No. 3

NGfL Research and Evaluation Series

Computers for Teachers

An evaluation of Phase 1: survey of recipients

department for education and skills
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BECTa

Computers for Teachers

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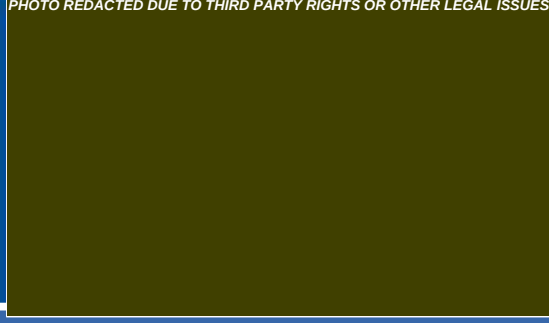


Preamble

Computers for Teachers (CfT) is a Government initiative aimed at helping teachers in England raise standards by enabling them to have personal access to a computer. The first phase of the scheme was launched in January 2000 and offered eligible teachers in England a subsidy of 50% towards the cost of a personal computer, up to a maximum of £500. The DfEE (now DfES) paid any income tax and National Insurance due. All teachers who had signed up for the New Opportunities Fund ICT training were eligible to participate in the scheme. A total of 28,000 teachers purchased computers under the first phase of the scheme between January and July 2000.

The evaluation of the first phase aims to assess the impact that teachers' personal access to ICT has on teaching and learning. As part of that evaluation, at the beginning of May 2001 the DfES sent questionnaires to a random sample of 6,000 teachers who benefited from the scheme. Completed questionnaires were returned by 8 June 2001. The DfES then commissioned the British Educational Communications and Technology Agency (Becta) to carry out an analysis of the responses received.

This report summarises the conclusions that can be drawn from those responses. It forms the first stage of a two-part evaluation and aims to evaluate the impact of the scheme, as reported by those who responded. The information gathered required participating teachers to reflect on the contribution that the scheme had made to their ICT skills and the impact it has made on teaching and learning in the classroom. As a result, some findings are based on the teachers' retrospective views about their confidence and capability prior to taking part in the scheme.

The second stage of the evaluation will provide opportunities through further evaluations and case study work to validate the findings in this report. Particular issues for further evaluation are also identified in this report. Where appropriate, references are made to related findings from Becta's earlier evaluations of the DfES's multimedia portables schemes.

While this report does not attempt to address any specific issues associated with the administration of the Phase 1 scheme, views were sought on the best way to provide support for teacher access to, or ownership of, computers in the future.

Summary of key points

Some 2,558 completed questionnaires were analysed. This represents a return rate of 43%, which is very high for a survey of this type. The sample forms nearly ten per cent of the total number of teachers who benefited from the scheme. It is possible that the positive responses received reflect the more general impact of increasing levels of equipment and training. However, taken together, the responses point towards the scheme having made a significant impact on participating teachers' confidence and competence with ICT and, in turn, on their pupils.

Key findings from the survey are listed below. A fuller discussion of each of these findings is contained in the body of the report. In addition to answering the questions, those responding were invited to make 'open-ended' comments about the scheme and its impact. Of those respondents (over half of the total) who offered further comment, most were generally positive about the scheme. Reference to evidence drawn from those responses is made where appropriate throughout this report.

Impact on Administration

- The number of teachers in the sample using ICT at least once a week for administrative tasks has risen from 51% before the scheme to 86% after participating in the scheme.
- 48% of respondents report using ICT for administration every day – more than double than before the scheme.

Impact on Teaching

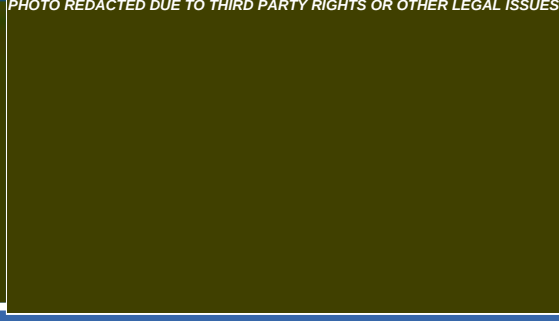
- Before the scheme, 58% of the sample report using ICT in their teaching at least once a week. After participating in the scheme, this has grown to 89%.
- The number of respondents seeing a high value for ICT in teaching and learning has nearly doubled, increasing from 36% before the scheme to 68% of the sample after participating in the scheme.
- The great majority (99%) of teachers in the sample recognised the value of ICT in teaching and learning and that this followed through into their classroom practice.

Impact on Pupils

- 74% of respondents believe that their personal ownership of a computer has a quite substantial or greater impact on their pupils' use of ICT in their schoolwork.
- 67% of respondents believe that their personal ownership of a computer has affected pupils' motivation 'quite substantially' or more.
- 60% of respondents believe that their personal ownership of a computer has affected pupils' attainment quite substantially or more.
- Less than 5% of the teachers responding to the survey believe that their pupils have not benefited in these ways.

Impact on Teachers' Skills

- 94% of respondents reported that the purchase of a computer through the scheme had increased their confidence to use ICT to support teaching and learning substantially.
- Teachers report increasing skills with ICT applications, with the percentage describing themselves as basic or experienced users increasing after participating in the scheme for all office applications. (Word processing, from 85% before the scheme to 99% after participating; spreadsheets, 42% to 82%; databases, 36% to 76%; graphics, 41% to 76%; presentation software, 21% to 62%; CD-ROM, 63% to 97%)
- The proportion of respondents describing themselves as basic or experienced users of e-mail for personal purposes has risen from 36% to 96%.
- The proportion of respondents describing themselves as basic or experienced users of e-mail for professional purposes has risen from 32% to 61%.
- Over 60% of respondents now describe themselves as being experienced in using web sites and searching for information on the Web, in comparison with 42% before. Less than 2% describe themselves as having little or no experience in this area.



- 94% of respondents now describe themselves as basic or experienced in downloading documents from the Web, in contrast to 34% before the scheme.
- 67% now consider themselves basic or experienced users of on-line purchasing compared to 19% before the scheme.

Reasons for participating and impact on teachers' access to ICT

- The main reasons for purchase reported by respondents were to improve their ability to use computers (37%) and to prepare teaching materials (21%).
- 71% of the teachers responding now have sole use of a computer at home, in comparison with 22% before the scheme.
- The scheme has made a significant impact on respondents' access to the Internet at home, increasing it from 30% to 95%.
- After participating in the scheme, the percentage of participating teachers' with access to the Internet through work has increased from 73% to 93%.
- Over 90% of respondents used the scheme to purchase a desktop computer, with less than 10% purchasing a laptop/portable computer.
- 65% purchased a printer. All machines purchased were 'Internet ready' and all bar 1% are now connected to the Internet.

1 Introduction: the sample

A total of 2,558 completed questionnaires were analysed. This represents a return rate of 43%, which is very high for a survey of this type. The sample forms nearly ten per cent of the total number of teachers who benefited from the scheme. While the sample is to some extent 'self selecting', in that teachers chose whether to respond or not, a return rate of this size, drawn from a random population, gives significant weight to the findings reported below.

1.1 Breakdown by gender

Approximately two thirds of the responses (1632) were received from women and 867 (36%) from men. This is in line with the make-up of the overall teaching population (see *DfEE Statistical Volume: teachers England and Wales 2000* at http://dfes.gov.uk/statistics/DB/VOLv0220/index.html) and the population of teachers benefiting from the scheme.

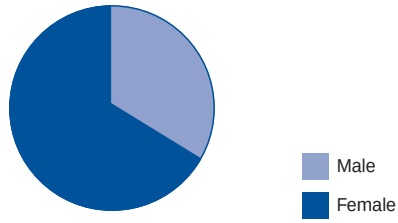


Figure 1.1

1.2 Breakdown by age

The following table (fig. 1.2a) summarises the breakdown of responses by age in comparison with the breakdown for the teaching population as a whole.

