

# **Technology and school improvement: reducing social inequity with technology?**

**Report to Becta  
April 2008**

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## Acknowledgements

We would like to thank Becta for the funding for this project, and to Gaynor Sharp and Di Levine at Becta for providing support throughout this project. We are also grateful to Phil Bannister for providing us with useful School Census statistics.

We would like to thank Helen Barugh, Ben Pledger and Jon Andrews at Ofsted for giving us their time to provide us with the RAISE (Reporting and Analysis for Improvement through School Self-Evaluation) data needed for the quantitative analysis of this project. Ken Dyson and Grainne Conole have also provided invaluable consultancy for us on this project.

Thanks also go to Joanna Traynor and Two Four Learning for working with us so well and efficiently to represent the findings of this report on film.

We would also like to thank our colleague at IPSE, Heather Mendick, and Peter Rudd at the National Foundation for Educational Research (NFER) for providing critical reading of earlier drafts of this report. We would like to acknowledge the input from all the participants who attended the 'Emerging Evidence' seminar and provided useful feedback on our interim findings. Last but not least many thanks to the schools, staff and students who participated in this research project.

## In brief

### The aims of this research

To explore what characterises ‘turned around’ or recently improving schools, and the role technology may have played in their improvement. To investigate the potential for the use of technology to reduce inequities in pupil performance in these schools, specifically the possibility for the use of technology to improve the achievement, behaviour, attendance and aspirations of more disadvantaged learners.

### What we did

We analysed questionnaires returned by 181 of the 356 schools removed from ‘Special Measures’ (SM) or ‘Notice to Improve’ (Ntl) by Ofsted during 2006-7; analysed school attainment data, interviewed 32 key staff in 25 schools which had identified that technology had played a part in their improvement and spoke with pupils in groups.

### Key findings

#### *ICT and school improvement:*

This research found no direct link between using ICT and raising levels of attainment, or narrowing the gap between different groups of pupils. However there is evidence that **technology provides an essential tool** in facilitating change, **improving school effectiveness** and functioning, and providing evidence of pupil progress. The research also suggests **an indirect influence of ICT on pupils learning**, not through direct links with learning in each subject, but via improved self esteem, engagement and desire to learn.

#### *Knowing who is underachieving:*

- Schools believed that ICT had enabled them to **monitor pupils’ achievement, progress and attendance** more effectively and efficiently.

#### *Involving parents:*

- Schools felt that a **multi-faceted approach to communication with parents**, which also involves much more face to face communication, is more appropriate and inclusive in communities where access to technology is patchy and uneven.

#### *Engaging disadvantaged pupils in their learning:*

- ICT was seen to offer a wider range of **learning strategies** enabling a more equal provision of education to different types of pupils.

- The **visual and interactive** nature of ICT was seen to raise motivation among 'disengaged' learners, having a knock on effect on attainment and behaviour (staff particularly identified boys and pupils with special educational needs (SEN)).
- ICT was also seen to provide more flexible approaches to learning, allowing pupils to work more **independently** and facilitate extending learning beyond the school and classroom.
- The use of technology was often accompanied by a more **applied** and project-based approach to learning which was seen to engage students by connecting their learning with future employability.
- **Investment** in new technologies in schools was seen by staff to have a positive impact on pupils' views about their school and consequently their learning. ICT was also often instrumental in providing a platform **for pupils to communicate their views** about their school.

## Executive summary

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### What we did

We analysed questionnaires returned by 181 of the 356 schools removed from ‘Special Measures’ or ‘Notice to Improve’ by Ofsted during 2006-7; analysed school attainment data, interviewed 32 key staff in 25 schools which had identified that technology had played a part in their improvement, and spoke with pupils in groups.

### Key findings

#### *ICT and school improvement:*

- The key priorities for school improvement were: **a focus on teaching and learning** (96 per cent of heads claimed this was important), **CPD for staff** (93 per cent) and **improving systems for record keeping** and data management (90 per cent).
- Headteachers believed ICT to have played a key role in their school improvement (**82 per cent**).
- Schools in our sample **have fewer computers** and fewer interactive whiteboards **than the national average**. However secondary schools particularly had increased spending money on ICT infrastructure following their notice from Ofsted.
- Over half of schools had appointed a new headteacher since September 2005. Visits to schools identified a Senior Leadership Team with a personal interest in and commitment to ICT.
- **Just over a third of the primary schools and a fifth of the secondary schools had improved their Contextual Value Added** in the year before coming out of ‘Special Measures’ or ‘Notice to Improve’.
- **The attainment gap had widened in the year before coming out of ‘Special Measures or ‘Notice to Improve’ in 30 per cent of primary and 23 per cent of secondary schools**, and narrowed in 14 per cent of

primary and 10 per cent of secondary. There was no evidence that use of ICT contributed to narrowing the gap.

***Knowing who is underachieving:***

- **93 per cent** of heads claimed they had **increased their use of ICT in assessment and record keeping**.
- Staff felt the **assistance of ICT systems, to closely monitor learner assessment and progress** was instrumental in **raising achievement** and reducing inequities in pupil performance. They were used to closely monitor learner assessment and progress, using this information to focus on 'underachieving' pupils.
- **77 per cent** of primary schools and **93 per cent** of secondary schools reported **using ICT to monitor attendance**.
- **39 per cent** of schools had made **little increase in the use of ICT for behaviour management**.

***Involving parents:***

- **40 per cent** of all **secondary** schools and **23 per cent** of all **primary** schools indicated that **ICT had played a role in their improvements made to communicating with parents**.
- ICT co-ordinators surveyed in **secondary schools were more likely** (than those in primary schools) **to predict that most pupils in their schools have internet access at home** (72 per cent of those surveyed, compared to 35 per cent of primary schools surveyed).
- Interviews with staff pointed towards **evidence of continuing disparity in the provision of ICT facilities in the home**. **Low levels of parental access to email** were reported in over half of the case study schools (text message, and information provided on DVD were seen as more inclusive ways of using technology).
- **Face to face interaction** with parents was still seen as **vital** to communicate with parents and involve them in their children's learning.
- Several case study schools, both primary and secondary were in the process of setting up **parental access to ICT facilities** in the school or ICT courses for parents, in order to encourage parental involvement in their children's learning. However there was **less evidence of the success of these initiatives** in engaging and retaining parents.

### ***Engaging disadvantaged pupils in their learning:***

The research also suggests **an indirect influence of ICT on pupils learning**, not through direct links with learning in each subject, but via improved self esteem, engagement and desire to learn. There was much conviction from staff that the effective use of technology in learning and teaching can impact on the engagement, motivation, self-esteem and aspirations of 'disadvantaged' or 'underachieving' pupils.

- Enabling access to a greater range of **learning strategies** using ICT (such as visual learning, collaborative learning, creative or project-based learning) was seen to enable a more equal provision of education to different types of pupils.
- The **visual and interactive** nature of ICT was seen to raise motivation among 'disengaged' learners, having a knock on effect on attainment and behaviour (staff particularly identified boys and pupils with SEN).

*Equity issues: A problem here is that a focus on engaging boys because of concerns over boys' underachievement may preclude the needs of underachieving girls.*

- Use of technology was often accompanied by a more **applied** and project-based approach to learning which was seen to engage students by connecting their learning with future employability.
- Drawing on the connection between technology and **popular culture** was a common strategy to engage pupils.

*Equity issues: A potential problem is making the assumption that all pupils are engaged by popular culture, and further, assuming equal access to popular culture and the same popular culture. There are potential cultural inequities here.*

- ICT was also seen to provide more flexible approaches to learning, allowing pupils to work more **independently** and facilitating extending learning beyond the school and classroom.

*Equity issues: Inequalities in access to, and ownership of, computers and internet may cause inequalities in pupil progress. Some suggest that DVD and interactive TV may be a more equitable route.*

*Equity issues: There is some evidence that schools tend to focus on higher achieving or 'gifted and talented' pupils' independent learning which may preclude the possibilities for more disadvantaged pupils to benefit from independent learning.*

- Having new technology in schools was seen to impact on pupils' **self-esteem** in disadvantaged communities, and make them feel good about their school and consequently their learning, and creates a positive school culture.

*Equity issues: There is potential for inequalities between schools in access to resources.*

- Previous research suggests a **learner voice** is key to school improvement and addressing inequities in pupil outcomes. This research reveals that technology plays a central role in accessing **learner voice** in schools (such as online polls, questionnaires or feedback mechanisms on learning platforms, website forums and pupil radio stations).



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## **Chapter 1: Researching inequality and technology: The study**

### **1.1 Background: School effectiveness and the achievement gap**

Much attention in education policy has recently focused on the achievement gap and how this gap might be closed or narrowed<sup>1</sup>. The Department for Children Schools and Families' (DCSF) Children's Plan (2007), the Teaching and Learning in 2020 Review Group (2007) and the most recent Ofsted annual report (2007) all have a vision for closing this gap and ensuring such inequalities do not persist. Within England, education research has highlighted persistent inequalities in education in terms of achievement, opportunities and outcomes according to social class, ethnicity and gender (Gillborn and Mirza, 2000; ONS, 2005; DfES, 2006; Cassen & Kingdon, 2007). Nationally, pupils in receipt of free school meals (taken as a proxy for poverty), and pupils from particular ethnic groups (notably Black Caribbean, Black African, Bangladeshi, Pakistani and Traveller groups) tend not to do as well at school (DfES, 2006). In some regions of the country white pupils, particularly boys, are making the least progress (Cassen and Kingdon, 2007).

School effectiveness research highlights that while the school effect is small in comparison to broader societal factors, individual schools can make a difference to pupil attainment, as there are significant differences in results between schools with similar intakes (Futurelab, 2008; Sammons, 2008). Building upon this, school improvement research has concerned itself with the process in which schools can change, in order to improve the educational chances for every child. This research highlighted the need for strong leadership, a focus on learning and teaching and the importance of creating a positive school culture, particularly for schools in disadvantaged areas (Sammons, 2008). This research explores the role that technology might play in school improvement. The former Department for Education and Skills' (DfES) (2005) e-strategy document 'Harnessing Technology', draws attention to the potential for technology to contribute to narrowing this gap within schools, by providing more opportunities to 'disadvantaged learners', and this is something this research explores.

### **1.2 The research: Reducing social inequity with technology?**

The aim of this research was to explore what characterises 'turned around' or recently improving schools and the role technology may have played in this improvement. An additional aim was to investigate the potential for the use of technology to reduce inequities in pupil performance in these schools, specifically the possibility for the use of technology to improve the achievement, behaviour, attendance and aspirations of more 'disadvantaged learners'. Rudd (2007) asserts the need to bring together quantitative research on school improvement and more

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<sup>1</sup> That is, gaps in Key Stage attainment between pupils from different ethnic backgrounds, those on FSM and those not, and pupils from deprived areas and less deprived areas (IDACI) (See ONS 2006 'Statistics of Education: Trends in attainment gaps 2005', London: ONS/DfES.)

qualitative research on the impact of ICT on teaching and learning, which have previously been treated very separately. Thus this research combines qualitative and quantitative methods, to explore the links between school improvement, social equity and ICT. Surveys were sent to headteachers and ICT co-ordinators in 356 schools recently removed from SM or Ntl by Ofsted (2006-7), achieving response rates of 49 per cent (headteachers) and 44 per cent (ICT co-ordinators). RAISE attainment data were analysed across the schools and we investigated specifically the attainment gap between pupils receiving free school meals and those not receiving free school meals. Available Ofsted reports for this population of schools were also analysed. In addition 32 interviews were carried out with key members of staff in 25 schools that identified that technology had played a role in their improvement. Seven focus group interviews were also carried out with students in these schools<sup>2</sup>.

Approximately two thirds of schools that had been removed from SM or Ntl in the period were primary schools (many more were given Ntl, compared to SM). The vast majority of the schools in the sample were in urban areas (83 per cent of primary schools and 87 per cent of secondary schools) and on average, are in areas of moderate to high deprivation (according to the Income Deprivation Affecting Children Index (IDACI)<sup>3</sup>. The mean percentages of pupils eligible for FSM in the sample schools were higher than nationally. The percentages of pupils with Special Educational Needs (SEN) (statemented or unstatemented) were higher in the sample schools than nationally. But the sample schools had no more minority ethnic children than average and the percentage of pupils whose first language is other than English in the sample schools is slightly lower than nationally (see Appendix 2 for more detail).

### 1.3 Summary of methods

- Survey of schools removed from SM or Ntl by Ofsted during 2006-7.
- Quantitative analysis of these school's KS2 (primary) and KS4 (secondary) attainment data .
- Quantitative and qualitative analysis of these schools' Ofsted reports.

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<sup>2</sup> See Appendix 1 for more detail of the methodology.

<sup>3</sup> The Income Deprivation Affecting Children Index (IDACI) shows the percentage of children in each super output areas that live in families that are income deprived (ie in receipt of Income Support, Income based Jobseeker's Allowance, Working Families' Tax Credit or Disabled Person's Tax Credit below a given threshold). An IDACI score of, for example 0.24 means that 24 per cent of children below the age of 16 in that super output area, are living in families that are income deprived. A rank of 1 is assigned to the most deprived super output area and a rank of 32,482 is assigned to the least deprived super output area for presentation purposes. Each decile contains 10 per cent of the 32,480 super output areas nationally.

<http://neighborhood.statistics.gov.uk/dissemination/MetadataDataset.do;jsessionid=ac1f930bce5fbd7844c4a8481c8398966c909f81c4.e38PbNqOa3qRe3mQb3eKb30Pb41ynknvrkLOIQzNp65In0?adminCompld=22481&metadataType=DatasetFamily&bhcp=1>

Accessed 20/02/08

- Interviews with 32 key staff in 25 schools which had identified that technology had played a part in their improvement.
- Seven focus group interviews with pupils.

## Chapter 2: ICT and school improvement

This research has found no quantitative evidence that, at the time of coming out of SM/Ntl, schools' use of ICT is related to improvements in attainment or to a narrowing of the gap between the attainment of pupils eligible or not eligible for free school meals. The complexity of factors involved in school improvement makes it hard to isolate causes and show tangible specific links. However, most schools believed ICT to have played a key role in the improvement of their school. We report on what headteachers, teachers and learners perceive to be the value of technology use in their schools.

This chapter looks broadly at the general factors influencing school improvement for the schools surveyed before moving on to discuss the role of ICT in that whole school improvement. The final section explores the achievement gap in these schools.

### 2.1 Whole school improvement

The strategies of 'turned around' schools emerging from SM or Ntl were not inconsistent with that of the research literature (see Sammons, 2008 for a comprehensive review). For example, schools focused on improving learning and teaching, Continuing Professional Development (CPD) for staff, enhancing school leadership and improving systems for recordkeeping and data management (the latter is discussed in Chapter 3) (see Table 1).

**Table 1: How important were each of the following in your school's strategy to achieve a satisfactory Ofsted report? Strategies most frequently selected as important (N = 173)**

	Very important %	Important %	Not very important %	Unimportant %	No response %
Focusing on the teaching and learning processes in a particular Key Stage or year group	75	19	4	1	1
Improving systems for record-keeping/data management (eg pupil assessment, attendance etc)	62	28	7	2	1
Providing CPD and other advice (eg external support) for teaching and support staff	56	38	3	2	2

All schools in the sample given an Ntl or placed in SM were judged by Ofsted overall to not be 'effective, efficient or inclusive, in the extent to which they met the needs of

learners'. The focus of Ofsted's judgement was most often based on poor achievement and poor standards. Our quantitative analysis of Ofsted reports for these schools found primary schools were judged particularly inadequate in terms of learners' achievement and progress. 87 per cent of primary schools were judged inadequate on both achievement and progress, while 83 per cent of secondary schools failed on achievement, and 79 per cent on progress. Secondary schools were more likely to be failed on standards achieved (73 per cent, compared to 63 per cent of primary schools), while primary schools were more often criticised for ineffective and inefficient use of resources (65 per cent, compared to 51 per cent of secondary schools). Therefore, as can be expected, a key strategy for improvement identified by schools' sampled was a focus on teaching and learning for particular key stages or year groups (96 per cent of those surveyed said this was either important or very important).

In addition 39 per cent of schools were judged by Ofsted to be inadequate in terms of effective leadership and management in raising achievement and supporting all learners. Our survey found that a key characteristic of many of these schools was a new headteacher and more than half of heads completing the questionnaire had taken up post since September 2005. Qualitative case studies found headteachers and senior leadership teams (SLT) with a clear vision and strategy for taking their school forward (14 of the 25 case studies had a new headteacher and many others had restructured the SLT).

In line with the findings of school effectiveness literature (Sammons, 2008), providing CPD for staff was identified as an important strategy in the schools' recent improvement (93 per cent rated it as important or very important) and the greatest increase on spending was said to be in staff development and training (82 per cent had spent more).

**Table 2: Main areas of increased spending: primary and secondary (N = 173)**

	<u>Spent a lot more</u>		<u>Any increase in spending</u> ( <u>'a lot more' + some more'</u> )				
	Primary	Secondary	Primary	Secondary	Primary	Secondary	
Staff development and training	36%	ICT infrastructure	39%	Staff development and training	86%	ICT infrastructure	80%
ICT infrastructure	36%	Staff development and training	24%	Learning and teaching materials	74%	Staff development and training	70%
Learning and teaching materials	31%	Minor building works	17%	ICT software	67%	Learning and teaching materials	67%
						Additional staff	67%

## 2.2 The role of ICT in school improvement

This research sought to explore the characteristics of the schools that indicated ICT has been an important part of their strategy for school improvement. Analysis of the questionnaire data found no significant relationships between schools' 'enthusiasm for ICT' (defined by their reported use of ICT, expenditure on ICT and opinions of the effectiveness of ICT in school improvement and raising pupil attainment)<sup>4</sup> and a variety of contextual data on the schools (such as percentage of free school meals, girls, minority ethnic pupils, pupils with a first language other than English, SEN pupils, absences, stability or IDACI). Nor was there any relationship between schools' expressed 'enthusiasm for ICT' and the levels of ICT resources they had (numbers of computer for pupil use, and of interactive whiteboards, derived from the DCSF School Census data, in relation to the number of pupils). However, descriptive statistics reveal a strong focus on ICT in school improvement, and qualitative data reveal some clear themes.

82 per cent of headteachers agreed that ICT had played a key role in their recent school improvement and almost all the respondents agreed that it would play a central role in the future (with 42 per cent strongly agreeing). Secondary schools particularly claimed to have spent "a lot more" money on ICT infrastructure following their SM/Ntl (this was the most highly rated area for increased spending for secondary schools).

**Table 3: To what extent do you agree with the following statements about ICT in your school? (N = 173)**

	Strongly agree %	Agree %	Disagree %	Strongly disagree %	Don't know/info not available %	Missing %
e) ICT will play a central role in our future school development	42	56	2	0	0	0
d) ICT has played a key role in recent school improvement	16	66	16	1	2	0

### Leadership and ICT

Qualitative research selected case study schools, on the basis that they believed ICT had played a role in their school improvement. These visits often found that the headteacher or Senior Leadership Team (SLT) more broadly, had a personal interest in and commitment to ICT (see Somekh, et al., 2007), with 75 per cent of primary

<sup>4</sup> We computed a measure of how important schools considered ICT to be ('ICT enthusiasm') which was derived from a combination of survey questions. See Appendix 2 for detail.



schools and 72 per cent of secondary schools having a written policy for ICT. Primary schools with a written ICT strategy had significantly higher attainment than those with an unwritten strategy or no strategy. One primary school (Perryworth Primary)<sup>5</sup> had a new headteacher who had been an ICT co-ordinator in her previous school and had as part of their strategy for improvement, implemented a new creative curriculum with ICT embedded. One secondary school (Brightview School for Girls) had a new headteacher who had a background in the finance industry, and an assistant headteacher, who had been an ICT technician and trainer in a local authority. This school had recently gained a specialism in mathematics and computing, and was leading the borough in the ICT diploma. Survey analysis also found new ICT co-ordinators since the school had been put in SM/Ntl (more than half of ICT co-ordinators had taken up the post since September 2005).

### **Staff competence in ICT**

This commitment to ICT was coupled with a positive attitude to both raising achievement and developing staff competence in ICT (see Kington, et al., 2001). New headteachers commonly told stories of a school previously characterised by staff with low expectations for students, and a lack of up to date resources and equipment. One headteacher (at Lord Banbury Technology College) spoke about the importance of moving from a 'can't do approach' to a 'can do approach'. The Ofsted report (2004) 'ICT in schools: the impact of government initiative five years on' found great variation in training provision, and in 12 of the schools in our population, ICT provision was deemed unsatisfactory which often related to a lack of confidence on the teachers part, and a lack of staff access to appropriate training. All of these schools claimed to have improved their use of ICT following SM or Ntl, and of the whole sample 70 per cent had increased staff CPD involving ICT. However, qualitative findings reveal more patchy and often informal provision. In the survey primary schools were significantly more likely to identify a need to improve CPD in ICT for their staff (42 per cent compared to 17 per cent for secondary schools).

### **ICT and technical support**

Qualitative analysis revealed that an important measure for successful integration of ICT in the school was built-in technical support, though the extent of this varied. Out of 25 case studies, three secondary schools had a full time technician, a further two had a part time technician and six mentioned access to external ICT support, such as from a local secondary school, local authority, or private consultancy. However, one schools staffing for ICT was extensive, Brightview School for Girls. This is a 776 pupil-strong secondary school with a specialism in mathematics and computing. They have employed an assistant headteacher with the responsibility for whole-school ICT, an ICT co-ordinator, an ICT teacher, a Maths and ICT faculty HLTA (higher level

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<sup>5</sup> All school names are pseudonyms to protect the identity of schools and maintain confidentiality.

teaching assistants), an ICT teaching assistant, an ICT network manager and 1.5 technicians, in addition to having a Maths and ICT faculty governor.

One headteacher made the point that employing technical staff was vital for teachers to be able to concentrate on their job, namely teaching:

“Because part of that is trying to also employ sufficient technical expertise around developing all those aspects; what I don't want is to find every member of staff is an expert in web design and what-have-you, because that is not what they are employed to do.”  
(Headteacher, East Woodlands Secondary)

A number of schools that did not have adequate ICT technical support in place found their competent teaching staff were bogged down with the technical and troubleshooting side, which distracted them:

“A lot of my time is spent actually servicing the IT equipment which isn't really an ICT co-ordinator's job, but because it was never... it's never been worked out anywhere, I don't think in primary schools, you couldn't afford a technician so it has been one of the extra jobs that you do.” (ICT Co-ordinator, Addeley Park Church of England Primary)

Teachers interviewed suggested that focused management of ICT support was central to raising staff confidence in using, and particularly feeling able to rely on, ICT:

“If we can actually raise staff expectations about the standard of provision, and that means that they are using it, then it's a big issue if it's not working. When they are giving us grief about it, then we actually know that we are having a really positive impact. Which is one of the reasons for doing the Primary FITS [Becta Primary Framework for IT Support] because that was about actually being proactive in the management [...] It's important to actually manage, you know, technical input to make sure stuff doesn't go wrong quite so often rather than just all running around like headless chickens when it does.” (Headteacher, St Johns Nursery and Infant)

This headteacher highlights that if ICT technical support is managed well enough then staff confidence and expectations in using ICT in their teaching will increase.

In addition to technical support there was also a targeted use of teaching assistants (TAs). For example, every Friday, one primary school (Newstead Primary School) ran an 'ICT surgery' to sustain regular training of TAs, who then disseminated

practice to other staff. The headteacher felt that having and training TAs in ICT had improved pupils' opportunities and achievement because the class teacher could teach the class, while the TA could focus on one to one support in an ICT activity.

### **Partnerships and ICT**

Seven of the case study schools had formed partnerships with other local schools to collaborate on either technical support or training, for example two schools in the same borough were part of a cluster of schools that used the same ICT technician. Smith Street Primary had links with a local special school that helps them with ICT for their SEN pupils. A couple of primary schools (Gants Primary and Clifton House Primary) were involved in ICT collaborations with partner secondary schools in order to ease their pupils' transition from primary to secondary school. Clifton House ran a collaborative ICT project between their Year 5 pupils, pupils from the local secondary school, and Gants Primary had set up an 'email pals' scheme, pairing up their Year 6 pupils with an older secondary school pupil for email correspondence.

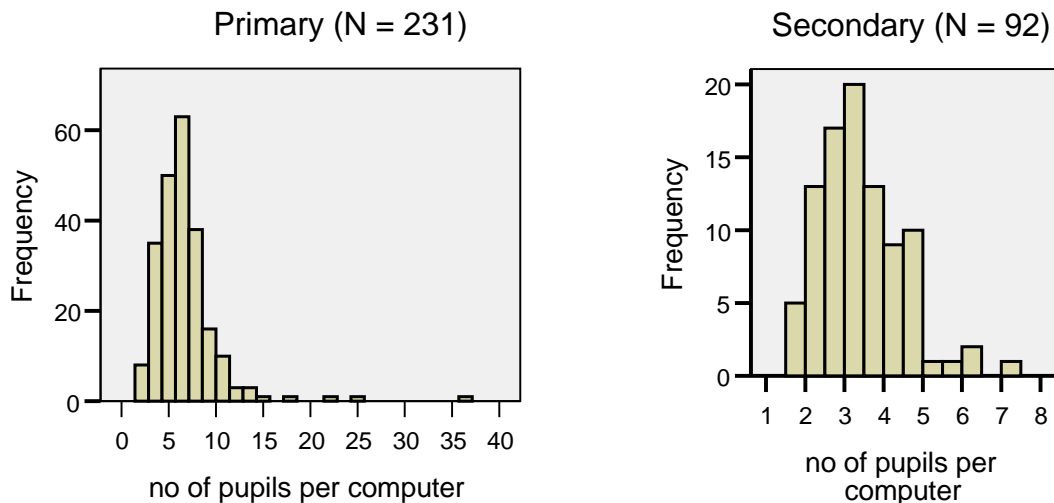
### **ICT resources**

73 per cent of headteachers responding to the questionnaire agreed with the statement that they would like to use more technology in learning but they do not have the resources (41 per cent agreed, 32 per cent strongly agreed) and significantly<sup>6</sup> more secondary schools felt they didn't have the resources (48 per cent compared with 27 per cent of primary schools). Primary schools that had higher attainment were more likely to strongly agree with this statement.

Analysis of DCSF figures from the School Census reveals that the schools that had come out of SM/Ntl had slightly fewer computers (a higher pupil to computer ratio) than nationally (primary schools had a mean of one computer for every 6.7 pupils (the national mean is 5.7), and secondary schools had one computer for every 3.4 pupils (the national mean is 3.2).

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<sup>6</sup> When the word 'significant' is used, this refers to statistical significance. Attention is drawn to differences only where they were statistically significant.

**Figure 1: Number of pupils per computer by sector**

Similarly, the data shows that the schools emerging from SM/Ntl have fewer interactive whiteboards (a higher pupil to interactive whiteboard ratio) than schools nationally (in primary schools, there is one interactive whiteboard for every 38.2 pupils, compared with a national mean of 28.6, in secondary schools there is one interactive whiteboard for every 84.0 pupils, compared with 38.0 nationally). There is no significant correlation between the number of computers or interactive whiteboards and measures of deprivation however those schools in the quartile with the highest number of pupils per whiteboard (ie the fewest whiteboards) were significantly more likely to have low free school meals and IDACI.

### ICT funding

A number of case study schools discussed how they found funding mechanisms and frameworks for purchasing new ICT resources complex and ineffective. Some case study schools raised concerns about the high maintenance costs of ICT which they felt they, as schools who had just improved, were unable to cope with. A number of schools suggested that available funding mechanisms were impractical. For example, e-learning credits can only be spent on software but were of no use if the school didn't have up to date hardware (Haversham Primary and St Teresa's Catholic Primary). Two primary schools (St Teresa's Catholic Primary and Dewsbury Church of England Primary) both based in areas of high deprivation, felt extremely restricted in exploiting ICT to its 'full potential' because of this. These schools often felt that they were in a constant game of catch up with other schools. This was seen to have a knock-on effect on the school's ability to compete with local schools, with some saying that they would lose potential pupils to other schools which are equipped with better resources. It can be suggested that this hinders schools further improvement.

## 2.3 Social equity?

### Narrowing the gap?

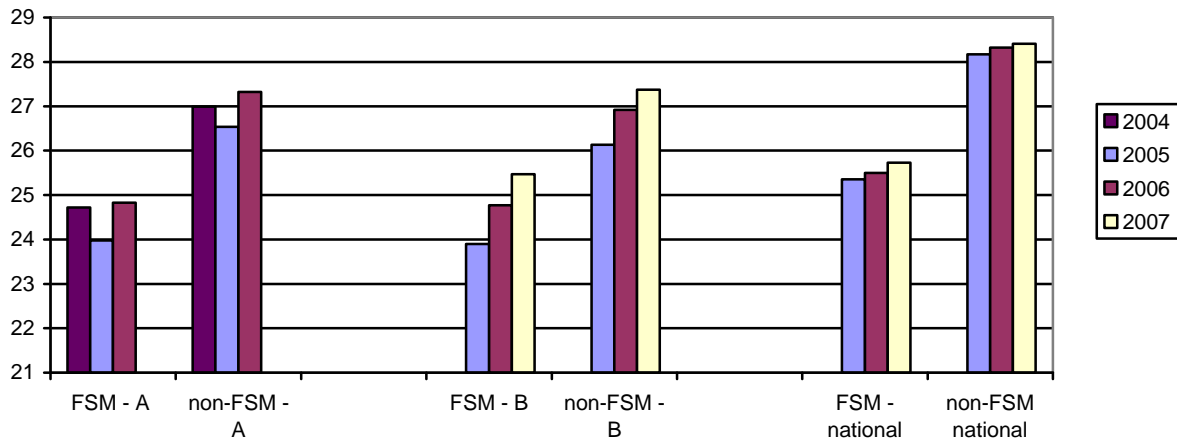
In attempting to explore the relationship between school improvement, reduced inequality and technology, we sought to examine the schools' attainment results and explore whether schools had narrowed the achievement gap between free school meal pupils and non free school meal pupils, in the period immediately before coming out of SM/Ntl, and whether this had any relationship with the use of technology in the school. In this analysis we have used school-level APS (average points score) and CVA (contextual value added) data for all pupils. This analysis has several limitations which are set out in detail in Appendix 2. The use of school-level rather than pupil-level data results in some inaccuracy. APS measures pupil attainment but does not measure the contribution that the school has made to pupil progress. In contrast CVA aims to measure the contribution that the school has made to pupil progress, but cannot measure the attainment gap because it involves controlling for differences relating to pupil background. Thus neither is ideal for our purpose. For these reasons, the analysis presented should be regarded as an attempt to shed light on the relationships between ICT use and the attainment gap, rather than conclusive evidence.

