

Research Report  
No 92



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*The Use of Multimedia Portables  
in Supporting the Achievement of  
the National Professional  
Qualification for Headship: an  
Evaluation*

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## EXECUTIVE SUMMARY

### Background

As part of the Department for Education and Employment's programme of providing laptop computers to teachers through the British Educational Communications Technology agency, during 1997 44 aspiring headteachers who were undertaking the National Professional Qualification for Headship (NPQH) were provided with a high specification multimedia laptop computer.

The Department for Education and Employment (DfEE) on behalf of itself and the Teacher Training Agency (TTA) commissioned The Qualitative Workshop at BMRB International to evaluate the initiative and assess the impact of the laptop computers on these aspiring headteachers.

### Research design

The research design was entirely qualitative and undertaken in three phases. The first phase, conducted by telephone, sought to ascertain key information about the 44 aspiring headteachers in the target sample and the schools at which they worked. This was used as a sampling frame for phase two of the research, which comprised 50 face-to-face in-depth interviews. The third phase, conducted three months after phase two, comprised 25 telephone depth interviews to explore any developments in the use of the laptop computers. The study design was as follows:

	<b>Depth interviews</b>	<b>Follow-up telephone interviews</b>
Aspiring headteachers with a laptop	20	20
Aspiring headteachers without a laptop	10	-
Headteachers of aspiring head teachers with a laptop	5	5
Headteachers of teachers without a laptop	5	-
Additional users/sharers	5	-
NPQH centre staff	5	-
<b>Total</b>	<b>50</b>	<b>25</b>

The initial phase of fieldwork was conducted during June and July 1998, with follow-up fieldwork in August and September 1998.

### Practical issues

Laptops were allocated to teachers by NPQH regional centres. Considerable discretion was exercised with laptops being allocated on the basis of IT experience, type of school (primary and secondary) and location (urban and rural). Given the paucity of IT in some schools, there was some question as to whether laptops should have been provided to already IT-literate individuals and schools with sophisticated IT suites.

Aspiring headteachers were universally impressed with the quality of the hardware provided, with very few reports of hardware failure. There was some suggestion that the printer that was provided should have been a portable model.

Teachers also felt that a high quality projector would have enhanced considerably the potential for using the laptop in the classroom.

Teachers were very impressed by the quantity of software provided, although very little was used. This was partly due to pressure of time and partly a view that much of the software was only relevant to students of primary school age. Of all the software provided the *Microsoft Office* suite was the most heavily used, followed by *Encarta*, *MS Art Gallery*, *Story Book Weaver*, *Hutchinson Encyclopaedia*, *Clipart* and *The Way Things Work*.

The use of local networks was limited. This was mainly due to the absence of local networks, or compatibility problems. E-mail and the World Wide Web were also infrequently used by most of the teachers, partly through time constraints, partly through lack of confidence and lack of expertise, and partly through a limited understanding of the potential of these facilities. Those who had explored, and made use of, both e-mail and the World Wide Web were often very excited by the potential that these media offered.

### **The impact of the laptop computer**

All the respondents, both those with and without laptops, headteachers and NPQH personnel, were overwhelmingly positive about the idea of aspiring headteachers being given laptop computers while studying for the NPQH. This was essentially because of the view that if senior management within the school are confident about information technology and have some up-to-date hands-on experience, then they are much more likely to push for the school to be up-to-date in IT and to ensure that the staff are brought along with the changes.

It was very clear from some of the schools where both deputy head and headteacher were interviewed, that the combination of an IT competent and enthusiastic headteacher, and a deputy head with an up-to-date laptop, was a recipe for rapid IT development and progress within the school. By contrast, some of the schools of the non-laptop aspiring headteachers whose headteachers were very much at the lower end of the IT-competency scale, were clearly struggling with out of date equipment and some very frustrated teachers.

Despite variations across the study sample there was an overwhelming view that the provision and use of the laptop had had an impact in a range of ways. These included:

- enhanced classroom presentation/materials design;
- increased quality of management information;
- enhanced NPQH project work;
- increased personal confidence in using IT;
- enhanced professional image amongst students, other members of staff, parents and school governors, and
- increased confidence and interest in IT amongst other teachers.

Overall, and partly because of the learning curve associated with receiving and learning about a new piece of equipment, the laptop computers were not felt to be time-saving. However,

teachers did feel that they had become more efficient, better organised and that the quality of their work - classroom and management - had increased.

However, there was a considerable feeling that the full potential of the laptop computers were not being fully realised. This was for five main reasons:

- many teachers, particularly the less IT literate, were overwhelmed by the sophistication of the hardware and the volume and complexity of the software received;
- the poor quality training received when the laptop computers were issued;
- the absence of any further training;
- a lack of understanding amongst some teachers and their headteachers about the potential of IT in school, and
- the absence of good quality projection facilities to use with the laptop computer. (NB Currently projection facilities for a laptop computer would more than double the price of the package offered to teachers).



## **1. INTRODUCTION**

### **1.1 Study background**

In 1996 the DfEE, through British Educational Communications Technology agency, BECTa, (formerly known as the National Council for Educational Technology) provided 1138 teachers with high specification laptop computers with the aim of improving their IT skills and helping them to enrich the curriculum for their pupils. A second phase of this project in 1997 gave a further 350 teachers multi-media portable computers including a pilot group of 44 aspiring headteachers who were undertaking the National Professional Qualification for Headship (NPQH).

It is this pilot group of aspiring headteachers which is the subject of the present study. The Qualitative Workshop of BMRB International were commissioned by the Department for Education and Employment (DfEE) on behalf of itself and the Teacher Training Agency (TTA) to assess the impact of the portable computers on these aspiring headteachers.

The DfEE had commissioned, through BECTa, an earlier evaluation of providing portable computers to teachers. The results of this evaluation, carried out by the School of Education of the University of Nottingham, were so positive that they were summarised in a leaflet. The leaflet was distributed to schools.

### **1.2 Aims and objectives**

The overall aim of the study was to evaluate the effect of personal ownership of a multi-media laptop on the performance of aspiring headteachers undertaking the NPQH. More specifically, the study aimed to provide information on the impact of the laptop on:

- classroom practices;
- quality of management in schools, especially management information;
- quality of leadership; and
- gaining the NPQH qualification.

Besides interviewing aspiring headteachers about their use of the laptop, a small number of headteachers and some NPQH staff were interviewed in order to obtain a broader view of the scheme and its impact. For comparison purposes some aspiring headteachers without laptops, and their headteachers, were also interviewed. In addition, as a result of a previous evaluation in which colleagues sharing a teacher's laptop featured prominently, it was decided to include a small number of 'additional users' in the sample.



### 1.3 Report outline

The report is divided into four sections. Following this introduction is an outline of the methodology used and a descriptive overview of the nature of the sample. Section 2 discusses the practicalities of the ‘laptop scheme’, focusing on the allocation procedure, views about the training received, perceptions of the hardware and software, and experiences of networking, and the Internet. Section 3 focuses on the impact of the multimedia laptops on: classroom practices, school management and completion of the National Professional Qualification for Headship. The final section (4) draws out some of the implications of the laptop scheme and considers, from the respondents’ perspective, how future schemes might be implemented.

### 1.4 Research design and methods

The research design was entirely qualitative and conducted in three phases. The first phase, conducted by telephone, sought to ascertain key information about the 44 aspiring headteachers in the target sample and the schools at which they worked. This was used as a sampling frame for phase two of the research, which comprised 50 face-to-face in-depth interviews. The third phase, conducted three months after phase two, used a series of 25 telephone depth interviews to follow up aspiring headteachers with laptops, and their headteachers, to explore further any developments in the use of the laptop computers.

The study design was as follows:

	<b>Depth interviews</b>	<b>Follow-up telephone interviews</b>
Aspiring headteachers with a laptop	20	20
Aspiring headteachers without a laptop	10	-
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NPQH centre staff	5	-
<b>Total</b>	<b>50</b>	<b>25</b>

Depth interviews were thought to be the most appropriate method for this research, given that the focus of the study was on the effect on the individual of owning a laptop computer. This would necessarily involve an exploration of the interrelationship between an individual teacher’s previous IT experience, the school’s IT capability and the extent to which an individual teacher was able, or inclined, to put in the time necessary to make use of the computer, especially if not particularly IT literate at the outset.

