

Statistics of Education:

Survey of Information and Communications Technology in Schools 2001



INVESTOR IN PEOPLE

Issue No 09/01
October 2001

© Crown copyright

Published with the permission of the DfES on behalf of the Controller of the Stationery Office

ISBN 0112711200

Application for the reproduction should be made in writing to:
The Copyright Unit, Her Majesty's Stationery Office, St. Clements House
2-16 Colegate, Norwich, NR3 1BQ

Contact Points

For enquiries about this publication, contact:
Jennifer Beaumont, Room 140, Mowden Hall, Staindrop Road, Darlington,
Co. Durham, DL3 9BG
Tel: 01325 39 2765 – direct line
E-mail: jennifer.beaumont@dfes.gsi.gov.uk

To order this publication call the Stationery Office on 0870 600 5522.
See also back cover.

For general enquiries about National Statistics contact:
Public Enquiry Service on 020 5733 5888
(minicom: 01633 812399)
E-mail: info@statistics.gov.uk
Fax: 01633 652747

Letters: Room DG/18, 1 Drummond Gate, London, SW1V 2QQ

You can also find more statistics about Education and Training on
www.dfes.gov.uk/statistics/

Information about National Statistics can be found on
www.statistics.gov.uk/

A National Statistics publication

Official statistics bearing the National Statistics logo are produced to high professional standards. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political interference.

**SURVEY OF INFORMATION AND
COMMUNICATIONS TECHNOLOGY
IN SCHOOLS 2001**

CONTENTS	PAGE
Introduction	7
Key figures	8
Key facts	10
Section 1:	13
Computers in Schools	
Number of computers available	14
Types of computer available	15
Peripherals available for ICT	15
Section 2:	16
Internet usage and other external electronic communication services	
Access to the internet	17
Schools with their own website	17
Types of computers connected to the internet	18
Pupils and teachers with personal e-mail addresses	18
Section 3:	19
Use of ICT in teaching and teacher confidence	
Teacher confidence and training	20
Use of ICT in areas of the curriculum	21
Benefit of ICT in areas of the curriculum	22
Section 4:	23
Expenditure on ICT	24
Statistical Annex	25
Survey Form	

Introduction

1. This Statistical Bulletin reports on a survey of information and communications technology (ICT) provision in schools in England carried out in April 2001 and compares findings with similar surveys from 1998, 1999 and 2000. It illustrates the progress that schools have made towards meeting the targets for 2002 that underpin the current phase of the Government's **National Grid for Learning (NGfL)** programme. These include:

- Connecting all schools, colleges, universities, public libraries and as many community centres as possible to the Grid.
- Ensuring that serving teachers feel confident and competent to teach using ICT within the curriculum, and that school librarians are similarly trained.
- Enabling school leavers to have a good understanding of ICT, with measures in place for assessing their competence in it.
- Ensuring that general administrative communications between education bodies and the government and its agencies, cease to be largely paper-based.
- Making Britain a centre of excellence in the development of networked software content and a world leader in the export of learning services.

2. The NGfL programme has three overlapping policy strands: stimulating the provision of digital resources to meet the diverse needs of the educational community; helping schools to acquire the ICT infrastructure necessary to access and use these resources effectively for curriculum and management purposes; and providing teachers with opportunities to develop the capability to use ICT to enrich their teaching and reduce their workload.

3. The findings of this survey should also be viewed in the context of continuing investment in ICT in schools from a variety of sources. Between 1998-99 and 2001-02 the Government is supporting £657 million of expenditure on ICT in schools through the NGfL Standards Fund grant, including £205m in 2000-01 and £245m in 2001-02. This forms part of a co-ordinated programme of investment that also includes funding from the New Opportunities Fund (NOF) to provide ICT training for UK serving teachers and school librarians (ICT is now part of the curriculum for initial teacher training).

4. In making available funding through the Standards Fund the Government has indicated that it expects all schools to have achieved a minimum level of ICT provision in 2002 – the NGfL baseline. This is defined as:

- Access to ICT for teaching and learning purposes equivalent to a computer to pupil ratio of at least 1:11 in each primary school and 1:7 in each secondary school.
- A secure connection to the internet in each school, with at least 20% of schools connected at broadband level.
- At least one networked computer with internet access in each school for management and administrative purposes.

The NGfL website provides a focus for educational resources on the internet. Its address is

<http://www.ngfl.gov.uk/index.html>

Survey Methodology

5. The ICT Survey is a major source of information about the availability and use of information and communication technologies in primary, secondary and special schools in England. The survey collects information on the number and type of computers available in schools; expenditure in schools; the extent and benefit of the use of ICT across curriculum subjects; the use of internet and other electronic network communications links; and teacher usage of computers and their confidence in the use of ICT in the curriculum. It is a sample survey and the sample is chosen to be representative of different types of school throughout the country. Responses were received from 785 primary, 753 secondary and 330 special schools: response rates of 67 per cent, 64 per cent and 66 per cent respectively of the chosen sample. The response rates were better than in 2000 but to ensure that the resulting figures were representative of the characteristics of schools as a whole, the distribution of responding schools was compared to the sampling frame and adjustments were introduced. In order to calculate the 'all schools' figures the data was weighted to give figures that were representative of the overall school population. In the main body of the text the best estimate for each number or percentage is given.

Related Statistics

6. Information about attainment in non-core Key Stage subjects including ICT was released in a Statistical First Release in mid-October 2001. GCSE examinations in ICT were published in the Statistical First Release 'GCSE/GNVQ and GCE A/AS and Advanced GNVQ Results for Young People in England, 2000/01' on 18 October 2001. These and related publications from previous years can be found on the DfES web site www.dfes.gov.uk/statistics.

KEY FIGURES

	Primary				Secondary			
	1998	1999	2000	2001	1998	1999	2000	2001
Computers mainly for used for teaching and learning in schools								
average number of computers per school	13.3	16.1	17.8	20.7	100.9	101.3	112.6	127.7
average number of pupils per computer	17.6	13.4	12.6	11.8	8.7	8.4	7.9	7.1
Expenditure on ICT								
Estimated total (£ million)								
teaching and learning	49	105	123	154	119	136	148	173
school management and administration	19	20	27	32	24	25	29	37
Average per school (£)								
teaching and learning	2,600	5,800	6,800	8,500	33,300	38,200	41,800	49,600
school management and administration	1,000	1,200	1,500	1,800	6,800	7,200	8,300	10,700
Average per pupil (£)								
teaching and learning	11	27	30	35	38	45	47	54
school management and administration	4	5	7	7	8	8	9	12
Percentage of schools connected to the Internet								
	17	62	86	96	83	93	98	>99
Computers linked to the Internet								
average per school	-	3	6	12	-	27	60	108
Percentage with a personal e-mail address:								
teachers	2	15	37	53	9	32	52	66
pupils	-	4	9	17	3	12	26	51
Percentage with a personal e-mail address:								
percentage who feel confident to use ICT within the curriculum	64.7	67.8	67.1	76.4	60.8	66.1	65.3	70.2
percentage who have received some training in ICT	90.3	91.9	82.0	79.5	85.1	87.8	75.0	65.5
percentage who have received updated training within the last two years	45.3	45.6	60.0	72.0	36.3	39.0	49.4	53.2
- negligible								