We have used two distinct measures, the 'attainment gap' between free school meal and non free school meal pupils using APS, and the 'progress gap' using CVA significance figures. Full details are in the Appendix 2.

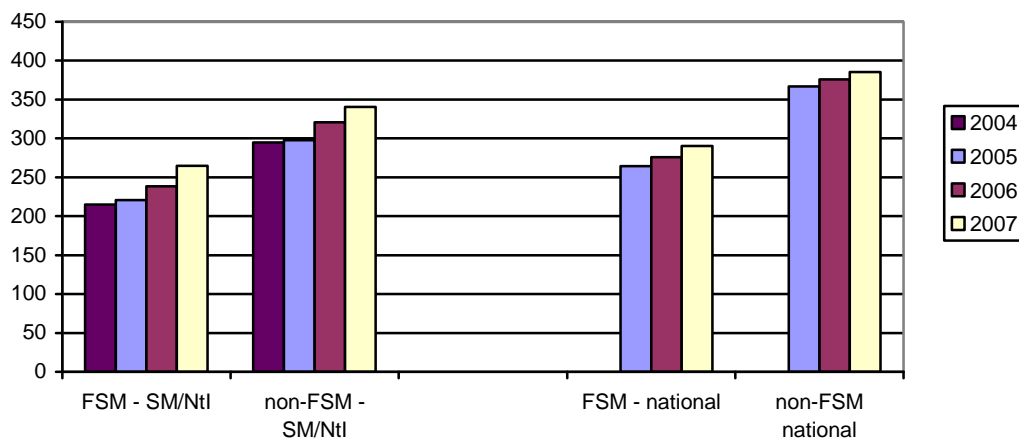
Nationally, there has been a continuing upward trend in the assessment results of primary schools (KS2) from 1996 to 2004 in each free school meal band, and also for secondary schools, though the trend is not as marked (Sammons, 2008). The improvements in levels of pupil attainment nationally have been greater for schools serving more socio-economically disadvantaged pupil intakes (schools with higher numbers of free school meal pupils are making greater progress). Within these high free school meal schools, it is the non free school meal pupils who tended to show the greatest levels of improvement (DES, 2006).

For schools recently removed from SM or Ntl, Figures 2 and 3 shows the APS for free school meal and non free school meal pupils in the schools removed from SM/Ntl in Autumn 2006, Spring 2007 and Summer 2007 and the national figures for primary schools and for secondary schools. They show that both primary schools and secondary schools in our sample have lower APS than the national average. In primary and secondary schools both in our sample and nationally, there is a gap between the free school meal and non free school meal APS.

**Figure 2: Primary: Comparison of mean KS2 APS for free school meal and non free school meal pupils for schools removed from SM/Ntl in Autumn 2006 and Spring 2007 (A), and Summer 2007 (B), and nationally**



**Figure 3: Secondary: Comparison of mean KS4 APS for free school meal and non free school meal pupils for schools removed from SM/Ntl and nationally**



Nationally, and from our sample of schools there is very little change over time in the attainment gap. Sammons' review (Sammons, 2008) suggests that those schools that improved their attainment (APS) for all pupils, tended to widen the gap between free school meal and non free school meal pupils. However from our sample there is no evidence that the schools that most increased their APS scores in this period were also more likely to increase the gap between free school meal and non free school meal<sup>7</sup>.

However, schools where contextual value added had improved (either from significantly below average to average, or average to significantly above average)

<sup>7</sup> It is important to note that schools with higher levels of free school meal pupils and with a higher deprivation (IDACI) score were significantly less likely to return the questionnaires.

were more likely to have widened the 'progress gap' between free school meal and non free school meal pupils. Table 4 shows that 46 per cent of the primary schools that had improved CVA had widened the gap, compared with 20 per cent showing no change in CVA, and 12 per cent of those that had significantly lower CVA. A similar pattern was found among the secondary schools. (See Appendix 2 for more details.)

**Table 4: KS2: Comparison between changes in CVA significance for all pupils, and the progress gap using CVA significance data (N = 181)<sup>8</sup>**

		Significant changes in CVA for all pupils 2005-6			
		Less good CVA %	No change %	Improved CVA %	Total %
<b>Progress gap</b>	widened	12	20	46	30
	no change	44	64	48	56
	narrowed	44	16	6	14
<i>N</i>		16	94	71	181

These figures also related to levels of disadvantage. The primary schools with higher proportions of disadvantaged pupils had a larger gap between free school meal and non free school meal pupils' attainment (APS).

There is little evidence of a link between schools' use of ICT and improved attainment. Secondary schools where attainment (APS) had improved were more likely to say that they had increased spending on ICT software (but we cannot tell what they already had). However, there was also a moderate correlation between narrowing the attainment gap (APS) and number of pupils per computer. The secondary schools that had fewer computers for pupils to use were more likely to have narrowed the attainment gap. A similar relationship exists for the progress gap where those schools that had narrowed the progress gap also had fewer computers in relation to pupil numbers.

There were very few significant relationships between attainment data and responses to the questionnaire about ICT use in school and attitudes to use of technology as a factor in school improvement. This is almost certainly because it is too early to expect to see significant changes in attainment resulting from recent strategies for school improvement. However, in secondary schools where there were such relationships, they were somewhat unexpected. For example, those secondary schools that strongly agreed that ICT had played an important role in raising the achievement of

<sup>8</sup> Note that analysis of nationally available data has been undertaken for all the schools in the population removed from SM/Ntl for which such data are available, rather than the sample that returned questionnaires.

underachieving groups of pupils were more likely to have widened the attainment gap (APS), whereas those that disagreed had more often narrowed it. One potential explanation for this is that very few schools identified pupils eligible for free school meals as underachieving (see below). Similarly, the more 'enthusiastic' the secondary school was about the importance of ICT (a measure defined by their reported use of ICT, expenditure on ICT and opinions of the effectiveness of ICT in school improvement and raising pupil attainment), the more likely they were to have widened the attainment (APS) gap and the progress (CVA) gap.

It is important to note that while improvements may well have been made which involve the use of ICT, this may not yet have produced outcomes in attainment data. To explore this question more thoroughly it would be important to track the attainment of these schools over the next five years.

### **Disadvantaged pupils**

The majority of schools in our research have a higher than average proportion of free school meal pupils, and are in areas of moderate to high deprivation. Similarly pupils in these schools are disadvantaged educationally as their schools were all deemed by Ofsted to not be meeting the needs of all their learners. Thus many of the schools in this research are serving young people who are socially, economically and educationally disadvantaged.

We also asked schools to state which groups of pupils were underachieving within their school and which groups had poor value added scores. The three groups of pupils most frequently noted were:

- boys (in 30 per cent of schools)
- 'more able' pupils (in 26 per cent of schools)
- a particular key stage group (in 18 per cent of schools)<sup>9</sup>

Schools were also asked to list three groups of pupils that had 'poor overall academic achievement'. The intention here was to focus on those with low APS. However, the vast majority gave responses that were almost identical to the previous question, and some quite explicitly indicated that they were thinking about progress or value added rather than low APS (eg 'white boys made least progress', 'Year 6 on exit due to high VA on entry'). The three groups listed above were again the most frequently mentioned.

Very few schools listed pupils eligible for free school meals, despite the evidence that this group do have low attainment, just nine primary schools (out of 131) and one secondary school identified this group.

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<sup>9</sup> There was no consistent pattern in which Key Stage groups schools identified as having poor CVA.



Qualitative interviews discovered that after a focus on raising the achievement of groups of pupils who have lower academic achievement, many schools have now turned to pushing the 'more able' pupils to their full potential. These pupils were disadvantaged educationally as their needs were not being adequately met in schools who are often compelled to focus on borderline pupils in order to improve their baseline results (see Gillborn and Youdell, 2000, for an analysis of this phenomenon).

This comment from an ICT coordinator at an urban primary school removed from Ntl is exemplary:

“For a long time the focus has been on giving support for the less able children helping them to achieve. Then at the other end of the scale you have these really bright children and their needs are just as much as the lower ability. These children are the ones that we need perhaps to push. And so this year we have had a change, we are concentrating on our more able as opposed to our less able. That is not to say that, you know, we are just leaving the less able or whatever but a lot of intervention is for the more able.”

(ICT Coordinator, Haversham Primary)

Having identified such groups, headteachers were asked about these groups' confidence and independence with ICT, and the extent to which ICT had played a role in raising their achievement.

**Table 5: The role of ICT for pupil groups identified as having poor value added scores or poor overall academic achievement (N = 173)**

	Strongly agree %	Agree %	Disagree %	Strongly disagree %	Don't know / info not available %	Missing %
All or nearly all of these pupils have reached high levels of confidence and independence in applying and developing their use of ICT	2	48	31	3	10	6
ICT has had an important role in raising the achievement levels of the groups identified in Questions 9 and 10	9	60	22	2	3	5

69 per cent of headteachers indicated that ICT had played an important role in raising the achievement levels of their underachieving (or poor CVA) pupils. There are no significant differences between primary and secondary schools in these responses.

## 2.4 Summary: ICT and school improvement

- Key priorities for school improvement were: **a focus on teaching and learning** (96 per cent of headteachers claimed was important), **CPD for staff** (93 per cent), **improving systems for record keeping** and data management (90 per cent).
- **82 per cent** of headteachers reported that **ICT had played a key role** in their recent school improvement.
- Visits to schools identified that a **SLT with a personal interest in and commitment to ICT** and a positive attitude to developing staff competence in ICT was important to improvement.
- **70 per cent** of schools surveyed had claimed to have **increased staff CPD involving ICT**.
- An important measure for the successful integration of ICT in the school was **built in technical support**, from full time technician(s) to external support and consultancy. This support was seen to improve staff confidence.

- A number of schools visited had **partnerships** with other local schools to collaborate on either technical support or training.
- **73 per cent** of headteachers surveyed agreed with the statement that they would like to use more technology in learning but they **do not have the resources** (significantly more secondary schools).
- Schools in our sample **have fewer computers** (a higher pupil-computer ratio) and fewer interactive whiteboards (a higher pupil–interactive whiteboard ratio) **than the national average**.
- **Just over a third of the primary schools and a fifth of the secondary schools had improved their CVA** in the year before coming out of SM/Ntl (from significantly below other schools with similar pupil intakes to the same, or from the same as to significantly better). Just under one in ten schools in each sector showed less good attainment in 2006 than 2005. There was no evidence that these differences related to use of ICT.
- **The attainment gap had widened in the year before coming out of SM/Ntl in 30 per cent of primary and 23 per cent of secondary schools**, and narrowed in 14 per cent of primary and 10 per cent of secondary. There was no evidence that use of ICT contributed to narrowing the gap.
- The groups most often identified by headteachers as having poor CVA scores were:
  - **boys** (30 per cent of schools)
  - **'more able' pupils** (26 per cent of schools)
  - a particular **key stage group** (18 per cent of schools).

The next chapter (Chapter 3) explores the role of ICT in the tracking and monitoring of pupil progress and its impact on disadvantaged or underachieving groups. Chapter 4 explores the role of ICT in communicating with and involving parents in their children's learning and the barriers involved in this in socio-economically disadvantaged communities. Chapter 5 looks in detail at the role of ICT in learning and teaching and the impact of this on pupils' engagement as a whole, but also on the groups identified by staff as at a disadvantage educationally in their school.

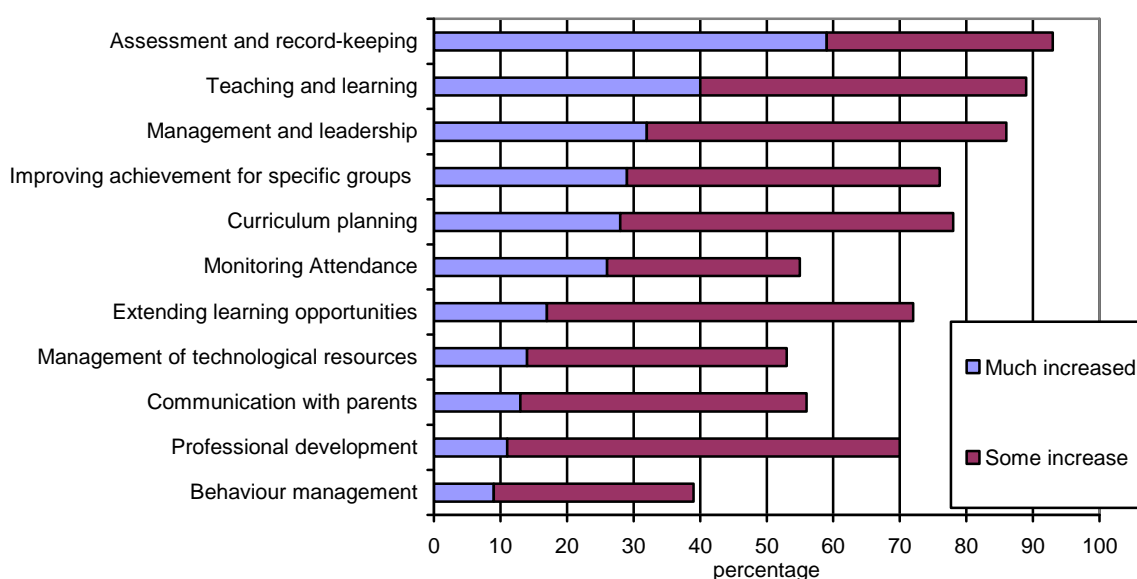
## Chapter 3: Knowing who is underachieving

### 3.1 Monitoring pupil progress

Research on school effectiveness reveals that monitoring is a valuable tool for school improvement to help evaluate performance and set targets for pupils (Kington, et al., 2001, National College of School Leadership (NCSL), 2006, Sammons, 2008). The need to monitor the educational outcomes of different groups, especially those from socio-economically disadvantaged and ethnic minority backgrounds and those with low levels of initial attainment is also flagged up as important in such schools (Sammons, 2008) in order to close the attainment gap between groups of pupils (Teaching and Learning in 2020 Review Group, 2007). The Children's Plan (2007) makes a government commitment to better data for schools to achieve this.

A key finding in this research is that ICT was seen by schools to be of central importance as a tool to improve the tracking and monitoring of their pupil's progress (and see Somekh, et al., 2007), so they know who is underachieving and can work on narrowing the gap. Of our schools, 49 per cent failed their Ofsted inspection based on ineffective monitoring and evaluating of performance. In the survey, the aspects of the schools' strategies to improve that were most often selected as 'very important' were 'improving systems for recordkeeping and data management' (90 per cent saw it as 'important', with 62 per cent saying 'very important') second only to 'focusing on teaching and learning processes in a particular key stage or year group' (see Table 1 in Chapter 2).

**Figure 4: Percentage of schools that indicated they had increased use of ICT in the school each area listed (N = 173)**



Similarly, headteachers reported that ICT use had increased in all areas, but most dramatically in assessment and record keeping (59 per cent 'much increased'),

teaching and learning (40 per cent ‘much increased’) and management and leadership (32 per cent ‘much increased’) (see Figure 4). Secondary schools were significantly more likely than primary schools to say that ICT was most often used to assess and record learner progress (Table 6).

**Table 6: ‘Select three areas where technology is most often used in your school to support learning’, by school phase (N = 155)**

	primary %	secondary %	
To record learner progress	57	88	*
To promote independent learning	65	63	
To extend learning beyond the classroom	47	42	
To assess learner progress	38	60	*
To support personalised learning	45	35	
<i>N</i>	112	43	

\*differences between primary and secondary are statistically significant

23 out of the 25 case study schools asserted that ICT had enabled them to undertake more effective tracking of pupils’ progress and had aided their school improvement. For about 15 of these schools this was their key focus. There were varying levels of sophistication of ICT systems from Excel spreadsheets shared via memory sticks to custom made packages such as CMIS (common management information service), SIMS.net (also a management information system). Some schools had, prior to their Ntl or SM, solely kept paper records.

This quotation from one secondary school headteacher reveals how the use of management information systems (MIS) makes it easier to track and co-ordinate pupil progress:

“What we have been trying to do over the last few months is use ICT in a way that we are better able to assess what children are doing and how they are progressing. And so we have got a system in place where we can track pupil progress across and all teachers have access to that information.” (ICT co-ordinator, Overtown Primary School)

Staff in one school felt that effective use of ICT had allowed them to become ‘data rich’ which enabled them to clearly see and target who is underachieving:

“Reading it will give you a print out for your whole class saying which ones are on target, which ones are above the target, which ones are below and you’ve got about five different possibilities within the range and that was really useful. So as soon as you put another bit of

assessment in you can have that and that shows you immediately who's dropping back or who's doing really well and needs perhaps moving up a group or be pushed a bit more.'

(Headteacher, Addeley Park Primary)

Another primary school head agrees:

"It's certainly made us focus on some groups of children who otherwise may not have been looked at in quite a detail."

(Headteacher, Sanders Primary)

Staff in several schools talked about developing their learning platforms in order for parents to be able to access their children's grades more flexibly. Staff believed that the potential impact this would have on parental involvement would have a positive effect on pupils' achievement.

One school's ICT co-ordinator from Knights Park Science and Performing Arts College, felt that enabling pupils to also have access to their assessment data appeared to have an impact on their achievement. This school used their learning platform to record and display learners' assessments in ICT and this information was available to the pupils at all times. The ICT co-ordinator explained that being able to monitor the grades of their peers often made the pupils be more competitive and try to boost their marks. However, it is important to point out that a competitive environment may impact negatively on some groups of pupils.

Another primary school (Dewsbury Church of England Primary) was introducing the use of DIGIT, a self-assessment exercise for ICT, which allows pupils to assess how they are progressing with 'I can' statements, and earn merits. She felt:

"It's quite a nice way of encouraging them. I'm hoping it will spur them on to move things forward a bit more quickly than perhaps they do."

(Headteacher, Dewsbury Church of England Primary)

One Year 10 boy told us:

"We get better [marks] 'cos they put past exam papers on [the learning platform] so we can revise and get better marks on tests."

### **3.2 Monitoring attendance**

28 per cent of schools removed from SM/Ntl in 2006-7 were judged by Ofsted as inadequate, in terms of pupil attendance. Secondary schools surveyed were significantly more likely than primary to have increased the use of ICT to monitor attendance; 77 per cent of primary schools and 93 per cent of secondary schools said that they did this. Among the primary schools, those with poor CVA were

significantly more likely to do so. (Systems included SIMS, SERCO facility through an e-portal, OMR (optical mark recognition), BROMCOM, and use of Truancy Call). 60 per cent of secondary schools felt their systems were effective in improving attendance compared to a third (34 per cent) of primary schools (see Somekh, et al., 2007 for similar findings). Both written comments on the survey and case study interviews however, revealed differing levels of sophistication, with some schools using a combination of paper-based and electronic methods.

**Table 7: How effective is the use of ICT to monitor pupil attendance: responses from those schools that use ICT in this way, by school phase**

	primary %	secondary %
very effective	34	60
slightly effective	29	30
has not made much difference	23	7
don't know /no response	14	2
<i>N</i>	86	40

One primary school headteacher explained:

“Certainly it means that we can pick up patterns quickly so the occasional Monday missed you might think oh well, it’s not happening that often but actually when you look at the data it’s actually happening quite a lot.” (Headteacher, Dewsbury Church of England Primary)

One school noted on the questionnaire that they produced regular pie charts to monitor reasons for absence. At Newstead Primary School Ofsted identified poor attendance levels. The school already used SIMs but what was really effective was:

“Actually pulling off the reports and using them with the parents and actually showing them to the parents.”  
(Headteacher, Newstead Primary School)

This proved to be really effective because rather than just telling parents their child’s percentage attendance they can actually show them:

“It clearly shows [...], it’s every Friday or [...] both my children are off at the same time and it’s definitely improved since then. Every time I’ve had a meeting with a parent it’s definitely improved because they are embarrassed.” (Headteacher, Newstead Primary School)

An approach which ‘embarrasses’ parents into improving their child’s attendance, however, may serve to alienate precisely the parents with whom these schools are trying to improve communication and involvement with.

### 3.3 Monitoring behaviour

Improving pupil behaviour was not a key priority for many of these schools. Only 3 per cent of schools in the sample were judged inadequate by Ofsted in terms of pupil behaviour. However, 78 per cent of secondary (but only 25 per cent of primary) schools indicated that they had made some increase in the use of ICT for behaviour management. Those primary schools with lower attainment were more likely to indicate that improving behaviour management was ‘very important’ in their school improvement strategy, and were more likely to report increased use of ICT in behaviour management.

Ten out of the 25 case study schools claimed to use ICT to monitor behaviour, however in interviews, this did not emerge as a significant factor. One school discussed their plans to advance their use of ICT:

“With this SIMS thing we can start to log behaviour issues, so perhaps we can keep a tighter reign on things that maybe need addressing and haven’t noticed because there is no means of making it that obvious. But yes, it’s useful. There’s a facility, a section on behaviour, that you can just log, so it will tend to be for someone that you are having a particularly difficult time with at the moment, and you can set up strategies and perhaps include those in on it. Or just make- if someone was at risk of maybe getting excluded or something like that you might want to keep a log of positive behaviour as well. It’s that sort of facility.’  
(Headteacher, Sanders Primary)

This can enable staff to more effectively detect patterns in pupils’ misbehaviour and facilitate diagnosing the root of the problems. As this teacher notes, it is important that systems that record behaviour are not focused solely on recording bad behaviour and obscuring the possibilities for recording and rewarding good behaviour as this may negatively impact on learner identities. However, the implication of this is also that the use of technology for surveillance and monitoring can improve pupils’ behaviour and questions need to be asked about whether we desire pupils’ education and learning experiences to be dominated by coercion, and what the long term effects of this might be.

### 3.4 Summary: Knowing who is underachieving

- **49 per cent** of schools removed from SM/Ntl in 2006-7 were judged by Ofsted as having **ineffective monitoring and evaluating of performance**.



- **93 per cent** of headteachers claimed they had **increased their use of ICT in assessment and record keeping**. (This area was most commonly identified by schools as featuring an increase in ICT).
- Staff interviewed felt that the use of MIS to record and analyse learner's progress made it easier to identify and target pupils who were **underachieving**.
- **28 per cent** of schools removed from SM/Ntl in 2006-7 were judged by Ofsted as **inadequate in terms of pupil attendance**.
- **77 per cent** of primary schools and **93 per cent** of secondary schools reported **using ICT to monitor attendance** (Secondary schools surveyed were significantly more likely to have increased use of ICT to monitor attendance).
- **60 per cent** of secondary schools felt their systems were **effective in improving attendance** compared to a third (34 per cent) of primary schools.
- Only **3 per cent** of schools removed from SM/Ntl in 2006-7 were judged **inadequate by Ofsted in terms of pupil behaviour**.
- However, **39 per cent** of schools had made **some increase in the use of ICT for behaviour management**.
- The implication of this is also that the use of **technology for surveillance** can improve pupils' behaviour and questions need to be asked about whether we desire pupils' education and learning experiences to be dominated by coercion, and what the long term effects of this might be.

## Chapter 4: Involving parents

### 4.1 Communicating with parents

School effectiveness literature points to the importance of home school relations and involving parents in their children's schooling (Sammons, 2008) and this is also a key priority in the new Children's Plan (2007). Almost half the headteachers in our survey indicated that they had needed to improve communication with particular parent groups following their Ntl/SM, and of these, just over half (or a quarter of all headteachers) indicated that ICT played a role in this improvement. However, in both cases a higher percentage of secondary than primary schools responded 'yes'. Thus 71 per cent of the secondary schools and 51 per cent of primary schools that needed to improve communication indicated that ICT had played a role in this. These percentages represent 40 per cent of all secondary schools and 23 per cent of all primary schools.

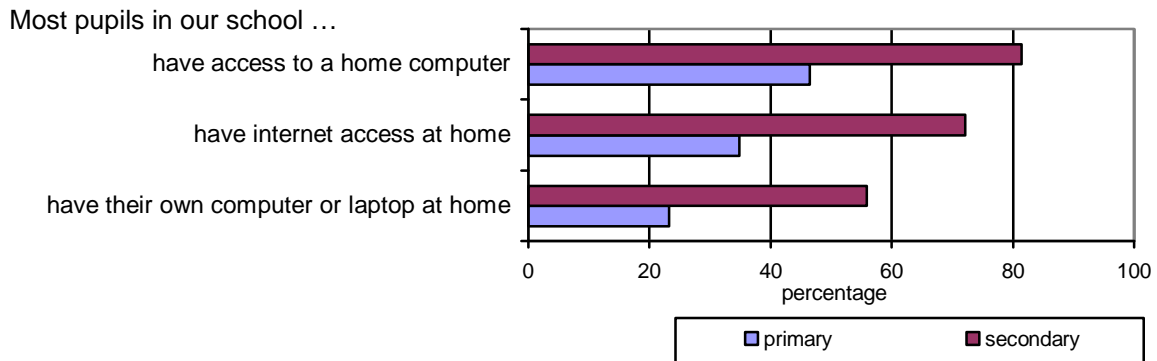
Those case study schools that did use technology to communicate with parents spoke about using email, text messages, and uploading information to the learning platform (16 out of the 25 schools claimed they had increased their use of ICT in communicating with parents). One secondary school headteacher explained their success with making staff email addresses available to parents:

“Yeah communication with parents from that point of view is a lot better if you use technology; you use the phone, you use the text, you use the email. I've got a delightful group of parents that email me with all their child's successes, or if they have got a comment to make about anything, and that's good and that's quick and I can pick that up anywhere; at home on Sunday morning or whenever and you just respond to that. That has improved I would say in leaps and bounds. Pupil post is terrible- the delay is even greater than the normal post- and so we try where we can to communicate through any form of ICT and where we can't, its paper.” (Headteacher, East Woodlands School)

This comment however highlights an issue in terms of expectations of staff availability and what is appropriate given teachers' workloads.

ICT co-ordinators were asked in the survey whether they agreed that most pupils had ICT access at home (Figure 5).

**Figure 5: Pupils' use of technology in the home: percentage of primary and secondary respondents that agreed or strongly agreed with each statement (N = 155)**



Secondary school ICT co-ordinators predicted much higher rates of home PC and internet access than primary schools. 72 per cent of secondary school ICT co-ordinators reported that most pupils had internet access at home, while in primary schools two thirds reported that most of their pupils didn't.<sup>10</sup> Primary schools that had managed to narrow their attainment gap between free school meal and non free school meal pupils (between 2005-6) were more likely to predict that most of their pupils have access to a computer and internet at home.

Interviews with headteachers illustrated that secondary schools in the case studies were more likely than primary schools to communicate via email and to predict that most parents have access. It was not uncommon for secondary headteachers to assert that, even if pupils or parents did not have access at home, then they could access the internet fairly readily via friends or family. Selwyn *et al* (2003) however point out that the context of access needs to be taken into account, it is not as straight forward as 'haves' and 'have nots' there are hierarchies of access. Access via a friend, local school or public place is not the same as 24/7 access at home, so there are potential inequities in the quality of access.

However some schools were concerned about parental access particularly to regular email. A number of staff (13) emphasised that email communication is not a very inclusive form of communication, especially as the use of email in their communities is low.

<sup>10</sup> ONS (2006) statistics state that 61 per cent of UK households have internet access, and Livingstone and Bober's (2005) research suggests significant variation in internet access among children from different social class backgrounds. (See **Livingstone, S. and Bober, M.** 2005 'UK children go online: final report of key project findings': ESRC, **ONS** 2006 'Households with selected ICT, UK 2005/6' at [www.statistics.gov.uk/CCI/nugget.asp?ID=1710&Pos=1&ColRank=2&Rank=224](http://www.statistics.gov.uk/CCI/nugget.asp?ID=1710&Pos=1&ColRank=2&Rank=224) accessed 1/2/08).

One primary school head confided:

“We are aware that a large proportion of the parents don’t have [internet] access so we could never use it as a sole means of communication or even a principal means of communication. We still have to rely very heavily on letters. Electronic means, it wouldn’t allow us to contact the parents who are already difficult to contact, because they’re the ones that haven’t got internet access.”  
(Headteacher, Wooldridge Junior and Infant)

Another primary headteacher said:

“We’ve started to put things like school newsletters now onto the OLE [open learning exchange] but the number of parents that will actually access that at the moment I would imagine is not even in double figures.” (Headteacher, Addeley Park Church of England Secondary School)

Another headteacher predicted: “I would be surprised if 15 per cent of our parents have an email address.” As several authors assert, schools must balance the needs of computer ‘haves’ and ‘have lesses’ (Cox, et al., 2003, Heemskerk, et al., 2005). Schools who were aware of the issues were attempting to provide access, via laptop leasing schemes, open access facilities, having a computer terminal in the school reception for parents to access the website and learning platform. However, as Selwyn (2003) notes, this would come fairly low in a hierarchy of access.

Some schools preferred to use text messaging as this seemed slightly more inclusive as they predicted more parents to have mobile phones<sup>11</sup>:

“We have a text message system for all parents, to say it is SATS coming up in two weeks time, English, maths and science revision, they’ve got their books here, classes are on this and this. As well as the paper [copy] that’s already been out, which then relies on the students, we get the text message out, so we’re using the technology available to do that.” (Headteacher, Dartworth Community Sports College)

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<sup>11</sup> In 2005/6 79 per cent of UK households had a mobile phone, 79 per cent had a DVD player, compared to 56 per cent with a desktop computer. See **ONS** 2006 'Households with selected ICT, UK 2005/6' at: [www.statistics.gov.uk/CCI/nugget.asp?ID=1710&Pos=1&ColRank=2&Rank=224](http://www.statistics.gov.uk/CCI/nugget.asp?ID=1710&Pos=1&ColRank=2&Rank=224) accessed 1/2/08.

