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## Research Associate Report

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# One step ahead of the game

Leading change in ICT in support of pupil learning

Summer 2007

## **Contents**

<a href="#"><u>Introduction</u></a>	3
<a href="#"><u>Context</u></a>	4
<a href="#"><u>Case studies</u></a>	9
<a href="#"><u>Findings</u></a>	28
<a href="#"><u>References</u></a>	31
<a href="#"><u>Appendix 1</u></a>	32
<a href="#"><u>Appendix 2</u></a>	34

## **Introduction**

This research project looks at how headteachers facilitate the effective use of information and communication technology (ICT) in their schools. It is as much about the management of change as it is about ICT. The research reveals differences in the way ICT is both used and managed within five schools. The size of the school appears to be a significant factor in determining how headteachers identify what needs to be done and how they choose to manage change.

## Context

There are a range of arguments – economic, social and emancipatory – relating to educational change:

“Countries throughout the world are reorganising their educational systems. Like us, they are engaged in rapid economic and social change. Everywhere, education is seen as the main way of enabling individuals and nations alike to meet these changes. Schools have a very complex task. We expect education to prepare young people for the world of work, and economic independence; to enable them to live constructively in responsible communities; and to enable them to live in a tolerant, culturally diverse and rapidly changing society. Perhaps, above all, we expect education to help young people to build lives that have meaning and purpose in a future we can scarcely predict. The burning question, for everyone involved, and increasingly that is everyone, is how is that to be done? What kind of education is needed?” (*All our Futures*, 1999)

The need for radical change in our schools was identified in the report of the Teaching and Learning in 2020 Review Group, but there are few signs that it is being taken seriously. The government has expressed the need for education to keep up with global competition, but there is apparently little being done to engage headteachers in providing education for a very different future.

In December 2006, Gordon Brown, the then Chancellor of the Exchequer, acknowledged in the Pre-Budget Report statement that our economic future is dependent on educating our young people to such a level that we are able to sustain levels of prosperity as the global powers of China and India increase in influence:

“...in the next ten years the competitive challenge is even more profound. Once responsible for just one eighth of the world's growth, China and India will soon capture almost half.

“And increasingly they are competing not just on low cost, but on high skills. While every year Britain adds 75,000 engineers and computer scientists, India and China add half a million; and while annually Britain turns out [a] quarter of a million graduates, India and China now graduate four million.

“So economies like ours have no choice but to out-innovate and out-perform competitors by the excellence of our science and education, the quality of infrastructure and environment, and by our flexibility and our levels of creativity and entrepreneurship. (Brown 2006)

## What sort of education should we be providing for the 21st century?

According to Clive Jones, former chief executive of Carlton Television:

“The education system has to develop a new emphasis on creativity and discovery to give pupils the tools they will need to cope with the fast and continuing changes in the nature of work, employment and growth in the world economy that lies ahead. Education should enable young people to make their way with confidence in a world that is being shaped by technologies which are evolving more quickly than at any time in history. The

real long-term effects of the revolution in information technology have still to be felt. The rate of technological change is quickening every day. Information technologies are transforming how we think, how we communicate, how we work and how we play. We need to ensure that our education system encourages creativity, flexibility of thinking and the ability to enjoy the challenge of change and innovation.” (NACCCE, 1999)

In England, there has undoubtedly been a huge investment in education. We have the advantage of the opportunity to access highly effective new technologies in many of our schools. The DfES believes that ICT is central to school improvement. In *Learning, teaching and managing using ICT* (2006) it states:

“New technologies in all their varieties are having profound consequences in all areas of our lives. Young people are often more alert to the possibilities of new technologies than their teachers. Schools have been seen traditionally as points of entry to a wider world of information and knowledge. Young people now have direct access to more information than previous generations could guess of, and are often more expert than adults at finding their way to it. Schools will need to think through the implications of this for their own future roles. New technologies present unprecedented opportunities for young people to broaden their horizons; to find new modes of creativity and to deepen their understanding of the world around them. Schools also have resources available through these technologies to transform methods of teaching and learning. There are benefits and there are risks.”

As a primary headteacher, I believe that in Britain we could have an edge over global competition by developing creativity and adaptability in our pupils. We need a workforce that is imaginative, able to see the big picture and prepared to innovate. New developments are planned and the government is looking to improve school buildings; but, equally, we need to engage with what is being taught, learnt and assessed.

The government’s Building Schools for the Future programme will see the rebuilding or remodelling of almost every secondary school over the next 15 years – a programme that will also affect around half of primary schools.

So how do we change from a teacher-centered model to a learner-centred model? This is the real challenge of Building Schools for the Future. We are being told by the government that we should be educating for a knowledge economy, but what exactly does this mean for schools?

The schools of the future will have to be more learner-centred, where much of the knowledge is created by the learner and not handed down from above. This model suggests that people are creators and that learning will be more about problem-solving. Learning is customised, not only to ability, but also to interest and learning style. The focus is on effectiveness, rather than the efficiency of the process. We will need original, flexible thinkers; creative people who are able to think differently.

So building fantastic new-age schools is to be celebrated. But the curriculum, the assessment system and how we educate needs to be radically reconsidered. We obviously have to look closely at learning environments and how children will best learn. Do we need learning studios instead of traditional classrooms? We will probably need resources areas – but what will these look like? ICT and the internet will be part of the solution.

Children will need to be able to move around and use ICT in many places, including at home; wireless technology makes this possible. The biggest revolution will come through the internet, not only for information-gathering and research, but through the growth of virtual communities – portals on which material can be swapped and communication can become more effective. Home–school learning will become a reality as teachers post work and support for their pupils and receive completed tasks online. Schools will become more like community centres.

To use a gardening analogy, we can only provide the conditions for a plant to grow. We cannot make it grow. The same applies to learning. ICT should be able to provide these conditions, but only if we think radically. We don't want to be looking back in three to four years' time at what was a missed opportunity, both for schools and for society.

The small research project reported here looks at how some schools have moved from seeing ICT as an area of the curriculum to exploring its potential in supporting a more personalised approach to teaching and learning. In their different ways, these schools are starting to provide a different sort of education in the 21st century and, in that respect, are probably 'ahead of the game'.