KEY FIGURES

Special				All Schools				
1998	1999	2000	2001	1998	1999	2000	2001	
Computers mainly for used for teaching and learning in schools								
18.5	21.0	21.3	24.8	27.1	29.5	32.6	37.3	average number of computers per school
4.5	3.7	3.7	3.2	13.8	11.2	10.5	9.7	average number of pupils per computer
Expenditure on ICT								
								Estimated total (£ million)
7	10	12	12	174	251	283	339	teaching and learning
2	2	3	3	45	48	59	73	school management and administration
								Average per school (£)
6,000	8,300	9,600	10,500	7,500	10,900	12,400	14,900	teaching and learning
1,500	1,900	2,300	2,800	1,900	2,200	2,600	3,200	school management and administration
								Average per pupil (£)
73	107	124	131	23	35	38	44	teaching and learning
18	25	30	35	6	7	8	10	school management and administration
Percentage of schools connected to the Internet								
31	60	92	97	28	66	88	97	
Computers linked to the Internet								
-	3	7	15	-	7	14	27	average per school
Percentage with a personal e-mail address:								
2	14	44	53	5	23	45	60	teachers
<1	4	13	22	1	7	16	32	pupils
Percentage with a personal e-mail address:								
62.8	67.6	73.4	76.7	62.7	67.0	66.5	73.4	percentage who feel confident to use ICT within the curriculum
89.0	91.7	85.2	75.4	87.7	89.9	78.7	72.6	percentage who have received some training in ICT
45.8	45.4	65.5	66.4	41.0	42.4	55.1	62.6	percentage who have received updated training within the last two years
- negligible								

KEY FACTS

Expenditure on ICT

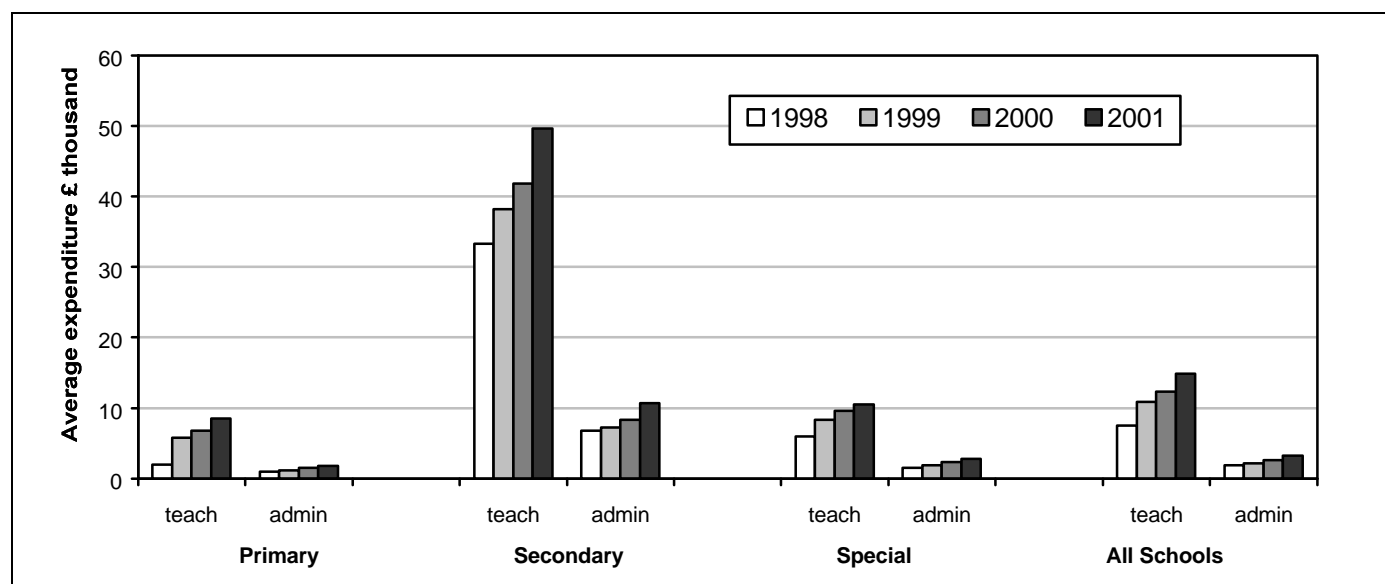
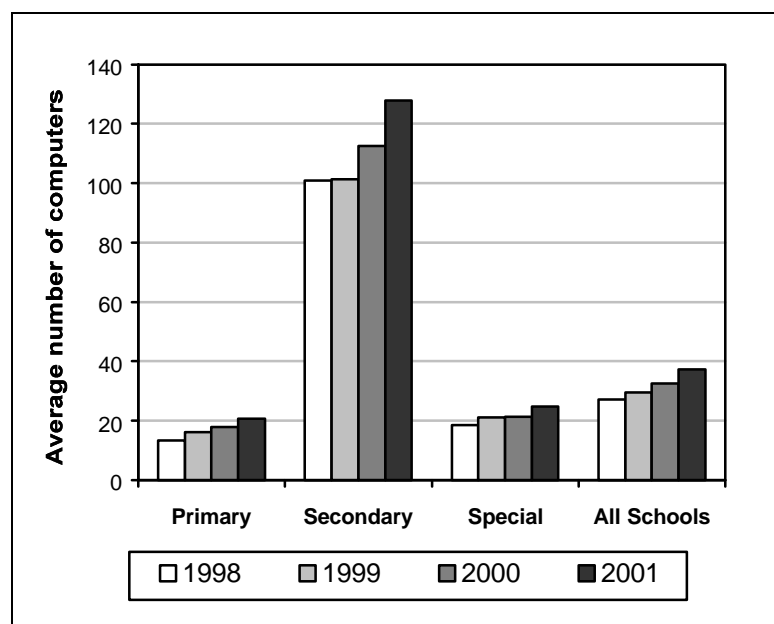


Chart 1: Average expenditure per school on computers for teaching and learning or school administration by type of school: 1998 -2001

The average expenditure on computers per school:

- increased steadily in all school types between 1998 and 2001;
- increased by the largest amount for teaching and learning in primary schools in 2001, as a percentage of 2000 figures.