However, other teachers noted the problems with this, that parents often change their mobile phone number.

Some schools also used DVDs to provide visual presentation of information to parents, such as school prospectus' or events. This was seen as a fairly inclusive medium as while not all homes have internet access, one headteacher exclaimed: "every child has a TV." Furthermore, such visual presentation was seen as beneficial especially as some schools reported very low levels of literacy among parents. However, it is important to differentiate between pushing information out to parents and allowing parents to pull down information or even engage in dialogue (Underwood, et al., 2007). Text messages and DVDs (just like pupil post) are largely one way communication.

Due to the types of areas these schools are in, where access to technology cannot be taken for granted, schools were often finding that there is no adequate replacement for face to face interaction with parents. Schools felt a multi-faceted approach to communication was necessary, as one teacher remarked:

"We have so many degrees of trying to communicate."  
(Headteacher, Newstead Primary School)

To give one example, St John's Nursery and Infant School sought to access parents through numerous different approaches:

- They had a '**wake up shake up' warm up exercise session** in the playground every morning with staff and parents.
- The **headteacher is accessible in the playground every morning**.
- They **invited parents to the gifted and talented summer school**.
- They had a **Share (family learning) club**, which involved a male teacher, to attract and encourage fathers to engage with the school.

This family learning often involved developing parents and their children's ICT skills. The head believed that this Share club was useful in accessing and engaging parents and improving communication with them about their children's learning.

These face to face approaches were seen to be much more appropriate than email. The challenge is to develop methods of communication and interaction that use a combination of face to face, paper-based and technologically mediated communication where appropriate.

## **4.2 Involving parents in their children's learning**

Kington (et al., 2001) points towards the role that ICT plays in schools to encourage lifelong learning in the local community. In conjunction, extended schools and open access are central to the school improvement aims of building a learning community (Kington, et al., 2001, Sammons, 2008). Several case study schools were keen to

talk about plans to open up access to ICT facilities to parents, in order to encourage involvement in their child's learning. However the survey revealed much fewer schools that were actually implementing this. Just 20 per cent of primary schools (22) and 23 per cent of secondary schools (10) indicated that parents were offered access to ICT facilities outside school hours.

St Teresa's Catholic Primary had just begun onsite ICT courses in a dedicated ICT suite for parents, run in conjunction with a local parenting group. This course would offer opportunities for (particularly 'lower income') parents to learn ICT skills (especially as, the headteacher claimed that many did not have home use of a PC, the internet or a history of using ICT) as well as open access use, and possibilities for child-parent learning. The headteacher felt that this would have an impact on raising achievement because parents' confidence and ability would increase and therefore they could help their children more with ICT-based school work.

St John's Nursery and Infants School were also in the process of setting up an ICT suite for parents and children's extended access and the headteacher spoke specifically about using this to engage their white British parents, whose children were underachieving:

"I think many of our white families are families where there are multiple problems, children with special needs, family break ups, domestic violence, issues with drug taking, single parent families. And so those children have the poorest resources in many respects in terms of, you know, the resources that the family can bring to them to support their learning; which is why we are very keen to create at least an internet access ICT room that can be supervised for an hour after school and parents can go in with their children and just surf educational websites with them. If they can't afford to do it at home, and many of our families can't, then it's an opportunity for them to do that."

(Headteacher, St Johns Nursery and Infants)

Brightview Secondary School for Girls had just built a new Open Learning Centre which provided open access ICT facilities to pupils, parents and the community after school hours. They were just beginning to run classes involving parents.

There is evidence that schools were keen to involve parents via ICT, but less evidence of the success of this to date, and the impact on children's achievement (see Bradbrook, et al., 2007). There is also emerging evidence that such events were often not well attended (a number of comments in the survey indicated that there had not been much interest by parents and some case study schools also suggested this). For example, Brightview School ran 'e-safety' talks for parents who were not well attended. Lilac Primary School had also been advised by Ofsted to improve communication and involvement of parents and this had involved setting up computer

classes for parents, but there was poor attendance. Newstead Primary School also ran classes but did not continue with it due to poor attendance.

A number of staff interviewed spoke about low educational aspirations among parents in their communities, with comments such as:

“We’ve got a lot of families who don’t have particularly high aspirations, I don’t think, and don’t necessarily value education. Historically the town has always had a good level of employment for unskilled workers.” (Headteacher, Sanders Primary)

“There is not a lot of ambition here. There are a lot of people on low money coming from families who have done traditional local jobs who don’t have great ambitions [...] A lot of them go into hairdressing or childcare.” (Headteacher, Brightview School for Girls)

There is an implication that aspiration to work in semi-skilled or unskilled work are somehow inferior aspirations, however it is important to challenge this concept of low aspirations and consider that different communities and social groups may have different aspirations (Archer, et al., 2005; Slack, 2003). Holding alternative aspirations to the trajectory of university and a professional occupation does not necessarily need to be antithetical to education and learning (Quinn, et al., 2008; Quinn, et al., 2008).

Kington et al’s research (2001) found that teachers saw the problem of ICT use in disadvantaged communities not as a problem of poverty, but of a ‘negative attitude’. It may be that success to engaging parents in ICT courses, extended access, and involvement in their children’s schooling more generally, is to avoid starting from a deficit model, such as perceiving the community as having ‘low aspirations’ or a ‘negative attitude, and to instigate more bottom up initiatives, which allow for parents and communities to set the agenda according to their needs and aspirations (Selwyn and Facer, 2007).

### 4.3 Summary: Involving parents

- **40 per cent** of all **secondary** schools and **23 per cent** of all **primary** schools indicated that **ICT had played a role** in their improvements in **communicating with parents**.
- ICT co-ordinators surveyed that **secondary schools** were **more likely** (than those in primary schools) to **predict that most pupils in their schools have internet access at home** (72 per cent of those surveyed, compared to 35 per cent of primary schools surveyed).

- Interviews with staff pointed towards evidence of **continuing disparity in the provision of ICT facilities in the home**. Low levels of parental access to email were reported in over half of the case study schools (text message, and information provided on DVD were seen as more inclusive ways of using technology).
- **Face to face** interaction with parents was still seen as **vital** to communicate with parents and involve them in their children's learning.
- Several case study schools, both primary and secondary, were in the process of setting up **parental access to ICT facilities** in the school, or ICT courses for parents, in order to encourage parental involvement in their children's learning. However there was **less evidence of the success** of these initiatives in engaging and retaining parents.



## Chapter 5: Engaging disadvantaged pupils in their learning

“From where we were, in terms of a school with a notice to improve when I first came, a quarter of the lessons were inadequate, to the most recent Ofsted, which was in 2007, March 2007, when no lessons were inadequate. A lot of that is to do with how staff and I mean the ICT, is a way of delivering it, the real thinking about how you break down learning and engage students in learning has gone on but ICT is certainly an element.” (Headteacher, East Woodlands Secondary)

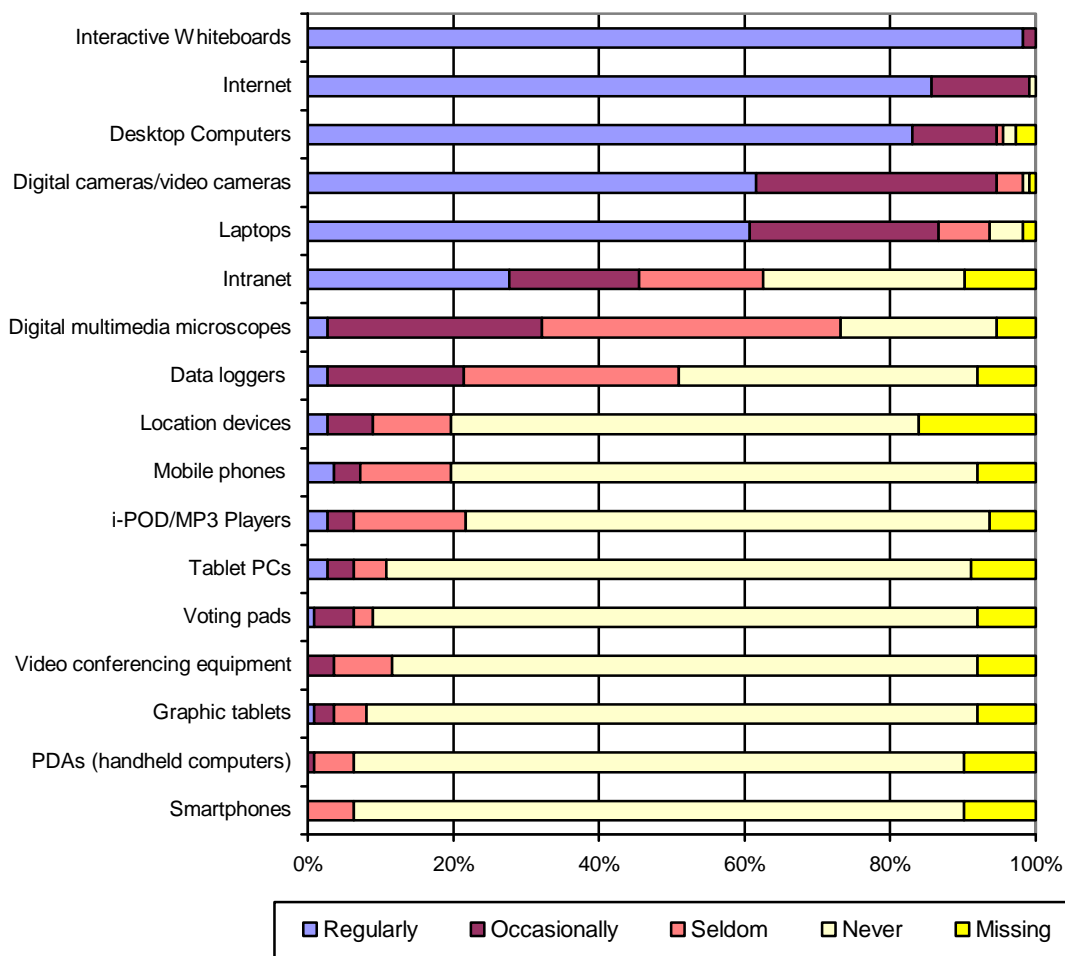
Research has found little evidence of a direct link between ICT and attainment (Becta, 2002, Cox, et al., 2003, Ofsted, 2004). However, Sammons’ (2007) review of the literature on school effectiveness, argues that research has shown there are important connections at the student level between academic achievement, motivation, behaviour, attendance and self esteem (see Condi and Monro, 2007).

The findings in this section draw predominantly on qualitative interviews with staff and students to elicit perceptions of the impact of technology. From this research there is much conviction from staff that the effective use of technology in learning and teaching can impact on the engagement, motivation, self-esteem and aspirations of ‘disadvantaged’ or ‘underachieving’ pupils. They felt that this in turn can improve behaviour and may impact on their achievement over time. Thus the research suggests an indirect influence of ICT, not through direct links with learning in each subject, but via improved self esteem, engagement and desire to learn.

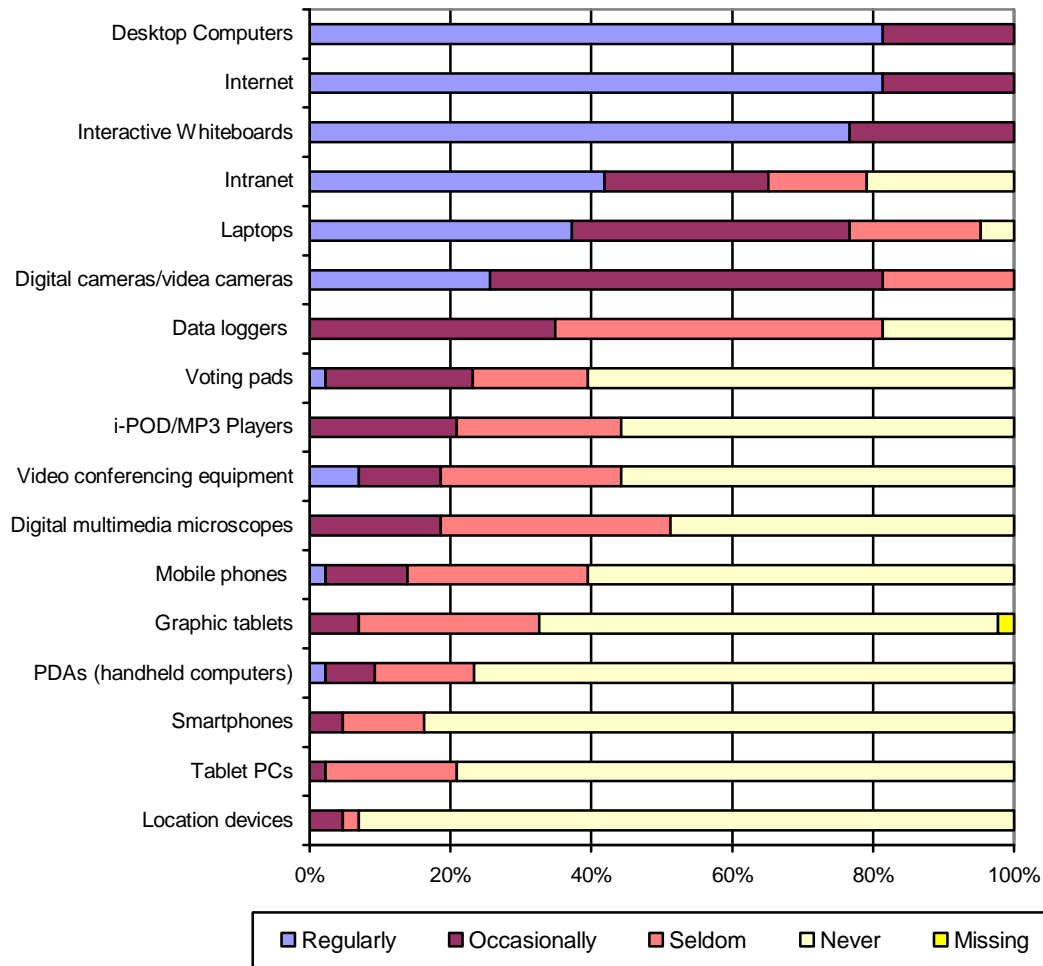
In the survey, most headteachers reported increased use of ICT in teaching and learning (89 per cent of schools surveyed) and schools that indicated that they spent ‘a lot more’ on ICT in learning and teaching materials, ICT software and curriculum planning had actually increased their attainment relative to other schools (significant for secondary schools). Several of the case study schools had dramatically increased their use of ICT in the classroom following their SM or Ntl. (12 schools failed to meet Ofsted standards for teaching ICT when being put in SM /Ntl). One primary school headteacher spoke about interactive whiteboards which had not even been unpacked from the store room before the new headteacher was employed. Another headteacher claimed that when they arrived in the school in 2004 there were no computers that met recommended specifications. Most schools (over 75 per cent) used display technologies, such as interactive whiteboards, computers and the internet regularly, and primary schools were significantly more likely to say laptops were used regularly (61per cent versus 37 per cent of secondary). However there was less frequent use of other digital technologies such as mobile phones, iPods or PDAs. Interestingly just over 60 per cent of primary schools said they used laptops and digital cameras regularly whereas less than 40 per cent of secondary schools did. The extent to which ICT was embedded across the curriculum also varied, with primary schools tending to report much more embedded use (see Cox, et al., 2003).

70 per cent of staff surveyed claimed that ICT had been used in some capacity to support the progress and attainment of particular underachieving groups in their school. However, as the quotation from one headteacher above asserts, the crucial component remains to be the teacher and their pedagogical approaches (see Cox, et al., 2003, Ofsted, 2004). Case study visits revealed that pedagogy varied between schools and individual teachers or subjects, but there was some innovative pedagogical practice going on.

**Figure 6: How often are the following ICT resources used in teaching and learning in your school? Primary school responses (N = 112)**



**Figure 7: How often are the following ICT resources used in teaching and learning in your school? Secondary school responses (N = 43)**

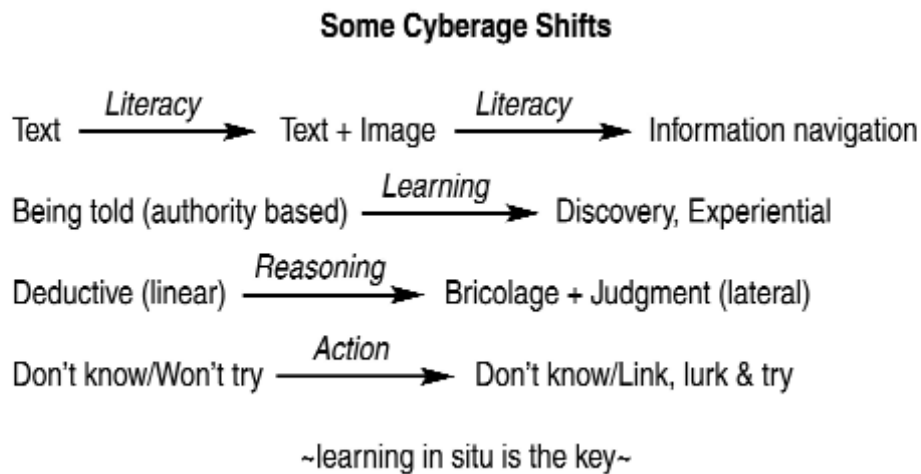


This chapter first looks at the role of technology in broadening access to a greater range of learning strategies and the perceived impact of this on ‘disengaged’ boys and pupils with SEN. Secondly it looks at the importance of technology in facilitating independent and autonomous learning and the potential of this for raising the achievement of the more ‘able’ pupils who have previously been held back in their learning. Thirdly, we look at the potential for technology to contribute to creating a positive school culture and impact on the aspirations of disadvantaged pupils.

### 5.1 Technology for learning strategies

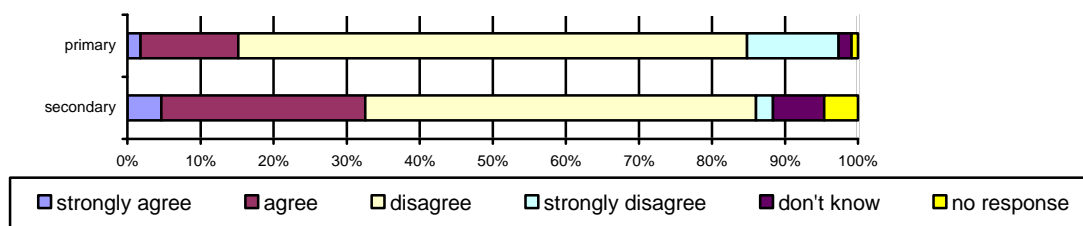
John Seely Brown (2002) who created the diagram below, argues that learning in the digital age has the potential to be fundamentally different with digital literacy being more visual, more experiential and more active.

**Figure 8: Diagram to illustrate dimensional shifts in learning in the digital age in Seely Brown (2002)**



Similarly in our research, the interviews with teachers revealed the perception that technology enables access to a greater range of learning strategies such as visual learning, collaborative learning, creative or project-based learning (see Bradbrook, et al., 2007). Staff suggested that technology can allow for more active learning which can motivate pupils disengaged from traditional, more passive methods. It was often felt that access to such an array of different learning strategies enabled a more equal provision of education to different types of pupils, and proved particularly effective in engaging **boys** in their learning, and more effectively meeting the needs of pupils with **SEN**. Twelve case study schools identified boys as making the least progress (CVA) and four schools identified SEN pupils. However, it is important to note that 75 per cent of staff surveyed, disagreed with the statement that boys tend to be more interested than girls in using technology for learning. Secondary school staff were more likely to agree with the statement than primary school staff. This discrepancy shows the importance of using mixed methods approaches in research as different methods can produce quite different responses.

**Figure 9: 'Boys tend to be more interested than girls in using technology for learning', by school phase (N = 155)**



## Active and interactive learning

Staff believed that the use of computers helps pupils with both the presentation and communication of their work, as it can provide a variety of communication channels and presentation options to give flexibility and variety (see also Ofsted, 2004, Seely Brown, 2002). It is also seen as effective as it affords a certain provision not previously possible. It facilitates editing, adapting and changing, and staff felt this has a marked impact on raising the motivation of pupils who have poor presentation skills, difficulties with neatness, handwriting and literacy. They felt this could improve these pupils' sense of pride in their work and hence engagement with their learning:

“It's the perfection, you know, one of the things that students that are not particularly able suffer from is that they want whatever comes out of the ends of their fingers to be perfect. For some, particularly boys, they really struggle with this idea of this picture they have in their head, the ideas that are whizzing round and then what comes out at the end of their fingers is not what they want. And so to a certain extent ICT helps them over that barrier.” (Headteacher, East Woodlands Secondary)

Staff also felt this had a knock on effect on the behaviour of pupils. 52 per cent of schools surveyed felt that general behaviour in the classroom is better when pupils use ICT. One teacher interviewed commented:

“ICT absolutely has a role to play [...] In terms of behaviour, a lot of it is about engaging them and again the boys will quite happily word process something when they don't have to write it...they are natives with it you know. A lot of the children will know a keyboard better than they can hold a pen.’ (Headteacher, St Margaret's Primary)

Even the children interviewed noticed how the way in which ICT captures the attention of pupils had improved behaviour in the classroom.

“If you write, like, you seem to get talking to people but if you are on laptops you see the difference, like everyone is working. [When] you are writing people think it's boring or they get disturbed and distracted.” (Year 10 boy)

Staff suggested that the adaptable nature of ICT can be particularly effective for engaging boys and pupils with **SEN**:

“I've taught children who have had SEN statements, who have been great at ICT because they can manipulate a mouse and they feel more

confident about what they are doing on a screen and what they can do in a book.” (Headteacher, Smith Street Primary)

Use of interactive whiteboards with the internet, massively alters the speed at which staff can present information to pupils (plus the speed at which they can access information to present) (see also Bradbrook, et al., 2007, and Smith, et al., 2004) and can make for more fast paced, **engaging lessons**, lessening the possibilities for pupils to get bored (supported in findings by Rudd, 2007). Interactive whiteboards were the most common technological resource cited by staff in the survey as contributing to raising pupil attainment:

“I think the use of the interactive whiteboard has helped to engage children particularly, very often boys, not always, but very often the boys are a little bit anti, that can sometimes switch them on a bit.”  
(Headteacher, Sanders Primary School)

A problem here is that a focus on engaging boys, due to concerns about boys’ underachievement and behaviour, may preclude the needs of girls (Heemskerk, et al., 2005). It is important not to over emphasise differences between girls and boys, as this can mask subtleties within gender binaries and lead to an avoidance of discussion of which boys and which girls are doing less well (Abbiss, 2008).

### **Visual learning, creativity and popular culture**

Previous research suggests that ICT can have a great impact on learning processes because of its multimedia form (sound, image, text) (Cox, et al., 2003 and Seely Brown, 2002). Concurrently, staff in this study highlighted how technology allows for more visual learning than was previously feasible. For example one teacher who was teaching the lowest set group for science explained how using the interactive whiteboard and being able to display the information visually, is invaluable in explaining concepts to the ‘lower ability’ pupils.

One primary school headteacher felt the visual capacity of teaching using technology was beneficial for some of their underachieving white working class boys, who tended to have poor concentration skills. She claimed:

“These sorts of children could hook into something if it is visual.”  
(Addeley Park Church of England Primary)

Use of technology often allows for and facilitates creative and project based learning, and staff found this can engage pupils who are ‘disaffected’ by a focus on teaching for tests. Questionnaire analysis reveals a relationship between schools’ likelihood of using technology for creative learning, and schools’ view of the overall importance of ICT for the school (low importance placed on ICT meant less creative use).

One primary school (Addeley Park Church of England Primary) had access to a 'Classroom for the Future' which was well kitted out with the latest technology and they use it regularly for cross curricular, project based learning. Similarly one secondary school (Brightview Secondary) used their new Open Learning Centre equipped with computers for regular, focused 'Raising Achievement Days' where they would spend a whole day on one core subject working on a project for that subject, using the ICT facilities.

This enables a deeper understanding to develop rather than just having one hour on the timetable, and the assistant headteacher said has an impact on their achievement:

"We had the TAs in and it was nice, you know, some of the ones who wouldn't have normally been praised maybe because in a one hour lesson they couldn't quite get it done it, just allowed them to come through." (Brightview Secondary)

Some staff also claimed that the often collaborative nature of using technology for project-based learning can engage pupils (see Cox, et al., 2003) who do not enjoy working alone and can improve confidence by talking in class. For example a group of primary school pupils enjoyed a collaborative digital animation project with peer teaching and another teacher talked of pupils sharing and discussing their work via visualisers. Collaborative learning can also increase the dynamic interaction between teacher and learner (Underwood, et al., 2007), with one primary school even preferring to refer to teachers as 'learning leaders', due to this collaborative emphasis.

One headteacher felt their new creative curriculum with embedded ICT was even improving attendance:

"They're coming to school. Children do tend to run into school. They're pretty keen to be here because what they are doing in lessons is pertinent and serves a purpose. They're taking on these mini projects which is inspiring them at the moment." (Headteacher, Perryworth Primary)

Furthermore, staff found pupils were learning without realising they were learning, and found tapping into informal learning patterns (ie games) could engage 'disaffected' learners:

"Certainly boys, I mean we've been looking at software we can buy for things like maths and literacy to sort of get them engaged in their learning. When they're sat at a computer they don't realise they are doing maths lessons." (Headteacher, Perryworth Primary)

ICT software (such as clicker 5 and Units of Sound) in conjunction with the interactive whiteboards was felt to be particularly good for teaching literacy (see also Ofsted, 2004), as it could combine visual, aural and text learning, and the interactive element made this enjoyable and engaging for pupils. This proved to be a particularly good tool for primary age pupils with **English as an Additional Language** (EAL).

Similarly, some secondary schools were doing podcasting and video conferencing to teach Modern Foreign Languages. This was seen to particularly engage **boys**. One member of staff described the interest he saw in a group of boys who had recorded podcasts in a French lesson and sent them to their mobile phones via Bluetooth technology, in order to take them home to listen to:

“The only time I've ever seen Year 8 boys interested in foreign languages is when they were playing to each other what they had on their phones that they had just ‘Bluetoothed’ on as they were walking out of here, which was really nice.” (City Learning Centre Manager)

A focus group interview with the group of boys involved, revealed really excited, motivated pupils who had previously found little interest in their French lessons:

“Some lessons in French can be quite boring but the podcast – that was fun.” (Year 10 boy)

While staff and students certainly saw improved engagement in these lessons, this is not enough to prove that pupils were actually learning more through these techniques. This would require further detailed research.

**The link between technology and popular culture came across strongly in this research.** So much of popular culture is mediated via technology (feature films, television programmes, music downloads, podcasts) (See Buckingham, 2007). For this reason it is difficult to untangle the ‘cool’ aura of popular culture from the ‘cool’ aura of technology (as is the case with the podcasting example given above). However it was common for popular culture to be utilised by schools in attempts to engage pupils. For example using stop animation to teach literacy and Modern Foreign Languages, making films in drama and English lessons, analysing song lyrics in English lessons and sending to each other via Bluetooth technology and using podcasts in history teaching.

Again, some schools suggest this is particularly good at engaging ‘**underachieving**’ **boys**:

“Now being able to use interactive whiteboards for [visual literacy] has been so powerful. And the boys are writing about Boo in Monsters Inc. like their life depends upon it they are so engaged and it has made



such an impact and improvement in the writing. And so that has been huge.” (Headteacher, St John’s Nursery and Infant)

One Year 2 pupil in a focus group who had learnt digital animation exclaimed:

“Well we normally do at school writing, maths...And doing sums, reading books...But when it came to animation club we felt so comfortable...Because I thought I was going to be a movie star.”  
(Year 2 girl)

The notion that today’s children feel ‘comfortable’ and at ease with popular culture and schools’ attempts to tap into this, have been highlighted by authors such as David Buckingham (2007). A potential problem is making the assumption that all pupils are engaged by popular culture, and further still, assuming equal access to popular culture and the same popular culture. There are potential cultural inequities here. As Heemskerk and colleagues (2005) assert, certain applications of technology are not equally accessible or attractive, owing to students experiences, interests and learning approaches. Also, attention should be paid to the ‘scripts’ or messages of popular culture which are not always culturally and socially inclusive (Heemskerk, et al., 2005 and Mendick, et al., 2008).

Commentators have suggested that associating particular groups with being particular types of learners can actually entrench inequalities and essentialise difference between different groups of pupils (Abbiss, 2008, Buckingham, 2007). Rather than attempting to make teaching tools neutral (Heemskerk, et al., 2005), or to fix certain pupils to particular learning styles (eg ‘he is a visual learner’) it is more inclusive and equitable to develop approaches that offer all students a variety of different learning strategies.

## **5.2 The individual learner: Building a learning community**

A key process identified in creating effective schools is the importance of building a learning community (Sammons, 2008) where pupils are aware of their roles and responsibilities in their own learning and develop the lifelong skills of working independently. There was some evidence of this in our case study schools where staff promoted independent learning, self evaluation, peer to peer teaching and extended opportunities for access. Moreover, technology played a central role in these initiatives. 65 per cent of primary schools and 63 per cent of secondary schools claimed technology was used to promote independent learning in their school.