The inclusion of headteachers in the research design was important for the additional perspective they could offer on the impact of the laptop, or of IT generally, on the performance of their deputy head and the impact on the school as a whole. It was also important to put the comments of the teacher in context, for example in terms of support given, attitudes to IT, and the potential usefulness of future headteachers having up-to-date IT knowledge and experience.

## **1.5 Recruitment**

Recruitment of individuals to take part in the study was carried out by BMRB's specialist qualitative field and recruitment department from lists provided by the TTA. A letter was sent to the headteachers informing them of the study and giving them notice that a telephone call would follow asking for their co-operation in the research. Permission to contact individual teachers in their school was also sought with interviews then set up by telephone and confirmed in writing.

From the pilot group of 44 aspiring headteachers, whose names were supplied to us by the Teacher Training Agency, a sample of 20 teachers was recruited to include a range of school types within the state sector. Other factors which were taken into consideration in the selection of the sample were gender and IT experience.

The comparison sample of aspiring headteachers without laptops was recruited to match as closely as possible the laptop sample, although for practical reasons geographical location took precedence as the sample was widely dispersed. The view was taken that geographical matching was at least as important as other factors, given the diversity of school IT provision across local authorities/regions.

Additional laptop users did not feature significantly in this sample. The five interviewed were the only ones identified from information supplied by the laptop teachers.

The headteachers were recruited to include a range of school types and geographical regions represented by the laptop sample. The summary profiles of all the respondents are shown in Table 1. NPQH personnel from five different regions were also interviewed.

## **1.6 Fieldwork and analysis**

Fieldwork was undertaken in two phases. The initial tranche of 50 depth interviews was conducted during June and July 1998. The follow-up telephone interviews were undertaken during August and September 1998.

The interviews were structured, to the extent that the same set of issues were covered with each respondent, but in such a way that the interviewer could respond flexibly to issues arising during the course of the interview. A topic guide, or *aide memoire*, was used for this purpose.

All the interviews were tape-recorded and transcribed for analysis using Matrix-Mapping, a systematic method for analysing qualitative material.

A more detailed description of BMRB's approach to qualitative research, can be found in the Appendix, together with examples of the topic guides used.

**Table 1 : Sample profile**

	Aspiring Head Teachers with laptops	Aspiring Head Teachers without laptops	Additional Users	Heads of laptop teachers	Heads of non-laptop teachers
<b>GENDER:</b>					
Male	10	6	4	2	4
Female	10	4	1	3	1
<b>AGE:</b>					
20-29 yrs	1	-	1	-	-
30-39 yrs	8	1	2	-	-
40-49 yrs	11	8	1	2	2
50-59 yrs	-	1	1	3	3
<b>SCHOOL TYPE:<sup>1</sup></b>					
Primary	10	7	2	2	4
Secondary	10	3	3	3	1
<b>SCHOOL SIZE:</b>					
Under 500	10	5	2	2	2
500-1000	6	3	2	1	2
Over 1000	4	2	1	2	1
<b>TEACHING EXPERIENCE:</b>					
Under 5 yrs	3	-	-	-	-
5-10 yrs	9	5	1	-	-
10-20 yrs	8	5	2	-	-
Over 20 yrs	-	-	2	5	5
<b>SUBJECT:</b>					
All	2	2	1	1	1
Science/maths/IT	14	4	3	2	2
Humanities	3	4	1	1	2
Special needs.	1	-	-	1	-
<b>TEACHING TIME</b>					
None	2	1	1	3	2
Less than ½ time	9	3	1	2	3
½ or more	3	3	1	-	-
Full-time	6	3	2	-	-
<b>IT COMPETENCE:</b>					
Not/basic	5	3	-	-	5
Fairly competent	9	3	1	1	-
Competent	6	4	4	4	-
<b>SAMPLE TOTAL</b>	<b>20</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>

<sup>1</sup> Of the teachers with laptops, 2 were from special schools, 3 were from grant maintained secondary schools, 1 was from a girls grammar school and 1 was from an infant school.

## **1.7 Scope of qualitative methods**

It is important to note that the methods used in this research are qualitative in nature. This approach has been adopted to allow for individual experiences and views to be explored in detail. Qualitative methods do not allow data to be given on the numbers of people holding a particular view or having a particular set of experiences. The aim of qualitative methods is to define and describe the range of emergent issues rather than to measure their extent.

## **1.8 Background to the respondents - a descriptive profile**

### **1.8.1 Career histories and aspirations of the 'laptop teachers'**

Most of the aspiring headteachers were deputy heads, two were acting-headteachers and one had just obtained their first headship. There was an equal number of male and female teachers. With the exception of one teacher all were in their thirties or forties.

Most of the aspiring headteachers with laptops who were interviewed, (the 'laptop teachers') aspired to being a headteacher. A small minority were less interested in becoming headteachers and were considering academic careers or educational consultancy as their next step.

In addition to teaching, all the NPQH candidates had some managerial responsibilities, which included one or more of the following:

- staff appraisals and staff training;
- curriculum development and timetabling;
- strategic planning and budget;
- subject assessment and co-ordination;
- school premises;
- pastoral care;
- subject or departmental responsibilities; and
- special educational needs.

### **1.8.2 IT competence**

The IT competence ratings in the sample profile were based largely on the respondent's own self-assessment. The IT experience of the laptop teachers ranged from those who professed to know very little to those who rated themselves as very competent. Almost half the sample rated themselves as fairly competent and the rest were almost equally divided between the less competent and the competent or very competent.

The non-laptop teachers were fairly evenly distributed across the IT competence scale.

The two groups of headteachers were at opposite poles of the IT scale. The 'laptop headteachers' ranged from fairly competent to competent or very competent. The non-laptop headteachers, on the other hand, all described themselves as being very IT illiterate, apart from one who described his knowledge as basic.

### **1.8.3 Pre-laptop IT experience**

With such a wide range of IT capabilities within the sample one would expect a wide range of hardware and software experience. Computer experience depended to some extent on individual attitudes towards IT, but to a greater extent on the availability of up-to-date PC's at school.

Overall, all the respondents in the study had used a computer and all had at least some basic word processing skills. Many had home computers but not all had had the time to learn to use them properly. Even the most competent user often had no experience of e-mail or the World Wide Web.

The amount of classroom teaching that involved the use of a computer appeared to be very small indeed. In most schools the extent to which IT was used in the classroom seemed to depend on an individual teacher's ability or inclination. The most consistent use of computers for teaching purposes was in the preparation of work sheets by primary teachers.

Not all primary aspiring headteachers were using computers for management purposes but all secondary aspiring headteachers interviewed were using them to some extent.

There were a small minority of highly IT-competent teachers amongst the laptop sample who already had access to the most up to date PC's, as well as laptop computers. Without wanting to be ungrateful for being given a state of the art multimedia laptop to own for a year, they nonetheless admitted that a less experienced teacher from a school less highly resourced might have benefited more from the scheme.

## **1.9 School IT resources**

The secondary schools were equipped with a much greater number of computers per pupil than the primary schools. IT was usually taught as a separate subject with all pupils having at least one IT lesson per week. In infant and primary schools there were, in most cases, curriculum aims which set out goals for the incorporation of IT into classroom teaching. However, many saw this as an ad-hoc approach to IT in education which depended far too much on the capacity of the individual teacher to find opportunities in school time for IT learning and development.

In addition, there were many practical barriers to successfully using computers with large classes of pupils. These included:

- high staff pupil ratios (e.g. one teacher to thirty pupils);
- the difficulty of using a small screen with a large class;
- the great diversity of computer skills amongst the pupils themselves; and
- the teacher's lack of knowledge should anything go wrong with the computer during a class.

As the pace of change has been so rapid in technological development most schools were trying to cope with either a mish-mash of old style BBC and Acorn computers and modern PC's or else they were in the process of installing a completely new system of up-to-date

PC's. Often the arrival of a new headteacher had been the stimulus for much greater investment in computers. It had taken time, and further resources, to give staff the confidence and skills they needed to make greater use of IT.