### **Rationale for the study**

As a headteacher, having a vision for ICT for your school reminds me of hiking up a mountain. You look up to see the summit ahead but, once you get there, you realise that it is not the top at all and another peak appears – and so it continues. Reaching the summit may not be possible, but that doesn't diminish the importance of the journey:

“When the children leave this school what do I want them to have? I want them to have been challenged, to have achieved, and to be ready for outside life. So what is outside life like now? You don't go to a book to find something out, you go to the internet. Children need to have the skills and they need them early in life.” (Headteacher, School D)

The pace of change – technological and otherwise – is escalating and, year on year, there are new dimensions to the job of headteacher. We are starting to see the impact of demographic changes, the ageing UK population and globalisation. We are becoming data-rich and have access to increasingly diverse forms of rapid communication.

There can be no doubt that we are living in changing times and that ICT is integral to most areas of school development and can no longer be seen as merely a curriculum area to be delivered in our classrooms. It has become an aspect permeating all areas of work in school. We need it for pupil records, for tracking attainment, for financial management, to support teaching, learning and assessment, in curriculum and development planning, for enhancing creativity through multimedia presentations and for improving communications within our schools and further afield.

Schools have a very complex and ongoing remit. Perhaps the most radical changes of our time relate to new technologies. They empower us to be able to do more, better than ever before. I was interested to see how a group of headteachers from dissimilar schools cope with the challenges brought about by information and communication technology. Case studies were undertaken in five schools that I considered to have a strong sense of direction in how ICT is currently used in their schools and where they want to go in the future.

## **Basis of the study**

The study was part of the Research Associate Programme of the National College for School Leadership (NCSL) and was carried out over the 2006 summer term. Visits were made to five primary schools and semi-structured interviews were held with headteachers and senior members of staff responsible for ICT on a one-to-one basis.

## **Aims of the study**

As well as examining the role of headteachers in putting their schools 'ahead of the game' in terms of the ICT available in their schools, the study also looks at the skills that headteachers employ to lead this area or to facilitate the leadership of others.

## **Selecting sample schools**

The five schools chosen (including one pilot study) deliberately reflected a range of catchment areas: they had received levels of funding that were available to most schools; the headteachers' background in ICT was similar to that of most serving headteachers in this country; and both male and female headteachers were represented. I could have selected from Strategic Leadership of ICT (SLICT) host schools, but I wanted my research to be independent of this NCSL programme, although, in the event, some of the schools chosen were participants anyway.

When my school gained the ICT Mark – a national award for high standards in ICT – we were invited to join the ICT Register, which is run by the Specialist Schools and Academies Trust (SSAT) and which provides a mechanism whereby schools are able to visit other schools with exemplary practice in an area of ICT. It was through their website that several schools were identified. I tried to maintain a balance between church/community and urban/rural schools, and between male/female headteachers. Three schools from the Register were selected. In addition, one school was recommended by Becta and one was a local school that had recently achieved an outstanding grade for leadership and ICT in its Ofsted inspection.

## **The schools**

The schools varied in size: the smallest had 100 children, while the largest had 640. The proportion of children eligible for free school meals varied from 0 per cent to 48 per cent. Four of the study group schools had few children from different ethnic groups, while 25 per cent of one school's children were of Asian background. Of the five schools selected, one was in a city, one was in the centre of a large town, one was in the suburbs of a large town, and two were in small rural villages.

The interviews allowed an insight into how ICT was developing in the schools, most particularly in relation to school leadership, the management of ICT and the availability of ICT resources. All the headteachers believed that ICT enriched their schools. Those involved each had a particular passion and ICT was seen as an appropriate tool that allowed them to develop that vision.

**School A** valued ICT for its impact on pedagogy. It was strongly felt that they did not need a computer suite as the PCs were constantly being used during the day in the classrooms. They had interesting ideas about how classroom design can facilitate the best use of ICT to enrich all areas of the curriculum. The headteacher had created a virtual learning environment (VLE), which was used as a vehicle to develop

personalised learning and to extend home–school dialogue. All children learnt to touch-type. Multimedia was used as an integral part of children’s leaning.

**School B** also reflected a strong link between the organisation of the building and the effectiveness of ICT in the school. With a strong commitment to raising self-esteem and finding ways to allow children to excel, this school was doing some very imaginative work with multimedia and radio. International links supported a reflective culture where curriculum content was being questioned and a skills-based curriculum developed. This school had an ICT co-ordinator for curriculum development, and an ICT manager to support maximum use of software and to provide technical support.

**School C** had a headteacher who wanted to address the needs of the entire school community, which was in a socially disadvantaged area. She had been very resourceful in raising funding from external sources and in linking up with local high schools. She wanted to raise parental expectations and life chances for the pupils. In this school, ICT was particularly well used for tracking and evaluating pupil progress and for identifying children that would benefit from intervention strategies.

**In school D**, the headteacher had a strong, strategic vision, which was expressed in the setting-up of systems to allow a more distributed style of leadership involving the establishment of teams with responsibilities for development planning and budgets. ICT features in all curriculum areas. As headteacher of a large school, he wanted to empower others in shaping the vision for the school. The collaborative approach to development planning was very strong. In this school, many of the decisions relating to ICT were made by the ICT co-ordinator, who also provided most continuing professional development (CPD).

**School E** was the largest of all the schools visited. The headteacher had an appreciation of the potential of ICT. The ICT co-ordinator had considerable responsibility and opportunity to lead and bid for a share of the budget. For the headteacher – with complex timetabling and by putting arrangements in place – the focus of the use of ICT was to promote good communications. Systems were established to keep staff informed of developments in school and to make them aware of the needs of individual children, to allow the tracking of pupil attainment, to support collegiate planning and the work of teaching assistants (TAs) and to allow children to communicate with other schools.

## Case studies

I was interested to see what these headteachers were doing that made their schools forward-looking. Why were they willing to engage with the additional expense and training required to use ICT effectively in their schools? What was the driving force behind innovation in their schools? In discussing how the vision for ICT was being realised, interviewees were also asked if there was any advice they could pass on to colleagues.

### School A

#### Context

School A is the smallest school in this study with 100 pupils, situated in the shadow of the Cumbrian Mountains. There are four classes, with no children having free school meals. It has a mixed catchment area covering a broad spectrum of needs and abilities. The school has spent time, effort and money on enhancing and modernising the learning environment.