Computers in Schools



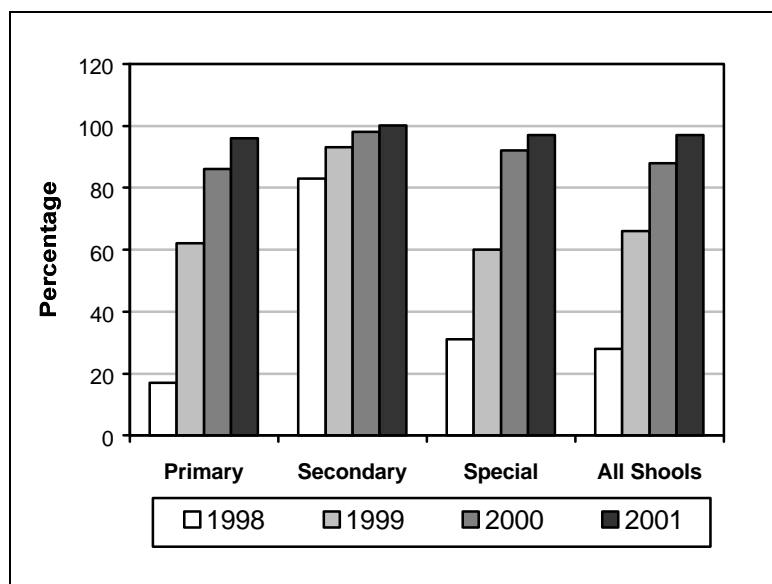
The average number of computers per school:

- increased steadily in all types of schools between 1998 and 2001;
- remained approximately the same between 1998 and 1999 in secondary schools and then rose sharply in 2000 and 2001;
- rose more sharply in special schools between 2000 and 2001 than previous years.

Chart 2: Average number of computers per school: 1998 – 2001

See Section 4 for more details on expenditure.
See Section 1 for more information on numbers, ages and types of computers in schools.

Access to the internet



- Between 1998 and 2001 there was a considerable increase in the percentage of schools connected to the internet.
- 96 per cent of primary and 97 per cent of special schools had access to the internet in 2001 compared to 86 per cent of primary and 92 per cent of special schools the year before and 17 and 31 per cent respectively in 1998.
- Over 99 per cent of secondary schools were connected in 2001 compared to 83 per cent in 1998.

Chart 3: Percentage of schools with access to the internet: 1998-2001

Personal e-mail addresses for teachers and pupils

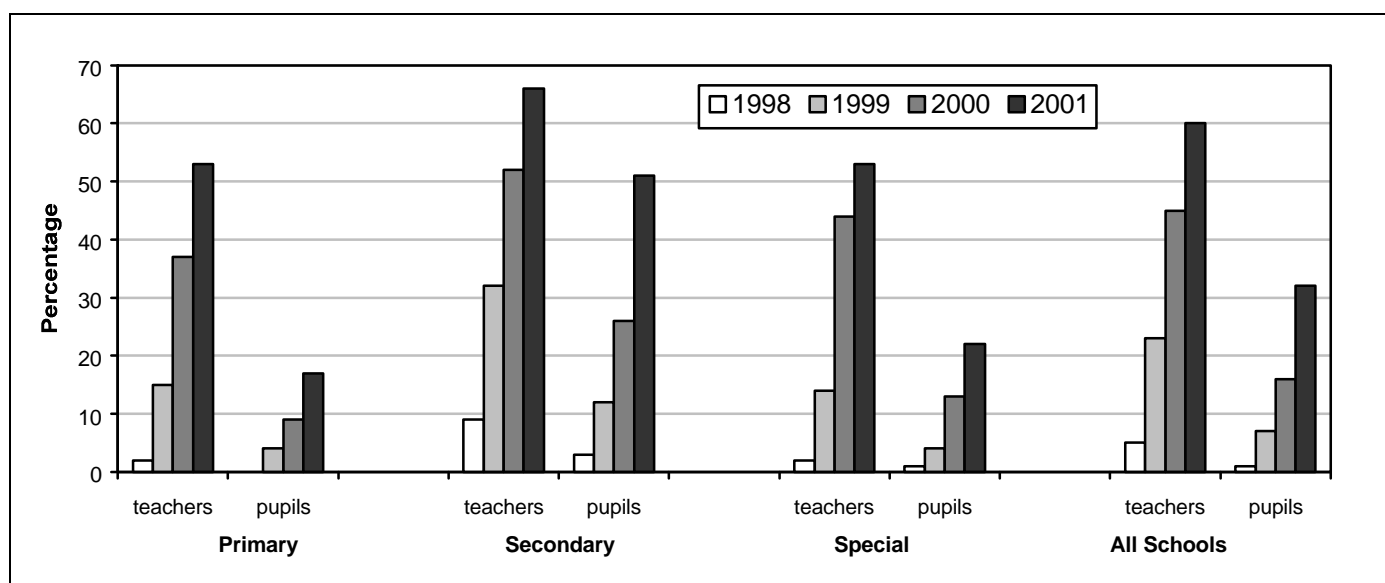


Chart 4: Percentage of teachers and pupils with access to a personal e-mail address: 1998 – 2001

- Between 1998 and 2001 the percentage of pupils who had personal e-mail addresses has doubled each year and risen sharply for teachers in all schools.
- In secondary schools two thirds of teachers and over half of all students had their own e-mail address.
- In primary and special schools over half of teachers were reported to have a personal e-mail address and the percentage of pupils with their own e-mail address rose to 17 and 22 per cent respectively in 2001.

See Section 2 for more details on connection and access to the internet in schools and use of e-mail and internet by teachers and pupils.