*'First we had Acorns and then we moved on to PC's. We got parents involved and purchased three computers on Asda vouchers. We also put joint bids in with other schools, with the lottery, anybody - now we actually have nine and hope to get more delivered in September'.*

(Aspiring headteacher with a laptop, primary school)

NPQH staff also tended to agree that there was a lack of consistency in IT standards in schools. Furthermore, they felt that the level of IT usage in the class room depended very much on teacher IT-confidence and skill.

*'IT in schools is a mix of old and new technology and some teachers are more proficient than others'.*

(NPQH staff)

### **1.10 The impact of IT on teaching (pre-laptop)**

All the respondents were asked to discuss what impact computer technology, generally, had on teaching.

Most of the study teachers stated that some of their teaching materials were produced on computers on a regular basis. These were mainly worksheets and spread sheets, produced by word-processing packages and Excel, for use in class. The main advantages cited by teachers for using computers for this purpose were the quality of work and speed of production, as well as cost effectiveness.

*'Quite often we create our own worksheets and a lot of those we generate on computer. The children are familiar with this but we don't use computers as much as I would like to.'*

(Aspiring headteacher without a laptop, primary school)

In addition, teachers mentioned that computers made their work look more professional - a factor that many children in class now came to expect.

*'Pupils now expect materials to be of a higher quality and standard of presentation. They expect computer generated materials and their values and attention are geared towards the quality of the materials they are faced with.'*

(Aspiring headteacher without a laptop, grammar school)



## 2. THE PRACTICALITIES OF THE LAPTOP SCHEME

### 2.1 Outline of the laptop scheme

Participating teachers were drawn from local authority and grant maintained schools only.

A commitment was required from the aspiring headteacher's school that the school would support their teacher's involvement in the scheme. The NPQH Training and Development Centre Managers and Assessment Centre Managers undertook to support fully the use of laptops by candidates.

Training was provided by *Centerprise* to groups of four participants on the day they received their computers.

Ownership of the laptop was often a salient issue for many of the aspiring headteacher taking part in the laptop scheme. It was generally thought that the laptop would become the property of the school at the end of the NPQH but no firm decision had been taken on this at the outset of the scheme. At one NPQH centre the manager spoke of a possible option to purchase at the end of the NPQH compulsory module. In the meantime, the computers remained the property of the DfEE and the TTA<sup>2</sup>.

### 2.2 Perceived rationale for the laptop scheme

The most obvious reason for targeting aspiring headteachers for laptops, which was put forward both by the NPQH personnel and the teachers themselves, was that by getting future headteachers to become proficient in the most up-to-date technology they would ultimately be helping schools to move forward and embrace the new technology with much more confidence and skill.

*'... because if all headteachers understand the potential before they are heads, they'll make sure everybody else understands the potential.'*  
(NPQH staff)

*'... there was the issue of them becoming more ICT proficient, and that having a knock-on effect on how they used the ICT for management or for teaching purposes, or for influencing colleagues in school. Then probably there was the issue of communicating with each other and also of accessing information via the Internet.'*  
(NPQH staff)

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<sup>2</sup> Subsequently, a decision has been made such that ownership of the laptop computer resides with the school but the NPQH-nominated teacher has primary access. Should the teacher move schools, the laptop moves with the teacher. Where a teacher leaves the profession the laptop remains with the school.



Another regional centre manager saw the role of the laptop scheme as even more far-reaching. Familiar with schools trying to deal with IT as a ‘bolt-on extra’ and very rarely integrated into the whole educational approach of the school, he saw this scheme as potentially a way of enabling education, through schools, to be a ‘leading positive force as far as new technology’s concerned’. To achieve this, IT had to become integral to how teachers operated in their daily working lives.

By contrast, others in the study could not see a rationale for the laptop scheme and were largely unaware of any potential benefits that it might bring. Talking about the Internet, one headteacher noted:

*‘It’s information retrieval, which is part of English I suppose, mainly that ... I don’t think that information technology is the panacea that some people project it to be, but having said that, certainly this generation of children have got to have a far, far, greater awareness of information technology.’*

(Headteacher of an aspiring headteacher with a laptop, primary school)

Indeed, it was said on a number of occasions that headteachers played a critical role in the development of IT in schools. Often the biggest barrier was a headteacher, or school governors, who could not see the potential of information technology.

### **2.2.1 Nomination for laptops and distribution**

All the laptop teachers had either been nominated, or asked if they would like to participate, by their local NPQH centre. According to the NPQH staff interviewed, there was insufficient time to allow for an application procedure. Although there seems to have been a central directive to allocate the laptops to an equal number of experienced and inexperienced users, in practice the NPQH centres appear to have had a certain amount of autonomy in deciding their own allocation criteria.

While some of the managers interviewed appeared to have followed the criteria of two experienced and two inexperienced teachers, one NPQH centre gave preference to those individuals with little IT experience, while ensuring a mix of gender, school type, local authorities and an equal number of Trials<sup>3</sup> candidates and those on Cohort 1. Another centre targeted the smallest primary schools and those in the most isolated locations, and then drew names out of a hat. Another centre gave three laptops to secondary school candidates and only one to a primary teacher. There was evidence from some teachers that they had been specifically targeted to receive a laptop computer.

Most of the NPQH staff interviewed expressed the difficulty of having to single out a ‘favoured few’ teachers to benefit from such a wonderful opportunity. The general opinion seemed to be that if the Government was serious about wanting schools to embrace fully the new technology and what it had to offer, it should be prepared to fund laptop computers for all NPQH candidates.

Aspiring headteachers without laptops were often aware of the scheme and were resentful of their exclusion.

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<sup>3</sup> Trials candidates were those aspiring headteachers who took part in the pilot or ‘trial’ year of the NPQH.

A number of the laptop teachers, notably female, drew attention to the fact that the computers were given out in the period coming up to Christmas, which for most people was a very busy time of year.

*'I just wanted to sit there and use it all the time when I first got it, but I couldn't... I thought I really must get to grips with that, then you do the ironing, you do the washing and it's ten o'clock and you're too tired. I would have liked a week where I could have gone away and given myself some time, but it happened around Christmas ...'*

(Aspiring headteacher with a laptop, primary school)

Having had the summer holidays, at the follow-up interviews respondents suggested this would have been a better time to allocate the laptop as they would have more time to experiment.

### **2.3 Conditions imposed on laptop recipients**

There appeared to be differences between the NPQH centres in the conditions they imposed on those candidates selected to receive laptops. However, most of the laptop teachers had been party to an agreement to fulfil some, or all, of the following conditions:

- to use the laptop for their NPQH assignments;
- to e-mail their laptop colleagues at regular intervals;
- to e-mail the NPQH centre at monthly intervals;
- to access and/or contribute to the teachers' conference on the Internet; and
- to participate in any evaluation research.

In addition, some had been asked to prepare a *Powerpoint* presentation, as part of their compulsory NPQH module, demonstrating the benefits of IT both as a management tool and in the classroom. This was then to be presented to the new laptop recipients as well as being copied for use in other training groups. They also had to be prepared to use their experience to inform the development of a CD-ROM for training.

Many of the teachers commented on the usefulness of these conditions. Having to use the e-mail facility meant that some teachers got into the e-mail habit; the prospect of having to do a presentation on IT kept them focused.

*'Oh, I just feel so much more confident now ... I think because we've had the structure of the project where we've had to e-mail one another ... we do anyway because we've always got queries and things we're chasing one another with, but I think because the structures were there and we have our regular meetings ... and we know that at the end we've got to give this presentation, so it keeps us focused.'*

(Aspiring headteacher with a laptop, primary school)

## 2.4 Training

The laptop teachers were quite critical of the initial half day's training they were given when they first received their computer. These included:

- putting together experienced and inexperienced IT users, which meant that the training session could not meet both sets of needs;
- the trainer appeared unfamiliar with the machines and the software;
- the trainer could not answer some of the questions posed by the candidates;
- the introduction was overwhelming for inexperienced users - too much all in one go;
- in some cases, most of the time was spent unpacking the computers and software from boxes; and
- how to get into the World Wide Web and find useful sites was not covered; for many of the 'competent' users this was often the one area of which they had no knowledge.