### **Independent/autonomous learning**

Staff felt that the use of ICT in teaching and learning can enable pupils more control and autonomy over their learning, enabling them to work independently, setting their own pace and targets (see Becta, 2002, Bradbrook, et al., 2007, Cox, et al., 2003). Pupils interviewed were really motivated by this potential:

“Cos you can do it your own way [...] ‘cos if you’re a quicker reader you can read the [web]page a bit more quicker and easier but if you’re in a whole class you’ve got to wait ‘til everyone [is ready].” (Year 6 girl)

Staff interviewed suggested independent learning is particularly beneficial in raising the achievement of **‘more able’ pupils or gifted and talented** pupils who were often identified by schools in this research as underperforming or having poor CVA (11 of the case study schools identified ‘more able’ or gifted and talented pupils as having poor CVA or underachieving). Secondary schools that had lower attainment (APS) were more likely to indicate that independent learning was one of the three areas in which technology was most often used. Thus technology was facilitating the progress of pupils who had previously been at a disadvantage in the school; being held back in their learning. One headteacher of a girls’ secondary school commented:

“I think we are enabling our bright girls now to research and be independent learners in a way that we weren't before [...] With the upper [‘ability’] end, I think ICT is incredibly important because it does give them the stimulus and ability to move on. And so by actually using the ICT they can actually release themselves from that into a world where they can actually explore and, you know, move themselves forward.” (Headteacher, Brightview Girls’ School)

47 per cent of primary schools and 42 per cent of secondary schools surveyed claimed that technology is most often used in their school in extending learning beyond the classroom, and 97 per cent of secondary and 70 per cent of primary schools indicated that there was some form of extended access for pupils (be it extracurricular access to ICT facilities, laptop loaning, purchasing, or access to the school intranet or learning platform from home) and this provision was significantly more common among secondary schools. Loaning and purchasing of equipment and software was most common for SEN pupils. Five secondary schools surveyed loaned ICT equipment and software to ‘disadvantaged’ pupils (some via the ‘Computers for Pupils’ scheme), but no primary schools mentioned ‘disadvantaged’ pupils. They were more likely to name gifted and talented groups as the targets of extended access. This extended access was identified by 81 per cent of secondary and 70 per cent of primary schools as important in improving pupils’ engagement.

**Table 8: Does your schools provide opportunities for pupils to extend learning with ICT beyond the school through any of the following? By school phase (N = 155)**

	PRIMARY ( N = 112)			SECONDARY ( N = 43)			
	yes, for all pupils %	yes, for specific groups of pupils %	no %	yes, for all pupils %	yes, for specific groups of pupils %	no %	
extra-curricular access to ICT suites/facilities in school	*	24	34	32	74	16	9
loaning of ICT equipment or software	*	3	9	88	5	47	49
purchasing of ICT equipment or software		7	4	88	19	7	74
access to the school intranet /extranet /learning platform from outside the school	*	14	3	83	63	5	33

\*difference between primary and secondary responses is significant

Over half of secondary schools surveyed (51 per cent) but only 17 per cent of primary schools used a learning platform. Of the 25 case study schools, 9 schools had a learning platform in some capacity (mostly secondary schools), and 11 had extended access to ICT facilities for example. Staff interviewed felt that new initiatives such as their new learning platform and enabling pupils' access to the Open Learning Centre to work alone on their project work was enabling, particularly the higher attaining pupils, to excel in their work.

While the benefits for schools as a whole in pushing on the progress of their 'more able' pupils are clear, it was also apparent that in some schools, a focus on the application of technology with the 'more able students' could potentially lead to inequalities in provision. For example, a primary school (Addeley Park Primary School) which had access to a 'Classroom for the Future' for project-based work, ran some digital animation projects, but targeted the 'more able' pupils because the course was seen to be 'fairly fast paced'. The teacher interviewed recognised that the double bind was that not only were the 'more able' children targeted, but these tended to be those who have better home access:

"They've got to have a pretty good basic knowledge of IT and they tend as well to be children who've got computers at home."

A potential problem here is that a focus on 'higher attaining' pupils may preclude the possibility that all students can benefit from opportunities for independent learning. In fact, while most schools surveyed believed that pupils had equal opportunities to use

technology in the school, 10 schools felt that pupils didn't. Further, a majority of teachers surveyed agreed that pupils who use technology have an advantage over other pupils (70 per cent of primary respondents and 74 per cent of secondary respondents).

Furthermore, at Addeley Park Primary School, use of a personalised Online Learning Environment (also known as a learning platform) (an LEA wide initiative) was imminent. The head felt this had amazing potential for pupils to access resources, take part in discussion forums, upload their homework and show their parents their grades, however, she was also aware of the digital divide which was very much a reality in their rather socio-economically mixed local area:

“It's your brighter, your well supported pupils that are going to have the computers and the access and the ones that you really want to contact that aren't going to.” (Head Teacher, Addeley Park Primary School)

Social class inequality is well documented in education (eg see Department for Education and Skills, 2006) and there is real potential for this to be exacerbated by the rolling out of learning platforms and a move towards more independent learning. In addition, there is a need to critically unpick the term 'ability'. The focus on results in core subjects has a tendency to fix notions of 'ability' with 'more able' being synonymous with high academic core subject results. However researchers have been critical of schools and teachers' use of the term 'ability,' highlighting the trends for more working class and minority ethnic pupils to be described as 'low ability' and assigned to lower sets (Ball, 1981, Gillborn and Youdell, 2000). The use of technology embedded in learning and the prospect for technology to facilitate cross curricular working has the potential to reconstruct and renegotiate the notion of 'ability,' allowing more diverse abilities to come to the fore.

In addition to working independently, staff felt that pupil **progress and achievement** were improved by the means to evaluate their own work, and that technology facilitates such possibilities. For example several schools used educational software or online materials which involved self assessment; some primary schools were using video and audio recording to playback in order to support pupil evaluation of their own and others work in speaking and listening. Several secondary schools were beginning to use self-evaluation software (such as Dartfish) in PE lessons for students to evaluate their own performance.

Self evaluation raises potential issues when there are large differences in pupils' confidence and self esteem (which can be classed, raced and gendered). This could increase the level of inequality in pupils' self assessment and evaluation. In one school it was found that this was particularly pertinent with less confident learners.

## Distance learning

This research highlighted the ability for technology to blur the boundaries between school and home; and formal and informal learning. Furthermore, technology can enhance learning through better use of face to face and virtual time. Above and beyond the use of the learning platform, two of the case study secondary schools were beginning to investigate and develop online learning materials for pupils who were not attending school: **pupils who are long term sick, 'school phobic', excluded or disengaged from their learning**<sup>12</sup>. One school was even trialling a programme in which pupils learnt via interactive television. The headteacher felt this was a much more socially inclusive medium than computers and internet.

One headteacher felt that:

“It gives quite a lot of control and ownership for the groups of students perhaps who balk at the [rules of] ‘you will come in’, ‘you will have a uniform’ and ‘this is your timetable’ ‘this is what you do’.”  
(Headteacher, East Woodlands School)

This approach allows for pupils who perhaps feel disempowered in a school environment, to take control of their own learning. Research suggests that children from less advantaged backgrounds feel less in control of their learning (Joseph Rowntree Foundation, 2007). Such programmes would provide invaluable potential to increase the learning opportunities for pupils who would otherwise be disadvantaged by not attending school.

## 5.3 Aspirations

### Creating a positive school culture

Some staff suggested that having new technology in schools impacted on pupils' engagement, and made them feel good about their school and consequently their learning. This can also be framed in terms of re-exciting learners (the 'wow' factor); using new technologies can revitalise learning, especially when the newest technologies are integrated within their learning environment (ie opportunities to use facilities at a City Learning Centre or 'Classroom for the Future'). This can be particularly important for pupils in relatively socio-economically disadvantaged local areas often characterised by declining facilities and a lack of investment in general.

One headteacher remarked:

“I think there is something about students feeling good about themselves and feeling good about the school [...] When students- you

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<sup>12</sup> See <http://www.notschool.net>

know what it's like- they come in and they've got new computers or its all refurbished [...] you know their esteem goes up.”

(Headteacher, East Woodlands School)

One girls' secondary school, which was a non-selective school in a largely selective borough, had been awarded mathematics and computing specialist status. They had used some of the additional funds to build a brand new Open Learning Centre with open access ICT facilities, were leading the borough in the bid for the ICT diploma, and their girls entered, and regularly won, various national competitions for ICT. The headteacher was enthusiastic that this focus (something perhaps not seen as the domain of the more 'academic' grammar schools in the area) had provided the school with a niche in which to excel and this had really raised the confidence of the girls in the school.

Consulting pupils on their views about their learning and also involving them in decision making is key to a positive school culture (Sammons, 2008), and research even suggests it is a key theme for addressing within school inequalities in outcomes (National College of School Leadership (NCSL), 2006). This research reveals that technology is often central in accessing pupil voice in schools. For example, online polls, questionnaires to students, feedback mechanism on learning platforms, website forums for the student council and pupil radio stations. Staff felt this was important in improving the ethos of the school and increasing pupils' positive identification with the school. This can also impact on the **aspirations of disadvantaged students**.

One student told us how they enjoyed being consulted when their school was advertising for a new headteacher:

“There's like polls [...] they put on the discussion board and there's a subject and you all input your own opinions. So when, like, our new headteacher came in, there was a discussion board poll to say whether the school would benefit from a new headteacher.” (Year 10 boy)

## Applied learning

The use of technology was often accompanied by a more applied approach to learning, where learning using ICT is often embedded in a real-life or working-life scenario. In some schools these scenarios were fabricated for the purpose of the lesson but in other schools real connections were being made with local business and industry. For example in one secondary school with access to a City Learning Centre, pupils were using digital resources to create and make a film in drama to be shown to a public audience in the nearby city.

The manager of the City Learning Centre highlighted:

“They know they are making their film for a real audience in a cinema and not just to look at on a laptop screen which makes a big difference in the way they function together.”

In another school, girls were building a database for a hairdressing salon, and one girl was making a website for her family business. This applied use of technology and was more prevalent in the secondary schools, but was also used in some primary schools. For example one primary school was teaching pupils how to order their shopping online in maths lessons. Some staff were also aware of the employment opportunities in the local area (for example, the media industry in Manchester; the finance and insurance industry in Bournemouth).

Staff, in secondary schools particularly, felt this applied use of ICT, making connections between the ICT skills they are learning and their employability, was not only key to **engaging pupils who often do not see the relevance of what they are being taught**, but also had the function of broadening pupils' horizons (see Bradbrook, et al., 2007) and aspirations beyond the often declining traditional occupations of the local area, worked in by their parents.

#### **5.4 Summary: Engaging disadvantaged pupils in their learning**

There was much conviction from staff that the effective use of technology in learning and teaching can impact on the engagement, motivation, self esteem and aspirations of 'disadvantaged' or 'underachieving' pupils. They felt that this in turn can improve behaviour and may impact on their achievement. Some key ways in which schools are using technology to increase engagement are:

- Allowing for teaching and learning to be much more **interactive** (such as pupils using interactive whiteboards, the internet, digital cameras, interactive software) was particularly seen to engage 'disaffected' boys in these schools.
- Enabling access to a greater range of **learning strategies** (such as visual learning, collaborative learning, creative or project-based learning) was often seen to enable a more equal provision of education to different types of pupils.
- Providing an alternative medium to **communicate** their work and improve their presentation, which can raise the confidence of pupils who do not excel at traditional written work. This was seen to impact on the achievements of boys and pupils with SEN in particular.

*Equity issues: A problem here is that a focus on engaging boys because of*

*concerns over boys' underachievement may preclude the needs of underachieving girls.*

- Embedding ICT in a more **applied** approach to learning, where pupils learn ICT in relation to everyday and working life. Linking ICT to working life was also seen by teachers to widen pupils' horizons and aspirations.
- Drawing on the connection between technology and **popular culture**.

*Equity issues: A potential problem is making the assumption that all pupils are engaged by popular culture, and assuming equal access to popular culture and the same popular culture. There are potential cultural inequities here.*

- Enabling learning to extend beyond the classroom, and facilitating **flexible** and **distance** learning.

*Equity issues: Inequalities in access to, and ownership of, computers and the internet may cause inequalities in pupil progress. Some suggest that DVDs and interactive TV may be a more equitable route.*

- ICT was used to enable greater **independent** learning, enabling learners to set their own pace and targets.

*Equity issues: There is some evidence that schools tend to focus on higher achieving or 'gifted and talented' pupils' independent learning which may preclude the possibilities for more disadvantaged pupils to benefit from independent learning.*

- Creating a **positive school culture** and having new technology in schools was seen to positively impact on pupils' **learner identities** in disadvantaged communities; making them feel good about their school and consequently their learning.

*Equity issues: There is potential for inequalities between schools in resources.*

- This research reveals that technology plays a central role in accessing a **learner voice** in schools (such as online polls, questionnaires or feedback mechanisms on learning platforms, website forums, pupil radio stations).



## Chapter 6: Discussion

### 6.1 School improvement: So what?

Schools judged by government as ‘causing concern’ are identified as failing to provide adequate levels of education for pupils. Often these schools are failing to reach expected standards of attainment. A complex range of factors are normally at play within these schools and as such, strategies for improvement vary across schools, highly tailored to the specific needs and challenges facing each school and local community (DCSF, 2007). School effectiveness research highlights that while the school effect is small in comparison to broader societal factors, individual schools can make a difference to pupil attainment as there are significant differences in results between schools with similar intakes (Futurelab, 2008 and Sammons, 2008).

### 6.2 How can these schools use technology to help?

In this research we found that ICT played an important role within school improvement strategies. While there is no direct link between using ICT and raising levels of attainment, there is evidence that technology provides an essential tool in facilitating change, improving school effectiveness and functioning, and providing evidence of pupil progress. In particular, schools believed that ICT had enabled them to monitor pupils more effectively and efficiently, and to show improvements and progression thereby enabling them to move out of the category of SM or Ntl. ICT, such as email, text messaging, websites/learning platforms, and DVDs, were also found to improve parental engagement and communication with schools, a factor often identified as key to school improvement (Sammons, 2008). However, importantly, schools felt that a multi faceted approach to communication with parents, which involved a lot of face to face communication, is more appropriate and inclusive in communities where access to technology is patchy and uneven.

***ICT can be seen to provide an essential mechanism in helping schools implement, realise and evidence their improvement strategy.***

### 6.3 Social equity issues: What are they?

There is much discussion, in research and government around the existence of inequalities within education, with marked gaps in achievement between different groups of learners.

### 6.4 Disadvantaged groups: Who are they?

Disadvantage in education can take a number of forms. In this study we refer to disadvantaged learners as not only those who perform less well in national tests, but also those who are perceived to face issues related to engagement with learning, attendance, aspiration and /or behaviour. These ‘indicators’ are often inter-related, but not always. Disadvantaged pupils are not only those who are located within socio-economically deprived communities or families, but also those who face other

barriers in learning. Disadvantage can fall along axes of race, gender, disability and geography as well as social class.

In this research, the most common groups identified by schools as 'disadvantaged' and making poor progress in education were boys and SEN pupils however girls, EAL (English as an additional language) pupils, and less affluent pupils were also discussed as facing challenges within education and underachieving.

## **6.5 What can technology do for them?**

Within this study, ICT was seen by schools as a tool to potentially benefit all learners. In particular, it was seen to provide more positive learning environments for pupils facing disadvantage in their learning, if used effectively. The research suggests an indirect influence of ICT, not through direct links with learning in each subject, but via improved confidence, engagement and desire to learn.

ICT was seen to offer a wider range of learning strategies that are accessible to those alienated from, or disengaged with, 'traditional' learning. The visual and interactive nature of ICT was seen to raise motivation among disengaged learners, having a knock on effect on attainment and behaviour. For pupils with SEN, ICT was seen to provide alternative methods and resources for them to communicate their learning. ICT was also seen to provide more flexible approaches to learning allowing pupils to work more independently and facilitating extending learning beyond the school and classroom. The use of technology was often accompanied by a more applied and project-based approach to learning which was seen to engage students by connecting their learning with future employability. Investment in new technologies in schools was seen by staff to have a positive impact on pupils' views about their school and consequently their learning. ICT was also often instrumental in providing a platform for pupils to communicate their views about their school.

ICT was also found to assist schools in closely monitoring pupils' progress. Using computerised systems to store and collate assessment data and to focus on 'underachieving' pupils, schools felt that ICT was instrumental in raising achievement and reducing inequities in pupil performance.

***This study shows that ICT in learning has a capacity to help disadvantaged learners by enabling a more equal provision of education to different types of pupils, and by helping schools identify pupils who are under-achieving.***

## Chapter 7: Implications

### 7.1 For policy

#### For Becta

- We recommend that Becta work with partners to ensure that, particularly schools being placed in SM or Ntl are advised on the key findings of this report, particularly on the recommendations below.
- We recommend that Becta consider funding some of the **further research** recommended below.

#### For Ofsted

- More attention could be paid by **Ofsted inspections** to the achievement gaps in schools between different groups of pupils, for example pupils who receive free school meals compared with those who do not, and other multiple deprivation indicators. Whilst it may be a tall order to expect schools to narrow these gaps within short time periods, attention could be paid to trends over time.
- This research revealed considerable variation in terms of strategic support from local authorities to assist in emerging from SM/ Ntl and it may be beneficial to develop a more **coherent system of targeted support/** earmarked funding allowing them to use ICT to the full potential for their improvement strategy.

#### For the DCSF

- Given that these schools tend to see the greatest impact of technology to be on boys, there are real **potential gender inequalities** here with the rollout of the personalised learning agenda. The focus on boys 'underachievement' should not preclude the needs of girls, however, nor should it be assumed that girls' needs and interests are entirely different to boys.
- With the promotion of independent learning and the increased **promotion of learning platforms, attention needs to be paid to the digital divide** and which pupils will be able to benefit from extended opportunities for learning. It is important to bear in mind that access to school computers after hours is not the same as 24 hour access at home. Further the initiation of 'online reporting' where parents will have up to the minute access to their children's assessment results is also likely to be inequitable in its access.
- The Children's Plan (DCSF, 2007) outlines the government's plan to spend £26.5 million on piloting new forms of **alternative provision for children not attending school**, and the potential for interactive and communications technology here is enormous. We would recommend that

care is taken to ensure that provision is inclusive and would not contribute to the digital divide. The potential for interactive television should be a consideration. The possibilities for the education system in general, to use (interactive) television as a medium to communicate with, and provide education resources for, both parents and children are enormous.

- With a clear rise in use of ICT by schools to **store and analyse data** it is important to consider how the data is analysed, by whom, and for what purposes and for ethical policies to be put in place.
- Whilst we are not advocating education for employability as the sole focus of schooling, the **importance of technological skills and knowledge for children's future employability** should not be overlooked. Policy makers need to be aware of, and plan to predict, how technology is changing the labour market and implement a more strategic approach to education policies which make attempt to address these changing skills.

### For practitioners and schools

- ICT clearly plays a role in assisting schools' removal from SM/Ntl and schools in such circumstances might consider undertaking **Becta's self-review** framework to aid their improvements in use of technology.
- We recommend that all schools carry out or commission a **survey of home access to technology**, which encompasses not just PC and internet use, but mobile phone, iPod, DVD, interactive TV, video games, console access use, and investigating parental attitudes to methods of communication. This would enable schools to gain a better understanding in order to develop better communication.
- A multifaceted approach to communication with and **involvement of parents** is recommended, particularly in schools where access to and ownership of technology is low. Attention should also be paid to the amount of, essentially, one-way communication (such as letters, text messages) and allow for diverse opportunities for two way communication and dialogue. The potential for technology to facilitate more visual methods of communication with parents, such as photographs in newsletters, information on websites, video footage and presentations provided on DVD, provide an alternative means of communication with parents which appears to be beneficial, particularly for schools with parents with low levels of literacy, or with English as an additional language. The challenge is to develop methods of communication and interaction that use a combination of face to face, paper-based and technologically mediated communication where appropriate.
- There is also a very real issue here in terms of **expectations of teacher's availability** and what level of availability is appropriate in a new world where ICT can make people available 24/7. There are implications for teachers' workload. Increased email correspondence with parents needs to

be accounted for in teachers' workplans. Also it would be beneficial for schools to have service level agreements with parents in terms of commitments to response rates (ie how soon they can expect a response).

- A suggested approach to **parent ICT courses** is to avoid starting from notions of deficit, such as perceiving the community as having 'low aspirations' (see Kington's research 2001), and to instigate more bottom up initiatives rather than top down ones. Which allow for parents and communities to set the agenda and be creative with technology according to their needs and aspirations (Selwyn and Facer, 2007).
- Care should be taken in **monitoring attendance and behaviour** does not focus solely on poor attendance and bad behaviour, but also involves a rewarding of good attendance and behaviour.
- The potential for technology to contribute to a **culture of surveillance** in schools is a very real possibility, particularly with the rise of CCTV. Serious thought needs to be given to whether we wish to govern schooling in an authoritarian manner, or by creating and encouraging a positive school ethos and active interest in and commitment to learning among pupils. It is unclear how aware children are of the ways in which their attainment, behaviour, attendance and other personal information are being tracked by schools and there are ethical issues.
- With a clear rise in the use of ICT by schools to store and analyse data, it is important to consider what **protective measures** they have in place for their ICT systems and specifically for the data they collect on the students, both in relation to privacy policies and in relation to back up systems and servers.
- Rather than attempting to make teaching tools neutral or to fix certain pupils to particular learning styles (eg 'he is a visual learner') it is more inclusive and equitable to develop approaches that offer all students a **variety of different learning strategies**.
- The tendency for schools to focus on '**more able**' pupils' **independent learning** using technology runs the risk of creating inequities in opportunities for access. Technology provides opportunities for more flexible, tailored and personalised learning schedules to meet a range of needs and skills levels, not just for 'more able' students, but all students.
- A focus on results in core subjects has a tendency to **fix notions of 'ability,'** with 'more able' being synonymous with high academic core subject results. The use of technology embedded in learning and the prospect for technology to facilitate cross curricular working has the potential to reconstruct and renegotiate the notion of 'ability,' allowing more diverse abilities to come to the fore.

### For the research community

- We would recommend further research that **tracks schools** who have recently emerged from SM/Ntl **over a period of five years**, to monitor the patterns in attainment over time for different groups of pupils, and changes and developments of ICT use in the schools, and investigate the relationship between the two.
- There is a need for more detailed **qualitative studies** of schools who have significant numbers of disadvantaged pupils (and have done well to raise their achievement) in order to identify particular strategies the schools think are useful, and the role of ICT in these.
- Research investigating **longitudinal patterns of student behaviour and attendance** through targeted use of the monitoring tools would shed more light on the success of these tools.

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## Appendix 1: Research methods

### Research questions

a) How do 'turned around' schools use technology to reduce social inequity by enabling learners from relatively disadvantaged backgrounds to improve their:

- achievement level
- behaviour
- attendance
- aspiration and retention in employment, education or training?

b) What characterises 'turned around' schools that use technology in order to bring about and sustain whole school improvement?

c) What is successful in these schools in adding contextual value added (CVA) and what role does technology for learning strategies play in that?

### Terminology

#### **'Turned around' schools:**

For the purpose of this project, by 'turned around' schools, we mean schools which had, in the past three terms (autumn 2006, spring 2007 and summer 2007), been removed from Ofsted lists of 'special measures' (SM) or 'notice to improve' (Ntl) (ie come out of SM/Ntl).<sup>13</sup>

#### **Social inequity:**

By 'social inequity' we mean inequality or unfairness between certain social groups, and for the purpose of this research we focus on inequities in Key Stage achievement (KS2 for primary and KS4 for secondary) as a measure of social inequity in schools. We examine social inequity using as an initial measure; a comparison of the average results for pupils who are not in receipt of free school meals, with those who are using free school meals as a proxy for 'disadvantage'. Using basic descriptive statistics we compare this 'gap' between free school meal pupils and non-free school meal pupils before and after the school was put into SM or given Ntl (ie data for 2005 and 2007).

#### **Disadvantaged backgrounds:**

In the qualitative part of the research we will explore the experiences of other 'disadvantaged' groups in more detail. By 'disadvantaged backgrounds' we are referring to certain groups who tend to perform less well in national examinations (in England). This would include a number of identity markers such as free school

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<sup>13</sup> Note that because of changes in Ofsted categories, improving schools in terms earlier than 2006 are not comparable.

meals, ethnicity, gender, EAL and SEN, as well as paying attention to socio-economic disadvantage where appropriate (measured by IDACI where possible). We are aware that particular groups at a disadvantage will vary by school. We do not assume a link between 'disadvantage' and 'disaffection' from learning.

### **Technology:**

We refer to technology in the broadest sense, and used Becta's eight point self-review framework as a starting point to analyse the different areas and aspects of school life that technology facilitates. This would include technology for learning in the classroom, such as computer equipment or interactive whiteboards, and for learning beyond the classroom, such items as televisions, mobile phones, digital and video camera, technology for improved administrative systems such as registration, technology for assessment and technology integrated into the school building such as electronic swipe card systems, and CCTV. Following research on the inequalities in access to technology, we also pay attention to potential inequities of technology use in pupils' homes.

### **The study**

This research combined qualitative and quantitative methods to investigate the part that technology has played in the transformation of 'turned around' schools, and the impact that this has had on reducing social inequity in the school, as reported by schools.

We do not assume a link between the use of technology in schools and the reduction of social inequity; this is an issue the research investigates. Furthermore we do not think it possible to offer causal relationships between the provision of particular technologies in improving schools and the attainment of individual pupils. We also do not assume a link between overall school 'improvement' and an easing of social inequity for all pupils. 'Improved' schools are not necessarily more equal or equitable and schools that are in SM are not necessarily inequitable.

### **Survey**

Initially we surveyed all schools which have, in the past three terms (Autumn 2006, Spring 2007 and Summer 2007) been removed from either the Ofsted list of schools in SM or schools who have been given Ntl (n=361)<sup>14</sup>. There was a 41 per cent response rate. Two questionnaires were sent to each school, one to be completed by the headteacher and one to be completed by the ICT coordinator (181 schools completed at least one part). The questionnaire sought to find out what key factors had played a role in the schools' improvement in general, the role of ICT in their recent school improvement, some background information on the extent of ICT

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<sup>14</sup> Three schools did not want to take part, five had closed. Of the 353 remaining, 147 returned both questionnaires, 26 returned the headteacher part only, seven returned the ICT part only. That is a 41 per cent response rate for both completed questionnaires. Single questionnaires were also included in the analysis.

dependence in the school, which groups of pupils were at a disadvantage in particular schools and some indication of the role of ICT in helping these groups of pupils in their learning. Contextual data was also collected on each school, such as school size, location, index of deprivation (IDACI), percentage of pupils eligible for free school meals, from minority ethnic groups, with special educational needs, and also school census information on numbers of computers and interactive whiteboards per school, and analysed in relation to the questionnaire. Data from RAISEonline were also collected on APS and CVA attainment scores by free school meal eligibility<sup>15</sup> (KS1 to 2 for primary and KS2 to 4 for secondary). A measure was calculated which revealed whether the school had narrowed the gap between free school meal eligible pupils and non free school meal eligible pupils since coming out of SM/Ntl. Analysis examined the relationship to the questionnaire data, to ascertain whether there were patterns in the use of ICT for school improvement, and a narrowing of the 'gap' between those pupils. Some background analysis was also carried out on all schools in the sample's available Ofsted reports, to examine the common reasons 'why schools go into SM/Ntl'. A brief analysis was carried out to ascertain the prominence of ICT/technology in such decisions.

## Case Studies

From those responding to the questionnaire, 25 case study schools were selected in order to carry out further qualitative research. Schools were selected focusing on schools that had stated in the questionnaire that they believed technology had played a key role in the schools' improvement<sup>16</sup>, maintaining a balance of secondary and primary schools representing the proportions in the survey population (approximately a third of secondary schools), achieving a spread of schools in different locations and attempting to include some rural schools as well as urban<sup>17</sup>. Five schools had been removed from SM and the remaining 20 from Ntl.

Schools were visited at least once and 30 to 45 minute interviews were carried out with one or two key members of staff, usually the headteacher, deputy headteacher or the ICT coordinator (32 staff in total). Documents were collected including schools' Ofsted reports, school development plans and ICT policies and in some cases some

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<sup>15</sup> We are aware of the research which questions the reliability of free school meal status as a valid proxy for Socio-Economic Status (SES) (eg Hobbs, G. and Vignoles, A. 2007 'Is Free School Meal Status as Valid Proxy for Socio-Economic Status (in Schools Research)?' London: Centre for the Economics of Education, London School of Economics). However this is the best available data to us, and we use this in conjunction with analysing IDACI data at the school level. The DSCF is currently developing new indicators of deprivation (using tax credit data) (see <http://www.teachernet.gov.uk/management/schoolfunding/schoolfunding2008to11/deprivationfundingreview200811/schoolfundingdeprivationindicator/> for more details), but this was not available to us at the time of this research.

<sup>16</sup> One school included disagreed with this statement, but believed technology would play a role in their future school improvement.

<sup>17</sup> The vast majority of schools surveyed were 'urban >10k less sparse' as defined by Edubase, however we did include three 'town and fringe-less sparse' schools and two 'village- less sparse' schools.

specific teaching materials relating to ICT. Researchers were shown, and took notes on the facilities of the school and where possible, observed some lessons in which teachers and/or pupils were using technology. Interviews with staff sought to explore in more depth the role of technology in the schools' recent improvement, the teachers' opinions on the potential for technology to raise pupils' engagement, achievement, aspirations and to improve behaviour, and the potential for technology to improve the achievement of specific underachieving groups in the school.

### **Focus groups: pupil voice**

In light of Rudduck and a colleagues statement that "...what pupils say about teaching, learning and schooling is not only worth listening to but provides an important [...] foundation for thinking of ways of improving schools" (Rudduck et al, 1996:1) we carried out a small number of focus group interviews (seven in total), with pupils (no more than six pupils per group) across a number of the case study schools (four in primary schools and three in secondary schools), to get their views on how and whether the specific technologies identified have improved their schooling experience. Interviews focused around a particular topic or intervention highlighted by the school as having had the potential to raise pupils' engagement. These included podcasting in French lessons (boys' engagement in secondary school), ICT and career aspirations ('underachieving' girls in secondary school), the use of the learning platform and self assessment (secondary school boys), experiences of the classroom for the future and independent learning (primary school pupils) and digital animation (primary school pupils).

## Appendix 2: Survey and RAISEonline analysis

### The questionnaires

Two different questionnaires were devised; one to be sent to headteachers and one to ICT co-ordinators in schools that had been removed from SM/Ntl during 2006-7. The headteacher questionnaire asked about improvement strategies, changes in spending patterns, changes in the use of ICT, pupils who had poor value added or poor attainment, communication with parents, ICT policy, and general assessment of the value of ICT. The ICT co-ordinators questionnaire asked detailed questions about ICT resources and ways in which ICT is actually used.