Teachers' confidence and training in the use of ICT

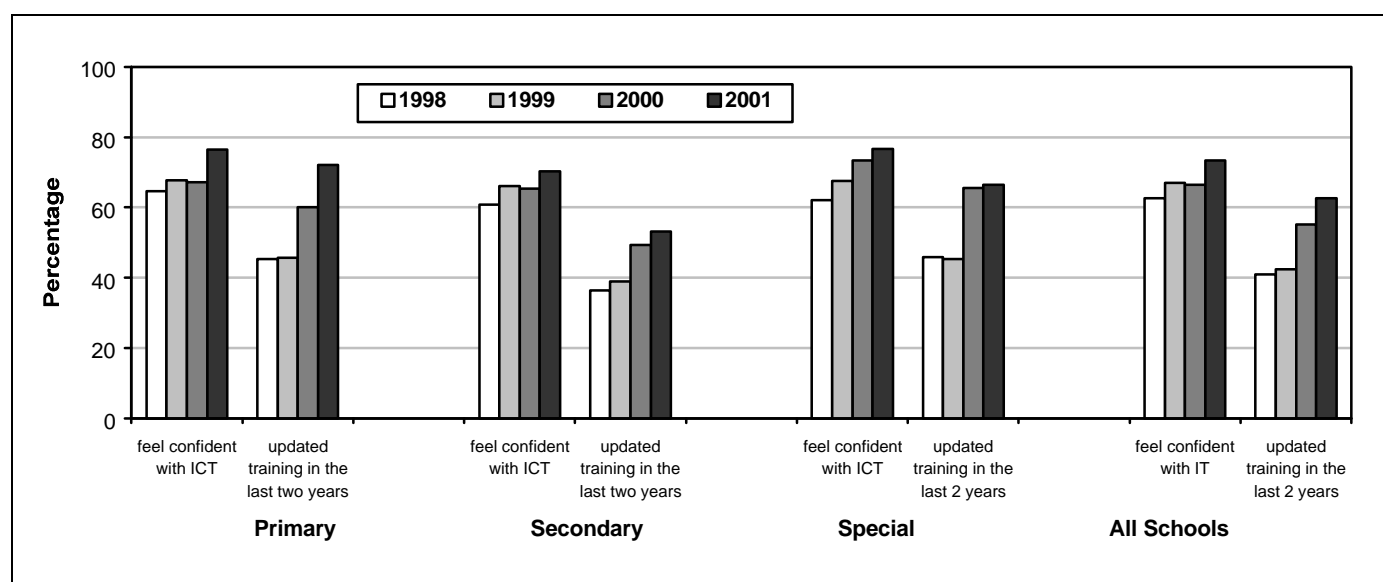


Chart 5: Teachers' confidence and training in the use of ICT: 1998-2001

- In each type of school there was an increase in the percentage of teachers reported to feel confident in the use of ICT in 2001.
- In all schools there had been an increase in the percentage of teachers who had received training in the use of ICT in the last two years, with the largest rise in primary schools.
- In special schools the percentage of teachers confident in the use of ICT increased steadily between 1998 and 2001 whilst the proportion of teachers who had received updated training increased slightly in 2001 after a sharp rise in 2000.
- The proportion of teachers in secondary schools who had received training in the last two years and the percentage who were reported to be confident in the use of ICT remained lower than in special or primary schools.

See Section 3 for more details about teachers' confidence and training in the use of ICT and about the use and benefit of ICT within the curriculum.

SECTION 1

COMPUTERS IN SCHOOLS

Numbers and types of computers available

1. The NGfL baseline indicates that computer to pupil ratios for teaching and learning purposes should be at least 1:11 in primary schools and 1:7 in secondary schools in 2002. The respective averages of 11.8 and 7.1 as shown in the key figures are close to these ratios and from the sample data it can be shown that already 41 per cent of primary schools and 45 per cent of secondary schools surveyed have met this element of the baseline.

2. The information given about the type, age and multi-media capability of computers in **Table 1** refers to those used mainly for curriculum purposes in primary, secondary and special schools. There has been an increase in the total stock of computers and a decrease in the percentage of computers over three years old in all schools.

3. In primary schools, there was a large increase in the average number of computers per school between 2000 and 2001, mirroring the increase in 1998 to 1999. The proportion of computers over three years old decreased from 64 per cent in 1998 to 37 per cent in 2000. The percentage of computers with multi-media facilities in primary schools in 2001 was considerably more than that of 1998.

4. Secondary schools also showed an increase in the average number of computers between 1998 and 2001. Computers over three years old decreased from 57 per cent in 1998 to 36 per cent in 2001. Over the same time period there was an increase in the proportion of computers with multi-media facilities from 25 per cent to 68 per cent.

5. The average number of computers per school rose significantly in special schools between 1998 and 2001. The percentage of these over three years old fell from 58 in 1998 to 43 in 2001. The proportion of computers with

multi-media facilities increased from 35 per cent in 1998 to 75 per cent in 2001.

6. **Table 2** shows that there were increases in all schools in the average number of computers in use for management and administrative purposes, with the largest percentage rise in secondary and special schools. The proportion of these computers over three years old actually rose slightly overall but decreased for the second year running in special schools.

7. **Table 3** shows the average number of computers linked to an internal school network between 1999 and 2001. Overall the changes between years have been consistent and encouraging for all schools.

8. More computers were connected to an internal school network (Local Area Network in 2001) across all schools in 2001 than in 1999 and 2000.

9. **Table 4** gives information on the different types of computers and peripherals used for ICT in primary, secondary, special and all schools in 2001. In all schools it can be seen that the average number of desktops is almost 40 per school with the percentage of these over 3 years old being relatively low.

10. The largest average number of laptops was in secondary schools, with over 80 per cent of these laptops having multi-media facilities. Overall, 68 per cent of all palmtops were over 3 years old, with very few schools having access to at least one palmtop.

11. The most common ICT peripherals were printers and digital cameras with almost all schools having access to a printer. Over three quarters of secondary schools have access to a digital projector.

Table 1: Computers available mainly for curriculum purposes: 1998, 1999, 2000 and 2001

	1998	1999	2000	2001
Primary				
Average number of computers per school	13.3	16.1	17.8	20.7
Percentage of computers over 3 years old	64.0	52.1	46.2	37.2
Percentage of computers with multi-media facilities	26.9	44.5	59.8	71.2
Secondary				
Average number of computers per school	100.9	101.3	112.6	127.7
Percentage of computers over 3 years old	56.9	50.2	44.5	36.1
Percentage of computers with multi-media facilities	25.2	36.9	54.0	67.5
Special				
Average number of computers per school	18.5	21.0	21.3	24.8
Percentage of computers over 3 years old	57.7	51.0	44.2	43.3
Percentage of computers with multi-media facilities	34.6	48.9	66.5	75.1
All schools				
Average number of computers per school	27.0	29.4	32.5	37.3
Percentage of computers over 3 years old	59.2	50.7	45.3	36.8
Percentage of computers with multi-media facilities	24.4	39.8	57.0	69.4

Table 2: Computers available mainly for management and administrative purposes: 1999, 2000 and 2001

	<u>1999</u>	<u>2000</u>	<u>2001</u>
Primary			
Average number of computers per school	2.2	2.3	2.6
Percentage of computers over 3 years old	33.4	27.4	28.7
Percentage of computers with multi-media facilities	31.1	55.0	54.1
Secondary			
Average number of computers per school	13.1	15.5	18.4
Percentage of computers over 3 years old	36.2	29.4	30.5
Percentage of computers with multi-media facilities	30.1	44.8	56.4
Special			
Average number of computers per school	3.7	3.8	4.5
Percentage of computers over 3 years old	31.4	29.0	26.6
Percentage of computers with multi-media facilities	34.2	53.4	62.6
All schools			
Average number of computers per school	4.0	4.4	5.1
Percentage of computers over 3 years old	34.7	28.6	29.6
Percentage of computers with multi-media facilities	30.7	49.5	55.7