Age	Responces	Whole Teaching Population (March 1999)
<25	40 (2%)	2%
25-34	651 (25%)	20%
35-44	815 (32%)	25%
45-54	749 (29%)	47%
55+	241 (9%)	6%
Total	2496 (100%)	100%

Figure 1.2a

The last column in fig. 1.2a shows the age profile of the teaching population as a whole in March 1999. (See *DfEE Statistical Volume: teachers England and Wales 2000* at http://dfes.gov.uk/statistics/DB/VOLv0220/index.html.) Fig. 1.2b compares the age profiles of the teachers responding with the age profile of the teaching population as a whole as of March 1999.

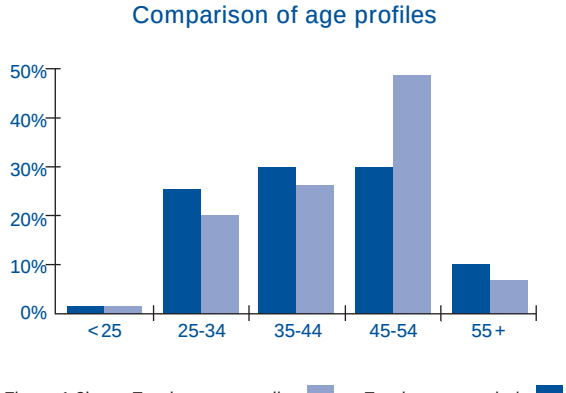


Figure 1.2b

As can be seen, the proportion of teachers under the age of 45 who responded to the survey is higher than for the teaching population as a whole. This may indicate that younger teachers were more likely to participate in the scheme. However, as the age profile of participating teachers is not available, it is not possible to be confident of this. The next evaluation phase could probe this issue further as part of the case study visits.

1.3 Breakdown by key stage taught

The following table (fig. 1.3) summarises the breakdown of responses by key stage taught.

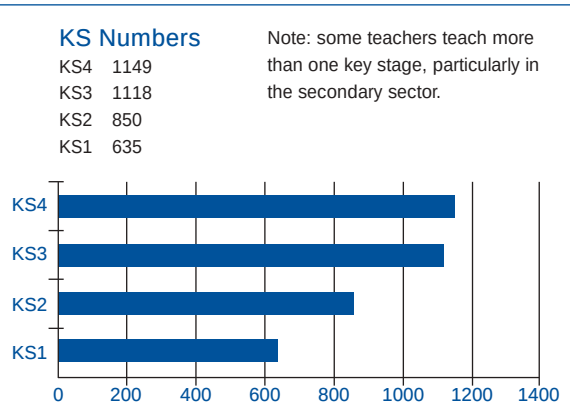


Figure 1.2b

1.4 Breakdown by ethnic origin

Ethnic grouping		No.	%
I do not wish my ethnic group to be recorded in any way		182	7.19%
a) White	British	2239	88.5%
	Irish	29	1.15%
	Any other white background	41	1.62%
a) Mixed	White & Black Caribbean	2	0.08%
	White & Black African	2	0.08%
	White & Asian	6	0.24%
	Any other mixed background	2	0.08%
c) Asian or British Asian	Indian	12	0.47%
	Pakistani	1	0.04%
	Bangladeshi	2	0.08%
	Any other Asian background	5	0.20%
d) Black or Black British	Caribbean	1	0.04%
	African	3	0.12%
	Any other Black background	2	0.08%
e) Chinese or other ethnic group	Chinese	0	0.00%
	Any other	1	0.04%
Total		2530	100%

Figure 1.4

In summary, the data collected from returns suggests that the sample:

- shares the same gender profile as the general teaching population as a whole
- is drawn from a slightly younger age profile.

2 Summary responses: reasons for participating

2.1 Reasons for purchase

Teachers were asked to identify their main and any other reasons for purchasing a computer through the scheme. They were allowed to select as many reasons as applied. The following table (fig 2.1a) sets out respondents' reasons for participating in the scheme. The table is ordered by the respondents' main reasons for participating, with the most mentioned reason placed first.

	Why Purchased?		Main Reason	
To improve your ability in the use of a computer	2059	80%	939	37%
To prepare teaching materials	2233	87%	531	21%
To undertake administrative tasks	2041	80%	359	14%
To access the Internet: For work purposes	2189	86%	202	8%
To access the Internet: For personal/family use	2156	84%	137	5%
To prepare lesson plans	1740	68%	88	3%
For family use	1189	46%	82	3%
Other	242	9%	171	7%

Figure 2.1a

Figure 2.2b shows the relative importance given to each of the main reasons for purchase.

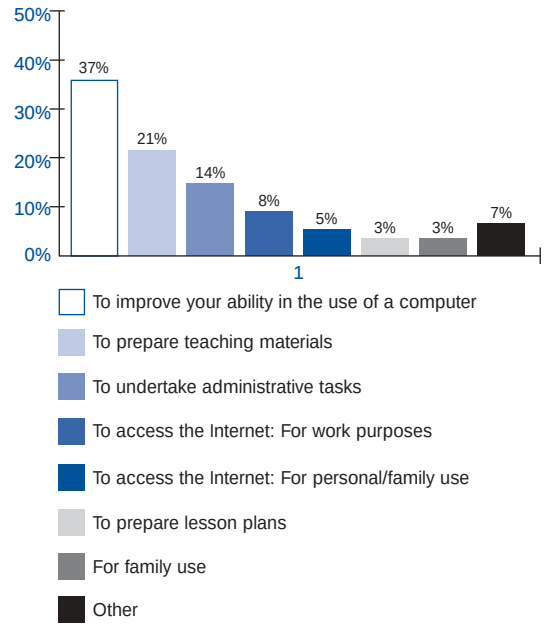


Figure 2.2b

The main reasons for purchase reported by respondents were to improve their ability to use computers (37%) and to prepare teaching materials (21%). Both of these activities are often carried out at home, which supports the findings reported later on the type of computer purchased and the increased access to a computer at home.

3 Summary of responses: impact on practice

Teachers can apply ICT in a number of ways, including:

- using ICT to support them in their administrative tasks, such as report writing and record keeping
- using ICT to support them in their teaching, both outside the classroom (such as preparing materials) and inside.

Taken together, these offer opportunities for teachers to increase their effectiveness and efficiency, reduce their workloads, and to raise standards.

3.1 Impact on administration

Respondents were asked how frequently they used ICT for administration tasks both before participating in the scheme and now.

	Before		Now	
Daily	499	20%	1194	48%
Weekly	756	31%	947	38%
Once a month	625	25%	272	11%
Never	589	24%	55	2%
Totals	2469		2464	

Figure 3.1a

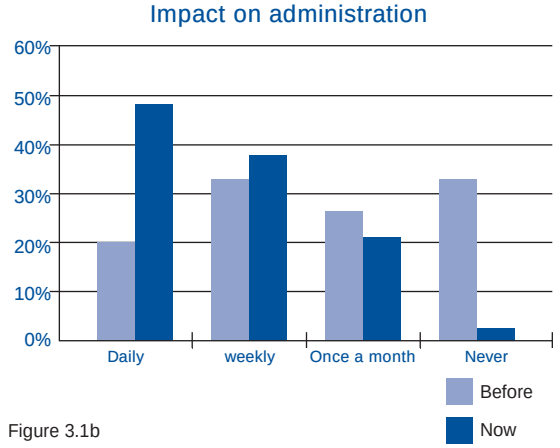


Figure 3.1b

Some 48% of respondents report using ICT for administration every day, more than double the number using ICT in this way before the scheme. An additional 38% now use ICT once a week or more often in this way.