NPQH staff appeared to be well aware that the initial training had serious shortcomings.

*'They got very poor training to start with. The guy to start with was just awful. He hadn't got a clue. He knew less than I did, I think. He must have read the manual the day before and was trying to tell them all about it.'*  
(NPQH staff)

Individuals coming into the scheme late did not receive any training at all.

Many of the laptop recipients had been promised further training, but in most cases this did not materialise. Some had taken the initiative and had managed to obtain some additional training sessions. In some cases these were paid for by the school. Where teachers had approached their local education authority they were often refused additional funding for courses. Most laptop recipients made the point that more training would have been extremely beneficial.

Some teachers suggested that training might take place at the end of each term to help review the computer skills they had learnt. An alternative view was that training should take place at the beginning of each term to familiarise candidates with some of the programmes and facilities they could use with the laptop.

## 2.5 IT 'hotline' support

Most of the laptop teachers were much less critical of the hotline support offered by their NPQH centres than they were of the training. Many spoke warmly of some very dedicated and enormously helpful people who were at the end of a telephone at any time of the day or night.

Unfortunately, not all the laptop teachers were aware of the hotline. In other cases they found that the only time they could get to their computers to 'play and learn' was late at night. They felt it was then too late to ring the hotline number.

## 2.6 The hardware

While few could recall the specification of the multimedia laptop, the majority of the laptop teachers were impressed with the quality and sophistication of their laptop. For most, it was the most up-to-date computer they had ever worked on - they were absolutely delighted that they were getting it for nothing.

*'I love it' and '... always got it with me.'*

Most reported that the laptops were very fast and reliable, with just a few who complained of having 'rogue' machines which had to be sent off frequently to be sorted out.

All the machines came with a sound card, a modem card and a CD-ROM drive. Instead of an external mouse there was a mouse pad incorporated into the machine. Printers were supplied with the laptops but they were not considered by the teachers to be particularly portable.

Most teachers with laptops were reluctant to criticise their machines because they felt they had been so lucky to have been given them in the first place. However, when pushed, there were some minor complaints which were voiced by several of the respondents. They are as follows:

- the batteries in the laptop did not last long enough to be useful - half an hour quoted in some cases;
- linking the modem to the phone line and the printer to the laptop was fiddly and difficult;
- the absence of a separate numerical keyboard.
- the lack of a separate telephone line at school meant that the Internet facility could not be used easily by some teachers.

Some aspiring headteachers felt that a portable printer would have allowed them to get the maximum benefit from the portability of the laptop. When they took their laptops away with them to their NPQH sessions, to local school management meetings or even to parent and governor meetings the ability to print off something there and then, they thought, would be a great asset. At least one teacher had bought a separate portable printer for exactly this use.

A number of teachers also commented on the absence of projection facilities. Some would have preferred less software and instead to have received the equipment necessary to do presentations directly from the laptop. This would have enhanced considerably the potential for using the laptop in the classroom. Some schools were planning to invest in a projector and screen, but for many primary schools this level of expenditure was beyond their means.

### 2.6.1 Portability and usage of the laptops

The portability of the laptop was, for some teachers, its greatest asset. All the aspiring headteachers interviewed had a management role and spoke of doing a large amount of work at home. Apart from their job requirements there was their NPQH work as well. This would normally involve packing up and transporting a school computer to and from school, unless one had a compatible PC already at home. Even with a PC at home there was the hassle of constantly having to download discs both at home and at school.

Other uses of the laptop, because of its portability, included:

- taking minutes at meetings;
- accessing information at meetings;
- presenting information to parents on open evenings; and
- working on public transport.

The size and portability of the laptop computer was both an advantage and a disadvantage when considering its use as a teaching aid in the classroom. The fact that it was so easily transportable meant that it could be brought into the classroom every day and used by individual pupils. For some teachers in small primary schools, with just one PC per classroom, bringing in a laptop meant that their IT capacity was effectively doubled.

However, most of the teachers thought that its use in a classroom setting was limited because of the small size of the screen. With only one or two children able to use it at any one time, unless there were several laptops in a classroom, laptop use had to be carefully managed. Many teachers felt that without a projector and screen a laptop was not a practical teaching aid in the classroom (see Section 3.1).

One teacher reported that the school could not afford to do colour printing and so much of the illustrative potential of the CD-ROM material was lost.

The laptops were more likely to be used in the classroom by aspiring headteachers in primary schools than aspiring headteachers in secondary schools. This seemed to be partly because deputy heads in secondary schools did relatively little classroom teaching compared to those in primary schools. It was also suggested that the nature of secondary teaching was different and the software provided with the laptops was not considered particularly useful for secondary teaching.

As a teaching aid the laptop was also used extensively to prepare worksheets. Here the portability was considered a great advantage because it could so easily be transported between home and school and material could be printed out in the classroom. Having access to sophisticated software meant that the standard of worksheets handed out to the children was much higher and it was thought that this had a positive and stimulating effect on the students. However, one teacher stressed the importance of still giving out hand-written worksheets to the pupils so that they continued to see examples of good handwriting on a regular basis.

## **2.7 Personal ownership**

Personal ownership of the laptop was a vitally important feature of the scheme. Because of the limits of time available during the school day, all the teachers spoke of having to do their 'playing around', - their IT learning and development - during their free time. This might be at home or at school. Having complete control over the machine meant that they could make the most of those pockets of time whenever they might occur.

## 2.8 The software supplied

A very generous package of software came with the laptop for every recipient, regardless of their need or usage. Most expressed amazement over this. Some of the teachers, especially those from small primary schools with tight budgets, were quite thrilled to be given such a range of software which they could never have afforded to buy.

Most of the teachers interviewed had tried to look through all the software they had been given but it was clear that their lack of time for '*playing around*' meant that for many it was a very superficial run through.

Some teachers were rather overwhelmed and thought that more software had been provided than was really needed. These tended to be the teachers who were struggling with their computer anyway and finding lack of time a major problem. Some had not managed to look through all the software by the time they were interviewed and felt rather guilty about this. In a number of instances the summer vacation had provided the opportunity to explore more fully the software available.

There was some suggestion that the software was more suitable for a primary school: a maths secondary teacher, said that for him the software was '*largely a waste of time*'. He would have been pleased to receive a software package such as *Omnibus*.

There was considerable comment about *Microsoft Office* and the fact that it had to be ordered individually by each candidate. Most seemed to receive it eventually but the delay was irritating.

In some schools the version of *Microsoft Office* that was supplied was much more advanced than that running on their school system already - compatibility problems emerged. Others, who had *Microsoft Office* on their home computers and on the school system, thought that *Claris Works*, which was included in the package, was an odd choice because *Microsoft Office* was the most widely used up-to-date package. One respondent was made to feel she was being very ungrateful when she mentioned this to the IT person assigned to them from their NPQH centre.

*'... the point is I'm familiar with the Office environment, I'm using it at home and I'm using it at school, surely it's better that they are compatible. I haven't got time to learn anything else, and why should I learn anything else?'*  
(Aspiring headteacher with a laptop, primary school)

*Word* and *Powerpoint* were used by most of the respondents for word processing and presentations, and to a lesser extent, *Excel*.

In addition to *Microsoft Office*, the following tended to be the most used pieces of software from the collection supplied: *Encarta World Atlas*, *Microsoft Art Gallery*, *Story Book Weaver*, *Hutchinson Encyclopaedia*, *Clipart* and *The Way Things Work*.

*Hyperstudio* was mentioned by several teachers as one programme which they had completely failed to understand. Interestingly, this was the package which one teacher 'raved about' during the telephone interview three months later, because he had finally been able to explore it fully during the summer holiday. He thought it was just what he needed for the

particular requirements of one of the key stages he was having to implement and was planning to use it with his pupils in the autumn term.

The NPQH staff who were interviewed seemed largely unaware that the full potential of the software was not being achieved in many cases. For their part, they were delighted that such a comprehensive package was made available to all the recipients and felt that any problems individuals might have had were because of their lack of IT proficiency.