Table 3: Average number of computers linked to an internal school network: 1999, 2000 and 2001

	<u>1999</u>	<u>2000</u>	<u>2001</u>
Primary	2.6	5.2	8.5
Secondary	61.8	80.6	112.6
Special	3.5	6.4	12.2
All Schools	11.8	16.9	24.7

Table 4: Types of computers and peripherals for use with ICT per school: 2001

	<u>2001</u>			
	<u>Primary</u>	<u>Secondary</u>	<u>Special</u>	<u>All Schools</u>
Desktop				
Average number of computers per school	20.7	134.8	25.6	38.4
Percentage of computers over 3 years old	37	36	42	37
Percentage of computers with multi-media facilities	70	66	74	68
Laptop				
Average number of computers per school	2.1	10.1	3.6	3.4
Percentage of computers over 3 years old	21	19	29	20
Percentage of computers with multi-media facilities	73	81	71	76
Palmtop				
Average number of computers per school	0.5	1.3	0.2	0.6
Percentage of computers over 3 years old	70	67	48	68
Percentage of computers with multi-media facilities	1	0	10	1
Percentage of schools with access to peripherals for ICT				
printers	95	96	97	95
digital cameras	80	96	96	84
digital projectors	20	77	26	29
electronic interactive whiteboards	9	40	14	14
DVD	8	27	20	12
Other	38	47	46	40

SECTION 2

INTERNET AND ELECTRONIC COMMUNICATIONS

Access to the internet

12. Substantial progress is being made towards achieving the Government's target for every school to have access to the internet. **Table 5** shows that all schools are rapidly approaching 100 per cent connectivity with practically all secondary schools being connected to the internet. In each school type, the most common form of access is via a computer network connected to the internet using an ISDN2 connection. The total number of maintained schools that were connected to the internet in 2001 was estimated at 22,000.

13. Another element of the NGfL baseline is to have at least 20 per cent of schools including all secondary schools connected to the internet at broadband level by 2002. Currently only 2 per cent of primary schools, 14 per cent of secondary schools and 5 per cent of special schools are connected at broadband level. Almost all of these are supplied by a cable broadband connection with very few using microwave or satellite.

14. **Table 6** shows the percentage and estimated number of schools that were reported to have their own website for the years 1999 to 2001. In 2001, 71 per cent of secondary schools and over 30 per cent of primary and special schools reported that they had their own website. The largest increase in 2001 from the previous year was in secondary

schools.

15. One of the elements of the NGfL baseline for 2002 is to have at least one networked computer with internet access in each school for management and administration. **Table 7** shows that in all schools there are 2.7 computers on average, as above. However, from the sample data we can see that only 40 per cent of primary, 82 per cent of secondary, half of special and 47 per cent of all schools actually have access to at least one computer of this type.

16. The average number of computers connected to the internet increased significantly in all schools between 1999 and 2001. In primary schools the average number of computers connected more than doubled. Secondary and special schools reported almost twice as many computers on average per school were connected to the internet in 2001 compared to 2000.

17. **Table 8** shows that there was substantial progress towards increasing e-mail access with a rise in the proportion of both teachers and pupils with personal e-mail addresses in all types of school in 2001. Almost a third of all students and 60 per cent of all teachers were reported to have their own e-mail address in 2001.

Table 5: Connection to the internet: 2001

	2001			
	Primary	Secondary	Special	All Schools
Percentage of schools connected to the internet:	96	>99	97	97
Estimated number of schools connected to the internet	17,300	>3,400	1,100	22,000
percentage of which is access through (1):				
a modem	10	2	10	9
an ISDN2 connection	80	72	81	79
a leased line	2	7	1	3
a broadband connection	2	14	5	4
other	1	4	0	2
Percentage of internet access (2):				
provided by Local Education Authority	49	37	52	47
provided by Internet Service Provider	50	58	48	51
provided by Internet Access Provider	3	7	4	4

(1) Percentage of schools recording their principle source of internet access

(2) Percentage of all types of internet provision in connected schools

Table 6: Schools with their own website: 1999- 2001

	Primary			Secondary			Special			All Schools		
	1999	2000	2001	1999	2000	2001	1999	2000	2001	1999	2000	2001
percentage with own website	21	34	37	54	62	71	22	31	33	26	38	42
estimated number of schools with own website	3800	6200	6700	1900	2200	2500	270	370	380	6000	8800	9600

Table 7: Average number of computers connected to the internet per school: 1999, 2000 and 2001

2001	Primary	Secondary	Special	All Schools
Stand alone:				
teaching and learning	2.1	1.4	2.2	2.0
school management and administration	0.6	0.6	0.7	0.6
Networked:				
teaching and learning	8.7	94.3	10.2	21.9
school management and administration	1.0	11.9	1.8	2.7
1999-2001				
Average number of computers per school linked to internet: 2001	12.5	108.2	14.9	26.9
<i>Average number of computers linked to internet: 2000</i>	5.8	59.8	7.3	14.2
<i>Average number of computers linked to internet: 1999</i>	2.5	27.1	2.5	6.7

Table 8: Percentage of pupils and teachers with e-mail addresses: 1998, 1999, 2000 and 2001

	Primary				Secondary				Special				All Schools			
	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001
personal																
teachers	2	15	37	53	9	32	52	66	2	14	44	53	5	23	45	60
pupils	0	4	9	17	3	12	26	51	1	4	13	22	1	7	16	32
shared																
teachers	-	-	-	51	-	-	-	21	-	-	-	42	-	-	-	36
pupils	-	-	-	41	-	-	-	9	-	-	-	36	-	-	-	27

SECTION 3

TEACHER CONFIDENCE AND USE OF ICT IN TEACHING

Teacher confidence and training

18. **Table 9** shows that the percentage of teachers who feel confident in the use of ICT for teaching the curriculum was significantly higher in all schools in 2001 than in 2000. This is a positive step towards policy targets.

19. Between 1999 and 2001 there was a reduction in the number of teachers in all types of school who were reported to have received some form of training in ICT. 53 per cent of teachers in secondary schools, 72 per cent of teachers in primary schools and 66 per cent of teachers in special schools had received updated training in the use of ICT in the last two years in 2001, a significant increase when compared to 1999 and 1998.