In total, after participating in the scheme, the number of teachers in the sample using ICT at least once a week for administrative tasks has risen from 51% to 86%. In the open-ended part of the survey, one teacher responded that 'The scheme has not had a big impact in the classroom but has made my admin much more efficient… I use my computer daily and for an extensive variety of tasks'.

Given the importance of applying ICT to reduce teachers' workloads, this positive impact on teachers' administration should be explored further as part of any case study work in stage 2 of the evaluation.

3.2 Impact on teaching

Respondents were asked how frequently they used ICT in their teaching both before participating in the scheme and now.

	Before		Now	
Daily	490	20%	119	49%
Weekly	962	38%	982	40%
Once a month	775	31%	245	10%
Never	275	11%	39	1%
Totals	2502		2460	

Figure 3.2a

Again, responses indicate that the scheme has had a positive impact on teachers' practice, with 99% of respondents now using ICT in their teaching. This is in line with earlier findings. The Multimedia Portables scheme found, for example, that '95% of teachers said that the project had allowed them to develop their teaching, and 93% said that their use of IT had increased substantially'(*Multimedia Portables for Teachers Pilot Project Report*, Becta, 1998, p.23)

The following graph (fig. 3.2b) illustrates the impact of the scheme. Before the scheme, 58% of the sample report using ICT at least once a week in their teaching. After participating in the scheme this has grown to 89%.

Some 49% now report using ICT daily as part of their teaching in comparison with 20% before taking part in the scheme; a further 40% use it at least once a week. These positive findings were reinforced by the open-ended responses received. For example, teachers

commented that 'I have gained so many skills by having a computer at home, that I am able to teach those skills to my class', the scheme has 'Increased my enthusiasm for teaching', and that it was 'An excellent scheme. It has helped me both professionally and personally'.

Given that participating teachers in general purchased a machine for home use (see section 7.2), this implies that their use of the computer at home to develop their skills, locate resources, and to prepare materials and approaches follows through into classroom application. Again, this finding should be further explored as an aspect of the case study work in the second phase of this evaluation.

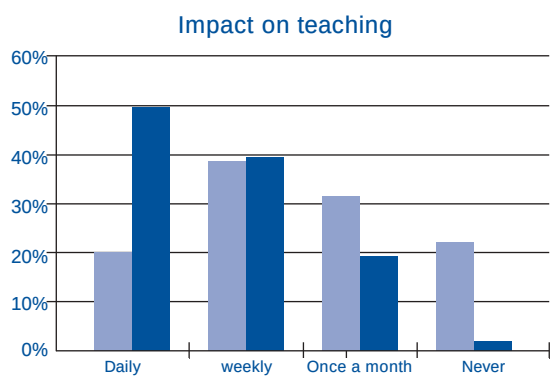


Figure 3.2b

3.3 Impact on teachers' perceptions of the value of ICT

Respondents were asked to describe their views of the potential of ICT to support teaching and learning both before and after participating in the scheme. Figure 3.3a summarises the responses.

	Before		Now	
High	923	36%	1729	68%
Medium	1129	44%	778	31%
Low	489	19%	37	1%
Totals	2541		2544	

Figure 3.3a

After participating in the scheme, the number of respondents seeing a high value for ICT in teaching and learning has nearly doubled, moving from 36% to 68% of the sample. Only slightly more than one per cent see little value for ICT, a figure which may be explained by the possibility that a small number of participating teachers may have used the scheme primarily to purchase a resource for family use. (Teachers' reasons for purchasing are explored later in this report.)

The following graph (fig. 3.3b) illustrates how the sample teachers' perceptions have changed after participating in the scheme.

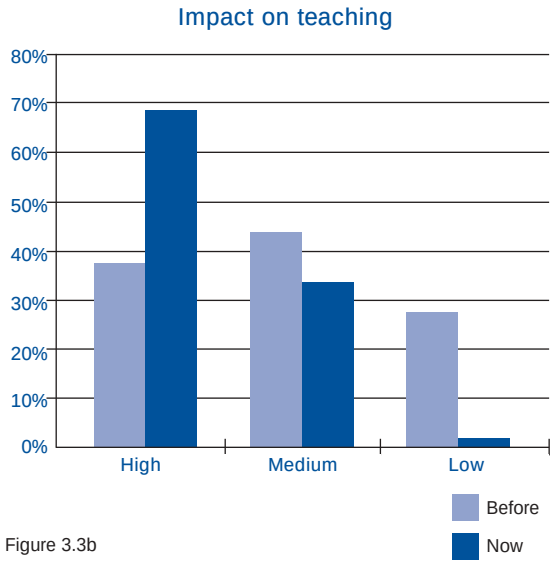


Figure 3.3b

This finding, together with the previous one, suggests that after participating in the scheme, the great majority (99%) of teachers in the sample recognised the value of ICT in teaching and learning and that this followed through into their classroom practice.

3.4 Impact on pupils

Given that:

- the scheme provided teachers with personal access to a computer
- the ICT skills of those teachers increased
- in general, teachers benefiting from the scheme increased their use of ICT to support them in their administration, planning, preparation and in the classroom

the consequent impact on the pupils is an important consideration.

Respondents were asked to identify the extent to which their personal ownership of a computer had an impact on their pupils' use of ICT in schoolwork, their motivation and their attainment. Results are shown in fig. 3.4a below.

	Substantial Extent		Quite Substantially		A little		Not at all	
Use of ICT in school work	713	29%	1129	45%	592	24%	65	3%
Motivation	554	23%	1088	44%	707	29%	113	5%
Attainment	439	18%	1025	42%	843	35%	131	5%
Totals	**1706**		**3242**		**2142**		**309**	

Figure 3.4a

Each of these specific areas of impact is explored below.

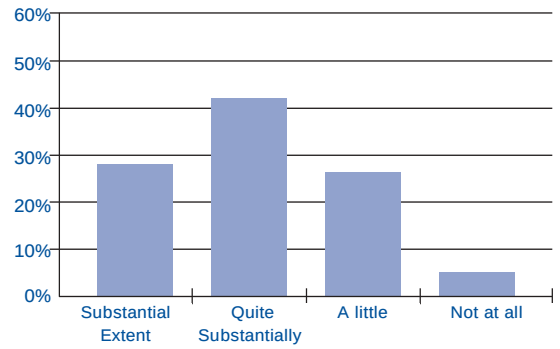


Figure 3.4b

74% of respondents believe that their personal ownership of a computer has a quite substantial or greater impact on their pupils' use of ICT in their schoolwork. Again, this implies that teachers' use of ICT at home also has an impact in the classroom.

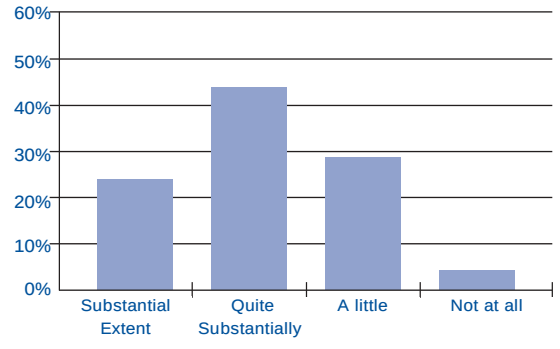


Figure 3.4c

Some 67% of respondents believe that their personal ownership of a computer has affected pupils' motivation quite substantially or more.