The secondary school laptop teachers, in particular, felt they could have benefited from the inclusion of some school management packages because often a greater part of their time was spent managing rather than teaching. Some had downloaded timetabling software and other management packages onto their laptop. For example, one secondary deputy head was particularly pleased to be able to run the *Simms Options* programme on his laptop because the school system was not powerful enough to run it efficiently. Other than this, however, there was little demand for additional software. The exception was one teacher from a special school who would have liked some software more appropriate for children with special educational needs.

## **2.9 Accessing local networks**

Many of the schools visited did not have local networks. Where networks were in place, some respondents were unable to use their laptops within their school's network because there was no software supplied with the laptop to enable them to do this. In other instances their laptops were incompatible with the network system in place. For the few who could access a local network, it was said to be a tremendous asset to be able to log on while working from home and access databases and transfer information to colleagues.

In many instances teachers commented that local networking was currently at the planning stage and often awaiting the outcome of bid applications.

## **2.10 The Internet**

Only a small minority of the laptop teachers had experience of e-mail and the World Wide Web before they received their computers through the scheme.

Overall, there was considerable disappointment that the initial training session did not give more help on how to access the Internet nor provide information and guidance on the best educational sites and how to access them. For the inexperienced user, there was too much information, too fast, in that initial training session, to be able to remember the information. For example, some could not remember how to e-mail once they got home.

For the more experienced user, knowing how to access the Internet was often the only aspect on which help was required, but not supplied.

### **2.10.1 E-mail**

Most of the laptop teachers had been told, or had agreed, to e-mail their NPQH colleagues at least weekly or fortnightly and to use e-mail to communicate with their NPQH centres. It was generally felt that this had been worthwhile, especially for those less experienced and less confident users who might otherwise have been put off using e-mail.

*'The networking is great, where we communicate with each other. The four of us, although we've only met three or four times, have built up a really good relationship and we write notes to each other about things like when we've got an interview and all those chatty things ... so you make friends on the Internet which is quite nice.'*

(Aspiring headteacher with a laptop, primary school)

For a majority of the laptop teachers, e-mail opened up a whole new method of communication and they were extremely enthusiastic about it. Some of the advantages reported were:

- an efficient form of communication;
- a relaxed and informal way of communicating because one has time to think;
- there is a record of the message;
- allows communication at weekends when one might be reluctant to telephone someone;
- gives the recipient a choice of when to receive and respond to a message;
- allows heads and deputy heads to network more easily out of their local area;
- can be a friendly and supportive way of networking;
- allows communication with friends overseas or pupils in schools can send messages to pen-pals; and
- can be an alternative to using the telephone when being overheard is a problem.

*'... one of the huge differences that the laptop's made is e-mail. Once I got that and an e-mail address I really started using it. Every friend of mine and most of my education contacts have got e-mail addresses and I now have an address book and it's a very easy way to pass messages around at any time of the day or night.'*

(Aspiring headteacher with a laptop, secondary school)

*'Easy, efficient, I've always got a record of it, it's all recorded there so you can go back over messages much more easily.'*

(Aspiring headteacher with a laptop, secondary school)

*"I wouldn't phone another teacher at the weekend for averagely important stuff but I would e-mail them and they could take it or leave it. It's much more gentle."*

(Aspiring headteacher with a laptop, secondary school)

There were others, who had tried e-mailing because they felt they had to, but who disliked this form of communication. Some of the reasons cited were:

- easier to pick up the phone or write a letter;
- lack of confidence using e-mails;
- a concern about confidentiality;



- problems with their laptop; and
- a lack of people to e-mail.

It was clear that there was a barrier of skill and confidence that individuals had to work through before e-mailing could become an integral part of their communication repertoire. Once this barrier was crossed, most of those interviewed found e-mail to be invaluable and would not like to be without it in the future.

### **2.10.2 The World Wide Web**

Accessing the web was one of the recurring problems faced by the laptop teachers. It was not always clear whether the cause of the problem was the modem in the laptop, or the service provider, or whether it might have been because the user was not sufficiently familiar with accessing the web. There were some complaints that the Internet Access Provider was difficult and slow to access as well as not offering enough support to users.

For some teachers, those who had managed to find their way round the World Wide Web successfully, it was access to the web which had had the major impact on them. They could see the possibilities and felt it opened up a '*world out there*' which they could tap into from their laptop.

For others, it was the web which caused them the most anxiety and frustration. Many teachers could only use the web at home because there was only one telephone line at school which could not be monopolised by connection to a computer.

There was also the amount of time it took to 'surf the net', find what they wanted, and the time it often took to download the information. This limited the possibilities for using the web as a teaching aid in the classroom.

Those who had managed to find their way into and around the World Wide Web had found it very useful and were generally enthusiastic about the possibilities. However, time constraints again limited what most were able to find; respondents said that some guidance and more practical help would have enabled them to make much more efficient use of this resource.

Most stumbled on sites such as the DfEE site by accident and again it was felt that this could have been shown them during the initial training. Access to the DfEE site was thought to be particularly useful for obtaining information as soon as it was available, and especially important for headteachers. A number of teachers had downloaded OFSTED reports and primary teachers, in particular, had accessed information for topic work in classes.

A few teachers had not managed to log onto the web at all. Some had logged in but ended up changing network providers because they had problems with the original provider.

### **2.10.3 School web sites**

A small number of schools in the sample had set up their own Website, with pupils being involved in putting information about the school onto their site. Some teachers reported that their pupils were much better equipped at home than they were at school and they often brought in information they had downloaded from the Internet at home.

Generally, however, teachers indicated that school web-sites were either 'coming soon', or were currently 'too technical' to be considered. Not all the teachers and headteachers in the study could see the potential of a school web-site.

## 2.11 Conferencing - the closed conference

A closed conference for the aspiring headteachers with laptops and the NPQH Centre Managers was set up. Aspiring headteachers were notified of a password, issued with instructions and encouraged to participate. Taking part in the conference on the *Virtual Teachers' Centre* required the use of *Netscape* or *Microsoft Internet Explorer*.

Although all the teachers interviewed now knew about the closed conference - and most were enthusiastic about its potential, there was a general feeling that it had to develop a lot more before it could be really useful. It was thought that there were not enough people contributing to it yet and that some of those who were contributing tended to input just for the sake of it.

*'I go into it about once a week and see if there's anything interesting there ... It's fairly bland at the moment because there aren't enough people taking part and it seems that some people are writing things for the sake of writing something, which is fine.'*

(Aspiring headteacher with a laptop, secondary school)

There was a general enthusiasm about the potential for sharing information, even if it still had a way to go before it was consistently useful.

*'I think the difficulty has been that education's become very competitive with league tables and things like that ... at the end of the day we are all professionals and surely it's better if we all share our expertise and we all support one another - why re-invent the wheel a lot of the time?'*

(Aspiring headteacher with a laptop, secondary school)

*'... they're setting up resource pages and things for teachers to go in and I've looked at one on literacy and there's ideas and people showing what they're doing for literacy strategy and useful publications and things like that, schemes at work, so people are sharing new things.'*

(Aspiring headteacher with a laptop, primary school)

Some who had contributed to discussions were enthusiastic about it and were excited when they got a response, although this could be as much for the novelty value as for the content.

Due to the constraints of time many had only accessed the closed conference once or twice and some had not accessed it at all.

*'There was a debate going on about ICT and how to integrate it into schools and I keyed into that. I found it really interesting. I read what people had said, and there were people contributing who had actually come and trained us for the SLAM module and it felt really exciting ... it was a way into almost being back at university, that kind of atmosphere and that kind of feeling it gave me but I just haven't found the time, or made the time, to say "this is a priority and that's what I'm going to do'.*

(Aspiring headteacher with a laptop, primary school)



### 3. THE IMPACT OF THE LAPTOP

In considering the introduction of laptop computers into schools it is important to consider not only the way in which the laptop was used but the impact it had on the recipient teacher specifically, and on the school, generally. In this chapter we consider the impact of the laptops on:

- classroom teaching;
- management tasks;
- the completion of the NPQH;
- time and efficiency; as well as
- wider effects on other staff and students.