20. There was an increase in the percentage of teachers with access to a computer at home in primary schools, with the secondary and special schools teacher percentage staying roughly the same.

Use and benefit of ICT

21. **Table 10** shows the extent of use of ICT in curriculum

subjects. Substantial use of ICT increased in all subjects across all schools between 2000 and 2001. The subjects making the most use of ICT in primary and special schools in 2001 were English and information and technology. As in 2000, science reported a notable increase in the proportion of substantial use of ICT. Physical education consistently reported little or no use of ICT.

22. In secondary schools, substantial use of ICT was spread across more curriculum areas and physical education was reported as the area in which the highest percentage of schools made no use of ICT.

23. **Table 11** gives information on the beneficial effect of ICT in curriculum subjects. In primary and special schools information technology, English and mathematics reported the highest proportion of a beneficial effect. It was reported that little or no benefit could be seen in physical education.

24. In secondary schools information technology and design and technology reported the highest beneficial effects with physical education again displaying the least benefit of ICT.

Table 9: Teacher confidence in use of ICT: 1998, 1999, 2000 and 2001

	Primary				Secondary				Special				All Schools			
	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001
Percentage of teachers who:																
feel confident to use ICT within the curriculum	64.7	67.8	67.1	76.4	60.8	66.1	65.3	70.2	62.8	67.6	73.4	76.7	62.7	67.0	66.5	73.4
have received some training in ICT	90.3	91.9	82.0	79.5	85.1	87.8	75.0	65.5	89.0	91.7	85.2	75.4	87.7	89.9	78.7	72.6
have received updated training within the last two years	45.3	45.6	60.0	72.0	36.3	39.0	49.4	53.2	45.8	45.4	65.5	66.4	41.0	42.4	55.1	62.6
have access to a computer at home or have desktop/laptop computer assigned for their personal use	-	-	66.3	76.9	-	-	56.7	57.6	-	-	70.5	70.4	-	-	61.8	67.3

Table 10: Percentage of use of ICT in areas of the curriculum: 2000 and 2001

	2000		2001	
	Substantial	Little/ none	Substantial	Little/ none
Primary				
Art	36	64	41	59
Design and technology	8	92	13	87
English	87	13	89	11
Geography	24	76	34	66
History	35	65	46	54
Humanities	11	89	17	83
Information technology	89	11	94	6
Mathematics	66	34	74	26
Modern foreign languages	0	100	1	99
Music	4	96	9	91
Physical education	0	100	1	99
Religious education	3	97	8	92
Science	35	65	50	50
Other	2	98	1	99
Secondary				
Art	27	73	35	65
Design and technology	73	27	81	19
English	49	51	56	44
Geography	37	63	56	44
History	30	70	42	58
Humanities	20	80	26	74
Information technology	97	3	99	1
Mathematics	48	52	60	40
Modern foreign languages	31	69	43	57
Music	30	70	43	57
Physical education	1	99	9	91
Religious education	16	84	27	73
Science	49	51	67	33
Other	26	74	18	82
Special				
Art	33	67	44	56
Design and technology	21	79	33	67
English	88	12	89	11
Geography	21	79	36	64
History	21	79	35	65
Humanities	16	84	23	77
Information technology	90	10	95	5
Mathematics	75	25	79	21
Modern foreign languages	9	91	15	85
Music	18	82	27	73
Physical education	0	100	2	98
Religious education	8	92	15	85
Science	37	63	49	51
Other	21	79	13	87

Table 11: Percentage of benefit of ICT in areas of the curriculum: 2001

	2001	
	Substantial	Little/ none
Primary		
Art	32	68
Design and technology	13	87
English	81	19
Geography	33	67
History	43	57
Humanities	15	85
Information technology	90	10
Mathematics	68	32
Modern foreign languages	1	99
Music	9	91
Physical education	1	99
Religious education	8	92
Science	45	55
Other	1	99
Secondary		
Art	38	62
Design and technology	81	19
English	58	42
Geography	57	43
History	45	55
Humanities	28	72
Information technology	98	2
Mathematics	60	40
Modern foreign languages	42	58
Music	45	55
Physical education	11	89
Religious education	27	73
Science	67	33
Other	17	83
Special		
Art	41	59
Design and technology	35	65
English	89	11
Geography	38	62
History	36	64
Humanities	24	76
Information technology	94	6
Mathematics	81	19
Modern foreign languages	18	82
Music	29	71
Physical education	4	96
Religious education	16	84
Science	51	49
Other	14	86

SECTION 4

EXPENDITURE ON ICT

Expenditure on ICT

25. **Table 12** shows the expenditure by schools on ICT for teaching and learning and for management and administration. There has been an increase in spending in all types of school in 1998 and 2001. The largest increase in all schools was in 1999 in regards to spending on ICT for teaching and learning, where expenditure rose considerably. There has been a rise in spending in primary and secondary schools with special school spending levels remaining much the same between 2000 and 2001.

26. Although the number of schools has decreased overall, the average amount spent per school increased in all schools between 2000 and 2001 for both teaching and learning and administration.

27. All schools received the highest rise in the average spent per pupil between 2000 and 2001 since 1998 to 1999 in teaching and learning and administration.

Table 12: Expenditure on ICT in schools by type of school: 1998, 1999, 2000 and 2001

	Primary				Secondary				Special				All Schools			
	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001
Estimated total (£ mill)																
teaching	49	105	123	154	119	136	148	173	7	10	12	12	174	251	283	339
management and administration	19	20	27	32	24	25	29	37	2	2	3	3	45	48	59	73
Average per school																
teaching	2,600	5,800	6,800	8,500	33,300	38,200	41,800	49,600	6,000	8,300	9,600	10,500	7,500	10,900	12,400	14,900
management and administration	1,000	1,200	1,500	1,800	6,800	7,200	8,300	10,700	1,500	1,900	2,300	2,800	1,900	2,200	2,600	3,200
Average per pupil																
teaching	11	27	30	35	38	45	47	54	73	107	124	131	23	35	38	44
management and administration	4	5	7	7	8	8	9	12	18	25	30	35	6	7	8	10

Statistical sampling error

Estimates produced from a survey of a sample of schools may differ from the true figures for all schools. This is known as sampling error, and it is important to know the extent of this error when interpreting the results, particularly when there are only small differences that may be entirely because of sampling error rather than any real variation in the underlying figures.

The size of error depends on the size of the sample - in general, the smaller the sample the larger the error. The 95 per cent confidence interval for an estimate gives the range within which there is a probability of 0.95 that the true figure lies. The 95 per cent confidence interval for an estimated percentage, **p**, is given by the formula;

$$p \pm 1.96 \times \sqrt{\frac{p(100-p)}{n}}$$

and the 95 per cent confidence interval for the mean is given by:

$$x \pm 1.96 \times \frac{s}{\sqrt{n}}$$

where **n** is the sample size, **x** is the sample mean and **s** is the standard deviation. The smaller number produced from this calculation is called the *lower bound* and the larger is called the *upper bound* for the confidence interval. The tables below give the upper and lower bound confidence intervals for some of the key statistics and for teacher confidence and training figures for 2001.