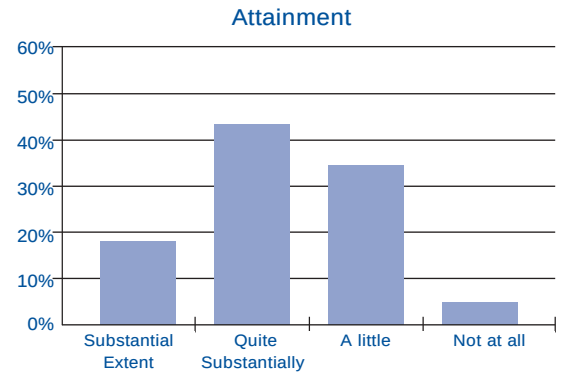


Figure 3.4d

Some 60% of respondents believe that their personal ownership of a computer has affected pupils' attainment quite substantially or more, while only 5% or less believe that their pupils have not benefited in these ways. Given the inevitable time lag between teachers developing the necessary ICT skills and subsequently using these skills to enhance teaching and learning in the classroom, this represents significant progress. Further case study work should illuminate how this impact is being made and track teachers' further progress in applying their own skills in the classroom.

4 Summary of responses: teachers' ICT skills

4.1 Impact on teachers' confidence and competence with ICT

Respondents were asked about the extent that personal access to a computer had increased their confidence to use ICT in the teaching and learning process.

Level of impact	Number	
Substantial factor	1785	71%
Quite Substantially	621	25%
Little	69	3%
Not at all	34	1%
Total	2509	

Figure 4.1a

In 2000, 67.1% of teachers in primary schools and 65.3% in secondary schools reported confidence in their use of ICT for teaching the curriculum (*Statistics of Education: Survey of Information and Communications Technology in Schools, England 2000*: DfEE, October 2000, p.24). After participating in this scheme, 96% of respondents reported that the purchase of a computer through the scheme had increased their confidence to use ICT to support teaching and learning substantially. As before, a small number (slightly more than one per cent) reported no impact.

When asked about their ICT skills (the major reason for their purchase of the computers), respondents reported increased skills with all the key ICT applications including basic office applications (word processing, spreadsheets and databases) and communications. Again, this is in line with the findings from earlier evaluations.

4.2 Impact on specific ICT skills

The following table (fig. 4.2a) sets out responses for basic office applications.

Before

Applications	Little/No Experience		Basic User		Experienced User	
Word processing	372	15%	1260	50%	895	35%
Spreadsheets	1450	58%	733	29%	329	13%
Databases	1580	64%	691	28%	202	8%
Use graphics software	1453	59%	729	30%	262	11%
Presentation	1924	79%	371	15%	150	6%
Use CD-ROMs	907	36%	1037	41%	561	22%
Other software	376	56%	188	28%	105	16%
Totals						

Now

Applications	Little/No Experience		Basic User		Experienced User	
Word processing	8	1%	504	20%	2012	79%
Spreadsheets	436	17%	128	51%	787	31%
Databases	606	24%	137	56%	495	20%
Use graphics software	574	24%	115	47%	708	29%
Presentation	918	38%	975	40%	525	22%
Use CD-ROMs	84	3%	858	34%	1571	63%
Other software	75	12%	236	38%	306	50%
Totals						

Figure 4.2a

A general trend of improvement can be observed, which will, of course, depend on the packages provided with the computer. The following graphs illustrate how respondents rated their levels of experience with these applications. Their progress through participating in the scheme can be seen clearly.

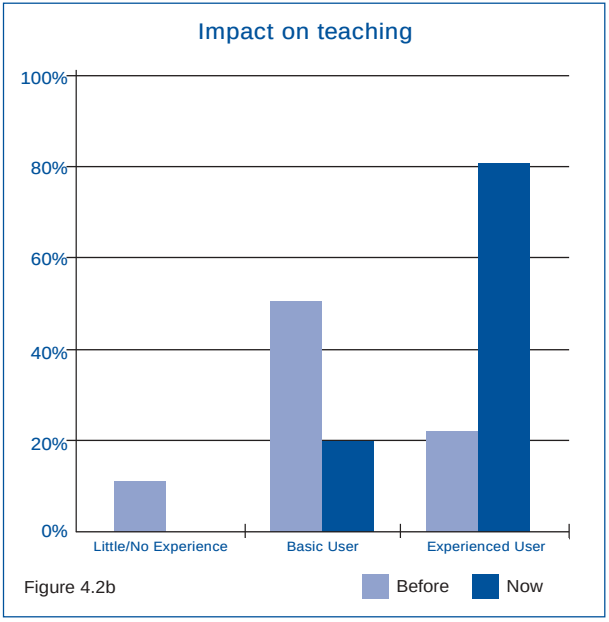


Figure 4.2b

As might be expected, the majority of respondents (84%) considered themselves to be at least basic level users of word processing (the most common office application) before the scheme. This figure rose to 99% after participating in the scheme, with 79% of respondents now identifying themselves as experienced users. Given the teachers' desire to use the computer to prepare materials for use in their teaching, this is an extremely positive finding.

Similar progress (though starting from a lower baseline) can be seen in the corresponding graph for spreadsheets.

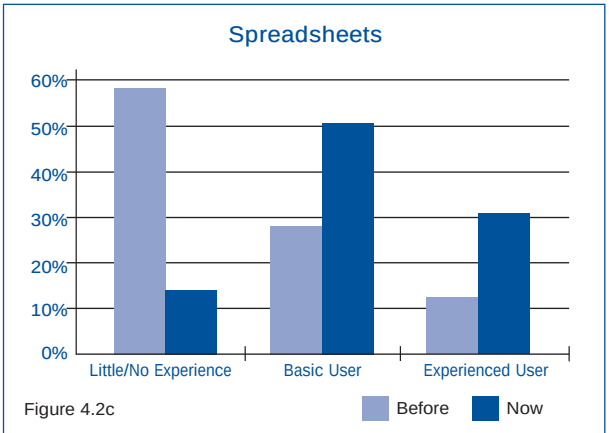


Figure 4.2c

Some 42% of respondents described themselves as at least basic users of spreadsheets before the scheme. This figure rose to 82% after the scheme. Given the starting position, this represents significant progress in developing teachers' skills with spreadsheets, which provide a valuable administration tool for teachers.

The position with regard to databases is similar. Some 36% of respondents described themselves as at least basic users of databases before the scheme. This figure rose to 76% after participating in the scheme. Again, given the starting position, this represents significant progress in developing teachers' skills with databases, which also provide a valuable administration tool for teachers and a source of material for use in their teaching.

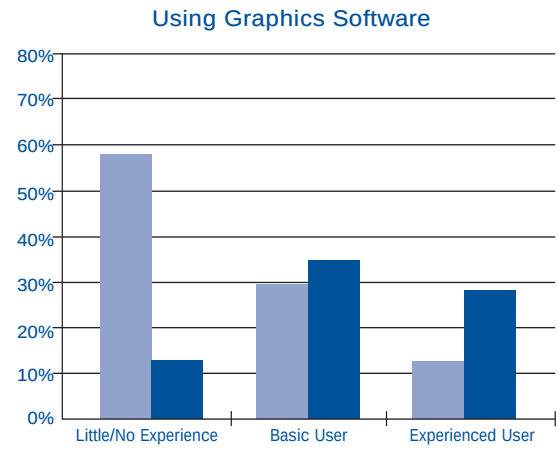


Figure 4.2e

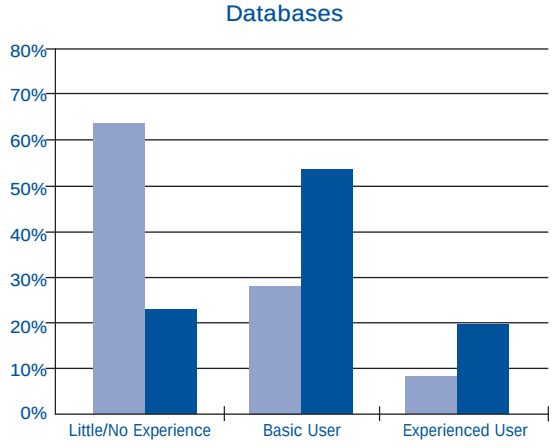


Figure 4.2d

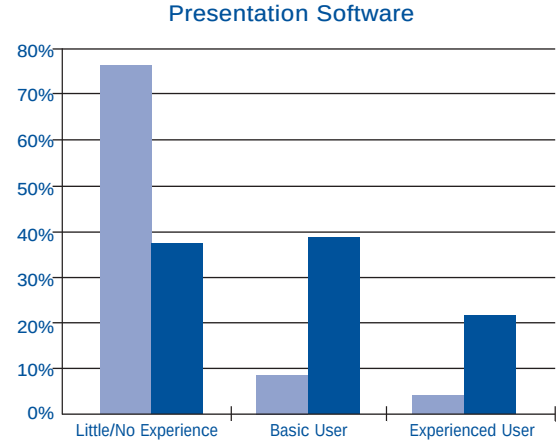


Figure 4.2f

Graphics software also provides teachers with a valuable tool for producing resources for use in their teaching. Again, a very positive picture emerges with the number of respondents describing themselves as basic or experienced users rising from 41% to 76% after participating in the scheme.