#### 3.1 The impact of the laptop on classroom teaching

In terms of the laptop computers, NPQH staff had mixed perceptions of their uses for teaching purposes. These ranged from those who recognised the importance of introducing IT into the class room to those who were unclear as to how the laptop could actually be used in the classroom.

*‘There is a view that teachers should become more IT literate and therefore produce a knock on effect on how IT is used in the class room and in management.’*  
(NPQH staff)

*‘I think the laptop has slipped on to the backburner, that’s the impression I get. It certainly hasn’t been in the forefront of my discussions for some time now.’*  
(NPQH staff)

However, there was a general understanding among these respondents that usage of the laptop in class would give children and teachers the opportunity to develop their IT skills.

*‘The NPQH candidates of now are the heads of tomorrow. These people have to have a sense of what IT can do to enhance and develop their schools.’*  
(NPQH staff)

Against this backdrop aspiring headteachers with laptops had used their machines to some extent in the classroom, and to a greater extent to produce teaching materials for use in class.

*‘Sometimes I use the laptop as a reading tool in class and let the children play around with some of the CD-ROMs.’*  
(Aspiring headteacher with a laptop, primary school)

The laptop was used by many to prepare worksheets. Here the portability was considered a great advantage because it could so easily be transported between home and school and material could be printed out in the classroom. Having access to sophisticated software meant that the standard of worksheets handed out to the children was much higher and it was thought that this had a positive and stimulating effect on the children.

*'I have printed off materials and taken them into class to use with pupils.'*  
(Aspiring headteacher with a laptop, primary school)

*'I select information that has both graphics and text, we then put this in to a resource book which the children use for their assignments. Some of the material I simplify in to work sheets for them.'*  
(Aspiring headteacher with a laptop, special needs school)

Use of the laptop for teaching purposes in class was limited. This was mainly due to teachers familiarising themselves with the technology and identifying areas where the laptop could be used in class. Although most teachers thought that its use in the class room was limited some teachers had used the laptops to some extent in this way.

The main facilities used in class were the CD-ROM software packages provided and the internet facility. Teachers found that the most suitable use of the laptops in class was for information search purposes. Children were given time to use the web or the CD-ROMs to find information that they could use in their assignments.

The interactive nature of using the laptops as a research tool for project work in class motivated some children to use information technology and develop their computer skills.

*'There is an amazing range of materials available to them. They like that it is in colour which has an amazing impact on pupils in terms of motivation and ability to focus.'*  
(Aspiring headteacher with a laptop, primary school)

Overall, classroom use of the laptop included the following:

- word-processing;
- data handling;
- communicating with pen-pals overseas;
- accessing information on the World Wide Web;
- supporting topic work;
- CD-ROMs (E.g. *Encarta, World Atlas, Clipart, Encounter, National Gallery*);
- producing school magazine;
- IT training / demonstrations.

Primary school teachers tended to use the laptops in class more often than the secondary school teachers. This was primarily due to the amount of teaching responsibility the teacher had. They therefore spent more time with their laptops in class than their secondary school counterparts, who had more managerial commitments.

Additionally teachers with a low level of IT skill found it more difficult to find uses for the laptop in their day-day activities.

Overall, use of the laptops in class was low. Four reasons predominated:

- the difficulties of having a whole class 'huddled' around the laptop computer;

- the potentially disruptive effect of some children being singled out to use the laptop
- some concerns about the robustness of the machine with boisterous children; and
- the lack of suitable projection facilities.

### 3.2 The impact of the laptop on management tasks

All aspiring NPQH teachers, with and without a laptop, had used computers to varying degrees for management purposes. All agreed that computers enabled them to produce better quality and more professional work. More specifically, all NPQH candidates had used computers for the following:

- taking meeting minutes and notes;
- presentations;
- reports;
- timetables.

NPQH staff felt that the level of IT usage for management purposes would depend very much on teacher IT confidence and skill. Most NPQH staff envisaged that the laptop would help boost teacher IT-confidence and skills with the laptops being used more for management tasks than for teaching purposes.

It was clear that, overall, use of the laptop for management purposes had initially been slow, with teachers tending to carry on with the school system they had been using. However as teachers familiarised themselves with the laptop, so their management use increased.

As a management tool the laptop was perceived as invaluable with its portability cited as an important advantage. Teachers also indicated that the laptop helped them improve the quality of their work as well as save them time by speeding up their production of necessary management documents.

*'It has given me the flexibility to develop programmes which makes the job easier and make my work look more professional.'*

(Aspiring headteacher with a laptop, primary school)

Again, the portability of the laptop offered considerable advantages, being used in the following circumstances: taking minutes at meetings, accessing information at staff and school governor meetings, and presentations.

*'I use it all the time for absolutely everything, i.e. reports to governors, spreadsheets for looking at targets as well as income and money.'*

(Aspiring headteacher with a laptop, primary school)

*'I use it for doing reports to governors, so a lot of word-processing. I also use the spreadsheets for working out finance and capitation.'*

(Aspiring headteacher with a laptop, secondary school)

The laptop enabled management tasks to be carried out faster and more efficiently, with the school administration system being less burdened. Typically, the management tasks that were undertaken using the laptop included:

- Time Management;
- Timetabling;
- School Calendar;
- Budgets/ Financial Management;
- Appraisal Schedules and appraisals;
- Pupil's records and 'assessments/results analysis';
- Strategic planning; and
- Report writing.

Training, again was an issue. Many felt they had learned to use the laptop on an ad-hoc basis, which was both time consuming and had prevented them from using the laptop to its full potential.

*'It is the training that is the big worry ... I really feel guilty sometimes because I look at the laptop and see all the technology and think - I'm not making the best of that. I know I'm not and I wish that somebody had helped me though it'.*

(Aspiring headteacher with a laptop, primary school)

As a consequence, the prevailing view was that, at present, the laptop was not time-saving but did result in work that was of a much higher quality in terms of content and presentation.

From the headteachers perspective, even those who were not convinced of the potential of the laptop at the outset of the scheme, were particularly complimentary about the impact of the laptop. They singled out the high quality of the presentations as well as the positive and professional image the laptop gave to parents, governors and other staff.

### **3.3 The impact of the laptop on the National Professional Qualification for Headship**

Many of the NPQH candidates with laptops in the study felt that the level of technology supplied was over and above that required for their NPQH. As most seemed to have had access to a computer of some kind one might reasonably assume that their assignments could just as easily have been done on other machines, and indeed, some said as much.

Uses of the laptop directly for NPQH work mainly involved:

- word-processing assignments;
- preparing overheads for presentations; and
- giving presentations using Powerpoint.

Others had used the laptop, with considerable success, for:

- analysing and re-analysing school-based data for their NPQH assignments; and
- seeking information; typically legal and educational guidance rates, as well as examples of good practice.



Aspiring headteachers without laptops tended to use school or home computers to produce NPQH assignments. Interestingly, some teachers had bought a computer due to the demands of their NPQH course. These NPQH candidates claimed that computers enabled them to be more organised, efficient and helped them produce good quality assignments.

*'I would not be able to continue with the NPQH without a PC, so I bought my own to cope with it'.*

(Aspiring headteacher without a laptop, primary school)

A number of the aspiring headteachers with laptops commented on the paucity of IT coverage in the NPQH qualification. Indeed, the NPQH was criticised for the absence of any discussion about IT, the role of IT in schools and the potential of IT in the classroom.

### **3.4 The impact of the laptop on time and efficiency**

The aspiring headteachers with a laptop computer often commented on the steep learning curve that they had experienced in using the laptop. Much of the initial time spent using the laptop was concerned with learning about the new software packages with which they had been provided, transferring documents to a new system and experimenting with the wide range of options and formats provided by the software.

Many of the teachers were still struggling with learning the software, a learning experience that was not aided by the training provided. Others, particularly the more IT competent teachers felt 'reasonably accomplished' with particular pieces of software, notably *MS Word* and *MS Powerpoint*.

Clearly, the less IT-proficient laptop teachers felt that the computer had added to their workload, with some tasks taking longer. However, they recognised that, over time, their proficiency - and speed - would increase.