### Questionnaire responses

Questionnaires were sent out in two distinct groups; the first mailing to those schools that were removed from SM/Ntl in autumn 2006 or spring 2007, and a second mailing to those that were removed summer 2007.

For 'Mailing 1', school reminder letters, together with further copies of the questionnaires, were sent to all schools that had not responded one week after the stated deadline for response. After a further two weeks, those schools where one member of staff had responded but not the other were telephoned, emailed and/or faxed a reminder. A further letter reminder was sent just before the end of term to schools from which we had still only received one questionnaire. The same process was repeated for 'Mailing 2', only due to the shorter timescale, the last letter reminder was not sent.

In total, responses were received from 173 headteachers and 155 ICT co-ordinators. In 147 cases, both questionnaires sent to the same school were returned (see Table 1). The slightly lower response rate from 'Mailing 2' schools may be explained by the smaller number of reminders sent and the shorter time period in which to respond.

**Table 1: Response rates by role and mailing**

	Number distributed	Headteachers		ICT co-ordinators		Both headteacher and ICT co-ordinator	
		Count	%	Count	ICT %	Count	%
Mailing 1	217	111	51.2	101	46.5	98	45.2
Mailing 2	139	62	44.6	54	38.8	49	35.3
Total	356	173	48.6	155	43.5	147	41.3

The response rate from headteachers was 49 per cent, from ICT co-ordinators it was 44 per cent and of both 41 per cent. These are very high response rates.<sup>18</sup> Many

<sup>18</sup> Schools were given a book token as incentive for returning both questionnaires, in order to attempt to increase response rate.

surveys sent to schools recently have achieved much lower response rates - in some cases only 25 per cent or less.<sup>19</sup> Just over a quarter of the responses in each group came from secondary schools, and the remainder from primary (headteachers: 73 per cent, primary: 27 per cent, secondary: 72 per cent, ICT co-ordinators: 28 per cent).

### The schools in the sample

The vast majority of the schools were in urban areas (83 per cent of the primary schools and 87 per cent of the secondary).

The secondary schools included one all boys school and one all girls school, the remaining secondary schools ranged from 42 per cent to 53 per cent girls.

The mean percentage of pupils eligible for free school meals is shown below in the bands normally used by the DCSF. The mean percentages in the sample schools are higher than nationally (sample schools: primary 21 per cent, secondary 18 per cent, nationally: primary pupils 15.9 per cent, secondary pupils 13.1 per cent).

**Table 2: Pupils eligible for free school meals**

<b>Primary:</b>	<b>%</b>	<b>Secondary</b>	<b>%</b>
8 % or less	25	0-5%	6
9-35%	57	6-35%	81
over 35%	18	over 35%	13

The mean percentage of pupils from minority ethnic backgrounds in the primary schools was 21 per cent and 18 per cent in secondary schools. These figures reflect the percentages of minority ethnic pupils nationally (22 per cent and 18 per cent). The percentage of pupils whose first language is not English in the sample schools is slightly lower than the percentage nationally (sample schools: 11 per cent in primary, 7 per cent in secondary and nationally: 14 per cent in primary and 11 per cent in secondary).

The percentages of pupils with SEN (statemented or unstatemented) were higher in the sample schools than nationally.

<sup>19</sup> For example, a DCSF-commissioned survey about support staff achieved responses from 21 per cent of headteachers and 16 per cent of teachers (Blatchford et al., 2007), and the GTC Annual Survey of Teachers 2007 achieved responses from 25 per cent of the sample it was sent to (GTC, 2008).



**Table 3: Pupils with special educational needs (SEN)**

	Sample schools		National (DCSF, 2007)	
	Primary %	Secondary %	Primary %	Secondary %
SEN with statement	1.7	2.6	1.5	2.1
SEN without statement	23.7	22.7	17.7	16.2

In relation to the other contextual information available to us, we have not as yet identified any national data.

**Table 4: Other contextual factors**

	Attendance %	Authorised absence %	Unauthorised absence %	Stability %	IDACI
Primary mean	93.7	5.5	0.7	82.1	0.26
minimum	86.6	3.5	0.0	42.2	0.00
maximum	96.5	10.1	5.0	98.0	0.70
Secondary mean	90.4	7.5	2.1	87.6	0.25
minimum	81.9	4.5	0.4	6.8	0.10
maximum	94.3	11.1	9.2	97.4	0.50

In the majority of these contextual data, the schools that returned questionnaires were not distinguishable from those in the population that did not return questionnaires. However, there were two significant differences; those that returned questionnaires had significantly lower free school meals (with a mean of 24 per cent, among those that did not return questionnaires, 20 per cent among those that did) and those with higher IDACI (.29, .26). Thus those schools with higher levels of disadvantage were less likely to return their questionnaires.

### Questionnaire analysis

Data have been entered into an SPSS database. Analysis has used frequencies, chi-squared tests, Anova, and correlations. Significance is reported when  $p < 0.05$ . Open questions have been post-coded.

The database also includes a range of contextual data about the schools (number on roll, percentage of pupils eligible for free school meals, percentage of pupils with special educational needs, attendance data and so on). We have also used School

Census data collected by the DCSF indicating the number of computers and interactive whiteboards in each school.<sup>20</sup>

In addition to this, attainment data (from RAISEonline) at school level has also been included in the database, this is discussed in the next section.

One of the areas that the research sought to answer was the characteristics of the schools that indicate that ICT has been an important part of the strategy for school improvement. We have computed a measure of how important schools consider ICT to be in this respect; we refer to this in the report as 'ICT enthusiasm'. It is made up of the following three components:

- a score for the use of ICT (this is the mean of headteachers' responses to Question 6 - 'as part of your strategy to move from SM/Ntl, would you say that you have increased or decreased ICT use in each of the following areas?')
- a score for ICT spending (which is the mean of headteachers' responses about the increase or decrease in spending on ICT software and infrastructure in Question 7)
- a score indicating whether they believe that ICT is contributing to school improvement (made up of the mean of three responses: two on the headteacher questionnaire: Question 11b - 'has ICT had a role in raising achievement of identified groups?', Question 16d - extent to which they agreed that 'ICT has played a key role in school improvement', together with the ICT co-ordinator's response to Question 14a - 'has ICT improved the learning experiences of pupils?')

These three scores are moderately correlated, ie those who say they spent more also tend to say the use has increased and everyone has benefited.

### **Attainment data**

One of the aims of this research was to explore the relationship between the use of ICT and inequalities in pupil performance, specifically focusing on the 'attainment gap' between pupils eligible for free schools meals and those that are not. A first step is to find a satisfactory measure of the attainment gap and of changes in it that result from the school's input.

One way to measure this 'gap' is to use the Average Point Score (APS). The APS for a school for KS2 equals the mean of the average points score for maths, English and science for pupils in that school. For KS4, it is calculated by dividing the total number of points achieved by students at the end of KS4, by the number of KS4 students.

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<sup>20</sup> Analysis relating to this is always in terms of the number of pupils per computer or per whiteboard.

The limitation of APS is that it does not reflect the school's input. Thus the difference between the APS achieved in successive years in any school, may reflect the level of the pupils on entry rather than the amount of progress that they have made in the school and similarly any changes in the 'gap' between free school meals and non free school meals pupils in successive years, may reflect differences that already existed when the pupils entered the school. But the interest in this research is in the school's contribution to pupils' progress, and whether the increased use of ICT has resulted in greater progress.

One measure of the progress pupils make during their time at a school is value added (VA), this is essentially the difference between attainment at the end of one Key Stage and the next. However, VA still has limitations, in that it does not represent the differences in the backgrounds of the pupils. Middle class pupils generally have far greater educational support at home than working class pupils, for example. Thus it can be shown that the schools with high attainment generally also have high VA scores (because they have a middle class intake), while those with low overall attainment have low VA scores (Gorard, 2006). Schools in disadvantaged areas still felt that their contribution to pupils' attainment was underestimated.

For this reason the government developed a more complex measure: contextual value added (CVA). To take account of contextual factors, as CVA seeks to do, involves making a prediction for each pupil based on nationally observed patterns for pupils with similar backgrounds and initial attainment. We can then compare whether each pupil has done as well as, or less well than others with a similar input point score and similar characteristics. The characteristics taken into account are:

- Gender
- Special educational needs (SEN)
- First language (for given prior attainment)
- Measures of pupil mobility
- Age
- An "in care" indicator
- Ethnicity
- Free school meals (for given ethnicity)
- Income deprivation affecting children index (IDACI)
- Average and range of prior attainment within the school (KS2-3, KS2-4 and KS3-4 only)

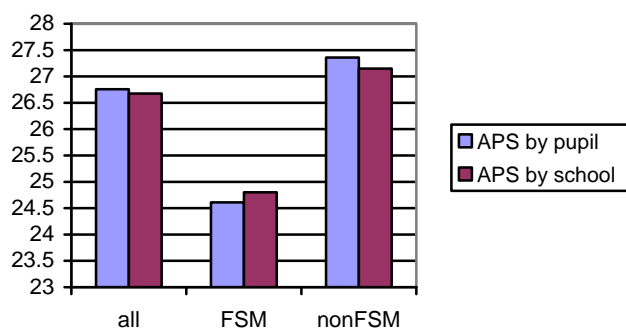
The school's CVA score is then the mean of all these individual pupil scores. But CVA scores are also calculated for different groups within a school (free school meals, non free school meals, SEN, non-SEN, EAL, in care, etc). This enables a school to examine where its pupils are falling behind the national norms for that particular group, and to focus its efforts accordingly.

Since, nationally, free school meal pupils make less progress in terms of attainment than non free school meal pupils, a CVA score of 100 for free school meal pupils will represent less value added in terms of actual attainment than a CVA score of 100 for non free school meal pupils. This makes it impossible to use CVA data to measure the attainment gap between free school meal and non free school meal pupils, and for this reason, CVA data is not ideal for our purpose here.

In this analysis, we have used both APS and CVA, but acknowledge that both have considerable limitations in relation to the research objective. APS does not reflect the school's input, while CVA is not helpful for analysing differences between attainment of free school meal and non free school meal pupils.

A second problem is that the fact that the attainment data that we have available is school based, rather than pupil, level data. Thus the figures we give here for the SM/Ntl population represent the average of the school mean APS scores, rather than the average of the pupil scores. Clearly this leads to some inaccuracy. Using eligible pupil numbers in each school (all free school meal and non free school meal pupils), we have calculated the mean figure for all pupils in each group. Figure 1 shows that this results in different figures from simply calculating the mean of the school mean figures. In particular, the attainment gap between free school meal and non free school meal pupils is reduced by using school level data. Similarly the use of means of school level CVA scores will not produce the same results as use of pupil level data.

**Figure 1: KS2 APS for all pupils in schools that came out of SM/Ntl in 2006-7, and for free school meal and non free school meal pupils in these schools, comparing analysis of pupil level data with analysis of school level data**



While we are aware of this difficulty, we have used the school level data to provide an overview of the issues. If further and more detailed investigation were to be undertaken pupil level data would be more appropriate.

We are aware then, that the analysis presented has considerable limitations, but present it as an exploratory and tentative analysis. This analysis uses all the schools

that came out of SM or Ntl in 2006-7 and for which RAISEonline data is available (not simply those that returned questionnaires).

**Average point score (APS)**

Nationally, the mean APS score at Key Stage 2 has shown a small increase in each of the years between 2005 and 2007.

**Table 5: Key Stage 2 APS 2004-7**

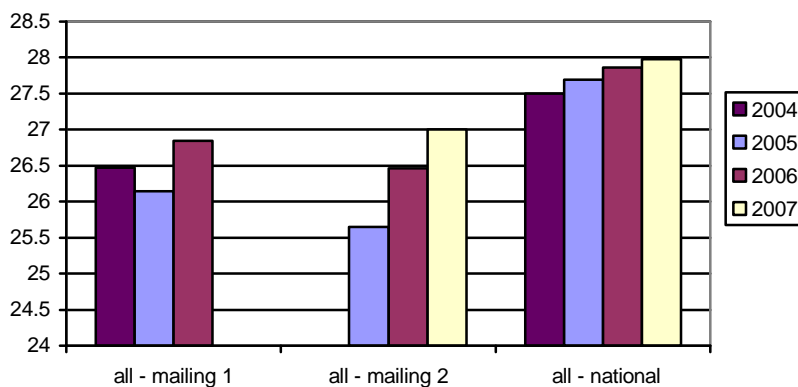
	2004	2005	2006	2007
<b>Mean national APS</b>	27.5	27.69	27.86	27.98
<b>Annual change in mean APS</b>		+ 0.19	+ 0.17	+ 0.11

**Table 6: Key Stage 4 APS 2005-7**

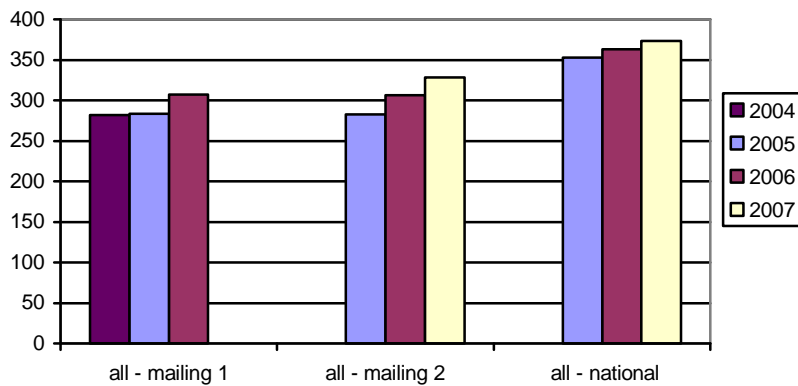
	2005	2006	2007
<b>Mean national APS</b>	353.1	363.2	373.6
<b>Annual change in mean APS</b>		+10.1	+10.4

Figures 2 and 3 show the mean APS for the primary and secondary schools that have emerged from SM/Ntl during 2006-7 in comparison with national data. These data are shown in two groups, 'Mailing 1' which shows schools that came out of SM/Ntl in autumn 2006 and spring 2007, and 'Mailing 2' which shows schools that came out of SM/Ntl in summer 2007. We have three years data for each group but these are not the same three years. In subsequent analysis, we have shown the two groups separately at KS2 since they have different and distinctive patterns of change however this was not the case at KS4.

**Figure 2: KS2 APS: means for schools coming out of SM/Ntl in 2006-7 compared with national means by free school meals and non free school meals**



**Figure 3: KS4 APS: means for schools coming out of SM/Ntl in 2006-7 compared with national means by free school meals and non free school meals**



Tables 7 and 8 both show the change in APS scores for our population in comparison with the national figures.

**Table 7: KS2: Annual change in APS: nationally and in schools coming out of SM/Ntl in 2006-7**

		2004-5	2006-6	2006-7
Annual change in mean APS	National	+ 0.19	+ 0.17	+ 0.11
	Mailing 1	-0.33	+ 0.70	
	Mailing 2		+ 0.81	+ 0.54

**Table 8: KS4: Annual change in APS: nationally and in schools coming out of SM/Ntl in 2006-7**

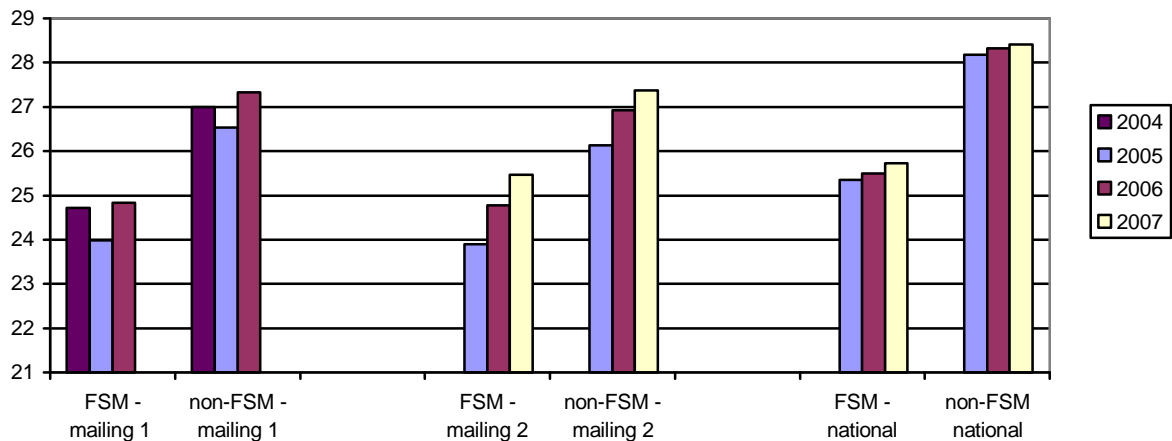
		2004-5	2006-6	2006-7
Annual change in mean APS	National		+10.1	+10.4
	SM/Ntl	+1.6	+23.9	+21.0

Figure 2 and Table 7 show that the KS2 'Mailing 1' schools experienced a mean decrease in KS2 APS between 2004 and 2005, but that during 2005-6 and 2006-7 they showed a greater annual increase than schools nationally, particularly during 2005-6, the year before they were removed from SM/Ntl. However, as Figure 2 shows, the mean level of APS in these schools was below the national level throughout the period under consideration. Figure 3 and Table 8 show a similar pattern for the secondary schools.

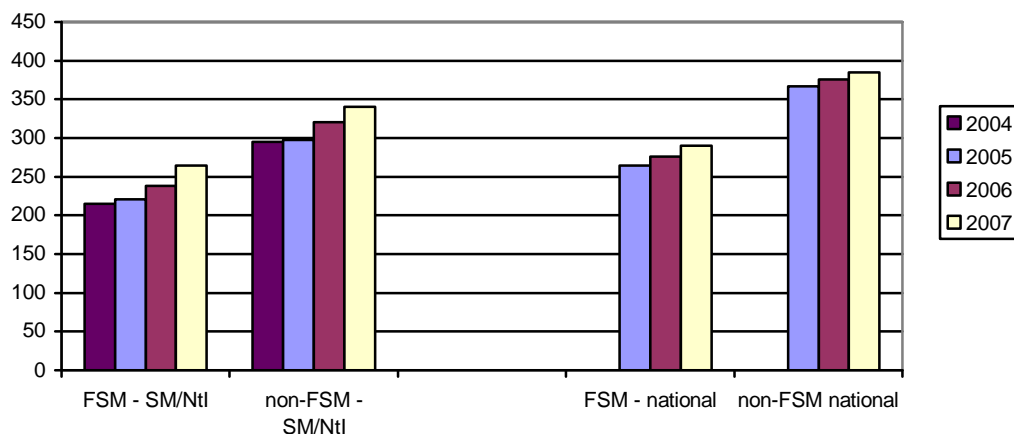
We now turn to consider the 'attainment gap' which is the gap in attainment between pupils eligible for free school meals and those who are not eligible. Figure 4 shows the APS for KS2 free school meal and non free school meal pupils in each of

'Mailings 1 and 2', and the national figures. It shows that both, in our population and nationally, there is a gap of over two points between the free school meal and non free school meal APS scores, and that this is consistent over time.

**Figure 4: Comparison of KS2 APS for free school meal and non free school meal for schools in our population and nationally**



**Figure 5: Comparison of KS4 APS for free school meal and non free school meal for schools in our population and nationally**



Tables 9 and 10 shows the exact figures for the extent to which the free school meal pupils lag behind the non free school meal pupils nationally, and in the two groups of schools that were in special measures/notice to improve.

**Table 9: Extent to which KS2 free school meal APS lags behind non free school meal APS, nationally and for our population**

	2004	2005	2006	2007
National		-2.82	-2.82	-2.68
Mailing 1	-2.27	-2.56	-2.50	
Mailing 2		-2.23	-2.15	-1.90

**Table 10: Extent to which KS4 free school meal APS lags behind non free school meal APS, nationally and for our population**

	2004	2005	2006	2007
National		-102.4	-99.9	-94.9
SM/Ntl	-79.8	-77.1	-82.5	-75.6

In each case the attainment gap in schools in our population appears to be marginally narrower than the attainment gap nationally, but as discussed earlier this may be an artefact of the use of school rather than pupil level data. In each group, there is very little change in the attainment gap over time.

Thus far we have been considering the mean gap nationally and for each of our two groups of schools. However, Sammons' review (2008) suggests that those schools that improved their attainment (APS) for all pupils tended to widen the gap between free school meal and non free school meal pupils. To investigate this, we need to review the data for each school.

Table 11 sets out the APS data for two KS2 schools in our population which we have labelled school K and school L.

**Table 11: KS2 schools K and L: mean APS for all pupils, and attainment gap between free school meal and non free school meal pupils**

		2004	2005	2006
School K	Mean APS	24.2	24.9	25.6
	Change in APS		+0.7	+0.7
	Gap free school meal/non free school meal APS	-1.90	-2.00	-3.30
School L	Mean APS	26.3	26.3	25.9
	Change in APS		+0.0	-0.4
	Gap meal/non free school meal APS	-3.70	-0.50	.40



In school K, KS2 APS has increased year on year. But the gap between free school meal and non free school meal pupils has also widened. In contrast, in school L the overall APS has not increased. However, the gap between free school meal and non free school meal pupils has narrowed, and in 2006 the free school meal pupils had a higher APS score than the non free school meal pupils. These two schools conform to the pattern described by Sammons (2008), but many other schools do not.

We have reviewed these patterns in detail for 2005 and 2006; these are the years immediately preceding the removal of the schools from SM/Ntl, and are the years for which we have data for all the schools that were removed from SM/Ntl in 2006-7.

We have correlated change in APS (ie APS 2006-APS 2005) a positive figure indicates an increase in mean APS and the change in the gap between free school meal and non free school meal pupils (ie gap free school meal/non free school meal 2006 minus the gap in 2005) a positive figure indicates that the gap has narrowed, a negative figure that it has widened.

There is a very weak negative correlation which is not statistically significant. There is then, no evidence that the schools that most increased their APS scores in this period were also more likely to increase the gap between free school meal and non free school meal pupils in the way that Sammons (2008) reported occurred nationally.

We have also analysed the data for the 'Mailing 2' schools over the period 2005-7 (during which the mean APS for this group rose year on year). This was to examine whether using a two year period would result in a clearer pattern. However, again the correlation was very weak and not significant. There appears to be no clear pattern in the change in overall APS and changes in the attainment gap for this group of schools. Similarly, analysis of the KS4 data shows no correlation between the change in the attainment gap in each school and the overall change in its attainment in 2005-6 and 2005-7.

### **Contextual value added (CVA)**

The RAISEonline data supplied to the research team included CVA scores for various groups (all pupils, girls, boys, free school meal, non free school meal, etc) and also showed whether these scores were significantly different from the national CVA scores:

-1 = significantly below average

0 = not significantly different from average

1 = significantly above average

These significant figures offer an alternative way of reviewing the relationship between the attainment of free school meal and non free school meal pupils. We have used these rather than the CVA scores themselves because they enable us to identify broad changes. If a school's CVA is significantly below the national average level for schools with similar intakes in one year, and is not significantly different from other similar schools in the following year. It seems reasonable to say the second group of pupils have made greater progress. This also offers a broad-brush way of exploring the differences in progress made by free school meal pupils and non free school meal pupils.

We consider first the CVA significance data for all pupils in the primary schools that were removed from SM/Ntl in 2006-7. Table 10 below compares the CVA for all pupils in 2005 with that for 2006. Thus, for 86 schools the CVA in both 2005 and 2006 was significantly below the national average, and so on. The cells shaded pink indicate the schools that have raised their CVA in the 2004-5 period and the cells shaded blue are those where the CVA is significantly worse in 2006 than it was in 2004. Overall 19 schools (8 per cent of the whole sample) showed a significant worsening of CVA between 2005 and 2006 (either from above average to average or below average, or from average to below average), while 87 schools (38 per cent) showed a significant improvement (either from below average to average or above average, or from average to above average).

**Table 12: KS2 CVA significance 2005 and 2006 for schools that have been removed from SM/Ntl during 2006-7 (N = 230)**

		2006 CVA			Total
		significantly below average	Average	Significantly above average	
2005 CVA	Significantly below average	86	62	17	165
	Average	12	36	8	56
	Significantly above average	0	7	2	9
Total		98	105	27	230

We now turn to consider these data for free school meal and non free school meal pupils within each primary school. Here we consider only those schools that had free school meal pupils in both years. Table 13 shows the percentage of primary schools where the CVA significance figures in 2006 were worse than those of 2005 (ie where they indicated that the 2006 cohort had made less progress than the 2005 cohort) where they remained the same, and where they indicated that the 2006 cohort had made better progress.

**Table 13: Percentage of primary schools showing improvement/no change/worsening of CVA (assessed by CVA significance figures) for free school meal and non free school meal pupils (N = 181)**

	Free school meal pupils % of schools	Non free school meal pupils % of schools
Less good in 2006 than 2005	14	9
No change	57	52
Better in 2006 than 2005	29	39

Table 13 shows that a higher percentage of primary schools succeeded in improving the CVA scores of their non free school meal pupils in relation to those nationally (39 per cent) than improved the score of their free school meal pupils in relation to those nationally (29 per cent).

We have repeated this analysis for the secondary schools in the population, shown on Table 14. Nine secondary schools (10 per cent of the population) moved to a lower CVA significance category, indicating a significant worsening in CVA, 17 moved to a higher category (18 per cent) indicating improved CVA, and the remaining 66 remained in the same category.

**Table 14: KS4 CVA significance 2005 and 2006 for schools that have been removed from SM/Ntl during 2006-7 (N = 92)**

		2006 CVA			Total number
		Significantly below average	Average	Significantly above average	
2005 CVA	Significantly below average	49	12	3	64
	Average	7	15	2	24
	Significantly above average	1	1	2	4
<b>Total</b>		57	28	7	92

Table 15 compares the free school meal and non free school meal groups of pupils, and shows that unlike primary, there is little difference between the percentage of schools that showed improved CVA scores for each group.

**Table 15: Percentage of secondary schools showing improvement/no change/worsening of CVA (assessed by CVA significance figures) for free school meal and non free school meal pupils 2005-6 (N =87)**

	Free school meal pupils %	Non free school meal pupils %
less good in 2006 than 2005	9	6
no change	66	72
better in 2006 than 2005	25	22

Now we consider the relative change for free school meal pupils and non free school meal pupils in the same two schools we discussed earlier. Using APS scores, school K had increased its overall attainment; the CVA scores reflect this showing that it has moved from significantly below the scores of other schools with a similar intake to not significantly different from such schools. The APS scores indicated a widening in the gap between free school meal and non free school meal pupils. This is not reflected here; both groups have moved from significantly below other pupils in the same group to not different from them.

The APS scores for school L showed a slight fall in overall APS but a narrowing in the free school meal and non free school meal gap. The CVA significance scores show that the CVA for all pupils is significantly below average throughout the period, but that it has improved for free school meal pupils (relative to free school meal pupils nationally) and worsened for non free school meal pupils (relative to non free school meal pupils nationally).

**Table 16: Primary schools K and L: CVA significance for free school meal, non free school meal and all pupils 2004-6**

	free school meal	School K non FSM	all	FSM	School L non FSM	all
2004	-1	-1	-1	-1	0	-1
2005	0	-1	-1	0	0	-1
2006	0	0	0	0	-1	-1

-1 below national average

0 same as national average

+1 above national average

For each school in our sample, we can say whether the 'progress gap' between free school meal and non free school meal pupils had increased, remained the same, or narrowed, using CVA significance data.

Among the primary schools, for the period 2005-6, the gap had increased in 30 per cent of schools, remained the same in 56 per cent, and narrowed in just 14 per cent. For those schools where we have data over the whole period 2005-7 the gap had increased in 32 per cent of schools, remained the same in 49 per cent, and narrowed in just 19 per cent.

Finally, we compare the extent to which the attainment gap has widened or narrowed with the changes in CVA for all pupils in the same school.

**Table 17: KS2: Comparison between changes in CVA for all pupils, and the 'progress gap' using CVA significance data**

		significant changes in CVA for all pupils 2005-6			Total
		less good CVA %	no change %	improved CVA %	
Progress gap	Widened	12	20	46	30
	No change	44	64	48	56
	Narrowed	44	16	6	14
N		16	94	71	181

This comparison in Table 17, shows that those primary schools where the CVA scores had improved significantly were also the most likely to have widened the gap between free school meal and non free school meal pupils. Those schools where CVA scores in 2006 were less good than those in 2005 were more likely to show a narrowing gap or no change. The same analysis for the schools where data is available for 2007 shows the same pattern over the period 2005 to 2007. A similar pattern is found in the KS4 data.

This analysis suggests then that in terms of actual attainment, there was no relationship between overall improvement and changes in the gap between free school meal and non free school meal pupils. But in terms of the progress made by each group of pupils while they had been at the school (relative to the progress of similar pupils nationally) the schools where the 2006 cohort of pupils had made greater progress had generally widened the gap between free school meal and non free school meal in progress made.

### **Relationship between attainment data, contextual data and questionnaire responses about use of ICT**

We have also examined whether there are any relationships between either the change in overall attainment or the change in the attainment gap and the schools' use of and views about ICT as reported in the Becta survey. There were very few significant relationships; these are set out in the main body of the report.

## References

Gorard, S. 2006 'How useful is value added analysis of schools? ' Research Intelligence 95(May): 10-12

Sammons, P. 2008 'School Effectiveness and Equity: Making Connexions. A review of school effectiveness and improvement research its implications for practitioners and policy makers': CfBT Education Trust.