For example, the survey found that 70.2 per cent of secondary school teachers were confident in the use of ICT within the curriculum. The lower bound for this number is given as 69.9 per cent and the upper bound as 70.5 per cent. What we can say about the percentage of secondary school teachers confident in the use of ICT is that: 'It is reasonably certain that between 69.9 and 70.5 per cent of secondary school teachers in England were confident in the use of ICT within the curriculum in 2001.'

CONFIDENCE INTERVALS FOR KEY FIGURES 2001

	Primary			Secondary			Special		
	Lower	Upper	2001	Lower	Upper	2001	Lower	Upper	2001
Computers in schools for teaching and learning									
average number of computers per school	20.0	21.4	20.7	123.8	131.5	127.7	23.5	26.2	24.8
Expenditure on ICT									
Average per school (£)									
teaching and learning	8,032	9,056	8,544	47,483	51,720	49,601	9,763	11,299	10,531
school management and administration	1,650	1,931	1,790	9,905	11,399	10,652	2,453	3,094	2,774
Percentage of schools connected to the Internet									
	95.0	97.2	96.2	99.6	100.0	99.8	96.0	98.8	97.4
Computers linked to the Internet									
Average per school	11.8	13.1	12.5	104.2	112.1	108.2	13.6	16.1	14.9
Percentage with a personal e-mail address:									
teachers	52.6	54.4	53.5	65.7	66.3	66.0	52.2	54.6	53.4
pupils	16.8	17.0	16.9	50.9	51.1	51.0	21.4	22.2	21.8

CONFIDENCE INTERVALS FOR TEACHER CONFIDENCE AND TRAINING 2001

	Primary			Secondary			Special		
	Lower	Upper	2001	Lower	Upper	2001	Lower	Upper	2001
Percentage of teachers who:									
feel confident to use ICT within the curriculum	75.6	77.1	76.4	69.8	70.5	70.2	75.7	77.7	76.7
have received some training in ICT	78.8	80.2	79.5	65.1	65.8	65.5	74.4	76.4	75.4
have received updated training within the last two years	71.2	72.7	72.0	52.8	53.6	53.2	65.3	67.5	66.4
have access to a computer at home or have desktop/laptop computer assigned for their personal use	76.2	77.6	76.9	57.2	58.0	57.6	69.3	71.5	70.4

Information and Communications Technology in Schools Survey 2001

Primary, Secondary and Special Schools

(incl. middle-deemed primary and secondary schools)

LEA name	<input type="text"/>
LEA number	¹⁻³ <input type="text"/> <input type="text"/> <input type="text"/>
DfEE school number	⁴⁻⁷ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
School name	⁸ <input type="text"/> ⁹ <input type="text"/>
School address (Full Postal Address)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> ¹⁰ <input type="text"/>
Contact name (for enquiries)	¹¹ <input type="text"/>
Telephone No. (including STD Code)	¹² <input type="text"/>
Fax number	¹³ <input type="text"/>
E-mail address	¹⁴ <input type="text"/>

Overview: The Government has pledged to set up a National Grid for Learning on the Internet and a programme of equipping schools with the necessary infrastructure and connectivity to enable them to access and use the Grid effectively. The commitment extends to raising the ICT skills of teachers to improve educational standards and equip pupils with the ICT skills they need for the 21st Century.

Data Collection

?

Management and Finance

Headteachers

Status: Voluntary

Action by: 27/04/2001

Date of Issue: March 2001

Ref: DfEE/73/2001

Excellence
in schools



Department for
Education and Employment

Instructions

- Please answer all questions.
- ICT refers to the provision in schools of Information and Communications Technology for the purposes of teaching, learning and administration.
- Where numbers are required, **please enter '0', if nil.**
- **Please keep a copy of your completed form**, in case we need to contact you about your answers.
- Complete your form as near to 31 March as possible.
- If you need any further information about this survey, please contact the Survey Helpline:
on 01325 392626
- Please return this form by 27 April 2001 to:
Val Hamilton
Database Creation Unit
DFEE,
Room 113
Mowden Hall,
Staindrop Road
DARLINGTON
DL3 9BG

Survey Statement

The data collected by this survey will be used to judge:

- the effect of Government policy on schools' ICT expenditure,
- the latest position on equipping and networking; and
- the current level of teachers' ICT confidence and training, in particular take-up of training provided through the National Lottery-funded New Opportunities Fund programme.

Completion Time

It is estimated that considerably less than 1 hour will be needed to complete this questionnaire.

Section 1: Computers and other hardware available

1. Computers and peripherals

- Note:**
- **Do not** include any permanently broken equipment, equipment for which you have no compatible software or any items privately owned by staff or pupils.
 - **Desktop computers** are those which are not designed to be readily portable and which, when in use, need a table or desk. They have a traditional display monitor, a normal size keyboard and a processor box which may be integral with the screen, but is often a separate unit.
 - **Laptop computers** are fully functional computers contained in a portable device, usually about A4 size. The screen is usually contained within the lid of the device. They can run the normal range of software as found on an equivalent desktop computer. Laptop word processors differ from laptop computers in the sense that they can run only a limited range of software other than that with which they are supplied.
 - **Palmtop computers** are devices which are easily held in one hand. They are typically smaller than A5 size.

a. Number of computers, linked (*networked*) or free standing, available

	TOTAL number in school	Of the TOTAL number in school, how many: are over 3 years old?	have multimedia facilities?
• Desktop	40 <input type="text"/> <input type="text"/> <input type="text"/>	41 <input type="text"/> <input type="text"/> <input type="text"/>	42 <input type="text"/> <input type="text"/> <input type="text"/>
• Laptop	43 <input type="text"/> <input type="text"/> <input type="text"/>	44 <input type="text"/> <input type="text"/> <input type="text"/>	45 <input type="text"/> <input type="text"/> <input type="text"/>
• Palmtop	169 <input type="text"/> <input type="text"/> <input type="text"/>	170 <input type="text"/> <input type="text"/> <input type="text"/>	171 <input type="text"/> <input type="text"/> <input type="text"/>
TOTAL	46 <input type="text"/> <input type="text"/> <input type="text"/>	47 <input type="text"/> <input type="text"/> <input type="text"/>	48 <input type="text"/> <input type="text"/> <input type="text"/>

b. Number of computers in your school used **solely or mainly** for management and administration purposes.