Overall, the more IT proficient teachers felt that the laptop was not a time-saving device. They spent no less time on work-related tasks. For them, however, the major benefit was an increase in efficiency - getting more tasks done in the same period of time - and the higher quality output that was available. Class-related materials, such as worksheets and topic materials, and management documents - including analyses of school-based data - were all felt to reflect a quality not previously attainable with the school-based systems they had been using.

*'I don't think it has freed up any time, I think it has made me more in control of how I use my time and made my work look more professional. The way I present things has been enhanced.'*

(Aspiring headteacher with a laptop, primary school)

As mentioned earlier, headteachers were often very complimentary about the management-related work now produced by their deputies, a change that was definitely associated with the laptop computer.

### 3.5 Other effects of the laptop computer

In discussing the impact of the laptop computers, aspiring headteachers mentioned four primary ways in which the laptop had an influence on others.

First, a number of teachers felt that for some students, particularly the less able, their learning was stimulated as a result of the laptop. Partly this was due to the range of materials that could be produced, and partly the opportunity to access the web and have control over the information they could search for and down-load.

Second, there was a view that the laptop made teachers appear more professional and technologically up-to-date. As a consequence there was some feeling that students showed increased respect for the professionalism of the teacher.

*‘When you develop your own skills the children notice it and you are their model. It is actually raising the quality and standards in the class room and how to lay things out and present them.’*

(Aspiring headteacher with a laptop, primary school)

Third, other teachers in the school were often impressed by the use to which a laptop could be put. This had had a number of effects: some teachers had invested in their own computers; some had begun to consider how IT could be used in the subjects they taught; and for others, computers were beginning to be less mysterious.

*‘Other teachers are aware that I have been using it and I compare notes with those that have their own computers. We make little breakthroughs and give each other hints and tips. Those that aren’t involved actually now want to get involved but they are on the edge right now and I must do something to get them involved’*

(Aspiring headteacher with a laptop, primary school)

Fourth, many of the teachers felt the presence and use of the laptop had enhanced the professional image of the school in the eyes of parents, staff and school governors.

#### 4. CONCLUSIONS AND RECOMMENDATIONS FOR THE FUTURE OF THE LAPTOP SCHEME

*'To begin with I was very wary of the laptop and not quite sure of what its uses were. I was quite confident at touch typing but obviously word processing on that kind of machine is completely different so I've learnt a great deal of useful techniques. Now I am completely confident - it's a bit like learning to read. At first you need some one there, but now I am willing to tackle anything. Recently I have got involved with spreadsheets where as before I never used them, but I still have a lot more to learn. The laptop has now become very much a part of my work and I have it with me all the time.'*  
(Aspiring headteacher with a laptop, secondary school)

All the respondents, both those with and without laptops, headteachers and NPQH personnel, were overwhelmingly positive about the idea of aspiring headteachers being given laptop computers while studying for the NPQH. This was essentially because of the view that if senior management within the school are confident about Information Technology, then they are much more likely to encourage the school to be up-to-date in IT and to ensure the staff have positive attitudes towards IT.

It was very clear from some of the schools where both deputy head and headteacher were interviewed, that the combination of an IT-competent and enthusiastic headteacher, and a deputy head with an up-to-date laptop, was a recipe for rapid IT development and progress within the school. By contrast, some of the schools of the non-laptop deputy heads whose headteachers were very much at the lower end of the IT-competency scale, were clearly struggling with out of date equipment and some very frustrated teachers.

*'... my Head himself is not IT literate .... except for maybe some basic word processing skills and I feel because of his fear of computers and technology in that respect, he has actually held me back and hasn't been able to look at some of the systems that I think would benefit a school of this size. No experience at all of doing computer modelling for budgets and things like that.'*  
(Aspiring headteacher without a laptop, secondary school)

Although there were variations across the study sample there was an overwhelming view that the provision and use of the laptop had had an impact in a range of ways. These included:

- enhanced classroom presentation/materials design;
- increased quality of management information;
- enhanced NPQH project work;
- increased personal confidence in using IT;
- enhanced professional image amongst students, other members of staff, parents and school governors, and
- increased confidence and interest in IT amongst other teachers.

However, there was a considerable feeling that the full potential of the laptop computers were not being fully realised. This was for three main reasons: the poor quality of the training

provided at the start of the initiative, the absence of any further IT training, and a general lack of understanding about the potential of IT in schools.

In order to help people see the potential of school-based IT, two suggestions were made. First, the NPQH should, it was thought, contain a component that addresses the issue of educational IT and the potential of IT in schools, with some examples of how IT has been successfully used. Second, additional training sessions were felt to be required, covering the same range of issues, for teachers not enrolled in the NPQH.

The commentary about the training received was largely critical. For future schemes, much more attention was felt to be required in terms of the content and quality of the training to be provided. Recommendations included:

- training inexperienced and experienced users separately;
  - have ‘trainers’ rather than technicians give the training;
  - the computers to be already unpacked and assembled before the training begins;
  - allow sufficient time to go through the software;
  - allow time to set up e-mail and send some practice e-mails;
  - give advice on educationally useful Websites and how to access them;
  - do not cover too much in the initial session, especially for the less IT-competent user; and
  - allow for top-up training sessions as required.
- Other issues which laptop recipients felt should be addressed in future management of the scheme included:
    - *delivery of the laptop at the start of the NPQH;*
    - *some funded time for personal IT learning and development;*
    - *better training, more training and training that is focused on the actual IT needs of the laptop recipients;*
    - *provision of extra telephone lines into schools;*
    - *provision of a portable printer;*
    - *provision of projection facilities ; and*
    - *less software, or more appropriate software, targeted at the needs of individual teachers.*



## **Appendix**

## *Recruitment*

All participants in the study were recruited by specialist staff of The Qualitative Workshop, a division of BMRB International. Following an initial letter to the headteachers of the schools, all interviews were subsequently set up by telephone.

## *Conduct of the interviews*

Fieldwork was conducted in two phases and comprised:

**Phase one:** Face-to-Face depth interviews were conducted among the following respondents:

- 20 interviews: Aspiring headteachers currently undertaking the NPQH qualification **with** a multi-media laptop;
- 10 interviews: Aspiring headteachers currently undertaking the NPQH qualification **without** a multi-media laptop;
- 5 interviews: Headteachers of aspiring headteachers currently undertaking the NPQH qualification **with** a multi-media laptop;
- 5 interviews: Headteachers of aspiring headteachers currently undertaking the NPQH qualification **without** a multi-media laptop;
- 5 interviews: NPQH staff;
- 5 interviews: Individuals who share the laptop with aspiring headteachers currently undertaking the NPQH qualification **with** a multi-media laptop.

**Phase two:** Telephone depth interviews were conducted among the following respondents:

- 20 follow-up interviews: Aspiring headteachers currently undertaking the NPQH qualification **with** a multi-media laptop;
- 5 follow-up interviews: Headteachers of aspiring headteachers currently undertaking the NPQH qualification **with** a multi-media laptop.

A topic guide was used to structure and facilitate the interviews. In total, seven topic guides were used to structure and facilitate the interviews. Of these, five were for Phase One and two for the follow-up interviews. The Appendix contains two of these topic guides as exemplars – the reminder had essentially the same structure with modifications to reflect the type of interviewee.

All the interviews were tape-recorded and transcribed for analysis.

## *Analysis methods*

The Qualitative Workshop at BMRB International is committed to a thorough analysis of the qualitative data and have a set of procedures to ensure a systematic and comprehensive approach to data analysis. Throughout the analytical procedure care is taken to ensure that the extraction and interpretation of findings is based on the raw data rather on a researchers' impressions. A set of content analysis techniques, known as 'Matrix Mapping', is employed to ensure an optimum synthesis of findings from the verbatim data. These techniques include: an executive researchers' review of the audio tapes and verbatim transcripts; respondent profiling (in terms of demographic characteristics and key attitudinal or behavioural features); and a full topic analysis using a range of techniques such as cognitive mapping and data matrices. This report has been compiled from a full content analysis of the audio tapes and transcripts with verbatim quotes being provided, where appropriate, to illustrate and illuminate the findings.