#### How is ICT used?

Each of the four classrooms is equipped with an interactive whiteboard (IWB) and a bank of personal computers (PCs) in purpose-built workstations within the classrooms. The pupil to PC ratio is three to one. The school uses a range of peripheral devices, including digital video cameras and a weather station. There is a touch-screen monitor in the entrance area which gives parents access to a range of children's work, as well as a new library with the facility to show multimedia presentations and film. The school is a host school on the ICT Register and offers expertise in the areas of the effective integration of ICT into classroom space, child-centred approaches through ICT, embedding ICT across the curriculum, and ways of motivating children by posting work online through the website and through the school's VLE. The school buys in some technical support when it is needed and the headteacher can often sort out difficulties. ICT is used to support most curriculum areas, often involving multimedia and film-making opportunities. An example involved Year 6 children making a road safety film to help younger children cross local roads.

All children use a touch-typing program. In early years, they considered the children's short-term attention span and provided for a whole range of activities including exploratory play and learning through play, sand and water, role play and ICT on an activity table with computers fully integrated into day-to-day classroom activities.

The headteacher has been in post for three years and made "drastic and rapid change when he came", according to one teacher. He is very committed to developing teaching and learning and sees ICT as a useful vehicle to make the children's learning more effective and to enable them to access elements they would not ordinarily be able to.

The headteacher stated:

"ICT is not seen as the be-all and end-all, or the main way that children are going to learn; but it is seen as supporting ways which will help children learn better by enabling children to think clearly and communicate effectively. The most significant way that we can see ICT impacting on pedagogy is through our VLE, which we developed ourselves to exactly meet our needs. We are interested in empowering children to do things for themselves, to think for

themselves, to understand their own learning needs and to do something to address those learning needs.”

He set up the VLE, although he claims that he has no particular interest in ICT except in how it impacts on teaching and learning. He realised the potential of providing a wide audience for children’s work through the internet. He found out how to create a website, learning programming language from a library book. At the time, he used the LOGO program very effectively in class and found HTML very straightforward. With knowledge of the language, he spent the term before taking up the headship setting up a website that allows children’s work to be published directly by teachers:

“When a girl won a competition and the artwork was put on the website, I realised that her relatives around the world were able to access the picture and print it out. How better to engage the whole family in the child’s education. If children are working for a real audience then motivation and standards are bound to improve. It is opening up to the fact that children learn in different ways and they have different strengths. For every child to feel good about themselves, they have got to be able to shine and I think ICT is enabling us to do that much more.”

The VLE reflects his innovative approach to ICT. The children have their own pages in which to express their personalities and interests. There is an inbuilt messenger facility for contacts within the school community. Teachers can use this to ask children questions and to extend their thinking. Children can tell teachers or the headteacher things about events in their lives, their anxieties and achievements. Part of the site allows for teachers to communicate with each other.

#### **How do they know where they want to go with ICT?**

The headteacher notes that his vision is evolving all the time. The main focus is on assessing the potential of the technology and looking at where the school wants to go in terms of teaching and learning. He believes that “ICT used well to enhance and support proactive teaching and learning is dynamite.”

#### **How do they make it happen?**

The headteacher sees his responsibility as setting priorities for the school. He believes ICT enables highly effective management. As a financial manager, he believes in spending every penny. Since becoming headteacher, major changes have been made to the building as they have invested significantly in both the school fabric and ICT. The headteacher believes in involving all stakeholders, including governors, teachers, the school council and parents. The governing body is very supportive and appreciative. Their first project was the reorganisation and equipping of the Year 5/6 classroom. The space was redefined to include workstations for a third of the class, an IWB was installed and work areas redefined. Having seen what could be done, governors were keen to support improvement elsewhere:

“The governors are very clued up to the potential of ICT. By always showing them this is what we can do, this is what is possible, this is what it could look like, I make sure that they are kept up to date.” (Headteacher)

“It’s not just a case of having a big idea and just doing it; it’s more a case of making sure that it fits everyone’s requirements and they can see the reason for change. You need to take everyone with you.” (Headteacher)

### **Who do they involve in turning the vision into reality?**

The headteacher considers himself to be the lead practitioner, leading by example and building confidence in others. A teacher commented: "It wouldn't happen without the head. His enthusiasm opens your eyes to what can be achieved and what can be done."

The headteacher says:

"You need to listen to your teaching specialists. You need to take the lead in teaching and learning. If that were taken away from me and I became just an administrator, I would not enjoy the job. It is the learning for which I have the passion, so, for me, being a leader in a school is about being the lead teacher and learner. I know that there is this discussion about how much teaching heads should do, but, for me, it's about balance. There is so much pressure to do the administrative things, but if we were released of the administrative burden – and I think ICT is helping to do that in some ways – then we are able to concentrate on things that really make a difference to children: the teaching and the learning. I very much see myself as lead learner and often share my learning experiences with the children."

There is a very collegiate approach amongst the members of staff and the headteacher. There is a strong team, who all believe in a child-centred approach. The headteacher is responsive to the needs of the staff. With new hardware and software, he tests them himself. Often, he goes on training and brings information back to staff. He believes that CPD must be managed with great sensitivity to the teacher's stage of development and made personal to their specific needs and suggests:

"When giving staff new equipment, don't install all the new software in one go. Install just those pieces of software that are most pertinent to what you want to achieve as a school – but only one or two. Provide the training to use that. Wait for the teachers to come back and ask for more. Get teachers to really master the use of one piece of software before they move on to the next."  
(Headteacher)

He teaches all classes regularly, which allows him to guide staff through difficulties. The headteacher is the 'nominated ICT co-ordinator,' but developments are collegiate. When he arrived at the school, confidence in ICT was not strong. Now staff meetings are described as exciting. Staff are encouraged to be brave. Each staff meeting has a slot for ICT coaching. Staff have moved forward so much that he believes that developments would be sustainable if he were to leave.

### **Is there any advice they can offer to other schools?**

- "ICT is not everyone's cup of tea. Realistic advice would be to tap into expertise that exists in the school. If children are very strong, give them [the] opportunity to teach others. We don't teach PowerPoint: the children teach each other. Peer coaching goes on a lot. We provide opportunities for them to learn from each other." (Headteacher)
- Find out what is going on locally in nearby schools. Use the ICT Register – the idea of having a central register, where skills offered by schools can be accessed, is great.