49 <input type="text"/> <input type="text"/> <input type="text"/>	50 <input type="text"/> <input type="text"/> <input type="text"/>	51 <input type="text"/> <input type="text"/> <input type="text"/>
---	---	---

c. Does the school have a Local Area Network (LAN)?

Yes	No
52 <input type="text"/>	53 <input type="text"/>

d. If so, how many computers are connected to the LAN for **Curriculum** purposes, and how many for **Management** purposes?

Curriculum	Management
54 <input type="text"/> <input type="text"/>	55 <input type="text"/> <input type="text"/>

e. How many of the following ICT peripherals are available in your school?

• digital cameras?	56 <input type="text"/>	• printers?	57 <input type="text"/>
• electronic interactive whiteboards?	58 <input type="text"/>	• other	59 <input type="text"/>
• digital projectors?	60 <input type="text"/>	(please specify) <input type="text"/>	
• DVD players?	61 <input type="text"/>		

Section 2: Computer use

2. a. Is your school connected to the Internet?

Yes ☐ 62 No ☐ 63

Please go to question 3.

b. Number of computers connected to the internet:

- Stand alone

- Networked

Solely or mainly for curricular purposes

64

66

Solely or mainly for school management

65

67

c. Principal means of Internet access (if curricular and management ICT are not managed on the same network, then the answer should refer to Internet access for curricular purposes):

If more than one box applies, please tick the one relating to the fastest connection

• a modem?

68 ☐

• a broadband connection provided by:

• an ISDN2 line?

69 ☐

○ cable

72 ☐

○ microwave

74 ☐

• leased line?

70 ☐

○ satellite

73 ☐

• other

71 ☐

(please specify)

d. Is access to the Internet provided by the LEA or by a commercial Internet Service Provider (ISP) / Internet Access Provider (IAP)? (Please tick as appropriate).

LEA

75 ☐

ISP

76 ☐

IAP

77 ☐

e. Does your school have its own web site?

Yes

78 ☐

No

79 ☐

3. For each area of the curriculum tick one box in each of (a) and (b) to indicate:

(a) the extent that ICT is used in that area

(b) how much ICT has had a beneficial effect on teaching in each of those subjects.

• Art

Substantial

80 ☐

Little/none

81 ☐

• Design and technology

84 ☐

85 ☐

• English

88 ☐

89 ☐

• Geography

92 ☐

93 ☐

• History

96 ☐

97 ☐

• Humanities

100 ☐

101 ☐

• Information technology

104 ☐

105 ☐

• Mathematics

108 ☐

109 ☐

• Modern foreign languages

112 ☐

113 ☐

• Music

116 ☐

117 ☐

• Physical education

120 ☐

121 ☐

• Religious education

124 ☐

125 ☐

• Science

128 ☐

129 ☐

• Other (please specify) ►

132 ☐

133 ☐

Substantial

82 ☐

Little/none

83 ☐

86 ☐

87 ☐

90 ☐

91 ☐

94 ☐

95 ☐

98 ☐

99 ☐

102 ☐

103 ☐

106 ☐

107 ☐

110 ☐

111 ☐

114 ☐

115 ☐

118 ☐

119 ☐

122 ☐

123 ☐

126 ☐

127 ☐

130 ☐

131 ☐

134 ☐

135 ☐

Section 2: Computer use *(continued)*

4. a. Does your school use ICT to maintain home/school links?
(For example, a school website that parents and pupils can access)
- Yes 136 ☐ No 137 ☐
- b. Are your school's ICT facilities available during out-of-school hours for:
- (i) pupil use? 138 ☐ 139 ☐
- (ii) use by the local community? 140 ☐ 141 ☐
5. a. How many pupils and teachers have a **personal** E-mail address provided and funded by the school, LEA, BECTA or DfEE (i.e. **not** private email addresses)? (If none, please enter '0'.)
- Pupils 142
- Teachers 143
- b. How many pupils and teachers have access to a shared class/school e-mail address?
- Pupils 144
- Teachers 145
6. Does the school have and make use of e-mail for management and administration?
- Yes 146 ☐ No 147 ☐
7. Does the school have access to digital TV?
- Yes 148 ☐ No 149 ☐
8. Does the school have measures in place to prevent access to undesirable materials?
- Yes 150 ☐ No 151 ☐

Section 3: Teaching staff

Important: • The questions in this section refer to the total number of **full-time and part-time teaching staff** and **not** the full-time equivalent of part-time staff.

9. a. How many teaching staff (including the headteacher) are employed in the school?
- 152
- b. How many teaching staff use a computer on a regular basis (e.g. two or three times most weeks) for teaching and learning?
- 153
- c. Please indicate the level of confidence your teaching staff have in using ICT in their subject teaching.
- Number of Teachers
- very confident 154 • confident 155 • not confident 156
- d. How many current members of the teaching staff (including yourself) have access to a computer at home or have desktop/laptop computers assigned for their personal use?
- 157
- e. Of the number at 9a, how many staff have been trained in the use of ICT equipment?
- 158
- f. Of the number at 9e, how many staff have had updated training in the use of ICT in the past two years?
- 159

Section 3: Teaching staff (continued)

g. Under the New Opportunities (*National Lottery*) Funded training in the use of ICT, how many staff:

- have already completed ICT training?
- have already started, but not completed, ICT training?
- are scheduled to undertake ICT training?

(i)
teachers in
subject teaching

160

--	--	--

162

--	--	--

164

--	--	--

(ii)
school
librarians

161

--	--	--

163

--	--	--

165

--	--	--

Section 4: Finance

10.

How much (in £s) did your school spend on ICT in the 2000-2001 financial year?
(Approximate figures are acceptable)

(a) teaching and learning

£
166

--	--	--	--	--	--	--

(b) management & administration

£
167

--	--	--	--	--	--	--

Note: the above figures at (a) and (b) should include expenditure on:

- Network infrastructure (*including Local Area Networks {LANs} computers, peripherals and upgrades*)
- Content (software, on-line & off-line resources, including subscriptions)
- In-service training (*INSET*) courses for teachers
- ICT-related telecommunications charges
- Internet Service Provider charges
- Technical, maintenance and other support.

Section 5: Completion time

11.

Please enter the amount of time spent completing this form. This should be shown in minutes; if less than 5 minutes are spent, enter 005 as a minimum.

168

--	--	--

~ Thank you for completing this questionnaire ~
Please take a copy for your records
(in case we need to contact you about your answers)
and return it by 27 April 2001 to:

Val Hamilton
Database Creation Unit
DfEE, Room 113
Mowden Hall, Staindrop Road
DARLINGTON, Co Durham
DL3 9BG.