School pseudonym	Rural/urban	Sector	LEA	Type	Used ICT to improve	ICT will play a central role in the future
East Woodlands School	Urban>10k less sparse	Secondary	Oldham	Removed NTI	Agree	Strongly agree
Newstead Primary	Urban > 10k - less sparse	Primary	Hillingdon	Removed NTI	Agree	Agree
Wooldridge Junior and Infant	Urban > 10k - less sparse	Primary	Birmingham	Removed NTI	Agree	Agree
Smith Street Primary	Urban > 10k - less sparse	Primary	Shropshire	Removed NTI	Disagree	Agree
Clifton House Primary	Urban > 10k - less sparse	Primary	Windsor & Maidenhead	Removed NTI	Agree	Agree
Haversham Primary	Urban > 10k - less sparse	Primary	Wiltshire	Removed NTI	Agree	Agree
St Johns Nursery and Infant	Urban > 10k - less sparse	Primary	Walsall	Removed NTI	Strongly agree	n/a
St Margaret's Primary	Town and Fringe - less sparse	Primary	Wiltshire	Removed NTI	Agree	Strongly agree
Northbury High School	Urban > 10k - less sparse	Secondary	Barnet	Removed NTI	Agree	Strongly agree
St Teresa's Catholic Primary	Urban > 10k - less sparse	Primary	Northamptonshire	Removed SM	Strongly agree	Strongly agree
Lord Banbury Technology College	Town and Fringe - less sparse	Secondary	Shropshire	Removed NTI	Strongly agree	Strongly agree
Knights Park Science and Performing Arts College	Urban > 10k - less sparse	Secondary	Lancashire	Removed NTI	Agree	Strongly agree
Cooks Cross Primary	Village - less sparse	Primary	Somerset	Removed SM	Agree	Agree
Sanders Primary	Urban > 10k - less sparse	Primary	Stockton-on-Tees	Removed NTI	Agree	Agree
Lilac Primary	Urban > 10k - less sparse	Primary	Windsor & Maidenhead	Removed NTI	Agree	Agree
Gants Primary	Town and Fringe - less sparse	Primary	Durham	Removed NTI	Agree	Strongly agree
City High School	Urban > 10k - less sparse	Secondary	Isle of Wight	Removed NTI	Agree	Agree
Cranfield Community School	Urban > 10k - less sparse	Secondary	Leicestershire	Removed NTI	Agree	Agree
Overtown Primary	Urban > 10k - less sparse	Primary	Milton Keynes	Removed NTI	Agree	Agree
Addeley Park C of E	Urban > 10k - less sparse	Primary	Telford & Wrekin	Removed SM	Agree	Strongly agree
Inglebrook Primary	Urban > 10k - less sparse	Primary	Hertfordshire	Removed NTI	Agree	Agree
Dewsbury C of E Primary	Urban > 10k - less sparse	Primary	Somerset	Removed SM	Agree	Strongly agree
Brightview School for Girls	Urban > 10k - less sparse	Secondary	Bournemouth	Removed NTI	Strongly agree	Strongly agree
Perryworth Primary	Village - less sparse	Primary	Isle of Wight	Removed SM	Agree	Strongly agree
Dartworth Community Sports College	Urban > 10k - less sparse	Secondary	Doncaster	Removed NTI	Strongly agree	Agree

## Appendix 4: Case study summaries

### Overarching themes

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>
<p>-Improved ICT systems for tracking pupil attainment has enabled more efficient management of pupil progress and targeting of underachieving pupils</p> <p>-Increased spending on ICT resources has improved teacher efficiency and teachers' enthusiasm to use ICT in teaching and learning</p> <p>- Improved ICT leadership and spending on CPD has improved teacher confidence</p>	<p>-Infrastructure barriers limit mobility of ICT (ie stairs restrict movement of computers / thick walls or split site limit wireless)</p> <p>-Insufficient funds to update ICT highlighted by some</p> <p>- Lack of on-site and full time technical support can be problematic</p> <p>- Staff reluctance /reticence an issue for some schools</p>
<b>Positive effects on pupils and parents</b>	<b><i>Barriers/negative effects on pupils and parents</i></b>
<p>-Use of ICT, seen to enable more visual and interactive learning (particularly interactive whiteboards)</p> <p>-Seen to have beneficial impact on boys' engagement particularly (and SEN)</p> <p>-Applied teaching of ICT seen to raise pupils' career aspirations often beyond traditional industry of local area.</p> <p>-'More able' pupils benefiting from independent / autonomous learning enabled by ICT, particularly facilitated by extended access to learning resource centres/ learning platforms</p>	<p>-Low levels of access to/use of internet/email hinders technologically mediated communication with parents and may create inequalities with roll out of learning platforms.</p> <p>-ICT classes and open access for parents not well attended</p> <p>-Focus on boys may impact negatively on girls- ICT is not seen to engage low achieving girls.</p> <p>-Pupils are learning technology so fast it is difficult for staff/lessons to keep up</p>

<b>Strategies and context</b>
<b>Contextual factors</b>
-Predominantly urban schools
-Most removed from Ntl
-Majority with mainly white British pupils
-Boys, 'more able' and particular key stage groups identified as underachieving
<b>ICT in the environment</b>
-Increase on spending in ICT
-Strong ICT leadership
-Improved ICT systems for tracking pupil attainment and measuring progress
<b>ICT in teaching and learning</b>
-ICT embedded across school
-Extensive use of interactive whiteboards
-Some innovative practice, such as digital animation to teach literacy; podcasting



# 1 Addeley Park Church of England Primary School

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>
<ul style="list-style-type: none"> <li>- Implementation of data management systems gives teachers access to wealth of information on individual pupils, set against range of targets, to ensure they are progressing; 'crucial' to coming out of SM (evidence of improvement);</li> <li>- High levels of ICT training for staff given by local authority key to raising staff enthusiasm</li> <li>- ICT provides teachers with a wealth of teaching materials</li> </ul>	<ul style="list-style-type: none"> <li>- Frustration with low levels of funding means that the school's resources are very out of date (highlighted by comparison to Classroom of the Future which is seen to have 'excellent facilities')</li> <li>- Lack of on-site and full time technical support is problematic</li> <li>- Infrastructure barriers limit mobility of ICT (ie stairs restrict movement of computers / thick walls limit wireless)</li> </ul>
<b>Positive effects on pupils and parents</b>	<b>Barriers/negative effects on pupils and parents</b>
<ul style="list-style-type: none"> <li>- ICT key to engaging learners using non-traditional learning strategies. For example, developing 'visual literacy' using animation to build students confidence in speaking and elaborating within their thinking</li> <li>- Use of software packages to improve writing and maths among all pupils, and to aid SEN pupils</li> <li>- 'Less able', isolated or shy pupils benefiting from extra access to Classroom of the Future</li> <li>- 'More able' pupils benefiting from independent / autonomous learning enabled by ICT as well as extra use of Classroom of the Future to develop skills</li> <li>- Personalised learning space on learning platform for all students to log work</li> </ul>	<ul style="list-style-type: none"> <li>- Plan to use learning platforms to communicate with parents but concern over levels of home access; means the extent to which ICT can be used will be restricted</li> </ul>

<b>Strategies and context</b>
<b>Contextual factors</b>
<ul style="list-style-type: none"> <li>-Urban, VC, Church of England junior school, removed SM</li> <li>- Mainly White British some BME pupil; range of SES backgrounds, free school meals pupils and SEN higher than average;</li> <li>- Issues taking into SM: Ineffective management; poor pupil progress, poorly planned teaching</li> <li>- 'More able' pupils identified as making poor progress</li> <li>-CVA: sig. below that of similar schools and widened the gap (see appendix 3 for details)</li> </ul>
<b>ICT in the environment</b>
<ul style="list-style-type: none"> <li>- Large investment in ICT for school effectiveness, especially in systems of data management to improve pupil progress</li> <li>- CMIS for attendance</li> <li>- ICT co-ordinator and two assistants responsible for ICT; plus vast support from local authorities (specialist ICT learning team, consultants)</li> </ul>
<b>ICT in teaching and learning</b>
<ul style="list-style-type: none"> <li>- ICT embedded across school</li> <li>- Launch of interactive learning environment linked to local authorities.</li> <li>- <b>Use of digital animation to develop 'visual literacy'</b></li> <li>- Access to local 'Classroom of the Future' (video conferencing,</li> </ul>

## 2 Clifton House Primary School

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>
<p>Staff ICT training has positively impacted on teaching and delivery of lessons</p> <p>Use of ICT has had produced positive impact on teaching, not only in literacy and maths, but even other subjects like history</p>	<p>Lack of sufficient funds inhibits school's attempt to purchase essential ICT equipment (digital camera, visualisers)</p>
<b>Positive effects on pupils and parents</b>	<b>Barriers/negative effects on pupils and parents</b>
<p>-Use of interactive whiteboards makes children's learning "so much more visual and hands on and it's more exciting than bookwork." (Assistant Headteacher)</p> <p>-Some children from SES advantageous families use the intranet for communications with teachers and to do their homework; The school offers its old computers to some low income families</p> <p>-Teachers reward good behaviour with 'Golden Time', which pupils use to spending working on the internet, seen to impact on motivation</p>	<p>Increase in ICT spending following Ntl, strong ICT leadership and management led by the Head teacher, ICT co-ordinator who is a senior member of the management team, technical assistance provided by an ICT firm;</p> <p>Monitoring assessment using ICT</p> <p>-Extensive use of interactive whiteboards                      - Children use digital cameras to record events/ experiments;                      -Pupils use Technonet at home during term time as well as on holiday to do school work</p> <p>-Some low income families might not have computers or lack Internet access and hence are excluded from ICT use at home</p> <p>-Parents' reluctance to provide their email contacts is hindering the school's attempts to use ICT fully in communications</p> <p>-Parents withholding consent to publish their children's photographs on the school website.</p>

**Strategies and Context**

**Contextual factors**

**A small urban mixed community primary school with 120 pupils. The school is predominately white British with a few BME pupils. Free school meals below average, SEN above average. Identified as underachieving: All Year 6, Year 5 (boys) and Year 4 pupils.**

Attainment data not available.

**ICT in the environment**

Increase in ICT spending following Ntl, strong ICT leadership and management led by the Head teacher, ICT co-ordinator who is a senior member of the management team, technical assistance provided by an ICT firm;

Monitoring assessment using ICT

**ICT in teaching and learning**

-Extensive use of interactive whiteboards  
 - Children use digital cameras to record events/ experiments;  
 -Pupils use Technonet at home during term time as well as on holiday to do school work

### 3 Cooks Cross Primary School

Positive effects on school and staff	Barriers/negative effects on school and staff
<p>- Use of data management systems seen to be particularly effective for tracking progress and ensure effective intervention</p> <p>- Ability to make visual representations of pupil progress from the data (ie graphs) to show staff seen to be useful</p> <p>- Improves efficiency of teaching: ICT allows teachers to access range of resources and materials in one place (on laptop; from internet) quickly rather than moving from different resources</p>	<p>Plans for embedding a wireless network and thus expanding ICT access was restricted by infrastructure of old building (thick walls)</p>
<p><b>Positive effects on pupils and parents</b></p>	<p><b>Barriers/negative effects on pupils and parents</b></p>
<p>Interactive whiteboards seen to be particularly effective at engaging and motivating pupils in learning due to the visual and interactive element</p>	<p>ICT can be ineffective if used inappropriately by the teacher.</p>

Strategies and Context
<p><b>Contextual factors</b></p>
<p><b>-Small village primary mixed community school.</b>  <b>-Removed SM.</b>  <i>-Most pupils white British, no free school meal pupils</i></p> <p><b>- Issues taking into SM: poor leadership and poor pupil progress.</b>  <b>Attainment data not available.</b></p>
<p><b>ICT in the environment</b></p>
<p>Monitoring and assessment of pupil progress using ICT (large increase in use of system since going into SM)</p> <p>ICT co-ordinated by head teacher</p>
<p><b>ICT in teaching and learning</b></p>
<p>ICT embedded throughout school</p>

## 4 Dewsbury Church of England Primary School

Positive effects on school and staff	<i>Barriers/ Negative effects on school and staff</i>
<ul style="list-style-type: none"> <li>- Data management systems effective for tracking pupil progress, better able to pick up patterns and immediate intervention; particularly useful for locating 'middling' students who are often missed.</li> <li>- ICT has enhanced the work of the school.</li> </ul>	<ul style="list-style-type: none"> <li>- Staff reluctance has been an issue, older staff find it challenging</li> <li>- Issues of funding: lacked appropriate levels of funding to integrate ICT into the curriculum as much as they would like.</li> <li>- ICT systems are not error free; must not trust 100 per cent.</li> </ul>
<b>Positive effects on pupils and parents</b>	<b>Barriers/ Negative effects on pupils and parents</b>
<ul style="list-style-type: none"> <li>- ICT has had biggest impact on raising levels of engagement, especially boys and younger children; interactive and visual element (especially interactive whiteboards) appeals to those who are turned off by traditional methods.</li> <li>- Use of SIMs has allowed school to track attendance issues more effectively.</li> <li>- ICT has indirect impact on behavior, by engaging pupils in their learning but also using SIMS to log behaviour</li> <li>- ICT may raise pupils' career aspirations beyond traditional industry of local area (manufacturing)</li> </ul>	<div style="border: 2px solid black; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;"><b>Strategies and Context</b></p> <p style="text-align: center;"><b>Contextual factors</b></p> <ul style="list-style-type: none"> <li>- Small urban VC primary; removed SM</li> <li>- Area of deprivation and military base so high mobility students; majority white British but a few EAL; above average SEN</li> <li>- Issues taking into SM: under attainment, poor curriculum, poor teaching and planning, poor leadership</li> <li>- Boys, 'more able' and SEN seen as poor progress</li> <li>- Attainment data not available.</li> </ul> <p style="text-align: center;"><b>ICT in the environment</b></p> <ul style="list-style-type: none"> <li>- SIMS for attendance</li> <li>- Data management system to track and monitor pupil progress and ensure teaching matched to pupil needs</li> <li>- Head teacher responsible for ICT co-ordination but buy in technical support from LEA two days a week</li> </ul> <p style="text-align: center;"><b>ICT in teaching and learning</b></p> <ul style="list-style-type: none"> <li>- <b>ICT embedded in school</b></li> <li>- All pupils seen to enjoy opportunities to use ICT</li> <li>- About to trial new ICT self-assessment programme to enable more personalised learning of ICT skills and allow pupils to set targets ('DIGIT')</li> </ul> </div> <ul style="list-style-type: none"> <li>- Would like to use school website more to reach parents but acutely aware of low levels of access to ICT at home in the community; limits what ICT can be used for in the school; ICT is too one-way otherwise.</li> <li>- ICT use must be kept in check and used appropriately; teachers must not over-rely on it.</li> <li>- Focus on boys may preclude the needs of girls</li> </ul>

## 5 Gants Primary School

Positive effects on school and staff	<i>Barriers/ Negative effects on school and staff</i>
<p>-Internet access 'makes the curriculum richer'</p> <p>-The internet helps the teachers to access reading materials from a variety of websites (ie the BBC and the New York Times).</p> <p>-Improves teachers' preparation and presentation</p> <p>-ICT improves monitoring of children's performance and their attendance</p>	<p>-The school has problems with the ISP broadband (speed) connection</p> <p>-Some older teachers seem to be reluctant to use technology in their teaching.</p> <p>-Being a rural, remote school and isolated, in an event of malfunctioning of the system it will take sometime to resolve it.</p>
<b>Positive effects on pupils and parents</b>	<b>Barriers/ Negative effects on pupils and parents</b>
<p>-Use of ICT improves communication with parents</p> <p>-Technology makes children (boys) more engaged with learning and develops children's linguistic skills</p> <p>-Improved literacy; improved attainment in SATs (for boys in particular)</p> <p>-Allows children to present their work.</p> <p>-Staff feel children's use of ICT has positive effect on their future aspirations</p>	<p>-ICT excludes those parents who have no access to the internet (which is a big issue in the area)</p> <p>-Reliance on ICT excludes those parents who are illiterate "35 per cent of people in ...are recognised as being illiterate." (Headteacher)</p> <p>-The headteacher suspects that with "too much IT ...the children's writing skills go down."</p> <p>-Focus on boys may negatively impact on girls</p>

<b>Strategies and Context</b>
<b>Contextual factors</b>
<p>A mixed community town primary school for 3- to- 11 year olds. Removed Ntl. There are 210 pupils registered.</p> <p>All pupils are White British; deprivation is an issue in the area. Free school meals pupils and SEN are averages.</p> <p>The school identified group: 'low achievers'.</p> <p>CVA: not sig. different to similar schools and narrowed the gap</p>
<b>ICT in the environment</b>
<p>Increase in ICT spending following Ntl. Collegial leadership and management co-ordinated by the Head teacher and assistance from another member of staff has improved ICT in the school; use ICT to monitor assessment and SIMs to monitor attendance of pupils which is below 80 per cent.</p>
<b>ICT in teaching and learning</b>
<p>Use interactive whiteboards and digital projectors to improve literacy.</p>

## 6 Haversham Primary School

Positive effects on school and staff	<i>Barriers/ Negative effects on school and staff</i>
<ul style="list-style-type: none"> <li>- Staff given more training for using ICT in all areas of curriculum and provided with programmes of study, using ICT that will suit specific topic; both seen as highly effective and increased staff competence.</li> <li>- Use of data management systems effectively raised pupil progress</li> <li>- Greater access to teaching resources</li> <li>- More effective lesson planning using teaching software (i.e. Abacus Evolve planning disc)</li> </ul>	<ul style="list-style-type: none"> <li>- Staff frustrations with functioning of ICT</li> <li>- School found funding mechanisms and frameworks for purchasing new ICT resources complex and ineffective (ie e-learning credit earmarked for software only)</li> </ul>
<b>Positive effects on pupils and parents</b>	<b><i>Barriers/ Negative effects on pupils and parents</i></b>
<ul style="list-style-type: none"> <li>- More flexible/ adaptable teaching using ICT, the use of intervention programmes that allow students to work independently and at their own pace</li> <li>- ICT seen to provide opportunities for collaborative and peer learning (ie pupils teaching each other)</li> <li>- Staff felt ICT particularly effective at engaging boys; appeals to their learning strategies and interests (mechanical/ game like format)</li> <li>- Visual/ interactive element of ICT (especially interactive whiteboards) useful for engaging younger learners</li> </ul>	<ul style="list-style-type: none"> <li>- The school have a website which provides up to date information for parents but found that this was not used regularly by parents</li> <li>- ICT must be used appropriately</li> <li>- May have negative effect on pupils' handwriting skills</li> </ul>

<b>Strategies and Context</b>
<b>Contextual factors</b>
<ul style="list-style-type: none"> <li>- Urban voluntary aided Roman Catholic primary; removed Ntl</li> <li>- Close to military base so fairly high mobility of pupils</li> <li>- Majority white British pupils and few EAL</li> <li>- Issues taking into Ntl: Poor leadership, poor progress of pupils, especially in numeracy and literacy</li> </ul>
<b>ICT in the environment</b>
<ul style="list-style-type: none"> <li>- Data management system to monitor and set pupil targets</li> <li>- Support from local school with ICT as specialism: provided staff training, resources, technician etc.</li> <li>- Support local education authority as part of Ntl 'package'</li> <li>- ICT co-ordinator and school governor responsible for ICT</li> </ul>
<b>ICT in teaching and learning</b>
<ul style="list-style-type: none"> <li>- <b>ICT embedded across school (interactive whiteboards, ICT suite, etc)</b></li> </ul>

## 7 Inglebrook Primary School

Positive effects on school and staff	Barriers/negative effects on school and staff							
<ul style="list-style-type: none"> <li>- Target Tracker to improve achievement and raise teacher expectations.</li> <li>- Sims to improve attendance</li> <li>- Improves facilities (more laptops, interactive whiteboard, digital cameras)</li> <li>- The key difference is staff confidence, and the appointment of a technician has been key to enabling staff to plan lessons around ICT.</li> </ul>								
<p><b>Positive effects on pupils and parents</b></p>								
<ul style="list-style-type: none"> <li>-Children can take ownership of their learning.</li> <li>-Improved behaviour especially amongst boys as low level disruption was often caused by boredom.</li> </ul>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th data-bbox="563 539 1031 642">Strategies and Context</th> </tr> </thead> <tbody> <tr> <td data-bbox="563 642 1031 730" style="text-align: center;"><b>Contextual factors</b></td> </tr> <tr> <td data-bbox="563 730 1031 1086"> <p><b>Urban, mixed 4-11 community primary</b>  <b>Mixed housing area, social disadvantage high... a third of pupils BME, high SEN.</b>  <b>New eadteacher and SLT following Ntl.</b>  <b>Failed on:</b>                      -Lack of effective tracking of BME children's progress                      -General underachievement</p> </td> </tr> <tr> <td data-bbox="563 1086 1031 1173" style="text-align: center;"><b>ICT in the environment</b></td> </tr> <tr> <td data-bbox="563 1173 1031 1462"> <ul style="list-style-type: none"> <li>-SIMS.NET used for registration and assessment merger</li> <li>-Text messaging service used to manage attendance</li> <li>-Target Tracker software (as Ofsted concerned about children's progress)</li> </ul> </td> </tr> <tr> <td data-bbox="563 1462 1031 1550" style="text-align: center;"><b>ICT in teaching and learning</b></td> </tr> <tr> <td data-bbox="563 1550 1031 1834"> <ul style="list-style-type: none"> <li>-New server with CC3 with RM: Everything is networked</li> <li>-Digi blue recorders and digital cameras.</li> <li>-The school has a class set of laptops (16 laptops). Every class has interactive whiteboards</li> <li>-Technician who comes in every morning to troubleshoot</li> <li>-Visualisers planned in all rooms</li> </ul> </td> </tr> </tbody> </table>	Strategies and Context	<b>Contextual factors</b>	<p><b>Urban, mixed 4-11 community primary</b>  <b>Mixed housing area, social disadvantage high... a third of pupils BME, high SEN.</b>  <b>New eadteacher and SLT following Ntl.</b>  <b>Failed on:</b>                      -Lack of effective tracking of BME children's progress                      -General underachievement</p>	<b>ICT in the environment</b>	<ul style="list-style-type: none"> <li>-SIMS.NET used for registration and assessment merger</li> <li>-Text messaging service used to manage attendance</li> <li>-Target Tracker software (as Ofsted concerned about children's progress)</li> </ul>	<b>ICT in teaching and learning</b>	<ul style="list-style-type: none"> <li>-New server with CC3 with RM: Everything is networked</li> <li>-Digi blue recorders and digital cameras.</li> <li>-The school has a class set of laptops (16 laptops). Every class has interactive whiteboards</li> <li>-Technician who comes in every morning to troubleshoot</li> <li>-Visualisers planned in all rooms</li> </ul>
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<p><b>Barriers/negative effects on pupils and parents</b></p>	<p>They use mobile phones but are not yet using ICT routinely with parents as they are unsure about parental access to ICT.</p>							

## 8 Lilac Primary School

Positive effects on school and staff	Barriers/negative effects on school and staff
<ul style="list-style-type: none"> <li>- Improvements to data management system: compiling and using data about pupils' attainment to monitor progress and set targets: 'showing progress'</li> <li>- ICT seen to support teachers across the curriculum</li> <li>- Staff computer literate and have received a great deal of training</li> </ul>	<ul style="list-style-type: none"> <li>- Implementation of ICT limited: Priorities were the basics (ie administration and assessment side of ICT). Only now can they start to look at developing the teaching and learning side of ICT</li> <li>- School needs a full time technician but only have one in once a week</li> </ul>
<p><b>Positive effects on pupils and parents</b></p>	<p><b>Barriers/negative effects on pupils and parents</b></p>
<ul style="list-style-type: none"> <li>- Email parent newsletter to those who have given email address</li> <li>- Engaging pupils using ICT, especially interactive whiteboards, due to visual and interactive nature, particularly effective for appealing to boys who were 'disaffected, rude and unmotivated'.</li> <li>-Self assessment using ICT (ie recording pupils speaking and then play it back on the interactive whiteboard)</li> <li>- Using ICT seen to make pupils more work-ready/ aware of world of work. (ie making PowerPoint presentations).</li> </ul>	<ul style="list-style-type: none"> <li>-Parents who don't have email address may be at a disadvantage</li> <li>-The school offered parents a computing class as a way of improving parent-school links but little success - no take up.</li> </ul>

Strategies and Context
Contextual factors
<ul style="list-style-type: none"> <li>- Urban, community primary (5-11). <i>Removed Ntl.</i></li> <li>- Most pupils White British and FSM below average</li> <li>-KS2, boys, identified as making poor progress.</li> <li>- Leadership, attainment, and parent communication identified as needing improvement</li> <li>-widened the gap</li> </ul>
ICT in the environment
<ul style="list-style-type: none"> <li>- Tracking/ data management system being implemented</li> <li>- The strategic overview of ICT is the responsibility of the ICT coordinator who is also a full time class teacher. Assisted by a technician, who comes in once a week</li> <li>- Working towards the Becta kitemark</li> </ul>
ICT in teaching and learning
<ul style="list-style-type: none"> <li>-ICT across school (interactive whiteboards, ICT suite, staff laptops)</li> <li>-Homework club run for those children who don't have computers at home</li> </ul>



## 9 Newstead Primary School

Positive effects on school and staff	Barriers/negative effects on school and staff
<ul style="list-style-type: none"> <li>- Vast improvement in systems of record keeping and assessment: previously inadequate (Ofsted). Now tracking and monitoring stepped up with regular evaluations and target setting.</li> <li>- ICT has enabled better liaison and communication between staff</li> <li>- ICT has been seen to empower teachers: feel better able to be creative in teaching and more effective time management</li> <li>- Regular training seen to be effective: half termly ICT staff meetings, use of teaching assistants to support ICT</li> </ul>	
<p><b>Positive effects on pupils and parents</b></p>	<p><b>Barriers/negative effects on pupils and parents</b></p>
<ul style="list-style-type: none"> <li>-Data management systems have allowed schools to inform parents of pupil progress and targets: Parents now have better idea of child's learning.</li> <li>- 'ICT passport': self-assessment for ICT learning that runs throughout pupils' learning</li> <li>- ICT seen to play a role in developing effective and engaging teaching styles, making the curriculum relevant to the children and speeding up pace of lessons. Seen to be especially effective for re-engaging boys using visual learning.</li> <li>-Use of SIMS for attendance seen to have positive effect: evidence to show parents</li> </ul>	<div data-bbox="563 533 1066 1843" style="border: 2px solid black; padding: 5px;"> <p style="text-align: center;"><b>Strategies and Context</b></p> <p style="text-align: center;"><b>Contextual factors</b></p> <ul style="list-style-type: none"> <li>- Semi rural primary school. Removed Ntl</li> <li>- <b>Predominantly white British, higher than average free school meals, SEN pupils</b></li> <li>-<b>Focus of improvement: teaching and learning; record keeping and assessment and leadership (new Headteacher).</b></li> <li>- <b>White boys and 'more able' identified as making poor</b></li> </ul> <p style="text-align: center;"><b>ICT in the environment</b></p> <ul style="list-style-type: none"> <li>- Pre Ntl no computerised record keeping to speak of. Now Excel spread sheets shared via memory sticks</li> <li>- Good relationship with borough's ICT advisor key to improvement</li> <li>- SIMS registration</li> </ul> <p style="text-align: center;"><b>ICT in teaching and learning</b></p> <p>Increase in ICT in school as previous provision was inadequate: Now interactive whiteboards and computers in every room (pre Ntl only two interactive whiteboards). Every member of staff has laptop, ICT suite, wireless internet, LCD projector in the school hall</p> </div> <ul style="list-style-type: none"> <li>- Not enough computers: makes teaching whole class difficult</li> <li>-Using ICT can have negative effect on handwriting skills</li> <li>- Use of school website to communicate with parents limited due to low levels of access to internet within community as well as poor literacy rates among parents</li> <li>- Tried to run a parents' ICT course, but couldn't compete with other courses in the borough that had better facilities</li> </ul>

## 10 Overtown Primary School

Positive effects on school and staff	Barriers/negative effects on school and staff
<p>-The investment in training has enabled staff to feel confident and positive about using ICT and experimenting with technology in lessons:</p> <p>-Teaching assistants are using laptops to work with harder to reach children</p> <p>-Much easier to keep children's attention and engage them in their learning.</p>	<p>No specific negative effects but throughout the interview the head stressed that improving teaching and learning was the most important aspect of their improvement plan and that ICT was not a key consideration.</p>
<b>Positive effects on pupils and parents</b>	<b>Barriers/negative effects on pupils and parents</b>
<p>-The school gave away 30 of its older computers to the community.</p> <p>-Interactive whiteboards have engaged pupils in their learning.</p>	<p>-Mobile phones change ownership regularly so cannot use text messaging to contact parents.</p> <p>-Low take up of ICT classes for parents.</p>

**Strategies and Context**

**Contextual factors**

**Large urban primary, serves a generally disadvantaged area. Four out of 10 pupils BME. high proportion EAL.**

- White British, Black African and Black Caribbean pupils significantly underachieve
- EAL and SEN pupils make good progress and their achievement levels are improving (Ofsted).
- widened the gap

**ICT in the environment**

- SIMS.NET used for registration and assessment merger
- Pupil tracking software. Shared folder on the school server where staff can store lesson plans and share information about pupils

**ICT in teaching and learning**

- One computer per child
- interactive whiteboard in each classroom
- Every teacher has most up to date laptops
- Learning mentors and teaching assistants also have laptops
- All computers are networked, 90 per cent of the school is wireless

## 11 Perryworth Primary School

Positive effects on school and staff	Barriers/negative effects on school and staff
<p>-Prioritizing ICT in all levels of management and structure of the school has improved its co-ordination and management within the school</p> <p>-Extensive staff training in the use of ICT, particularly ICT mark, has improved teachers' competence in delivering lessons 'cross-curricular' (Headteacher)</p> <p>-Generous funding of £6,000 from the governing body to improve infrastructure has positively impacted on the teachers' morale and enthusiasm</p>	<p>-Being a rural and remote school it is isolated and it is difficult at times to get technical support.</p> <p>-The ICT suite with 16 computers has a limited space for all the children to do their work at the same time.</p>
<p><b>Positive effects on pupils and parents</b></p>	<p><b>Barriers/negative effects on pupils and parents</b></p>
<p>-Use of interactive whiteboards in teaching literacy has been very useful to produce their work and school newspaper</p> <p>-Use of interactive whiteboards and 'Knowldgebox' improves pupils' literacy and numeracy skills</p> <p>-Many pupils are increasingly using the technology to do their homework</p> <p>-Schools' ethos 'to be aware of ICT in daily life' helps to foreground the importance of technology in the children's future</p> <p>-Use of intranet seen to improve communication with parents and pupils</p>	<p>-Over reliance on ICT precludes pupils from low income families who have limited access to computers and the internet at home</p> <p>-Some parents object to their children's photographs being published on the school website</p> <p>-Some parents (ie professionals) are reticent to share their email address with the school</p>