## **School B**

### **Context**

This rural primary school of 230 children is situated three miles from Stafford. The school is oversubscribed and 75 per cent of children come from outside the catchment area, having a wide range of capabilities. The headteacher has been in post for 16 years. His father was headteacher of this school and he attended the school as a child. From September 2006, he has been seconded to work for the Specialist Schools and Academies Trust – a national organisation promoting new developments in schools – for the next academic year. The school has many long-established international links.

In 2001, the school was refurbished and extended as part of a private finance initiative project. At the time, IWBs were put into each classroom and computers spread around the school. A radio station was installed in part of the old schoolhouse and a cyber café in the entrance area of the school. Classrooms have been built in pairs with shared practical areas designed for co-operative learning and the effective sharing of resources and support staff.

### **How is ICT used?**

There are 50 new PCs distributed through the classrooms, the practical areas, the library, a dedicated ICT suite, a wireless laptop suite and the cyber café, which also has an LCD screen showing multimedia work and animations produced by the children:

“When we got the whiteboards, we just threw everyone into the deep end, purchased whatever support we could and got on with it for everyone except early years. For them, we wanted to wait and see how useful IWBs were going to be; but for everyone else, we bought a laptop for every teacher, computers in all classrooms plus an IT suite with everything networked and accessible from everywhere. Since then, we have bought a new server, replaced all the machines and bought wireless laptops as well. To replace over 50 PCs in the last year we used money saved from capital grant and took out a loan.” (Headteacher)

The school is listed on the ICT Register, offering expertise in IWBs, the radio station and international links. It also runs courses for teachers from other schools:

“People come and have training in our spare mobile and then go into the classrooms, talk to the staff and get a much fuller picture about what they are doing. They go away with ideas they could put into practice in their schools – all for £95 and pub lunch. We are interested in the cross-fertilisation of visiting other schools, not suggesting to other schools how things should be done.” (Headteacher)

Long-established international links have helped support the development of ICT in the school. Every year group has an international link, and some pupils make exchange visits having made initial contact through email. Similarly, email enables teachers to explore curriculum overlap and the transference of skills and information. ICT is embedded throughout the curriculum, enabling and encouraging pupils to be independent learners and to collaborate both within and beyond the school. They see the future in ICT as developing pupils' skills to use and apply it as a tool to support their learning; a tool over which they have a high degree of control and which can be used in an endless variety of ways. They are seeking to develop this by sharing good practice through networks such as the SSAT's ICT Register, their own local networks

and through the international links that they have been developing alongside ICT throughout the school:

“For me, what it is all about is the kids. We are giving the kids opportunities to do things they wouldn’t otherwise be able to do. In lots of cases, it’s just letting them go with it. They will do more with stuff than if we prescribed it. We give them a framework and then see what they can do.” (Headteacher)

### **How do they know where they want to go with ICT?**

Many new developments evolve from previous work, producing a momentum of their own. The headteacher believes strongly in encouraging children to grow in self-esteem, and that children need to find their own particular strength or interest and run with it:

“This morning, we were doing traditional maypole dancing and there is L, zapping the music and he has got it absolutely right – and he was stunning. He got the music just right and I couldn’t have done that. That sums it up in lots of ways. Staff should give them the opportunities, give them the support and then get out the way to let the kids get on with it. We do animation, digital video, radio – where they write and produce and broadcast live. We have weekly broadcasts and Desert Island Discs – stunning! E as Sue Lawley is amazing. She has found something she can do and she shines. Her SATs results might be quite ordinary, but what she can do is really special. Through this type of experience she will probably fly.”

The headteacher believes that developments in new technologies and international links are where the future lies. One of the international projects involved the headteacher linking with a Norwegian headteacher, who, as a critical friend, examined the impact of IWB on teaching and learning. The question he left for consideration had come from the children saying that they would have liked to use the IWBs more. He asked if allowing the children greater interaction with the boards was an issue. Subsequently, collectively considering the question has changed the way IWBs are used in the school.

Team leaders work together and the headteacher has been able to go out and work outside school in other parts of the country and in other parts of the world and bring thoughts and ideas back into school. A culture of experimentation and innovation exists within the school. The headteacher encourages teachers to be prepared to try new ideas in ICT and elsewhere:

“Teachers need to be reflective about their practice and to be aware of what is considered to be acceptable in the quality of experience for the children. Staff know there is a standard they have to meet – not necessarily doing things my way. We never do half a job, nor do the kids. We can throw anything at them and they will have a go. If you are talking about achievement rather than attainment, then I think our kids have done really well. I like to look at them as they are leaving and ask have we done a good job by those kids? Have they had a good deal from us, and there are very few kids where the answer is negative. I think the biggest danger in a school like this is complacency and thinking that you have got it sorted because you never have. You can always do something better.” (Headteacher)

The headteacher believes that technological games are a powerful educational tool that is currently underutilised. Games have a great potential to make learning fun and enjoyable, and in helping us recognise that learning does not have to be imparted in

a formal way. In the future, he believes that learning will take place “any time, any place, anywhere”. ICT is a tool that would easily support this as it can be accessed away from school. He believes children can achieve at the highest level if they are given the right opportunities:

“One of my visions is for one of the kids to take their video to the Cannes Film Festival. That would summarise my vision for how we use ICT. They would have created something that was of a good enough quality that they felt it could be entered to the Cannes Film Festival.” (Headteacher)

### **How do they make it happen?**

Attending a SLICT course a few years ago made the headteacher appreciate the value of looking at ICT in other schools. He made a close link with a school in Wolverhampton and they have been collaborating ever since. As an Ofsted inspector and consultant headteacher, he also has the opportunity to look at other schools.

The headteacher has strong views about being brave in spending the maximum available and also being prepared to take out loans. These views may be helped by the fact that the school is oversubscribed:

“Bite the bullet. It is no good moaning you have no money. ICT is expensive. It is expensive to buy, expensive to run and expensive to replace. Once you have decided what you want, you have got to accept that you have to reprioritise and, if necessary, take something away from elsewhere. What you are here for is to decide the strategies and course for developments in ICT. It is not cheap and it is hard to find the money unless you are really fortunate and have got some parents who help, or gain sponsorship. My governors are kept in the loop all the time. This is what we want to do. This is how we want to do it.”