Graphics software and word-processing packages allow teachers to produce resources that can be printed and used in their teaching, such as worksheets, information sheets, tests and record sheets. Presentation packages allow them to produce resources that are then presented using ICT in the classroom. For many teachers the use of presentation packages provides a crucial initial step into the use of ICT 'live' in the classroom. The following graph illustrates the impact of the scheme on respondents' skills with presentation software.

Again, a very positive picture emerges, with the number of respondents describing themselves as basic or experienced users of presentation software rising from 21% to 62% after participating in the scheme. However, in general, teachers' expertise with presentation software remains lower than for other office applications.

Respondents' skills with CD-ROMs also improved after participating in the scheme.The number of respondents describing themselves as basic or experienced users of CD-ROMs rose from 63% to 97% after participating in the scheme.

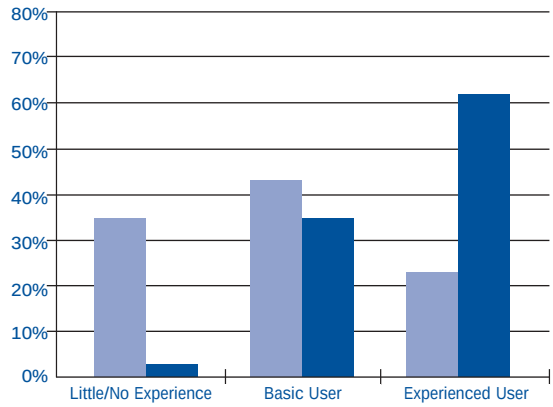


Figure 4.2g

A proportion of those responding also identified the impact of the scheme on other (unspecified) software.

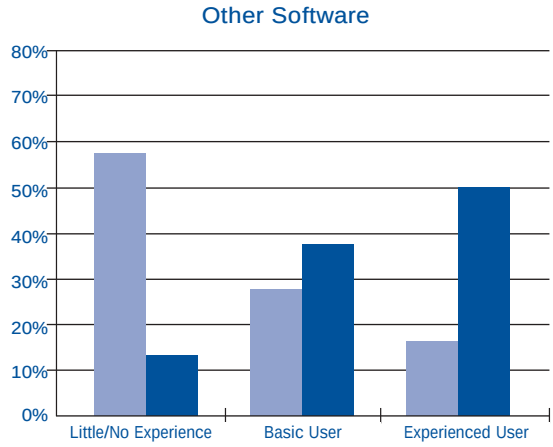


Figure 4.2h

The number of respondents describing themselves as basic or experienced users of this other software increased in line with the pattern observed elsewhere. Given that this chart aggregates a range of software experiences and is not drawn from the whole sample, it may be worth pursuing this issue further in later stages of the evaluation if a more subject-specific approach to providing computers for teachers is to be adopted in the future.

4.3 Impact on teachers' skills with communications technologies

A key aspect of the government's National Grid for Learning strategy is to exploit the power offered by the Internet to raise standards by supporting teaching and learning, improving teacher and school effectiveness, and reducing bureaucracy.

Figure 4.3a sets out responses for teachers' use of e-mail in their personal and professional lives.

Before

	Little/No Experience		Basic User		Experienced User	
E-mail (personal)	1590	64%	588	23%	325	13%
E-mail (professional)	1722	68%	438	17%	391	15%

Now

	Little/No Experience		Basic User		Experienced User	
E-mail (personal)	112	4%	852	34%	1564	62%
E-mail (professional)	924	39%	1070	45%	376	16%

Figure 4.3a

The following chart (fig. 4.3b) illustrates the impact of the scheme on the respondents' personal use of e-mail.

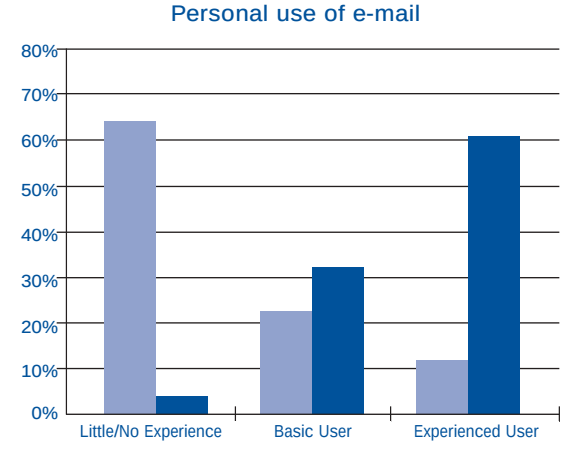


Figure 4.3b

The findings are in line with one of the teachers' main reasons for participating in the scheme – to increase their personal skills. In 2000, 37% of primary teachers and 52% of secondary teachers had a personal e-mail address (*Statistics of Education: Survey of Information and Communications Technology in Schools, England 2000*: DfEE, October 2000, p.20). After participating in

this scheme, the number of respondents describing themselves as basic or experienced users of e-mail for personal purposes has risen from 36% to 96%.

Figure 4.3c illustrates the impact of the scheme on the respondents' professional use of e-mail.

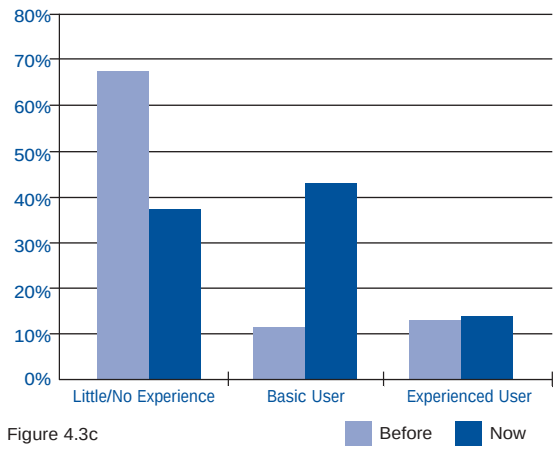


Figure 4.3c

The impact of the scheme on respondents' professional use of e-mail has been less marked. However, the number of respondents describing themselves as basic or experienced users of e-mail for professional purposes has risen from 32% to 61%. To some extent the level of teachers' use of e-mail for professional purposes will be influenced by institutional factors such as the school's uses of electronic communications in general, whether teachers are given school-based e-mail addresses and whether school networks allow external access. Further tracking of teachers in this sample is recommended as part of the second stage of the evaluation. This will help determine whether the skills gained through personal use translate into professional use, and identify the institutional factors which promote teachers' professional use of e-mail.

Another important feature of the Internet is the World Wide Web, which offers teachers a wealth of resources and the opportunity to publish resources themselves. Figure 4.3d sets out responses for teachers' use of the Web.