Strategies and Context
Contextual factors
<p>-A small size mixed village school for four-to- eight year olds.                      -Removed from Ntl.                      -The school's catchment area is middle class and it is predominately White British                      -SEN pupils are below the national average.                      -High attaining pupils/G&amp;T and boys identified as underachieving.                      -RAISEonline data not available.                      - Attainment data not available.</p>
ICT in the environment
<p>-Increased in ICT spending since appointment of the new headteacher.                      -There is a strong ICT leadership and management, one ICT parent governor, one full-time ICT subject leader and local ICT contractor.                      -Monitoring of assessment using ICT using Technonet in the delivery of lessons.                      Use ICT to communicate with parents and pupils (intranet).</p>
ICT in teaching and learning
<p>-Use of interactive whiteboards and 'Knowldgebox' - pupils write and produce their work which they can then share with classmates using ICT.                      -Use of SIMS assessment manager to mark pupils' work.</p>

## 12 Sanders Primary School

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>
<p>-Ability to target underperforming groups more effectively</p> <p>-Use of assessment data to inform target setting for school, class and individual and to monitor progress, good way of picking up patterns (individual/group/subject) and to ensure immediate intervention</p>	<p>Tracking systems are not free of error – can't trust them 100 per cent</p>
<b>Positive effects on pupils and parents</b>	<b>Barriers/negative effects on pupils and parents</b>
<p>Children can take ownership of their learning:</p> <p>-Use of 'DIGIT' programme for ICT specifically. Self assessment exercise for ICT allows pupils to assess how they are progressing with 'I can' statements, and earn merits.</p> <p>-Interactive whiteboard has had a big impact on learning and engaging pupils, especially boys and younger children</p>	<p>-Low levels of access to ICT at home mean that communication with parents must remain face to face.</p> <p>-Mobile phones change ownership regularly so cannot use text messaging to contact parents.</p>

Strategies and Context
Contextual factors
<p>Large inner-city primary school. Some deprivation although the local community is stable. School is to close in 2008 and amalgamate with a nearby school.</p> <p>Issues taking the school into Ntl:                      -Underachievement in Literacy, science and maths in particular                      -'more able', boys in literacy, girls in maths, KS2 are underachieving.                      -CVA: significance below that of similar schools, but narrowed the gap</p>
ICT in the environment
<p>Due to Ntl they got an advanced skills teacher to provide support in Year 6</p> <p>The head and the ICT coordinator take most responsibility for ICT strategy. Increased spend on ICT in all areas particularly pupil tracking, and improve access for pupils and staff.</p>
ICT in teaching and learning
<p>Increased ICT has lead to:</p> <ul style="list-style-type: none"> <li>- More effective tracking of pupils</li> <li>- Improving assessment for learning</li> </ul> <p>However improvements in teaching and learning have focused on CPD, increased lesson observation and a change in ethos rather than ICT.</p>

### 13 St John's Nursery and Infant School

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>
<p>-Increased spending on the school refurbishment as a whole and on ICT equipment and software has improved morale and esteem of both staff, pupils and parents</p> <p>-Increased spending on upgrading equipment (and maintaining it) has also raised staff expectations and improved their planning of teaching</p> <p>-A strong and proactive ICT management strategy, involving some element of coercion has proven to have paid off and staff are seeing the benefits of the efficiency</p>	<p>-The composition of staff has altered greatly following the employment of the new headteacher. Staff who were resistant to change did not remain in post.</p> <p>-Electronic registration is efficient, but is not the only strategy needed to improve attendance -'we are doing every strategy known to man'. The best and most successful class are awarded an 'attendance trophy'.</p>
<b>Positive effects on pupils and parents</b>	<b>Barriers/negative effects on pupils and parents</b>
<p>-Use of interactive whiteboards and popular culture to teach visual literacy has been particularly successful with</p> <ol style="list-style-type: none"> <li>a) engaging boys in writing</li> <li>b) improving the English language and speaking skills of EAL pupils</li> </ol> <p>-Digital animation summer school has improved the confidence of pupils in using ICT and also in presenting their work orally.</p> <p>Specifically targeted pupils who were not registered 'gifted and talented'.</p>	<p>-Pupils are learning technology so fast and so young that the school is continually having to rewrite the schemes of work and is struggling to keep up.</p> <p>-School has a suite of laptops but this is not enough for every pupil, so use is limited.</p> <p>-Email communication is not suitable with this community (predict only 15 per cent have access). Face to face strategies are more effective.</p>

<b>Strategies and Context</b>
<b>Contextual factors</b>
<p>-Urban Infant mixed community school.</p> <p>-Removed Ntl.</p> <p>-Exceptionally high socio-economic deprivation</p> <p>- Free school meals pupils well above average. High BME, many EAL.</p> <p>-White British pupils made least progress</p> <p>- Attainment data not available.</p>
<b>ICT in the environment</b>
<p>-Large increase in spending on ICT equipment following Ntl and new headteacher</p> <p>-Strong ICT leadership and management: one full-time systems and strategic ICT co-ordinator and one full-time curriculum ICT co-ordinator.</p> <p>-Monitoring of assessment using ICT</p> <p>-Partially using SIMS for electronic</p>
<b>ICT in teaching and learning</b>
<p>-Use of interactive whiteboards and popular culture (film) for visual literacy. Pupils write and read stories they have made around a clip of the film Monsters Inc.</p> <p>-Digital animation: using laptops and cameras to make short clay animations. Pupils learn storytelling, craft skills, technological skills.</p>

## 14 St Margaret's Primary School

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>
<p>-Use of data management system using ICT effective for teachers and leadership to track pupil progress</p> <p>- Access to better resources and teaching methods using ICT improved teaching (aided by local authority scheme of work for ICT in particular)</p>	<p>Staff have responded well to use of ICT but still reticent to use email in day to day practice</p>
<b>Positive effects on pupils and parents</b>	<b><i>Barriers/negative effects on pupils and parents</i></b>
<p>-Use of ICT to develop engaging and motivating lessons</p> <p>-ICT appeals to them 'at their level' (ie learning through ICT by making links with popular culture or using a games format)</p> <p>-ICT for self evaluation (ie use of video to record work/ performance and reflect on skills, especially speaking and listening)</p> <p>-ICT can re-engage pupils (especially boys) with their learning by using more active methods</p>	<p>-Would like to build website and use it more to reach and involve parents but concerned about privacy issues concerning pupil data and parent email addresses.</p> <p>- EAL students struggle with the language of ICT</p> <p>- Concern over girls and cyber-bullying</p> <p>- ICT must be used appropriately and develop 'transferable' skills rather than just knowledge of specific software packages</p> <p>- Because of fast pace of change in technology, it is hard to ensure that pupil's ICT skills and knowledge are kept up to date</p>

<b>Strategies and Context</b>
<b>Contextual factors</b>
<ul style="list-style-type: none"> <li>-small town primary community school, removed Ntl</li> <li>- attached to army barracks with high rate of pupil mobility</li> <li>- Issues taking into Ntl: poor pupil progress, inadequate teaching and poor ICT provision</li> <li>-Boys; EAL; G&amp;T identified as not making progress</li> </ul> <p>-CVA: not significantly different to that of similar schools</p>
<b>ICT in the environment</b>
<ul style="list-style-type: none"> <li>- Substantial increase of spending on ICT post Ntl (infrastructure barely existing before)</li> <li>- Monitoring of assessment using ICT</li> <li>- Acting headteacher and co-ordinator responsible for ICT</li> </ul>
<b>ICT in teaching and learning</b>
<p><b>-Pre Ntl ICT provision was 'breaching legal requirements' and not preparing pupils for future (Ofsted) thus there has been a major increase in ICT resources</b></p> <ul style="list-style-type: none"> <li>- Use of ICT and applied learning (i.e. maths using online supermarket shopping)</li> </ul>

## 15 St Teresa's Catholic Primary School

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>
<p>Better tracking of pupil attendance using ICT, use of data improved attendance and punctuality</p>	<p>- Some members of staff remain reluctant, mainly older staff</p> <p>- School feel extremely restricted in exploiting ICT to 'full potential' due to lack of funding: high maintenance costs and impractical funding mechanisms (ie e-learning credits) mean that schools can't keep up to date, this is seen to have a 'knock on' effect on the school's ability to compete with local schools</p>
<p><b>Positive effects on pupils and parents</b></p>	<p><b>Barriers/negative effects on pupils and parents</b></p>
<p>- Pupil engagement (identified as a problem by Ofsted) improved using ICT by giving them access to different learning techniques, using different resources, and visual/interactive character</p> <p>-Use of ICT to engage EAL students and help with literacy</p> <p>- Children enjoy contributing to the school website</p> <p>- Use of school website to communicate with and involve parents; also seen to forge sense of community around school.</p> <p>- Staff feel widens horizons/ aspirations by enabling pupils to access information about jobs outside of local area</p>	<div data-bbox="544 555 1043 1832" style="border: 2px solid black; padding: 5px;"> <p style="text-align: center;"><b>Strategies and Context</b></p> <p style="text-align: center;"><b>Contextual factors</b></p> <ul style="list-style-type: none"> <li>- Urban, voluntary aided Roman Catholic primary; removed SM</li> <li>- Majority white British some Eastern Europe; higher than average SEN and average free school meals pupils</li> <li>- Boys, EAL, SEN making poor progress</li> <li>- Issues taking into SM: weak management; unchallenging teaching; poor pupils progress, attendance and engagement</li> <li>-CVA: not significantly different to similar schools, but widened the gap</li> </ul> <p style="text-align: center;"><b>ICT in the environment</b></p> <ul style="list-style-type: none"> <li>- School website</li> <li>- Use of ICT to monitor attendance</li> <li>- New parent ICT suite which will run ICT courses</li> <li>- ICT managed by ICT co-ordinator, additional help from ICT consultant from local authority</li> </ul> <p style="text-align: center;"><b>ICT in teaching and learning</b></p> <ul style="list-style-type: none"> <li>- <b>Dramatic increase in ICT resources since going into SM; complete overhaul</b></li> <li>- ICT embedded across school: in all classrooms; catalogued library and ICT suite</li> </ul> </div> <p>- Some concerns related to levels of access, school providing open access facilities and ICT courses to parents without home access to increase involvement in their child's learning (particularly lower income families)</p>

## 16 Smith Street Primary School

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>
<p>-Expansion in ICT in the school has enthused and improved teachers' ability to be creative and innovative in their delivery of lessons.</p> <p>-Well co-ordinated leadership and management style produces an effective ICT policy and arrangements for teachers to follow</p>	<p>-One teacher felt uncomfortable to use ICT in her lessons and she felt excluded.</p> <p>-Although ICT expansion was possible through availability of previously unspent budget, current budgetary conditions constrain the school's further attempts to expand.</p>
<b>Positive effects on pupils and parents</b>	
<p>-Use of the interactive whiteboards in teaching has proven popular with all the pupils to engage with learning</p> <p>-Use 'Wordshark' to manage children's behaviour through play and at the same time reinforce spelling</p> <p>-Teachers use learning platform to communicate with parents and children (and to train children in e-safety)</p>	<p>The school expanded its ICT infrastructure following Ntl. The headteacher has the overall responsibility of ICT and she is supported by her Deputy Headteacher who is the ICT Co-ordinator, the county council, and an ICT firm in town. Monitoring of assessment using ICT and use SIMs for registration and monitoring attendance.</p> <p><b>ICT in teaching and learning</b></p> <p>Use interactive whiteboards for teaching literacy and for pupils to improve their ICT skills, presentational and research skills.</p> <p><b>Use of the corridor spaces to augment limited learning areas</b></p>
<b>Barriers/negative effects on pupils and parents</b>	<p>-However, the school's attempt to adopt electronic communications will be held back by the fact that some families will have no access to the internet - "20 per cent of our families haven't got computers at home"</p>



## 17 Wooldridge Junior and Infant School

Positive effects on school and staff	<i>Barriers/ Negative effects on school and staff</i>
<p>-Monitoring of assessment using ICT was implemented and embedded since Ntl and has been essential to monitoring pupil progress and helping to raise attainment to appropriate level</p> <p>- Enables teachers to assess target levels for children and intervene as appropriate</p> <p>- Storing data useful to show HMI 'evidence' of improvement</p>	<p>Staff initially reluctant – seen to take away from teaching time - especially among older staff</p>
<b>Positive effects on pupils and parents</b>	<b>Barriers/ Negative effects on pupils and parents</b>
<p>- ICT allows for more interactive and stimulating lessons through use of range of resources</p> <p>- Visual and interactive element of interactive whiteboard key – motivates children by using alternative to pen and paper (especially SEN children)</p>	<p>- Head teacher felt strongly that parental access to ICT was low in the area – due to low SES – and that this constrained use of ICT ('may alienate parents'). Face to face interaction essential and still most effective.</p> <p>- Must be wary of over-reliance on ICT: children can get bored if used inappropriately or for too long</p>

**Strategies and Context**

**Contextual factors**

- Small urban community primary, removed from Ntl
- Located in area of significant socio-economic deprivation, majority of pupils BMEs, around half EAL, and over half free school meals;
- Issues for Ntl: Poor leadership; poor progress and attendance
- Groups identified as making poor progress: 'high ability'
- CVA: significance below similar schools and widened the gap

**ICT in the environment**

- Monitoring of assessment using ICT
- E-portal for registration
- Use of local authorities 'grid for learning' for resources and email
- ICT co-ordinator (full-time teacher) and technician (part-time) plus headteacher responsible for ICT co-ordination
- Local school as 'partner' provided

**ICT in teaching and learning**

- ICT embedded in all classrooms**
- Interactive whiteboard is seen to be most important in teaching and learning, providing an interactive and visual element

## 18 Brightview Secondary School for Girls

Positive effects on school and staff	Barriers/negative effects on school and staff
<ul style="list-style-type: none"> <li>- Use of data management system particularly effective: school now tracks the achievement of pupils implementing strategies to support those at risk of underachieving, for example through booster classes or form tutor mentoring.</li> <li>- Drawing upon ICT to improve teaching</li> <li>- Staff mostly confident. Provide training to other staff in schools</li> <li>- Use of electronic registration and truancy call which triggers a recorded message to parents within the hour; has reduced number of unauthorised absences.</li> <li>- Teachers role will change using ICT: facilitate independent learning rather than lead.</li> </ul>	<ul style="list-style-type: none"> <li>- Initial development of ICT hindered by Ntl status: had to focus first on basics</li> <li>- Hard to be innovative/ try different things out with ICT due to risk it may not work; have to 'play it safe'</li> <li>-One of the first to use learning platforms in the borough, but local authority adopted different brand, so not compatible</li> <li>-Couldn't advertise maths and Computing specialism while under Ntl, potentially hindered recruitment</li> </ul>
<p><b>Positive effects on pupils and parents</b></p>	<div style="border: 2px solid black; padding: 5px;"> <p style="text-align: center;"><b>Strategies and Context</b></p> <p style="text-align: center;"><b>Contextual factors</b></p> <ul style="list-style-type: none"> <li>-Urban, 11-16 Community secondary girls school; Maths and Computing specialism; removed Ntl</li> <li>- Below average FSM and EAL; higher than average SEN (23 per cent), significant number of girls with social and emotional difficulties</li> <li>- 'Most able' and SEN identified as making poor progress</li> <li>-CVA: not sig. below similar schools but widened the gap</li> </ul> <p style="text-align: center;"><b>ICT in the environment</b></p> <ul style="list-style-type: none"> <li>-Strong ICT infrastructure has been put in place</li> <li>- Large group of staff for ICT support and co-ordination</li> <li>- SLT: Strong vision and background in ICT and business</li> <li>- Ofsted notes role of ICT in schools improvement as discrete ICT lessons <i>and</i> across the curriculum as part of specialist status.</li> </ul> <p style="text-align: center;"><b>ICT in teaching and learning</b></p> <ul style="list-style-type: none"> <li>- Vast amounts of ICT in school: 450 computers to 800 pupils; interactive whiteboard in every classroom; three ICT suites</li> <li>- Plus open access to Open Learning Centre and after school provision for pupils. Access to the community.</li> <li>- Laptop leasing scheme for families</li> </ul> </div>
<ul style="list-style-type: none"> <li>- Applied learning using ICT: pupils thinking about how they will use ICT in their future jobs; raises aspirations</li> <li>- Possibility for extending independent learning using learning platforms, especially for higher achieving pupils: gives them the autonomy and stimulus to move themselves forward</li> <li>- Use of software to aid and engage SEN pupils</li> <li>- Laptop leasing scheme being rolled-out, low cost to parents</li> <li>- There is a sense that focusing on ICT (something perhaps not seen as the domain of the more 'academic' grammar schools, and perhaps slightly unusual for a girls' school) has raised the self esteem of the pupils</li> </ul>	<p><b>Barriers/negative effects on pupils and parents</b></p> <ul style="list-style-type: none"> <li>- Ran talks for parents on ICT safety but poorly attended</li> <li>- Issue of continuing ICT learning post-16. May loose possibility for studying ICT in post-16 subjects</li> <li>- have to be careful with what ICT pupils are allowed to use and they don't misuse them in class for non-learning (ie iPods/ mobile phones)</li> <li>- Hard to maintain interactive element of interactive whiteboards when children misbehave</li> <li>- Still facing a challenge to raise aspirations of girls (horizons still limited to local gendered occupations, ie hairdressing or childcare).</li> </ul>

## 19 City High School

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>							
<p>ICT plays an important diagnostic role, tracking and monitoring pupil progress. Easier to pick up on who is under performing and ask why.</p>								
<p><b>Positive effects on pupils and parents</b></p> <ul style="list-style-type: none"> <li>- Online reports, assessment and attendance data analysis effective at illustrating to parents their child's progress in a visual way</li> <li>- ICT seen to play a role in raising achievement levels, of boys in particular, as offering one of many different ways to learn, especially facilitating independent learning, thereby 'picking up' disengaged or disenfranchised learners</li> <li>- ICT has indirect impact on behaviour: if engaged then behaviour will improve</li> <li>- Attendance has improved from the 'unacceptable' level the school was at two years previously, due to much tighter and more rigorous tracking using ICT</li> </ul>	<table border="1"> <thead> <tr> <th data-bbox="571 555 1034 654">Strategies and Context</th> </tr> </thead> <tbody> <tr> <td data-bbox="571 654 1034 743"><b>Contextual factors</b></td> </tr> <tr> <td data-bbox="571 743 1034 1093"> <ul style="list-style-type: none"> <li>- Urban, 13-19 Community school. Removed Ntl</li> <li>- Average free school meal and SEN, low BME. School intake described in interview as 'squashed into the middle'</li> <li>- 'Disaffected' and post-16 not doing so well</li> <li>- Poor provision of ICT, poor leadership and low achievement took the school into Ntl</li> <li>-CVA: significantly below that of similar schools</li> </ul> </td> </tr> <tr> <td data-bbox="571 1093 1034 1182"><b>ICT in the environment</b></td> </tr> <tr> <td data-bbox="571 1182 1034 1464"> <ul style="list-style-type: none"> <li>- Since Ntl ICT facilities improved (Ofsted)</li> <li>- SIMS for assessment monitoring and attendance</li> <li>- Plans to develop learning platform</li> <li>- ICT co-ordination responsibility of leaders within each of the school's five lines of learning (integrated)</li> </ul> </td> </tr> <tr> <td data-bbox="571 1464 1034 1554"><b>ICT in teaching and learning</b></td> </tr> <tr> <td data-bbox="571 1554 1034 1832"> <ul style="list-style-type: none"> <li>- ICT seen to play key role in shift from 'teacher to learner centred work' since having been given Ntl status.</li> <li>- New Learning Resource Centre key to school's ICT strategy (innovative practice, independent learning space), plans to extend</li> <li>- ICT integrated into the curriculum; real-life focused.</li> </ul> </td> </tr> </tbody> </table>	Strategies and Context	<b>Contextual factors</b>	<ul style="list-style-type: none"> <li>- Urban, 13-19 Community school. Removed Ntl</li> <li>- Average free school meal and SEN, low BME. School intake described in interview as 'squashed into the middle'</li> <li>- 'Disaffected' and post-16 not doing so well</li> <li>- Poor provision of ICT, poor leadership and low achievement took the school into Ntl</li> <li>-CVA: significantly below that of similar schools</li> </ul>	<b>ICT in the environment</b>	<ul style="list-style-type: none"> <li>- Since Ntl ICT facilities improved (Ofsted)</li> <li>- SIMS for assessment monitoring and attendance</li> <li>- Plans to develop learning platform</li> <li>- ICT co-ordination responsibility of leaders within each of the school's five lines of learning (integrated)</li> </ul>	<b>ICT in teaching and learning</b>	<ul style="list-style-type: none"> <li>- ICT seen to play key role in shift from 'teacher to learner centred work' since having been given Ntl status.</li> <li>- New Learning Resource Centre key to school's ICT strategy (innovative practice, independent learning space), plans to extend</li> <li>- ICT integrated into the curriculum; real-life focused.</li> </ul>
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	<p><b>Barriers/negative effects on pupils and parents</b></p> <p>ICT is not wholly responsible for raising attainment levels. This is just one factor among many.</p>							

## 20 Cranfield Community School

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>
<p>-The school's ICT management approach entails involvement of the teaching staff in the school.</p> <p>-Most teaching staff in the school are young and experienced with ICT, this has had positive impact on the implementation of the technology in the school;</p> <p>-Teachers use email and VLE to communicate with parents: Bromcom (<i>voice connect</i>) for recording attendance- send a text message to parents when students are absent from school.</p> <p>-Reliable Internet ISP connection supports teaching in the school</p>	<p>-Involvement of senior members of staff in ICT suggests top to bottom approach and some teachers might feel excluded;</p> <p>-The school is reviewing using Bromcom because it might not be adequate for monitoring records and introducing SIMS;</p> <p>-15 per cent of the classrooms have no interactive whiteboards, some of the computers and programmes in the college are old, which might have negative impact on teachers' performance.</p>
<b>Positive effects on pupils and parents</b>	<b><i>Barriers/negative effects on pupils and parents</i></b>
<p>-The use of learning platforms and ICT in teaching has been successful with:</p> <p>-Engaging boys with learning;</p> <p>-Students' engagement with ICT seem to positively prepare them for future career</p>	<p>-These medium of communications presuppose that parents have access to ICT and mobile phones. These could present issues with use</p> <p>-Some students who have access to ICT at home find school's ICT software as outdated and incompatible with their machines at home and hence affect their work;</p> <p>-Some 'low ability' boys find using the ICT (internet) for production of their work 'difficult and sometimes switch off a bit and it is harder to motivate them' to do other things.</p>

<b>Strategies and Context</b>
<b>Contextual factors</b>
<p><b>-An urban 14-19 school with 1250 students.</b>  <b>-20 per cent of the students are of Asian origin, Bangladeshi, Chinese and Indian. Serves a mixed SES community.</b>  <b>-Free school meals similar to national average. SEN above national average.</b>                      -Identified: 'low ability' boys and girls and Bangladeshi students as underachieving</p>
<b>ICT in the environment</b>
<p>The college witnessed expansion in ICT infrastructure since Ntl</p> <p>Strong ICT leadership led by Vice Principal, who works in collaboration with Assistant Principal, ICT department, and technical input from the local authority. This style of management provides much clearer planning vision for the school's ICT needs.</p>
<b>ICT in teaching and learning</b>
<p>Use of ICT, video and projectors in teaching</p>

## 21 Dartworth Community Sports College

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>
<ul style="list-style-type: none"> <li>- Data management systems used widely and improved pupil progress, early intervention, readily accessible, frees up teaching time</li> <li>- Overhaul in curriculum and teaching facilitated by ICT: access to resources ensures planning of teaching is better matched to pupil needs</li> <li>- Sims used to track attendance, evidence to show parents, early intervention</li> <li>- Increase in ICT training for staff increased competence and willingness to use, overcame previous reluctance that stopped ICT being used to its potential, strong leadership key to change</li> </ul>	<ul style="list-style-type: none"> <li>- Some staff still reluctant to change; fear ICT will let them down</li> <li>- Can't rely on ICT based assessment systems only, teacher's perception remains key</li> </ul>
<p><b>Positive effects on pupils and parents</b></p>	<p><b>Strategies and Context</b></p>
<ul style="list-style-type: none"> <li>- Increase of spending on ICT positively impacted on ethos of school, raised morale by making students feel they were deserving of good equipment</li> <li>- Use of City Learning Centre to re-engage and improve 'willingness to succeed', especially among hard to reach students.</li> <li>- Also using workshops in City Learning Centre to reach parents of disadvantaged pupils (provision of courses) to improve basic skills and get them involved in children's learning</li> <li>- New learning platform will give personalised learning space.</li> <li>- Raised levels of engagement, esp. boys, by plugging into informal learning and using different learning strategies ('wow factor')</li> <li>- Staff felt it widens horizons and raises aspirations</li> </ul>	<p><b>Contextual factors</b></p> <ul style="list-style-type: none"> <li>- Large urban 14-19 sports community college; removed Ntl</li> <li>- Located in area of high levels of disadvantage and deprivation</li> <li>- Higher than average free school meals mainly white British and some BME and Eastern European migrants</li> <li>- Issues taking into Ntl: poor progress by all pupils; truancy and bad behaviour; poor teaching /passive learners</li> <li>-CVA: not significant difference to similar schools, but widened the gap</li> </ul> <p><b>ICT in the environment</b></p> <ul style="list-style-type: none"> <li>- Sims.net</li> <li>- Data management system to track pupil progress</li> <li>- ICT managed by ICT co-ordinator with on-site technician</li> <li>- Use of external consultant to help implement ICT strategy</li> <li>- Online booking system for parents' evening</li> </ul> <p><b>ICT in teaching and learning</b></p> <ul style="list-style-type: none"> <li>- Drastic overhaul in ICT provision: full restructure</li> <li>- ICT embedded across school; each subject area has its own ICT suite</li> <li>- Shares the local City Learning Centre</li> <li>- School radio station (run by the students)</li> </ul> <p><b>Barriers/negative effects on pupils and parents</b></p> <ul style="list-style-type: none"> <li>- Parental communication via ICT hindered by low levels of home access in community, meaning parents of most disadvantaged learners hardest to reach</li> <li>- So maintain face-to-face as most important, and trialling other ICT to get around this that are more 'accessible' such as text messaging, DVDs, digital/interactive TV</li> <li>- The same applies for students: low home access meant school used alternative ICT resources such as MP4 players, podcasts, etc</li> <li>- ICT only effective if used appropriately by teacher.</li> <li>-External factors still impact on aspirations; only so much that the school can do</li> </ul>

## 22 East Woodlands Secondary School

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>
<ul style="list-style-type: none"> <li>- Assessment and record keeping using ICT seen to have positive impact on raising attainment of under achieving pupils, gives instant access.</li> <li>- Use of ICT by staff seen to positively impact on teaching, lesson planning and delivery</li> </ul>	<ul style="list-style-type: none"> <li>- Inconsistency in staff competence and training</li> <li>- Lack of funding means there is a long way to go before ICT is fully embedded</li> </ul>
<p><b>Positive effects on pupils and parents</b></p> <ul style="list-style-type: none"> <li>- Student voice involving student radio station</li> <li>- ICT seen to engage students in their learning</li> <li>- Investment in ICT seen to raise self-esteem and sense of self-worth among pupils</li> <li>- ICT improving presentation of work, especially for boys</li> <li>- Applied learning using ICT seen to raise achievement (eg using Pro-Desktop in Design Technology)</li> <li>- Raising aspirations: making links with local media industry</li> <li>- Use of text messaging and email to improve communication with parents</li> </ul>	<div style="border: 2px solid black; padding: 5px; margin: 10px auto; width: 80%;"> <p style="text-align: center;"><b>Strategies and Context</b></p> <p style="text-align: center;"><b>Contextual factors</b></p> <ul style="list-style-type: none"> <li>- Urban, 11-16 mixed comprehensive secondary school. Removed from Ntl.</li> <li>- Free school meals pupils are above average, high levels of deprivation; average BME; high EAL; well above average SEN</li> <li>- KS4 girls and 'middle ability' boys making poor progress</li> <li>-CVA: significance below that of similar schools, and widened the gap</li> </ul> <p style="text-align: center;"><b><u>ICT in the environment</u></b></p> <ul style="list-style-type: none"> <li>- Use of ICT for monitoring of pupil progress; Attendance registers and truancy all automated on learning platform</li> <li>- ICT co-ordinator plus network manager and technician responsible for ICT.</li> <li>-Staff laptops</li> </ul> <p style="text-align: center;"><b>ICT in teaching and learning</b></p> <ul style="list-style-type: none"> <li>- Access to City Learning Centre: boys and girls and SEN pupils in particular seen to benefit.</li> <li>- Distance/ online learning for those 'at risk of disengagement'</li> <li>- Innovative practice: Use of Bluetooth, recording performance in PE. Film makers club use podcasting and video conferencing</li> </ul> </div> <p style="text-align: right;"><b><i>Barriers/negative effects on pupils and parents</i></b></p> <ul style="list-style-type: none"> <li>- Concern that email is less inclusive means to contact parents</li> <li>- Also concern over digital divide means that implementing ICT fully is impossible (ie online portfolio of work for all students)</li> <li>-ICT is not seen to engage their 'underachieving' girls</li> </ul>

