or clusters of schools; and
- support and training for individual teachers or subject departments, often involving the delivery of exemplar lessons or one-to-one mentoring in the classroom.

44 Most LEAs also significantly supplement their income from the BSF to achieve their aims.

45 In the majority of primary and special schools, good progress has been made since 2002 in ensuring that all staff have the appropriate levels of skills and confidence to use suitable ICT resources in their teaching. Senior managers and ICT co-ordinators ensure that teachers use ICT to support learning in all classes and in a wide range of subjects across the curriculum. In the best practice, an audit of pupils' ICT experiences is undertaken. School staff, led by the ICT co-ordinator, carry out the necessary curriculum planning to ensure that pupils' ICT skills are developed progressively. Senior managers and ICT co-ordinators carry out regular monitoring of teaching and learning to ensure that teachers implement plans in class and to identify aspects that were successful in facilitating learning and those that were not. They use the results of the monitoring and evaluation to inform future planning.

46 Inspectors found similar good practice in a minority of secondary schools. More often, however, good practice is limited to those departments where the teachers understand the benefits of ICT, and are enthusiastic about it in their lessons. In other departments, good practice is absent or limited to one or two teachers in the departmental team. Heads of department are often very influential in driving forward the use of ICT in lessons, either through their own enthusiasm and expertise, or through encouraging another member of the department to take the lead in this aspect of its work.

47 As a result of training, partly financed through the BSF, LEAs, schools and teachers report much increased levels of confidence, technical knowledge and experience in the teachers' use of ICT to support their teaching in particular subjects and to develop pupils' key skills. They report increased use of ICT across all areas of the curriculum since 2003. Teachers' skills have improved in the effective use of equipment such as interactive whiteboards, data projectors, personal computers and laptop computers. Teachers use these resources in all subject areas. They make

good use of video and digital camera images to provide records of pupils' experiences and to act as stimuli for class or group discussion. In the schools visited, inspectors saw good use of the internet by both teachers and pupils. Inspectors did not observe any teachers making use of the NGfL (Cymru).

Local Education Authority consultancy service

One LEA provides an 'ICT consultancy' service to its schools. The LEA liaised with the school management of one school and identified the need to improve staff confidence and expertise in the use of ICT to support teaching and learning. A number of in-house sessions of ICT training for staff in the school sparked interest, enthusiasm and confidence.

The school management then used the most effective ICT teachers to train other staff. The needs of each member of staff were carefully analysed and managers made enough time available for teachers to support them with direct training or with support in-class from colleagues.

Managers then monitored and evaluated the impact of this training on work in the classroom and fed the outcomes of this into further plans for developing the use of ICT across the school. The school has used advisory teachers for further in-house sessions as teachers' skills and interest have grown. In a period of about three years, standards in ICT have risen across the school and the school achieves very good continuity and progression in the development of pupils' ICT skills.

Key benefits

Teachers and managers benefit because:

- ✓ the Local Education Authority focuses on the use of ICT to enhance teaching and learning;
- ✓ the Local Education Authority identifies best practice and uses it to improve the ICT skills of other teachers; and
- ✓ monitoring and evaluating the effect of training leads to further improved plans for developing ICT across the school.

Pupils benefit because:

- ✓ their subject lessons include more effective use of ICT; and
- ✓ they become more proficient in the use of ICT.

48 In addition, teaching and learning in specific subject areas are benefiting from the thoughtful, well-planned use of particular software and equipment by teachers and pupils. Examples include:

- digital microscopes and data logging in science;
- digital sewing machines in textiles;
- computer aided design and manufacture packages in design and technology;
- musical composition software and digital keyboards in music; and
- digital video cameras within PE to improve pupils' performance though peer and self-evaluation.