He sees the personalised learning agenda as closely matching developments in school, which he believes will ultimately provide a vehicle to improve continuity from primary to secondary. The nine gateways to personalised learning as identified by Hargreaves (2004) are:

- curriculum
- workforce development
- school organisation and design
- student voice
- mentoring
- learning to learn
- assessment for learning
- advice and guidance
- new technologies

The headteacher sees key skills as the way forward and has revamped the curriculum from September 2006 based on the six areas of Key Skills, which are:

- communication, including visual literacy (includes animation and video)
- the application of number
- problem-solving
- ICT and how you use it
- working with others
- taking responsibility for your own learning

“There has to be a reason for why we want to do something and we have to be pretty confident that it will have a positive impact on children’s learning. We will take a few risks, but we won’t always dive in to be the first to do something. We let other people make the mistakes.” (Headteacher)

### **Who do they involve in turning the vision into reality?**

The headteacher sees it as part of his role to look for ideas. He is proactive in finding out what is available and seeing how it is being used, and then he organises for opportunities for development to be distributed amongst colleagues. The school has an ICT manager, an ICT co-ordinator, technical support purchased from the local authority, teaching assistants with specialist knowledge in animation and ICT presentations, and an animator who runs courses at the school and at an after-school club. By empowering others and making responsibilities defined and manageable, individuals can take on more responsibility. For example, the ICT co-ordinator has recently been working on a skills ladder relating to the Key Skills curriculum.

The headteacher is convinced that distributed leadership is central to the success of the school. There are teaching assistants who are leading major areas of school development because he believes that they are the best people to do so. One teaching assistant is employed as an ICT manager. She is responsible for ensuring that software is used effectively, working with both teachers and children, and is employed in this capacity for half the week.

Decisions are made collectively. They have moved away from relying on one ICT co-ordinator. Different people are responsible for software, technical issues, the website, the radio station, film and animation and curriculum development. Key people get together and help to sort issues out. Currently, they are looking at video conferencing as a way to support staff and to continue to develop national and international links. They run workshops, bring someone in and give staff time to get to grips with new developments.

It would be usual for the headteacher to have new ideas in the first instance. From coming across a new area for development, he would expect a new idea to take some time before seeing an impact on children’s learning; staff need to be ready for it:

“One of the downsides of being enthused as a head and going out is that if you take it back, staff may still be getting to grips with the last six ideas you brought back. I need to talk about it with somebody and log that it is something for us to think about. With the Kaleidos Learning Platform, for example, I could see straight away that it is going to be great as it will support video conferencing, and, also, we will be able to link with schools locally and internationally. Because we knew this was what we wanted, we waited until the opportunity arose. The same with video and animation. You just have to wait for staff to see the value of it and develop enthusiasm and then they need the support. If you want them to move on, time it right and give them a bit of time to do it.”

He believes that the headteacher needs to inspire a dynamic culture within the school and not be prepared to tolerate complacency. All staff must engage with the agenda for change:

“The biggest problems I have had have been with established teachers who are good teachers and they have not challenged themselves and reflected on

whether their thinking is right. They think that if they have been a good teacher they will always be a good teacher, and that is just not true. You are only as good as what you have done over the last twelve months, and, unless you are prepared to change and look at yourself and do something about it, you are not a good teacher. I would say teaching and learning now is significantly different to how it was three years ago. The kids have more input into their learning now.”

He also believes that having an overview of developments is the responsibility of the headteacher, but that the management of ICT responsibility should be distributed far and wide. There is an expectation that everyone will make a contribution to developments in ICT – including the children. School improvement entails empowering people, both children and adults, to take on more responsibility:

“If I had a vision for this school it would be that the kids and the staff were mutually responsible for the running of the school on a day-to-day basis, making kids much more independent as learners and equally in the running of the school.” (Headteacher)

Financial management is assisted by the bursar. She is informed about what people need in terms of software and decides if e-learning credits are to be used. Outreach work and links with other schools allow them to check purchasing decisions before they commit themselves.

Teachers have had to improve their ICT skills to take part in the international links projects. The headteacher does not believe that he should take the lead in all aspects of ICT. The area is too diverse and too complex. His main interest lies in the radio station, whereas other teachers are more skilled in animation or film-making. He believes ICT should be used as part of a reflective culture where it is evaluated in terms of its impact on learning:

“We constantly reflect on what we do with the question: ‘That is good fun but how is it impacting on the children’s learning?’ We don’t measure it necessarily, but we do take a view if it has enhanced a kid’s learning or not.”

There is no one person seen as lead practitioner within the school, and he does not believe it is the role of the headteacher:

“I am one of the two key facilitators for ICT. We open doors, take away barriers like time, money and confidence. Some of the lead practitioners are not necessarily those teachers who are best at ICT. We are not looking for one person to be the leading light. I look to see that the team leader for each double year group is skilled up to support less confident colleagues on the spot and instantly. If you, as a head, are the lead practitioner then I think it is very difficult to let go. Equally, if the head has not got a reasonable level of competence in ICT, if they are not tuned into ICT and don’t see the value of ICT, then it is unlikely that ICT is likely to go very far other than in very small pockets of good practice within the school. I think heads need to be open to learning about ICT, but not necessarily learning to do it.”

### **Is there any advice they can offer to other schools?**

- Headteachers should visit as many schools as possible, particularly outside their own authority.
- Headteachers should use the ICT Register and try and visit some of those schools and/or take part in one of the international initiatives.

## **School C**

### **Context**

School C is a junior school situated near the centre of a large, industrial town in Cheshire. A few years ago, the infant school burnt down and the infants received part-time education while the school was rebuilt. The number of children attending the junior school has subsequently fallen, and, instead of three-form entry, it has now dropped to 2.5 classes each year. The school is in a socially deprived area, with 48 per cent of children qualifying for free school meals. Most of the children are white British. The headteacher came to the school as a class teacher in 1990. In 1993, she became deputy headteacher and then acting headteacher and headteacher from 2001. The infant and junior schools were due to be amalgamated in January 2007. The school also acts as a SLICT host school.

### **How is ICT used?**

All classes have smart boards. The school has a high-tech computer suite, recently updated, to support the teaching of ICT skills. They use a commercial scheme of work for the teaching of skills and also use the suite for literacy, numeracy and research. They have classroom machines: one connected to the IWB and one other. The same software is available on all machines throughout the school. The school buys in a technician for one morning a fortnight from the local authority.