## 23 Knights Park Science and Performing Arts College

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>
<p>-The use of learning platforms has enhanced teachers' ability to:</p> <ul style="list-style-type: none"> <li>• deliver lessons across departments;</li> <li>• monitor performance among low achieving students;</li> <li>• monitor and improve attendance of students who are likely to abstain;</li> <li>• improve achievement;</li> <li>• encourage independent learning among students; and positive competition among classmates</li> </ul> <p>Use BFL to reward attendance</p>	<p>-A conflict developed between the college and the local authority over the preference of particular software</p> <p>-Lack of funding has limited the college's ability to develop its ICT capacity</p> <p>-Some teachers, who lack confidence in using ICT, may feel threatened by their students' enthusiasm and fast adaptation of the technology.</p>
<b>Positive effects on pupils and parents</b>	<b><i>Barriers/negative effects on pupils and parents</i></b>
<p>-Use Internet to conduct online communications with students (ie students' polls) and parents;</p> <p>-Use of ICT, particularly of a learning platform is seen to:</p> <ul style="list-style-type: none"> <li>• improve students' presentations, particularly helpful for SEN students or students with poor handwriting</li> <li>• enthuse learning and aspirations</li> <li>• encourage students to monitor their own course work/performance.</li> </ul> <p>-Student's use Kudos for career selection seen to be effective.</p>	<p>-Low income families may not have access to the internet; 'only 60 per cent (of families) have internet at home'.</p>

Strategies and Context
Contextual factors
<p><b>11-16 urban mixed Science and Performance Arts College. Removed from Ntl. 700 students, mainly White British, due to students' mobility, it is below capacity. 60 students are registered with SEN. Social deprivation is an issue locally. The school identified 'low achieving' boys.</b></p> <p><b>-Narrowed the gap</b></p>
ICT in the environment
<p>The College witnessed an expansion in ICT following it's Ntl.</p> <p>It has developed a variety of ICT policies to enhance its usage among staff and students.</p> <p>ICT is managed and co-ordinated by a specialist teacher who has an overall responsibility for ICT.</p>
ICT in teaching and learning
<p>Use of interactive whiteboards and DVDs enhanced students' engagement with learning. Students with SEN are confident to use ICT to produce and display their work. Some boys learn how to build computers.</p> <p>Use of a learning platform for presenting work, online polls, discussion, self assessment</p>

## 24 Lord Banbury Technology College

Positive effects on school and staff	<i>Barriers/negative effects on school and staff</i>							
<p>The school's improvement plan stressed the importance of personalised learning; as such the new learning platform will play a key role in centralising information and improving communication</p> <p>-The investment in the new learning platform will enable staff to feel confident and positive about using ICT and experimenting with technology in lessons</p>	<p>At the moment the staff remain hesitant about ICT as the current learning platform doesn't work well and cannot be trusted to operate properly in lessons</p>							
<b>Positive effects on pupils and parents</b>	<b><i>Barriers/negative effects on pupils and parents</i></b>							
<p>-The pupil tracking software enables parents to receive updates on their child's progress more regularly. The new learning platform will put homework, sanctions and praise available to parents who are able to access the new system (they are planning an audit of pupils with access to ICT at home)</p> <p>-Children can take ownership of their learning.</p> <p>-Design and Technology in particular have benefited from increased investment in ICT and graphic and laser/manufacturing design technology</p>	<p>Not all parents have access to ICT (though most in this school do)</p>							
<table border="1"> <thead> <tr> <th data-bbox="563 539 1043 636">Strategies and Context</th> </tr> </thead> <tbody> <tr> <td data-bbox="563 645 1043 728"><b>Contextual factors</b></td> </tr> <tr> <td data-bbox="563 736 1043 1081"> <p>Small mixed 11-18 comprehensive in rural market town. Majority of pupils White British background; free school meal pupils below average. Ofsted identified the following as causes for Ntl:</p> <ul style="list-style-type: none"> <li>- Boys' underperformance Poor standards in ICT and SEN provision</li> <li>- Inadequate teaching and achievement in sixth form</li> </ul> <p>-CVA: significance below similar schools and gap remained the same</p> </td> </tr> <tr> <td data-bbox="563 1090 1043 1173"><b>ICT in the environment</b></td> </tr> <tr> <td data-bbox="563 1182 1043 1458"> <p>-SIMS.NET will be used for registration and assessment management including rewards and sanctions as part of their move to a new learning platform</p> <p>-Pupil tracking software</p> <p>-Shared folder on the school server where staff can store lesson plans and share information about pupils</p> </td> </tr> <tr> <td data-bbox="563 1467 1043 1550"><b>ICT in teaching and learning</b></td> </tr> <tr> <td data-bbox="563 1559 1043 1834"> <p>-A cabled network and three ICT suites</p> <p>-laser cutting facilities, vinyl cutting facilities, card manipulative Cad Cam machines</p> <p>-Teachers have laptops (though these are quite old in some cases)</p> <p>-Currently have a county led learning platform 'Digital Brain' but it is not often used due to persistent technical problems.</p> </td> </tr> </tbody> </table>		Strategies and Context	<b>Contextual factors</b>	<p>Small mixed 11-18 comprehensive in rural market town. Majority of pupils White British background; free school meal pupils below average. Ofsted identified the following as causes for Ntl:</p> <ul style="list-style-type: none"> <li>- Boys' underperformance Poor standards in ICT and SEN provision</li> <li>- Inadequate teaching and achievement in sixth form</li> </ul> <p>-CVA: significance below similar schools and gap remained the same</p>	<b>ICT in the environment</b>	<p>-SIMS.NET will be used for registration and assessment management including rewards and sanctions as part of their move to a new learning platform</p> <p>-Pupil tracking software</p> <p>-Shared folder on the school server where staff can store lesson plans and share information about pupils</p>	<b>ICT in teaching and learning</b>	<p>-A cabled network and three ICT suites</p> <p>-laser cutting facilities, vinyl cutting facilities, card manipulative Cad Cam machines</p> <p>-Teachers have laptops (though these are quite old in some cases)</p> <p>-Currently have a county led learning platform 'Digital Brain' but it is not often used due to persistent technical problems.</p>
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## 25 Northbury High School

Positive effects on school and staff	<i>Barriers/ Negative effects on school and staff</i>
<p>-Use of BROMCOM for registration found to be very effective in improving attendance</p> <p>-Tracking and monitoring pupil progress improved using MIS, also more time effective for staff than pen and paper system of recording assessment</p> <p>- Also use of SIMS and BROMCOM to record behaviour, evidence for parents</p>	<p>- Limitations to use of ICT due to infrastructure (stairs and power capacity on site)</p> <p>- Staff fairly interested in using ICT more in teaching but in need of more training in using it (especially MIS)</p> <p>- Sometimes pupils have more ICT knowledge and have the upper hand on staff: can undermine power relations in classroom and allows pupils to be disobedient</p>
<p><b>Positive effects on pupils and parents</b></p>	<p><b>Strategies and Context</b></p> <p><b>Contextual factors</b></p> <p>-Urban, 11-18 mixed comprehensive secondary. Removed from Ntl                      - Half of pupils come from economically disadvantaged areas. BME, EAL and free school meal pupils are well above average.                      - General under achievement but white boys especially seen to be making poor progress                      -CVA: significantly above that of similar schools, but widened the gap</p> <p><b>ICT in the environment</b></p> <p>- Assessment data manager (SIMS) and attendance tracker (Bromcom)                      - They have spent significantly more on ICT infrastructure since being removed from NTI, previously very poor and patchy, seen to have made the school more attractive</p> <p><b>ICT in teaching and learning</b></p> <p>- Use of ICT in relation to teaching and learning has much increased                      - Range of software in use: including design technology software; dyslexic software for literacy, 'Dartfish' video evaluation in PE</p> <p><b>Barriers/ Negative effects on pupils and parents</b></p>
<p>- ICT seen to play a significant role in raising levels of achievement across the board, rather than targeting specific groups.</p> <p>- Investment in ICT has positive impact on self-esteem and learner identities of pupils</p>	<p>- ICT is not particularly integrated in the school. ICT is taught predominantly as a discrete subject in one of several ICT suites; IWB in place but not used regularly.</p> <p>- Pupils tend to use ICT for play rather than making links to their future jobs</p>

## Appendix 5: Quotations from staff

### Management and co-ordination of ICT:

“We have a vice principal, and she has the overall responsibility for ICT. I have responsibility for line managing the ICT teaching department and I also have an input into the ICT decisions that are made, spending decisions and whatever. Then we have an ICT department [and a head who] leads that department.”

(ICT Co-ordinator, Cranfield Community School)

“I have an ICT co-ordinator who is one of the teachers. And additional support from the County when we need it [...] But **the biggest improvement has been having an ICT technician here who works for me every morning**. She will address any problems with the computers and so she troubleshoots. **She does all of the data for the tracking programme**. She will collect all the data, integrate it, and make sure its put on the master computers. She will set things up for people, set up the laptops. She supports the office with Sims, she will do Word publishing, make up certificates, make sure everything is kept in order. And also she is there if people have got any questions. She has the ability to explain computers in an everyday language whereas a lot of technicians tend to be far beyond the normal persons understanding.”

(Headteacher, Inglebrook Primary School)

“[Our] ICT network manager works on the operational side and looking at the logistical side and all the technical side of things. The strategic development is done through me but through the SLT and working with Jackie in ICT, Head of ICT and Business Studies.”

(Headteacher, Dartworth Community Sports College)

“I lead the ICT initiatives. I have my deputy who helps with the technical side of things so he troubleshoots. I have the vision along with him and my staff; **it's very much a collegiate approach**. I will make suggestions and then we discuss it. **We have one afternoon a week we have technical support** from the secondary school and that lady comes in [...] and if there are any problems that my deputy hasn't been able to solve she tries. We also have [...] a gentleman who responds to us very quickly if it goes beyond that.”

(Headteacher, Smith Street Primary School)

“I have an **ICT subject leader** who happens to be one of my senior teachers and she has the overview of making sure that not only all the resources are in place for the actual teaching across the curriculum but she also makes sure that the children are actually taught the skills. And so she has got two agendas she's got the one where she is actually **making sure that ICT is used cross curricular** and facilitating that wherever possible. She has also got a remit to make sure that ICT skills are taught because its all very well saying we've got all this and we use it but if the children themselves don't have the basics then obviously then there is going to be a problem.”

(Headteacher, Clifton House Primary School)

### **Funding: barriers and opportunities:**

“The e-learning credit which you know we could have got any sort of like discs and any software but you need the hardware... sometimes when there was money it was earmarked for certain things you could only spend this on this and you could only spend that on that.”

(ICT co-ordinator, Haversham Primary School)

“Most of our funding for the last two years has gone on peripherals or things like you know just new mice or things like projector bulbs which are £200 to 300 each. You know by the time you’ve bought say only three or four go each year you know you’re into over a thousand. Printer cartridges are another big one **so by the time you’ve sort of paid out for those you haven’t got really much money left.** Emergency purchases of computers that have completely broken down so we’ve had four new computers a year ago [...] So that is one of the major problems.”

(ICT Co-ordinator, Addeley Park Church of England School)

“We have tried to be **innovative** but you quite often spend some money on something which two years later everybody gets for nothing and that is really galling.”

(Headteacher, Brightview School for Girls)

### **Staff training, competence and attitudes to ICT:**

“Staff have had a huge amount of training. We’ve had in-house training; we’ve had hands on support from County. They’ve spent time in.”

(Headteacher, Smith Street Primary School)

“[Staff have] been trained. They have regular training in Knowledge Box which is on the computers. We’ve got as I say a whole staff training coming up in digital blue video cameras but **all staff are very, very competent,** very competent.”

(Headteacher, Perryworth Primary School)

“Some of the biggest **problems is younger teachers.** Because everybody assumes its older teachers that can’t adapt, and one of the most persons who’s most adapted to the use of IT is one of my older teachers. So it’s a personal thing; the person, not necessarily age.”

(Headteacher, Gants Primary School).

“They’ve come a long way I think in the last two or three years, they’ve come along way in my one year here, and I know speaking to the previous head, there was some of the **reluctance about some of the ICT things** [...] I think essentially they weren’t particularly ICT orientated themselves and therefore were **frightened** of it, and didn’t understand it [...]. One member of staff here in particular who finds ICT challenging but is on board to challenge it and I make sure that I give as much help as I can and we’re getting there.”

(Headteacher, Dewsbury C of E Primary School).

“We’ve got some that are really kind of into it I suppose, that really kind of fly with it and use it for everything and others that are a bit more [...] we’ve got some teachers that aren’t comfortable using computers, and you put in all the training you want but [...] **most staff I’d say are pretty much self taught** [...] when you’re younger you put yourself out to learn so you’re fine with it, but those that aren’t used to it in everyday life, to put it into their teaching is quite difficult.”

(Headteacher, St Teresa's Catholic Primary School)

“They were an ageing staff and they were certainly technology resistant and certainly when things like training [...] staff that were a year away from retirement saying ‘I’m just not doing this because they said you can’t teach this old dog any of these new tricks I’m not prepared to do it I’m retiring next year’ [...] **But I think actually the journey they’ve take from where they were just two years ago is pretty phenomenal in terms of the difference.**”

(Headteacher, St Johns Nursery and Infant School)

“I think our more experienced teachers, I think they were ...teachers who probably need convincing that ICT could save them work rather than create them work. **I think they saw it as another burden on their time whereas as you know it can be very useful to them** [...] I think we expected that. There was some resistance in some quarters. The younger staff [are] much more receptive to ICT. I think they’ve done it as part of their training... that’s coming through as an advantage to us.”

(Headteacher, Cranfield Community School)

“**Right now, I would think that 99 per cent of the staff hate it.** Think it’s unreliable and at any time and even really talented teachers could be let down by it. So that’s not a good situation [...] but I think on the other side of the coin, is that there is a large percentage of staff who are just waiting and are ready and are willing to take it on board and to really run with it, but right now, I don’t think anyone could be confident.”

(Headteacher, Lord Banbury Technology College).

### **ICT in and across teaching:**

“I’ve [created] some documents about using ICT across the curriculum to support teachers, I’ve also given out things, different resources teachers can use to support their ICT and yeah, various documents that I’ve put into place to support the teachers.”

(ICT Co-ordinator, Lilac Primary School)

“I think **we’ve become more aware of the role of ICT in improving teaching and learning** and that was one of the reasons why we went for the projectors in every room.”

(ICT Co-ordinator Cranfield Community School)

“Lesson plans, termly plans, everything, **all the planning that comes to me [...]** **having been generated on a computer** and basically that was to address [teachers] workload, to actually make it easier for them to regenerate plans from one year to the next, just fine tuning them rather than having to handwrite them out again.”

(Headteacher, Smith Street Primary School).

“Teachers have had different resources they can use...‘It’s much better having the computer ...if a teacher creates a worksheet or something in Word or whatever they can automatically put it into their ‘Activprimary board’ so they’re not having to print it off, it’s there ready to use interactively.”

(Headteacher, Wooldridge Junior and Infant School)

### **Monitoring pupil progress using ICT:**

“**Being able to capture all the data about an individual student** and so any student - I just trawl through my target group that I have got to particularly look at, its Year 9s this week, I can go in and have a conversation: I know what levels they are in English, maths and science. **I know what their attendance looks like** and all of that. And so from that point of view I would say it impacts on achievement because it gives us instant access to data.”

(Headteacher, East Woodlands Secondary)

“**Better tracking [...]** **tightness and rigour in the monitoring.** The assistant headteacher who’s got main responsibility for it [...] **he’s got the data at his fingertips**, so therefore he can do something about it and he can hold each member of staff to account and he can hold each student to account, in a way that was not possible 10 years ago. I think you’d have to say better quality tracking results in a better quality relationship.” (Deputy Headteacher, City High)

“Target Tracker it’s a very good programme. Its input termly, the teacher assessment, and you can use it to create groups to track a particular group of children to look at age related attainment and see where the year group are, the cohort are. **See who is under achieving and who needs that extra support and then review it at the end of the next term to see whether that support has been effective or not.**”

(Headteacher, Inglebrook Primary School)

“[We use] ICT for staff to track the progress, keep data and then look at results and findings using certain software, looking at how graphs have change. I show teachers graphs and here’s what the cohort did last year, here’s what they did the year after [...] **I think it’s become more efficient and effective** and staff now have to put all their assessment data on the system which I usually set up the pro forma which is I think in Word and then transfer to Excel and play around on it [and make] graphs and [ask] ‘are we seeing improvements year on year with the cohort?’ [...] ‘Are we seeing improvements?’ ‘Are we getting better results?’ ‘Are we improving things?’”

(Headteacher, Cooks Cross Primary School).

“Tracking was on the system, was on the servers and the staff were responsible for their own tracking [...] but what we’ve done is [...] we’ve increased it by saying everything we need is on the system now [...] it’s all updated on the system so things were in place but what we’ve done is just tightened it up. We’ve brought together, our assessment system is that we do, we look at the tracking sheets. We’ve got child friendly targets which are levelled and on the tracking sheets the children are levelled. [...] **At the end of the term [...] we can see how many children are on track** [...] Now ICT means [teachers] update their tracking systems, they can keep doing that during the year.”

(Headteacher, Wooldridge Junior and Infant School)

### **Attendance:**

“**It means that we can pick up patterns quickly** so the occasional Monday missed you might think oh well, it’s not happening that often but actually when you look at the data it’s actually happening quite a lot.”

(Headteacher, Dewsbury Church of England Primary School).

“We’re getting better at recording [attendance] so we know what the problems are, which is better for us.”

(Headteacher, Dartworth Community Sports College)

“ICT is brilliant because we have [attendance] on a Sims package and we can pull it off [...] **it’s so visual for the parents.**”

(Headteacher, Newstead Primary School).

“On there registration system you can award points and you can actually take points off them, you can actually put them into detention, you can actually log. I get a list telling me every week who has been doing what for whom **good and bad and so the children know the data is following them around school**...And also that data is going through to what is called the Head of Year and so the Head of Year is aware and when the Head of Year is aware if then that doesn’t work it goes down to the pastoral head and he is aware because he has got access to the data. And so the children know these minus figures all the time.”

(ICT Co-ordinator, Knights Park Science and Performing Arts College)

“We use Bromcom for recording attendance. [...] we can register every single lesson so if a student comes in the morning but then disappears during the day, some schools they would never know but **we know lesson by lesson** where they are so that has helped us as well and tutors can follow up on that the following morning and ask students where they were at certain times.”

(ICT Co-ordinator, Cranfield Community School)

## Behaviour:

“My ICT co-ordinator on her own back, because she’s got a particularly difficult class, she’s now set up an **ICT lunch time club, recognising that some of the bad behaviour [is because] they don’t know what to do** so she’s invited those children to her ICT club [...] it’s giving them something to do. It’s very engaging. ICT is very engaging and there is so much you can offer a child to do or create or look at or research, **you can always inspire children with a computer** but one to one with a computer in front of them, every child likes to do something. So those children know that once a week, they are going to have, if they behave, they are going to be inviting them as a treat.”

(Headteacher, Newstead Primary School)

“This SIMS thing we can start to log behaviour issues, so perhaps we can keep a tighter range on things that maybe need addressing and haven’t noticed because there is no means of making it that obvious [...] There’s a facility, a section on behaviour that you can just log so it will tend to be for someone that you are having a particularly difficult time with at the moment and you can set up strategies and perhaps include those in on it. **Or just make, if someone was at risk of maybe getting excluded or something like that you might want to keep a log of positive behaviour as well.** It’s that sort of facility.”

(Headteacher, Dewsbury Church of England Primary School).

“**The monitoring of behaviour is tighter now** and more incidences are feeding into it, because we’re including [...] lower level incidents and yet the figures are still half of what they were this time last year.”

(Headteacher, Lord Banbury Technology College).

“**ICT absolutely has a role to play...In terms of behaviour a lot of it is about engaging them** and again the boys will quite happily word process something when they don’t have to write it...they are natives with it you know a lot of the children will know a keyboard better than they can hold a pen. And so it’s encouraging them through the right methods [...] IT will definitely help in terms of motivation and behaviour if it is used appropriately.”

(Headteacher, St Margarets Primary School)

## Engaging learners using ICT:

### Interactive whiteboard

“I think the use of the interactive white board has helped to engage children particularly against the children, very often boys not always but very often the **boys are a little bit anti, that can sometimes switch them on a bit.**”

(Headteacher, Dewsbury Church of England Primary School).

“The use of whiteboards in classrooms in staff definitely, perhaps engaging the children. It’s also very clear for the children [they] can clearly see what they’re

learning. Not only that, they can actually go up to the board, because it's interactive. The teachers all put together some really good things on the whiteboards to do with the lessons. So yeah, definitely it engages them that way. I do in my class, **we record the children, speaking and listening and they can play it back on the interactive whiteboard, so that children can assess themselves.**"  
(ICT Co-ordinator, Lilac Primary School).

"I think it has engaged them more certainly with the whiteboards because they are quite **visual learners** and they have really responded well to having that visual stimulus. Not all the time but having that stimulus with an interactive whiteboard being to engage and take part in the lessons I think has really motivated them."  
(Headteacher, Inglebrook Primary School)

"Having taught for the last six years, having taught without interactive whiteboards and with interactive whiteboards **I guarantee if you take a child and place them in front of a computer and have images and movement and sound and all the things that are relative you have his attention for as long as you want to.** The minute you remove that suddenly you are battling in the class to actually keep that atmosphere. And **I think it is the generation of children that are growing up now** for them it's easier for them to look at a computer screen than it is to look at a book. And **learning has to come alive for them** and because everything on the interactive whiteboard comes out and jumps out at them they can relate to it. its made my teaching so much easier because I am spending far less time worrying about behaviour because when the children come into class and they sit down the first thing they look at is the interactive whiteboard what is this teacher going to show me today."  
(ICT Co-ordinator, Overtown Primary School)

"I think the white boards have made a significant difference. ....children being able to come out, touch things, move things, write on the board, you can get a clean slate and rub it out and start again, fantastic."  
(Headteacher, Cooks Cross Primary School)

## EAL

"EAL [...] there are programmes that we've put on, like Clicker [...] SEN, it's been used for catch up programmes, again we've used specific programmes along with the Read, Write, Ink, that the special needs coordinators put on for them. Again some of those were a group of **boys** that were quite de-motivated and once they could use – not just the ICT programmes, but **things like the cameras and the videos, they were much more motivated.**"  
(ICT Co-ordinator, Lilac Primary School).

"I have also found that children who don't speak English as a first language seem to engage better at a computer. **For some reason it seems to cut across all those different cultural backgrounds** and stuff. [...] I've had lots of kids from Poland who



have some in and gone onto Polish sites because they can engage with it and read etc and find out what is happening at home with email and stuff.”

(ICT Co-ordinator, Overtown Primary School).

“We have still got to engage the EAL a bit more [...] And a lot of that is **accessing the vocabulary of IT**. You mention the web and a lot of them think spider and so it's the double meaning of some of the language that we have and it's them understanding and encouraging them to understand that language is specific. I would say of any groups EAL is one we have got to highlight.”

(Headteacher, St Margarets Primary School).

### Literacy

“We have earphones which are brilliant because it means more children at one time can use certain programmes [...] we've found this software called **Units of Sound which is excellent so they are hearing the phonics**, they are hearing the words, the programme is sounding it out and giving examples but you can't have all of that happening in the ICT suite so if you went down at 12 O'clock every day you would see there is about seven or eight children all sitting there with their ear phones in all doing their own little thing but **it's having a massive impact with them because they can do it in their own little world** but at the same time.”

(Headteacher, Newstead Primary School)

“A lot of my children really love Wordshark and they love to play on Wordshark and whilst it's reinforcing their spellings they perceive that as something very, you know good fun, its fun.”

(Headteacher, Smith Street Primary School)

“Using ICT to stimulate children makes a difference to those groups of children because they can have, our children particularly in literacy, they are able to write better if it is something they have experienced. ...**Using the stimulus if ICT we are able to allow them to experience things that they perhaps wouldn't have done otherwise. ...being able to produce and show their work immediately** to the class. **Self-esteem is a real issue with these children and that helps them to sort of think yes I can do this.**”

(Headteacher, Clifton House Primary School)

### Parental engagement and communication:

“We've got an email system and that's a bit haphazard at the moment. We need to develop that. And we've also got a system called voice connect where we send a **text message to parents** when students are absent from college. We've got the website. **I think we've got a good website. I think it's quite well used** and we'd like to get parents to access the learning platform soon as well which I think will help as well.”

(ICT Co-ordinator, Cranfield Community School).

“I will always give our school email address on everything [...] now we have changed all the admission forms to include email addresses because, where we can, I prefer to use that. We have what we call parent call so we can **text blanket messages to all parents or specific messages to specific groups of parents.**”

(Headteacher, East Woodlands Secondary School)

“Some [parents] email me with problems. Some e-mail me with congratulations. Some email me with thoughts they’ve had on something. Some of those parents have become governors. **Not all parents have got computers. Not all children have got them. But I put my email address on the bottom of every letter** and that goes out, and people do communicate via that.”

(Headteacher, Gants Primary School)

“I think that obviously **[ICT] will expand the amount of communication that we can actually put out.** Things like we’ve got a new website we’re just developing now, we’ve got sponsorship for that and I think on that website we need far more links that open up, areas for parents to look at and so there’s a huge dimension to communication I think as far as parents are concerned.”

(Headteacher, Lord Banbury Technology College)

“We want to move from paper letters eventually to putting it out on the **website** and I know that some schools have already sent out things to parents, or a letter to parents asking those that want to have it via e-mail or those that still want the paper copies.”

(ICT Co-ordinator, Addeley Park Church of England School)

“**We have a school website and you will find on that everything about the school, not only will you find the Ofsted reports but you will find the newsletter, you will find any information that you want.** And so this is really available to parents [...] **our admin officer regularly updates it and regularly changes photographs and things like that. There is a lot of information on the website.**”

(ICT Co-ordinator, Haversham Primary School)

“We use **text messaging** which is a very effective way of communicating with parents. But the next step we are going to do is create an **email database** so that we can email newsletters and various other things. That’s the next step.”

(Headteacher, Inglebrook Primary School)

### **Home access – difficulties of the digital divide:**

“We are trying to [communicate with parents using ICT]. But to give you a flavour of **how challenging that is for us** [...] for example putting our newsletter on email and on the website. We asked for email addresses from the parents so that we can email it out instead of sending a hardcopy. And I think we got out of the 300; 30 replies. And so therefore we could only do it to 10 per cent of our population. Equally with the website again when we surveyed the parents if the survey is accurate, which I don't

think it is, it would suggest again only 10 per cent of our children have got access to broadband. **And so 20 per cent have got computers but only 10 per cent have got broadband. And so having access to the web at home and so putting things on the web is only targeting a small percentage of our client group.** And so that presents a bit of a challenge for us until such time that you know if the government ever achieve this every household having broadband access, if that's achievable, then we will do it more."

(ICT Co-ordinator, Overtown Primary School).

"Obviously we have those who have already got that facility at home. But [...] **we have got a new village centre, which has a computer suite**, and so we are working very hard to ensure that the children who become enthusiastic, which they all do, are able to use that facility. And so we are making sure that they are aware of that facility."

(Headteacher, Clifton House Primary School)

**"Very few [children] have regular access to a computer that is linked to broadband.** They might have a computer but they haven't got the broadband facility."

(Headteacher, Clifton House Primary School)

**"No matter what people say the social background does make a difference to access to computers,** to be used as computers, not as Playstations and things like that which most of them do, has a big impact on children's lives."

(Headteacher, Dartworth Community Sports College)

### **Parent courses and open access:**

"We ran one parent's course for ICT that they could come in and learn but then there's a lot of adult education [...] the council have lots of major support for adults [...] so we've only got those 15 computers and all classes have to get in twice a week **we don't have the spare capacity to open it up.**"

(Headteacher, Newstead Primary School).

"The lower income families who perhaps haven't got computers at home, want to come in and use ours, it's free and have an opportunity to be trained and see through training and they do it with their children there as well, so their children were going off taking the pictures on the digital camera for example and the idea is that the parents are developing the computer skills as well [...] **it's increasing confidence [...] the knock on effect can be quite significant [in terms of] achievements, self confidence,** everything really." (Headteacher, St Margarets Primary School)

"[At the City Learning Centre] there's courses for parents [...] getting the adults doing one or two courses [...] I think media studies, adult numeracy, all sorts of things, to get them there so they can support their children really."

(Headteacher, Dartworth Community Sports College)

## Gender:

“What I have observed is that **girls seem to go more for the communications part of the computer** where they can send emails and stuff like that. Whereas the **boys are more interested in reading articles** they really enjoy that **and games** as well.”  
(ICT Co-ordinator, Overtown Primary School)

“Boys like to use it. Girls like it but **boys are often more interested** in using it.”  
(Headteacher, Wooldridge Junior and Infant School)

“I think now **girls** especially when you’re talking about emailing and messaging, all that kind of thing, that’s just an extension of them **chatting** to their friends so they’re [...] into that more than the boys are. Whereas the **boys are more looking for information.**”

(ICT Co-ordinator, Addeley Park Church of England School)

“The boys use [ICT], the boys want to get onto it and use it to do something on it like publish a thing. Now the girls see it differently, the girls see it as just improving their work. The girls will sit and they will do their written components. Stacy is the only girl in that group she was the first one to finish because Stacy used ICT to produce all the written components of the coursework. The boys wanted to get past all of that and get onto the bit that they think it is all about but **its not its all about identifying analysing and planning the girls understand that and the boys want to just go straight to what they consider to be the ‘nitty gritty’.**”

(ICT Co-ordinator, Knights Park Science and Performing Arts College)

“I don't know I don't know whether **[boys] think of ICT as more of a mechanical aim** not like a pencil that they have to hold in their hand. They might associate it along with the actual doing you know of making Lego and things like that [...] they are quicker at finding programmes. They will click and they are there before a lot of the girls are. **The girls are much slower at it** than the boys are particularly in my class I would say.”

(ICT Co-ordinator, Haversham Primary School)

“The **girls** are more into the sort of chatty rooms and the internet and the reason I say they are probably the ones to highlight is because of cyber bullying [...] And so I would say in terms of the wider implication of IT that the girls you know are the ones we really need to look at. Obviously the boys are still the same but as I say the **boys tend to be playing on the games.**”

(Headteacher, St Margarets Primary School)