Using the interactive whiteboard to enhance teaching and learning

In one junior school, the teacher of a Year 6 class skilfully used an interactive whiteboard as the focus of a whole class session on long multiplication. The teacher used the interactive whiteboard to review the two methods that pupils had been taught. She presented problems to the pupils, who discussed their ideas about these problems in small groups. The teacher asked the pupils open-ended questions, which required them to justify answers they gave to problems presented and to explain their methods to the class. Later, the teacher used the interactive whiteboard to lead an assessment activity taking the form of a quiz with class merit points as prizes. Pupils were skilfully questioned about the responses they gave with the teacher prompting with comments such as, "Explain why that is important" and "Why must you do that?" Pupils took a lively part in the lesson. They displayed a very thorough grasp of the skills learned and their understanding of the principles underlying the work was outstanding.

Key benefits

The lesson enhanced the quality of teaching because:

- ✓ the teacher used ICT to help her devise an imaginative series of lessons on a key topic in key stage 2 mathematics;
- ✓ it combined ICT well with other important teaching activities, such as pupil discussion, teacher questioning and the assessment of learning; and
- ✓ it enriched pupils' experience of learning long multiplication, with ICT supporting the achievement of the lesson's objectives rather then displacing them.

49 Several LEAs and schools have observed the positive impact that ICT has had on improving the motivation of those teachers whose work had become routine and uninspiring. They also point to examples of teachers who have overcome difficulties they had managing some classroom activities through increased use of the interactive whiteboard and personal computers.

50 There has been a substantial increase in the number of teachers who use the interactive whiteboard since the original investment by the Welsh Assembly Government in 2002 which provided at least one for each school. In the best practice the interactive whiteboard is used with a variety of devices (such as data loggers, digital and video cameras) to provide stimulus for new learning activities, to focus discussion and allow the sharing of good practice by both teachers and pupils.

Use of networking software in a primary school

One school is well equipped with laptops and interactive whiteboards connected to a wireless network. Teachers make good use of networking software in the classroom. The software allows each user's screen to be displayed as a window on the interactive white board at the front of the class. The teacher uses this facility to monitor each pupil's progress on the task in hand and can identify issues as they arise, give additional help and identify good work and display it on the interactive white board so that the whole class can see it.

Key benefits

The use of ICT enhances learning because:

- ✓ it allows the teacher to monitor closely the work of all pupils;
- ✓ the teacher is able to share good examples of work with the whole class; and
- ✓ pupils are able to see and discuss each other's work.

51 A recent innovation funded through BSF ICT was the training of teachers in the use of digital cameras and associated software.

Use of digital cameras

In one primary school, the LEA trained a few teachers in the use of digital cameras and the associated software. The teachers then formed an animation club for those pupils who already had well-developed ICT skills. Pupils made effective use of the digital cameras and software to produce good animations.

The trained teachers then instructed other teachers in the school on how to use the cameras and software and the use of this ICT application is growing in several curriculum areas. For example, Year 1 and Year 2 pupils are using it to prepare videos for the interactive whiteboard of their PE activities and to develop their ability to evaluate their own performance against given criteria. In other classes, pupils make film excerpts of each other speaking and listening and use projections of these on the whiteboard to help them to evaluate and refine their oral skills.

Key benefits

- ✓ this work has developed not only pupils' ICT skills, but has significantly enhanced their oral skills, their ability to work with others and their problem solving capability.

52 A few teachers are using pupil voting response systems effectively in their lessons. Such systems encourage all pupils to be actively involved in lessons. When used well, they are able to generate greater discussion and give teachers an instant assessment of pupils' understanding or opinion. The software allows teachers to generate questions with up to six possible answers. Teachers can then develop these to meet the specific learning outcomes of the lesson. The options for pupils can also include common misunderstandings to provoke discussion. Pupils respond on an individual hand-held voting device. The results are analysed automatically and displayed on the interactive white board for discussion to reinforce learning and address individual incorrect responses.

53 A minority of secondary schools and LEAs are developing Virtual Learning Environments (VLEs). These allow teachers, pupils and parents to access relevant teaching materials and information at any time, both in schools and elsewhere. This is in the early stages of development and there is no clear evidence yet of the impact on teaching and learning. There are currently no detailed plans in place within schools or Local Education Authorities to evaluate their effectiveness.