Recently, they purchased 17 laptops on a trolley but are disappointed that they are not working as they had hoped. The problem appears to be that, at the start of a lesson, teachers can't manage to get them out into the classrooms fast enough:

“One teacher with 25 children and 17 laptops and it just doesn't work. It is virtually impossible. If we have students in, then, with enough people, it works really well, but without additional people it can cause huge problems. The actual practical management is difficult. Sometimes, people put the laptops back but they don't plug the wires in properly. The laptops are timetabled and monitors take them to the classroom. We have a security issue that if a laptop is left out at the end of the day the likelihood is that it won't be there at 3.30pm. We had two laptops that have just walked.” (Headteacher)

Owing to the level of social deprivation, special educational needs (SEN) support is a major area of concern for the school. Pupil achievement tracking and the monitoring of progress is an important aspect of the work of the school.

### **How do they know where they want to go with ICT?**

When the current headteacher took over in an acting capacity, she was very keen to introduce IWBs. As a governor at a neighbouring comprehensive school, she took all staff to the high school to show them the resources: smart boards and peripherals. She managed to convince the high school to donate a smart board and three data projectors to support cross-phase transition. They now have 11 boards, half of which were donated from different sources.

She thinks that improving ICT is an excellent project for a new headteacher as it provides something that can make a huge difference to children's learning. On her being appointed headteacher, ICT moved forward quickly. The headteacher wanted to improve her own skills and knowledge so she attended a SLICT course which she thought was “brilliant,” most particularly as it gave her opportunity to meet other headteachers and visit other schools.

She took part in an international visit to the Netherlands, which also helped to improve her confidence in both ICT and development planning. Working as a critical friend with the Dutch headteacher helped to extend her thinking by questioning the value of aspects of the work of both schools. She believes that by visiting other schools she has gained a much clearer sense of direction as to where the school needs to go in relation to ICT.

The next area for development for the school is using ICT to support SEN, particularly for children on School Action and School Action Plus. The ICT co-ordinator and the special educational needs co-ordinator (SENCO) are working together to identify the most appropriate software and to organise training. They are visiting other schools and exhibitions to find the right software.

The headteacher and the senior ICT co-ordinator recently visited a school in Wolverhampton to see personal digital assistants (PDAs) being used:

“I really wanted to see if the PDAs could be used as a resource for our pupils and parents. On one SLICT course, this head told us of Wolverhampton’s involvement in a PDA project. Later, I read an article and rang the school up and it was the same head so we arranged a visit. We were allowed to sit with the children for over an hour and they told us all about it. I would go with it but not just as a school. It would have to be an Excellence in Cities venture or through the local authority. There were children who had worked on science presentations at home. One was on evaporation, another condensation and a life cycle of a flower. It was real learning. It was interactive and the children really knew what they were talking about. The PDA was plugged into the teacher’s laptop and could be shown on the IWB. I would buy PDA units next week at a cost of £54,000 if we could afford it, so, I wrote to David Beckham asking for sponsorship. Well you never know.” (Headteacher)

### **How do they make it happen?**

This school is strongly committed to the belief that, in order to support the children, they need to involve the parents. In the local area, parents often have unskilled work and are poorly paid. The headteacher feels that obtaining the European Computer Driving Licence (ECDL) qualification would boost their skills and employment opportunities, and help parents to become more involved with the ICT experiences available to the children. She notes:

“I thought I would be able to use the laptops for parents. I arranged for the college to run the course but I couldn’t get parents over the door. Parents have come flocking in for art classes and creativity. I would like to see the ICT suite full of parents every morning. We will have to find a way to entice them in.”

She sees ICT as an opportunity to increase motivation and raises standards, but is aware that the budget alone will not allow them to do what they want to do. Funding has come from many different sources and the headteacher has been very proactive in applying for grants, bids and sponsorship. Half the new suite was paid for by a Devolved Formula Capital grant and the other half by a local business. The headteacher regularly writes to local business and has received several large donations. ICT is expensive, so, whenever spending on ICT, she has to know that it is going to impact on the children’s learning.

### **Who do they involve in turning the vision into reality?**

There are two ICT co-ordinators. The ICT co-ordinator on the senior management team (SMT) is a very experienced member of staff with a very good knowledge of ICT. The other co-ordinator is less experienced and has specific responsibility for the website and the laptops. The senior ICT co-ordinator is also head of the lower school, with responsibility for the ICT curriculum, staff training and finance. She comes up with funding suggestions and puts them to the headteacher, who usually checks the thinking, particularly in relation to children's learning. If she is convinced, she then tries to find the money.

The headteacher believes her role to be strategic. Having listened to advice from the ICT co-ordinators and consulted with the SMT, she produces action plans and makes them work within the budget available. She believes it is essential to share developments with governors and the wider school community.

A teaching assistant has responsibility for assessment and collecting data. All pupil information is kept on a designated machine in the staffroom. If anyone wants assessment information it is easily accessible because the school is data-rich and staff are trained in identifying problem areas of learning for children. The school runs a variety of intervention programmes that support children with learning difficulties. ICT is central to the assessment process and to the targeting of support:

“The data for our intervention programmes lets us know what the children's difficulties are. We have all kinds of data supporting programmes like the reading catch-up programme. It is most helpful to identify where improvement is being made or letting us know if a child isn't making appropriate progress. ICT systems are central to tracking pupil progress and triggering support.”  
(Headteacher)

The headteacher notes that the introduction of ICT materials has to be carefully monitored. She feels it is important to understand when teachers are facing problems and to be prepared to adapt the original idea to make it more manageable, even if it differs from the original intent:

“You have to be prepared to change your vision. If it doesn't work, you have to change and adapt. If teachers know what they need then you have to sort it quickly. It was like when a teacher had no speakers or we had identified the need to have scanners. If staff are ready for something you have to bite the bullet and buy it for them. We have action plans but they have to change; all sorts of new, unexpected opportunities arise.”

She believes that putting a vision into practice involves understanding what needs to be done and then making it possible for people to do it. A headteacher will be most effective if there is empathy with the teaching staff and knowledge of how new systems or software work in order that he or she can find solutions to problems that prevent effective teaching and learning from taking place:

“I know what I want but the practical aspect has been more difficult than we thought. It made a huge difference when we decided that whenever the ICT suite is used teachers always have a TA with them to sort out practicalities. This had a big impact on children's learning.” (Headteacher)

There are several lead practitioners of ICT in school but the headteacher does not count herself amongst them:

“Probably, the person most likely to be left behind is me so I make it my job to go into the classrooms and teach classes. The teachers or children show me what to do.”