Before

Applications	Little/No Experience		Basic User		Experienced User	
Connecting to the Internet	1461	58%	719	28%	352	14%
Finding relevant web sites	1477	58%	732	29%	319	13%
Searching for information	1471	58%	732	29%	325	13%
Downloading documents	1670	66%	597	24%	260	10%
On-line purchases (books, software etc.)	2012	80%	334	13%	161	6%
Creating web pages	2319	93%	122	5%	58	2%

Now

Applications	Little/No Experience		Basic User		Experienced User	
Connecting to the Internet	27	1%	737	29%	1772	70%
Finding relevant web sites	37	1%	808	32%	1687	67%
Searching for information	38	2%	845	33%	1649	65%
Downloading documents	159	6%	105	42%	1314	52%
On-line purchases (books, software etc.)	794	33%	824	34%	794	33%
Creating web pages	183	74%	463	19%	196	8%

Figure 4.3d

Teachers' skills with each of these applications are discussed further in the charts that follow.

The findings for respondents' abilities to connect to the Internet, find relevant web sites and search for information follow almost identical patterns, with a significant shift towards experienced use (from approximately 13% to approximately 67%), as can be seen below.

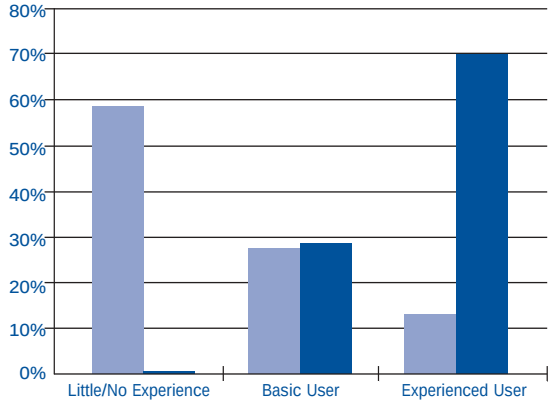


Figure 4.3e

Over 60% of respondents now describe themselves as being experienced in using web sites and searching for information on the Web after participating in the scheme, in comparison with 13% before. Less than 2% describe themselves as having little or no experience in this area.

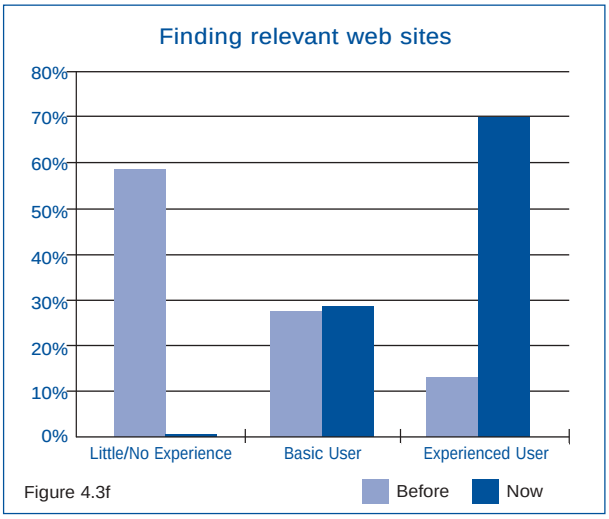


Figure 4.3f

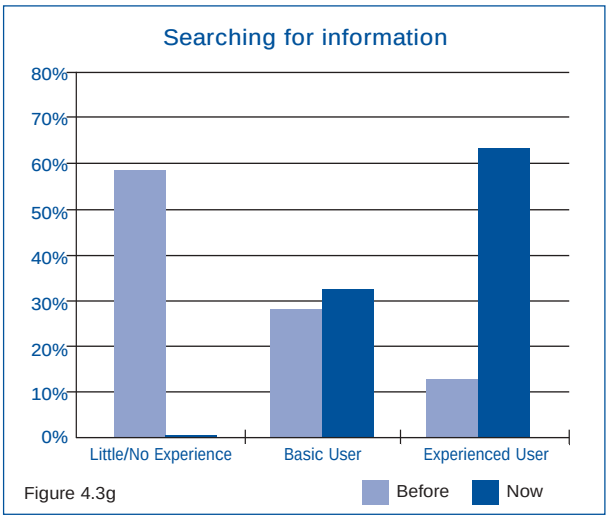


Figure 4.3g

If teachers are to use material found on the Web as a resource to support teaching and learning, they will need the skills to download the documents they have found. Figure 4.3h illustrates how respondents' skills have improved in this area.

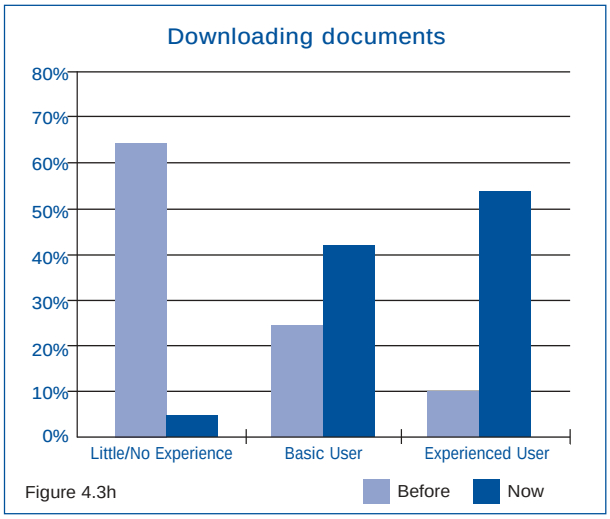


Figure 4.3h

Again, a significant improvement is apparent, with 94% of respondents now describing themselves as basic or experienced users, in contrast to 34% before the scheme. Over half now describe themselves as experienced users – approximately a four-fold increase.

A 'transactional' aspect of the Internet is purchasing goods or services on-line. Because of the financial implications, this requires users to possess a high degree of confidence in their abilities.

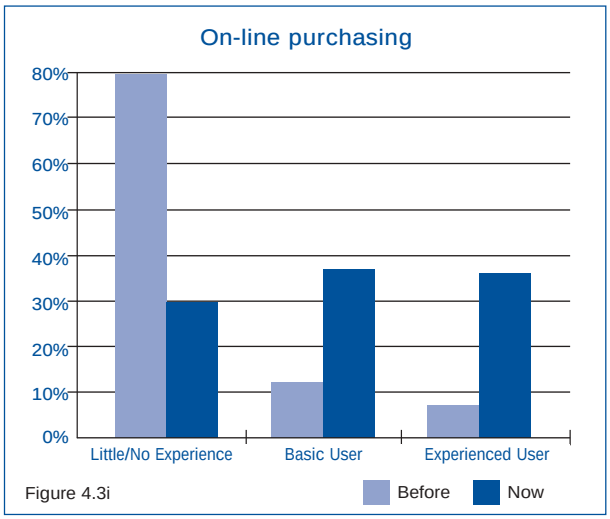


Figure 4.3i

While the numbers of respondents describing themselves as basic or experienced users is less than for basic web applications, there is evidence of the scheme making a real impact. There is a five-fold increase in the number of experienced users (from 6% to 33%) and 67% now consider themselves basic or experienced users of on-

line purchasing compared to 19% before the scheme. Given the potential offered by on-line transactions to reduce the bureaucratic burden on schools associated with purchasing, this finding represents a significant impact of the scheme.

However, on-line purchasing is in its infancy and there are dangers associated with simply 'shifting the burden' (by replacing a paper-based system with a complex on-line system) rather than reducing it (by developing new approaches to on-line transactions). This should be explored further in stage two of the evaluation.