54 Despite the increased availability of high speed internet connections in schools, there is little evidence of video conferencing in teaching and learning.

55 In the worst cases, this is generally due to one or more of the following factors:

- lack of appropriate dedicated resources in schools;
- the cost of using these resources in other schools or Local Education Authority facilities;

- the inaccessibility of dedicated resources in some areas; and
- resources becoming outdated and expensive to replace.

56 In a very few schools video conferencing is used well to deliver shared teaching between schools, for instance in advanced level Welsh and Modern Foreign Languages (MFL).

Key factors which influence the use of ICT to support teaching and learning

57 Since our previous report in 2003, most schools and LEAs have increased their effective use of ICT and show improvements in teaching and learning. In those schools with the greatest improvements, many or all of the of the following key factors are present:

- a clear focus by the head on ICT to support teaching and learning as a key priority for school improvement;
- strong support and backing by senior mangers to teachers with responsibility for co-ordinating ICT across the curriculum;
- effective use of the teaching of the ICT co-ordinator, other teachers who make good use of ICT in their lessons, and newly qualified teachers who have learned to use ICT effectively during in their training, to provide models for teachers who are less confident or who lack expertise;
- good access to timely support and training for staff that co-ordinates their enthusiasm for using ICT in teaching with the development of appropriate personal ICT skills and the ability to integrate these into their teaching;
- good use of records of progress in ICT skills made by individual pupils to inform lesson planning, so that teachers can build progressively on these skills;
- initiatives that link the work of secondary schools and their contributory primary schools so that the ICT skills developed in key stage 3 build on those that pupils acquired in key stage 2;
- access to good quality, reliable ICT resources;
- effective long-term, sustainable planning by schools and LEAs for investing in equipment and software;
- due consideration by managers in schools to the opportunities that exist for teachers to make best use of ICT resources that they currently possess, alongside planning for the acquisition of additional equipment; and
- good quality technical support for schools that helps to avoid faults developing, enables schools to deal with very minor faults themselves, and corrects other faults quickly when they occur.

Whole school planning for ICT

School Development Plans

58 Almost all schools surveyed have details of their proposed development of ICT in their school development plans. These plans vary widely in quality and detail. In the majority of cases, schools develop good quality separate plans for ICT. Heads, senior management teams or the ICT co-ordinator usually produce these. In many cases, these are three-year plans. Appropriately, most schools review these plans annually, measure progress on targets and use the findings to draw up action plans for progress.

59 A few of the schools visited do not have separate plans for ICT, but integrate the ICT requirements into whole-school development plans. Senior management teams usually produce these plans and share them with staff and governors. These plans are generally not as effective as separate plans for ICT.

60 Subject heads and ICT co-ordinators prepare their own plans from the three-year school development plans.

61 Although many LEAs give good guidance on the preparation of these plans, and often supply suitable templates for schools to use, only a few LEAs provide useful feedback on the quality and suitability of the plans. A few LEAs demonstrated good practice by releasing funding for ICT only on receipt of the school plans. Where schools are working towards the ICT quality mark, they consider the support given by their LEAs to be good.

Schemes of Work

62 In almost all schools visited, there are clear references to ICT in schemes of work prepared by co-ordinators, teachers and managers. These are either in separate schemes of work for ICT or highlighted in schemes of work for National Curriculum subjects. In many cases, where the schemes of work for ICT are separate, heads of departments and subject co-ordinators know when pupils develop specific ICT skills and when they can then be applied to their subjects. ICT co-ordinators effectively map the developments across the school to make sure that there are no gaps in the pupils' experience. In the best cases, the schemes make sure that pupils develop and apply their skills in different contexts to those they have met before.

63 The best schemes of work seen in the schools visited clearly show the activities where pupils will develop and use their ICT skills; clear progression routes for pupils; and take account of pupils' abilities and prior knowledge.