### **Is there any advice they can offer to other schools?**

- Be very proactive and get what you want. Start small and focused and make it work.
- Be brave and, if you make mistakes, listen to people and do what needs to be done for children and teachers to get it right.
- Put ICT as a target into everyone’s performance management agreement.
- Plan to keep equipment secure and make sure that you have appropriate insurance.
- As a headteacher, don’t be afraid about being left behind. The children will always teach you. Put your efforts into learning about the bits of ICT that you need to know. Don’t be afraid that children know more than you.

## **School D**

### **Context**

This large, two-form entry primary school has 497 pupils and is situated on the outskirts of a large town in the Midlands. The number on role is increasing as a new housing estate is being built. Materially, the catchment area is quite prosperous as both parents tend to work. There are 3 per cent of children on free school meals and the school has a nursery. The school has a fine collection of awards including the NAACE Mark, awarded in March 2005. The ICT co-ordinator is an advanced skills teacher (AST) in ICT. The school is on the ICT Register and is a SLICT host school.

### **How is ICT used?**

Seven years ago, when the headteacher came to the school, there was very little ICT and now it is used everywhere: in administration, local networking, SIMS, (Schools Information Management System) the Staffordshire Learning Platform Pilot, planning, assessment, personnel, digital photographs, record-keeping, tracking pupil progress, and data analysis:

“Initially, ICT was a separate subject but now it is in absolutely everything.”  
(Headteacher)

Children have access to two IT rooms. The Learning Resource Area was designed specifically as a multi-task area and has software most suited for Key Stage 1 (ages 4–7). The other room is designed with Key Stage 2 (ages 7–11) in mind. Both areas are timetabled. There are also a minimum of two PCs in the classrooms. There are IWBs in all classes linked together with a little satellite station in the nursery. They have about 130 PCs in the school.

Funding has come from the National Grid for Learning (NGfL) capital grant, the Staffordshire Whiteboard Project, and loans. The school is situated near a Tesco store which has enabled it to acquire a lot of peripheral equipment through the store’s voucher scheme, including Digi Blue video cameras, scanners, digital cameras, data loggers and digital microscopes.

The ICT co-ordinator is an advanced skills teacher. She is employed for one day a week to support other schools with their ICT through the local authority. She became an AST as a result of her interest in ICT, while the outreach work has allowed her to see what is happening in other schools as well as to develop her own expertise. As

ICT co-ordinator, she monitors developments in the school, provides training for staff and helps identify planning needs. ICT is used across the curriculum to support learning in many different subject areas.

### **How do they know where they want to go with ICT?**

The headteacher is responsible for the strategic direction of the school and ICT is very much part of new developments. The ICT co-ordinator is very knowledgeable about ICT on many different levels so the headteacher relies on her for information and advice:

“I don’t think I need to be an ICT expert but I do need to know where I want my school to be and how I want ICT to be used. Fortunately, we share much the same vision in terms of identifying the next stage we want our school to go down. I do have a lot of influence but I don’t have an influence on the nuts and bolts. I influence the way we are travelling but not necessarily the sort of car we are in. The head has to keep charge of the budget or how else can you keep some sort of strategic handle on the school. You have got to be able to control the way it is going.” (Headteacher)

The headteacher has considerable expertise in development planning, both in the UK and through strong links with a school in Ireland. He believes the school development plan (SDP) should be kept very accessible and a copy given to everyone in school. The headteacher offers support to other headteachers on development planning through the ICT Register. He likes to keep up to date with new ideas by reading, visiting other schools and through discussion.

The headteacher believes we have to work to the government’s agenda whilst being aware of the specific needs of children in our schools so that, in the future, we will provide for more individualised learning and personalised learning opportunities. He explains:

“We have all seen the scenario of the child working at home and the teacher behind a screen and I don’t think that that is a ridiculous vision. The Learning Platform is the first part of that. We are already into the notebook stage and the laptop stage and the next bit is going to be far more personalised learning. There will be more opportunity for children to learn at a distance from school.”

He is attracted to new initiatives and developments and likes to feel that the school is ahead of the game:

“We have always been first in the queue. I like to think if there is anything going I can get it in terms of pilots and things like that.”

He believes that parents have to be involved in order to know how to support their children at home, so he ensures that parents are aware of what is happening in school:

“One of the things we really try to do is involve the parents so they know what sort of experience the children are having. One teacher runs six, five week courses for parents in ICT.”

## **How do they make it happen?**

The governors are kept informed of new initiatives and are aware of the potential cost of ICT projects. They are prepared to support the headteacher over the funding of expensive ICT projects as they appreciate the value of new developments in school:

“The governors have always been incredibly supportive when I have asked for these huge chunks of money. ‘Can we borrow £72,000?’ And they have always backed us up. We have done deferred loans, the whole lot. It’s like saving up for a car. You could save your money and four years down the line you have just about got enough to buy a used Ford Fiesta. Take a loan out instead and get yourself a Merc.” (Headteacher)

In addition to the ICT co-ordinator, the school employs a full-time technician as the headteacher believes that an appropriate level of support is essential if ICT is to be used effectively. The school’s website is managed by the ICT technician. One of the staff is artistic director, who works on content. The headteacher is happy to pay for technical support, and for administrative support to input all the data from tests:

“There is no point in having an IWB in every classroom if they are not working. The co-ordinator hasn’t got time to chase round and fix them. She has got 35 kids to look after... It is much better to use an employee on £8 an hour than a teacher on £30. A teacher should administer the test and get the results back.”

## **Who do they involve in turning the vision into reality?**

The headteacher has reorganised curriculum leadership in order to empower more teachers to have a say in curriculum development and develop better teamwork and distributed leadership:

“We have strong staff and having individual co-ordinators seemed to put too much onto an individual member of staff. We have looked to disseminate and develop the curriculum so we have formed curriculum development groups – each with a group leader. We grouped subjects together in three groups and from there it determined which staff we wanted to get involved. Grouping came from people and their responsibilities. I identified people I wanted to become leaders and grouped them that way. It may be unconventional, but understanding people was at the root of it.