Dear xxxx

## NPQH LAPTOP PROJECT

I am writing to ask for your help with a study into the use of multimedia laptops by aspiring headteachers undertaking the National Professional Qualification for Headship (NPQH). As part of its overall policy review, the Department for Education and Employment and the Teacher Training Agency are currently evaluating the Laptop scheme and BMRB International have been appointed to undertake the research.

I understand that at your school there is currently an aspiring headteacher who has use of a multimedia laptop, and I would like your permission to contact him/her in the next few weeks to see if they are eligible for this research.

The research will be carried out by a combination of face to face interview in your school and a telephone interview later in the year.

All the information the aspiring headteacher gives will be treated in the strictest confidence. None of the information collected will be reported in a way that could identify the aspiring headteacher or your school.

I do hope you are able to help us with this research. We will contact you by telephone in the next few days to explain a little more about the project. In the meantime if you have any queries please do not hesitate to give me a call on 0181 280 8285 or my colleague Andrew Thomas on 0181 280 8351.

Yours sincerely

Nick Pettigrew  
Research Executive

## (1) TEACHERS WITH LAPTOPS

### Evaluation of the use of multimedia laptops in supporting the achievements of the NPQH qualification

#### Aims:

- To assess the impact of the laptop on teacher effectiveness
- To assess any improvement in quality of management, especially management information
- To assess any improvement in quality of leadership
- To assess the impact on pupils
- To assess the impact on gaining the qualification

#### 1. Introduction

- About BMRB International
- About the study: funded by the DfEE and TTA
- Tape recording and confidentiality

#### 2. Background

##### ◇ Career History

- Length of time teaching
- Specialist teaching subject and other subjects taught
- Particular areas of responsibility eg Departmental Head, Deputy Head etc.
- Managerial responsibilities and tasks
- Career and work aspirations

##### ◇ IT Experience

- Previous knowledge and experience of IT (software used etc.)
- Enjoyment (or otherwise) of computers and technology generally
- Extent to which IT is used in school
- Personal use of IT in school prior to participation in Laptop pilot
- Headteacher's knowledge of and enthusiasm for IT

#### 3. National Professional Headship Qualification (NPQH)

##### ◇ Application Process

- Reasons for applying for Headship qualification (eg career plans)
- Sources of information about NPQH
- When did they start the NPQH
- Views on the Initial Needs Assessment
- Proximity to NPQH centre; any difficulties

◇ **Views about Course content and management**

- Compulsory and optional modules
- Teaching, supervision and assessment
- Time needed to fulfil course requirements (estimates versus reality)
- Class numbers
- What do they hope to get out of the NPQH

**4. The Laptop Pilot Scheme**

◇ **Joining the scheme**

- Application/selection process for the scheme
- Reasons for participating in the scheme
- Training received (quantity and quality)

◇ **Using the laptops**

**Hardware**

- Views about: speed, reliability, functionality

**Software**

- Type of software provided; views about
- Experience of learning new software
- Additional software obtained; reasons

**Networking**

- How is the laptop used for networking; with whom
- Types of information exchanged
- Perceived value of networking

**Conferencing**

- Use of the closed conference; frequency
- Type of information exchanged
- Perceived value of conference facilities

**Internet**

- Use of the internet; frequency; changes over time
- Types of sites visited; types of information used
- Success in obtaining the information required
- Perceived value of the Internet for sourcing required information
- Use of the information obtained over the internet for NPQH training and assignments

**Use of the laptop in school**

- Distinguish classroom and ‘management’ use; how used
- Obtain examples of use of laptop
- Reaction of students
- Reaction of other teachers, etc.

### **Time**

- Any changes in time spent on classroom/management activities

### **Personal Use**

- Do they use the laptop for non-school use; what
- Do they see the laptop as a school or personal resource
- Any others use the laptop; who; what for

## **5. Effects on Teaching and Management Practices**

- What has the laptop had on them (unprompted)
- ◇ **General**
  - Impact on user’s effectiveness and efficiency (distinguish) between changes due to laptop and changes due to NPQH)
  - Impact on user’s self-confidence and self-esteem
  - Changes in amount of communication (eg colleagues, teachers in other schools, other professionals)

**For each of the following obtain examples for each area  
(Teaching, Management, NPQH);**

- ◇ **Teaching**
  - Impact on teaching practices (eg efficiency, effectiveness creativity, variety)
  - Impact on pupils
  - Access to wider sources of information (eg internet)
- ◇ **Management**
  - Impact on use and production of management information
  - Views about the effect on user’s leadership skills
- ◇ **NPQH Qualification**
  - Obtaining source materials
  - Putting together assignments
  - Putting together presentations

## **6. Future of the laptop scheme**

- Views about a wider rollout of the laptop scheme
- What would be the advantages to this
- What would be the disadvantages
- What changes would they make to the scheme

**THANK AND CLOSE**

**(6) FOLLOW-UP TOPIC GUIDE  
TEACHERS WITH LAPTOPS**

**Evaluation of the use of multimedia laptops in supporting the achievements of the  
NPQH qualification**

**Aims:**

- **To assess the impact of the laptop on teacher effectiveness**
- **To assess any improvement in quality of management, especially management information**
- **To assess any improvement in quality of leadership**
- **To assess any change in the impact on pupils**
- **To assess any change in the impact on gaining the qualification**

**1. Introduction**

- About BMRB International
- About the study: funded by the DfEE and TTA
- Tape recording and confidentiality

**2. Usage of Laptop**

Explore any changes in Laptop usage since previous interview

- In what way has their usage of the Laptop changed for teaching purposes since previous interview;
  - PROBE ON - in the class room
  - preparation of teaching materials
  - do children use Laptop/what for
  - benefits in the class room
  - benefits for children
  - difficulties encountered
  - how do they see its usage developing
- In what way has their usage of the Laptop changed for managing purposes since previous interview;
  - PROBE ON - administration
  - increased efficiency
  - difficulties encountered
  - how do they see its usage developing
- In what way has their usage of the Laptop changed for the NPQH since previous interview;

- PROBE ON
    - preparation of assignments
    - software most/least used
    - difficulties encountered
    - how do they see its usage developing
- IT Skills
  - what effect has the Laptop had on their IT skills
  - areas in which they have noticed a difference
  - for what do they use Laptop most
  - has this changed over time
- Soft/hardware
  - further views on software provided
  - ask for full software list
  - what software is the most useful; explore its use
  - what software is least useful; why
  - further views on hardware; processing power; speed; usage of printer
- Training
  - have they received any further training
  - in hind sight; what were their training needs
  - what training needs do they currently have
  - has this allowed them to use Laptop to its full potential
  - how would they have organised initial training
- Support
  - further views concerning on-line provider; difficulties experienced; service provided
  - further views on NPQH staff
  - advice given on laptop use
  - assignments that encourage Laptop use
  - perceived purpose of provision of Laptop
- Personal use
  - have they used laptop over holidays
  - has this helped develop IT skills
  - how will this help them in their work and NPQH course
  - any others use the laptop; who; what for
- Time issue
  - time available for laptop learning and IT development

#### **4. Communication and Information Search**

- In what way has their usage of the Laptop changed for communication (e-mail)

purposes since previous interview;

- PROBE ON
- with NPQH trainers
  - with NPQH colleagues
  - with other teachers
  - friends

- ASK FOR EACH
- information shared
  - networking
  - benefits
  - difficulties encountered
  - how do they see its usage developing

- In what way has their usage of the Laptop changed for information search (internet) purposes since previous interview;

- PROBE ON
- easy/difficulties experienced in using internet
  - how often do they use facility
  - for what purposes do they use facility most
  - do they discriminate between different types of information/how
  - how useful is the information gathered
  - perceived value vs actual value of facility
  - how useful has the facility been
  - difficulties encountered
  - how do they see its usage developing

- Conference facility - have they used this facility since previous interview

why/why not

- likes/dislikes
- subjects discussed
- do they feel they have learned from this
- perceived value of facility

## **6. The Future of the Laptop Pilot Scheme**

- What is the perceived purpose of the Laptop scheme
- What influence has it had on their IT skills
- What influence has it had on their work
  - as a teacher
  - for management responsibilities
- How do they see IT developing in schools in the future
  - to what extent has the Laptop scheme influenced these views
- What future do they see in such a scheme

**THANK YOU AND CLOSE**