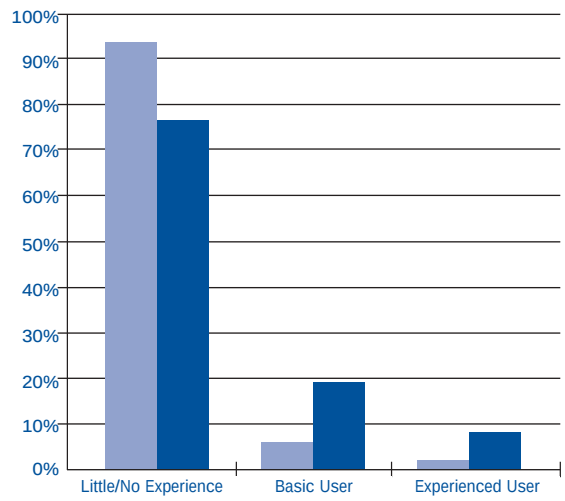


Figure 4.3j

The Web offers teachers the opportunity to create and share resources. Given the specialist skills required to create web pages it is not surprising that three-quarters of the sample still claim to have little or no experience of these skills. However, 26% of respondents now identify themselves as basic or experienced users, in contrast with 7% before the scheme.

This compares favourably with the general population of home users of ICT, few of whom, according to market surveys, are producing web pages. The extent to which the web pages being developed are being used to support teaching and learning in the classroom should be investigated further in stage two of the evaluation.

4.4 ICT Training

Registration for New Opportunities Fund (NOF) ICT training was a pre-requisite of participation in the scheme. In addition, a number of respondents have either participated in, or intend (over the next six months) to participate in, further training. Figure 4.4a summarises the responses.

	Undertaken	Plannned next 6 mths
NOF Training	1495	724
European Computer Driving Licence (ECDL)	52	71
NUT ICT Skills	12	11
LEA Pre-NOF Training	281	50
LEA Post-NOF Training	70	94
In-house/school-based programme	960	291
Web-based ICT training	194	103
Individual training/coaching	453	133
Commercially provided (free or otherwise)	243	73
Other	187	54
Total	2452	880

Figure 4.4a

This may indicate that a proportion of participating teachers are looking further than NOF training and can see the need to continue with their ICT training. It may also indicate that teachers have identified areas of need not addressed through NOF training, such as basic skills, which are covered in schemes such as ECDL. Given that many of those participating in the scheme had signed up to, but not yet taken, their NOF training, this should be explored further in the second phase of the evaluation.

Some teachers expressed concerns about NOF training in their open-ended responses. For example, one teacher felt that 'the NOF training I received was very patchy… . It was often frustrating for experienced users while some of us were given basic training'.

A few expressed concerns about the additional work needed to develop and maintain their abilities. One respondent also made the point that, for some, the training came with a cost too. However, some had more positive experiences.

5 Summary of responses: impact on teachers' access to ICT

5.1 Impact of the scheme on teachers' access to computers

Respondents were asked about their personal access to a computer at home, work and elsewhere before the scheme and after participating in the scheme. Results are shown below.

At home:

	Before		Now	
No access to a computer	996	43%	82	3%
Sole use of a computer	509	22%	1857	71%
Shared access to a computer	817	35%	660	25%
Totals	2322		2599	

Figure 5.1a

At work:

	Before		Now	
No access to a computer	107	4%	68	3%
Sole use of a computer	352	14%	569	23%
Shared access to a computer	2037	82%	1799	74%
Totals	2496		2436	

Figure 5.1b

And elsewhere:

	Before		Now	
No access to a computer	392	70%	319	62%
Sole use of a computer	31	6%	58	11%
Shared access to a computer	139	25%	139	27%
Totals	562		516	

Figure 5.1c

(Note: only a small proportion of respondents addressed this question about access other than at home or work.)

Statistics of Education: Survey of Information and Communications Technology in Schools, England 2000 (DfEE, October 2000) reported that 'for the first time in 2000, schools were asked how many of their teachers had access to a computer either at home or assigned to them for their personal use in school. 66% of teachers in primary schools, 57% in secondary schools and 71% in special schools were reported to have access.' (p.24). That report did not differentiate between sole or shared access. The greatest impact of this scheme has been on teachers' access to computers at home, as expected.

Impact on teachers' access to a computer at home

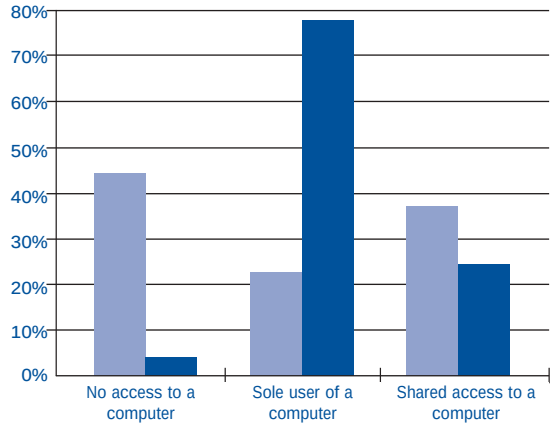


Figure 5.1d

After participating in the scheme, 71% of the teachers responding now have sole use of a computer at home, in comparison with 22% before the scheme. Similarly the numbers of teachers within the sample with no access to a computer at home has been reduced from 43% to a residual 3% who may have set up their computers elsewhere. Becta's 1998 evaluation of the Multimedia Portables for Teachers Pilot Project found that '98% of teachers used the machine at home to continue work from school, 95% used it both at home and at school for planning and delivering their teaching and 90% used it at home for administration' (p.19).

The later sections of this report identify similar findings. This suggests that, irrespective of whether the computer purchased is a desktop model or a laptop, teachers use computers at home to support them in their school work.

Figure 5.1e illustrates the impact of the scheme on teachers' access to a computer at school.

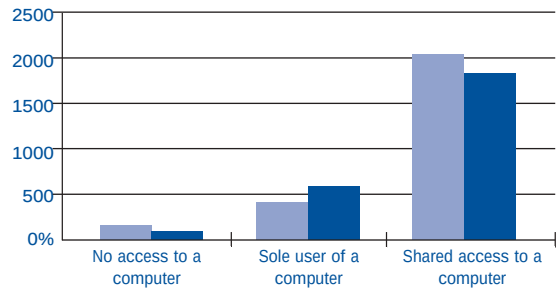


Figure 5.1e

A total of 249 teachers in the sample reported an increased access to the sole use of a computer at work; 65 of these teachers purchased laptops.

5.2 Impact of the scheme on teachers' access to the Internet

Respondents were asked about their personal access to the Internet at home, work and elsewhere before the scheme and after participating in the scheme. Results are shown below.

At home:

	Before		Now	
No access to a computer	1606	70%	127	5%
Sole use of a computer	692	30%	2364	95%
Totals	2298		2491	

Figure 5.2a

At work:

	Before		Now	
No access to a computer	607	27%	151	7%
Sole use of a computer	1657	73%	2103	93%
Totals	2264		2254	

Figure 5.2b

And elsewhere:

	Before		Now	
No access to a computer	386	71%	289	59%
Sole use of a computer	159	29%	199	41%
Totals	545		488	

Figure 5.2c

(Note: only a small proportion of respondents addressed this question about access other than at home or work.)

The scheme appears to have made a significant impact on respondents' access to the Internet at home, increasing it from 30% to 95%. This reflects teachers' desire to use the computers purchased through the scheme to access the Internet for work and family purposes (see later).

Participating teachers' access to the Internet through work has increased (from 73% to 93%). This is of the same order of magnitude as the numbers purchasing portables. It may also reflect teachers' general increased access to the Internet at school as a result of a general increase in the level of equipment in schools. Amongst the sample, the majority source of personal access to the Internet has shifted from access in school to access at home. It is recommended that the next stage of the evaluation probes this further as part of the case study work.