64 Providing continuity between key stage 2 and key stage 3 remains an issue for many schools. Planning for continuity in the development of ICT between Year 6 and Year 7 is often poor. As a result, pupils often repeat skills they have mastered in key stage 2 in key stage 3. However, in an increasing number of areas, schools are working together in their cluster groups to ensure progression from key stage 2 to

key stage 3. ICT co-ordinators in secondary schools are working with their feeder primary schools to adapt their schemes of work to reflect the skills previously gained at key stage 2 in order to ensure progression to key stage 3 and to avoid unnecessary repetition of work in Year 7.

Lesson planning

65 LEA advisers provide good advice and guidance on lesson planning, and there are often good examples of lesson plans available online. The best plans set clear aims and objectives for each lesson identify clearly where ICT activities are appropriate and how the skills are to be developed and applied by pupils. Many teachers are making effective use of lesson plans associated with particular software packages or teaching schemes. Many schools review lesson plans during classroom observations as part of their self-evaluation processes. ICT co-ordinators in most schools monitor lesson plans well in order to measure the impact of the use of ICT on teaching and learning.

The effectiveness of the schools' response to online safety issues

66 Almost all primary and secondary schools have clear policies and guidelines on the safe use of ICT and the appropriate behaviour for pupils. Some schools have an internet or ICT agreement with their pupils and a small number invite parents to sign the policy and approve use of the internet.

67 All schools visited have effective systems in place to monitor pupils' use of the internet. In some schools, pupils use ICT effectively to prepare their own guidance and advice on issues relating to safe use of the internet, email and cyber bullying, and make this available on the schools' website or intranet. This helps pupils to make sure that their usage of the internet is in a safe and appropriate manner.

68 All schools rely appropriately on the filtering and blocking facilities provided by their LEA systems to prevent unauthorised access and use of inappropriate web materials, including email and blogging[3]. A few schools also provide effective sessions for parents in dealing with internet safety and security.

[3] A 'blog' is a personal diary published on the internet.

Safe use of the internet

In one LEA, all computers used by young people in schools, youth clubs and libraries access the internet through the LEA-managed filtering system using internationally recognised software. The software is kept up-to-date by the provider and bans access to different categories of websites. These include sites containing pornography, racism, violence, personal and dating information. The software company updates the list of banned sites every day. Schools and LEAs can add to this list when they identify any unsuitable sites. Additional software is in place to check for unsuitable text and pictures in both the body and attachments of emails. Staff and pupils do not have access to web-based email. The LEA provides workshops for schools on safety and acceptable use of electronic communications. All schools receive written guidance and are expected to have an acceptable use policy. This must be approved annually by the Governing Body and is an area audited by the LEA.

Key benefits

The school benefits from local education authority initiatives by:

- ✓ having the latest filtering software available;
- ✓ knowing that the filtering list is updated daily; and
- ✓ having training from the Local Education Authority in best practice in using the internet.

Pupils benefit by:

- ✓ being protected from unsuitable internet content.

Appendix

Year groups and key stages

Schools use a common system of numbering year groups from the start of compulsory schooling to 18 years age. This system emphasises the importance of continuity and eases communication among schools, governing bodies, parents and LEAs.

The term 'Reception' (R) refers to the year group of pupils in a primary school who attain the age of 5 during the academic year. Year 1 refers to the year group of pupils who attain the age of 6 during the academic year and so on. Year 13 is the year group of students who attain the age of 18 during the academic year.

Primary phase:

Year	R	Y 1	Y 2	Y 3	Y 4	Y 5	Y 6
Ages	4-5	5-6	6-7	7-8	8-9	9-10	10-11

Secondary phase:

Year	Y 7	Y 8	Y 9	Y 10	Y 11	Y 12	Y 13
Ages	11-12	12-13	13-14	14-15	15-16	16-17	17-18

The National Curriculum covers four key stages as follows:

Key stage 1	Year 1 and Year 2
Key stage 2	Year 3 to Year 6
Key stage 3	Year 7 to Year 9
Key stage 4	Year 10 and Year 11