6 Future phases of the scheme

In teachers' open-ended responses there was general support for the Government's supporting teachers' personal access to ICT. For example, some made comments such as 'All teachers should have a free computer as it is now a required element of their work.' Some respondents expressed disappointment, however, that many teachers had been unable to benefit from the scheme. Typically respondents felt that '…if possible [the scheme] should be available to all teachers who wish to take part...'

Respondents were asked (based on their experiences of the scheme) to identify the best way in the future to provide support for teacher access to or ownership of, computers. They were required to rank a number of options in order of preference (1 is the most preferred option and 4 least favoured).

	1		2		3		4	
£500 subsidy (personal ownership by the teacher)	1437	79%	242	13%	106	6%	27	1%
£200 subsidy (so more teachers could benefit from personal ownership)	93	5%	912	52%	439	25%	317	18%
Funding given direct to schools to provide computers on loan to staff	203	12%	353	20%	672	38%	535	30%
Financial support for lease or rental schemes	83	5%	253	14%	535	30%	886	50%
Totals	**1816**		**1760**		**1752**		**1765**	

Figure 6a

These results are shown graphically in fig 6b below.

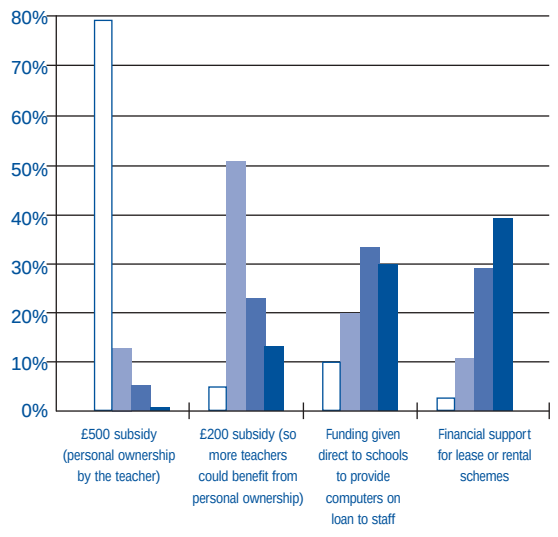


Figure 6b

Most respondents favoured a continuation of the existing model. Loan and lease schemes were the least favoured options. This may reflect the respondents' familiarity with the way this scheme was administered and their lack of familiarity with the other models proposed. In particular, the issues that tend to arise over time, such as the need for extended warranty, repairs and upgrades (issues which loan, lease and rental schemes aim to address) may not yet be being considered by these teachers. Further monitoring will reveal whether these teachers' views change as these issues start to become more relevant to their own circumstances.

In their open-ended responses, it was apparent that many participants were looking to the future, and had concerns about whether and how the scheme would be continued. Several were concerned about their ability to keep equipment purchased through the scheme up to date. Typical comments included:

'Should be able to re-purchase every 3 years. This would keep machines up to date.'

'An upgrade scheme would be a good idea. There must be more teachers now who would like to expand an out of date system.'

'The scheme …should also allow for upgrades of existing computers.'

'[A] lease/rental scheme would be ideal for keeping hardware up to date.'

In addition, a number of respondents (approximately 6 per cent) indicated that they had already used the scheme as a means of replacing outdated computers with higher specification equipment.

7 Summary of responses: purchasing

7.1 Suppliers

Three suppliers provided 62% of the computers purchased by this sample of teachers, while 16 suppliers provided the remainder. In general, teachers tended to purchase from suppliers with a high 'high street' profile, rather than traditional educational suppliers. This allowed them to see what they were buying before making a purchase.

7.2 Type of computer purchased

The vast majority of respondents (2327) used the scheme to purchase a desktop computer with less than 10% (207) purchasing a laptop/portable computer.

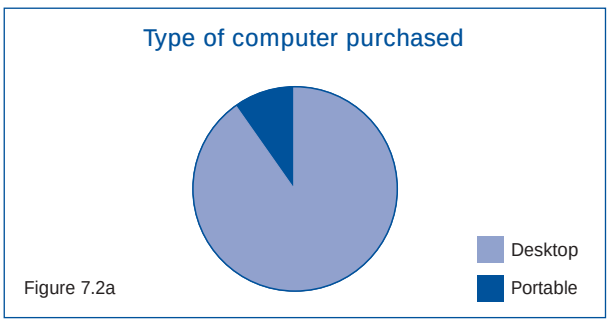


Figure 7.2a

At the time of the scheme there was extensive advertising by the major suppliers, and the high take-up of desktops may reflect the nature of the packages promoted, the effect of the £500 threshold (which made cheaper packages more attractive), or teachers' desire to use the computer at home only. As part of the case study visits in stage 2 of the evaluation this could be probed further to identify whether this reflects teachers' true preferences, or their desire to use the computer at home to develop their ICT skills, use the Internet and carry out administrative tasks and prepare teaching materials.

In addition, 1675 (65%) purchased a printer. All machines purchased were 'Internet ready' and all bar 27 (1%) are now connected to the Internet.

7.3 Suppliers and service

There were a variety of responses to the survey questions on the level of service received, as can be seen from the following table.

	Very Good		Good		Satisfactory		Poor		Very Poor	
Advice on equipment purchase	484	20%	896	37%	833	35%	142	6%	43	2%
Delivery & Installation	623	25%	807	32%	613	25%	287	11%	172	7%
After-sales service	324	15%	542	25%	770	36%	315	15%	199	9%
Hotline	263	14%	441	23%	760	40%	270	14%	159	8%

Figure 7.3a

These figures are generally in line with Becta's earlier findings. For example, the evaluation of the Multimedia Portables for Teachers Pilot Project (Report, Becta, 1998) found that overall 55% of teachers rated the support they received at the time of installation/set-up as 'good', or 'excellent'.

Figure 7.3b (opposite) illustrates the data graphically.

The four aspects of service surveyed follow a chronological sequence, beginning with advice on the purchase of equipment, and moving through delivery and installation into after-sales service and the use of hotlines. Respondents tended to identify a progressive decline in the level of service provided as they moved through this sequence. However, only those who had difficulties will have used the later services (which will skew the results), and the majority (76%) identified all aspects of the services as satisfactory or better, with 92% identifying advice on equipment purchase as satisfactory or better.

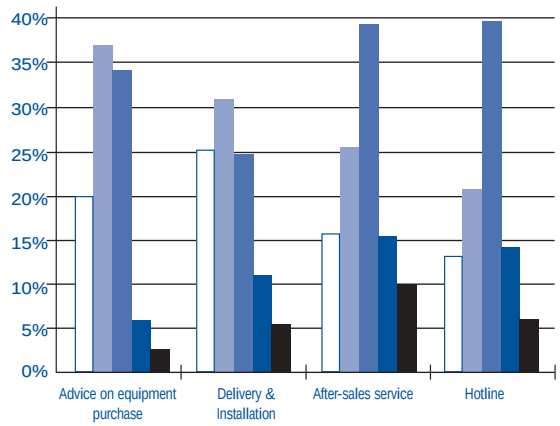


Figure 7.3b

As might be expected, the hotline service received the least positive comments, as problems sent to helpdesks are often more complex and more difficult to resolve to the satisfaction of the caller.

Some respondents to the open-ended part of the questionnaire were frustrated with aspects of the scheme's administration. This varied from a perceived lack of information about the scheme (which some saw as being 'poorly advertised'), and on the equipment available ('…the advice on [the] types of computer…most suitable for teachers could have been better….'), to problems in obtaining the subsidy. In particular, the need to purchase prior to receiving the subsidy was an inhibiting factor for some respondents. Additionally, some reported poor after-sales service and a number were frustrated at being restricted to approved suppliers, feeling that they could have got a better deal elsewhere. Several respondents thought that suppliers had taken advantage of the scheme by raising prices.

It is recommended that the data gathered on suppliers and service be fed back to participating suppliers in order to improve the level of service (particularly after-sales support) offered.

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