“Team leaders have all got a pretty rigid brief. They negotiate their budgets including supply and materials. They put together what they want in a development plan. The biggest effect I have seen so far is the cross-fertilisation. Here is the reception teacher working and supporting Year 5 and Year 3. That just didn’t happen before. The reception teacher in charge of Geography might never set foot outside the reception area. That has been very pleasing. I have got so many young, keen, enthusiastic teachers and I like making them responsible.” (Headteacher)

The school development plan is based on planning for the financial year. One of the curriculum groups is responsible for putting together the ICT development plan and negotiating the budget with the headteacher. This year, they came up with a budget proposal of £42,000. The headteacher negotiated it down to £23,000. The headteacher believes that headteachers must play a significant part in the development of ICT. An ICT co-ordinator in a large school needs to have an ongoing dialogue with the headteacher if appropriate decisions are to be made. In this school,

both the headteacher and the ICT co-ordinator felt that the ultimate responsibility lay with themselves, so it was fortunate that they shared the same vision for the school:

“You have got to have the drive to recognise that it is an important part of what you do. I know too many heads where they say things like ‘well, we had better get a computer room,’ without realising what it is all about. You have to make the right choices for your particular school and staff.” (Headteacher)

The ICT co-ordinator stated:

“I make the decisions and the head finds the money and we are always looking ahead. I know what needs replacing and what is new. I look at the infrastructure and make sure it is stable. I also can find the right software for the school. The staff profile has changed a lot and become much younger, but they don’t have breadth of knowledge. I support the CPD of teachers and TAs.”

The deputy headteacher identifies and arranges an outline for CPD for all staff, with most of the ICT training run by the ICT co-ordinator. Team leaders are responsible for curriculum development. The headteacher has a strategic role, overseeing all the different aspects of school development:

“As a headteacher, you need a group of people to take development forward. You can’t just do it yourself. We are fortunate to have staff who are very knowledgeable and staff who are prepared to pursue a development to the nth degree. Staff are your support. Without them you can get nowhere. I know from previous experience in previous schools. You can have the best will in the world and millions to throw at it but, without the staff, you’re not going to get anywhere.”

The headteacher does not believe he needs to know how to use the technology. What he needs to do is recognise its value and identify when intervention or support is necessary:

“I am the least skilled person in the school. I can turn the whiteboard on, write on [it], pull up a flip chart, get something off the internet and that is about it. I don’t pretend to be a lead practitioner. The staff know my level. We try to be at the leading edge. There are only a handful of staff who know what a platform is in Staffordshire – and two of mine will be using it in September. We are heavily involved with Espresso [an information website] as an ambassador school and do quite a bit of filming for them. I always choose different people to do them. I make sure that software and hardware is not antiquated, and CPD is knowing where to put your energies or you could end up chasing your tail.” (Headteacher)

#### **Is there any advice they can offer to other schools?**

- Have an expert in ICT available on the staff.
- Make sure your staff want to develop.
- Provide staff with the resources they need, including technology and support. It is no good having an IWB in every other classroom.
- “Make sure that the damn stuff works because half of the frustration of ICT is that some mornings you turn it on and nothing happens. If you expect a member of staff to get out of that whilst looking after thirty kids, you can forget it. All that does is make for quite a negative experience. It is so important that

- if something goes wrong that there is someone there to fix it.” (Headteacher School D).
- Visit other schools. “By yourself you can’t have a vision. You only get vision by talking to others.” (Headteacher)

## **School E**

### **Context**

This large Catholic primary school has 640 children on role with three-form entry and a 65-place full-time nursery. The school was built in 1966 as a one-form entry school, extended in the mid-1970s to two-form entry and was then further extended in the 1980s. The school is currently full and oversubscribed. About 35 per cent are eligible for free school meals. They have been a SLICT host school for four years and have both the NAACE Mark and the ICT Mark.

### **How is ICT used?**

There is one computer suite with 20 PCs. Each class is timetabled for one hour a week in the suite, where IT skills are taught. In addition, they have a wireless network and laptops which can be used anywhere in school. There are two or three of the older computers in each classroom. Access to laptops is timetabled through a diary, and these are often used for research in Key Stage 2. There is approximately one data projector for each year band. They currently have one IWB in the school but, from September 2006, there will be one per year band. About a third of the staff have a laptop belonging to the school.

Good communication is a strong feature of the use of ICT in this school:

“Because we are a large site, communication on a daily basis can be difficult so we have a local intranet in school which has a weekly diary. I will type it up and email it to staff. Staff meeting minutes [and] SMT meeting minutes are all posted by email. It keeps communications very tight and sharp. I would like to think we could become paperless. All records are now saved on the hard drive. All staff can access that information. We are moving towards staff having access to that information from home. Children will be able to submit homework via email. We are not there yet, but I do believe that communication is very important to get right.” (Headteacher)

Good communication and access to information is particularly vital in a school with complex class organisation:

“In Key Stage 2, the class teacher teaches core subjects in the mornings. In the afternoons, specialist teachers take the classes. Teachers specialise in PE, Geography, History and they teach the curriculum from Year 3 to Year 6 so it is important for all members of staff to know the pastoral information about the children that they are teaching. They have to be able to access so much information – and quickly.” (Headteacher)

All planning is stored on the server, which can be accessed by anyone in the school. Year group teachers have planning, preparation and assessment (PPA) time together and they differentiate work for top, middle and bottom sets. Existing plans are modified or can be completely changed. The school closes early on Friday afternoons and staff are released for collaborative planning – including with TAs:

“Three class teachers in a year band do their planning together at the same time, so you will always have one member of staff who is strong in ICT who can share their thinking with the others.” (Headteacher)

### **How do they know where they want to go with ICT?**

The headteacher and ICT co-ordinator work closely together, with considerable responsibility delegated to the co-ordinator. The headteacher feels she must maintain a level of knowledge to allow her to make informed decisions. The ICT co-ordinator is the lead practitioner in ICT in the school. He provides training for staff in school and within the Catholic partnership in Birmingham. An example of the way they work together was when the headteacher felt that the ICT suite was not providing the children with sufficient opportunity to use computers. She thought the solution was probably to use wireless laptops. In order to help her make her final decision, she visited two other schools with the ICT co-ordinator. He then researched which laptops to buy and worked out how they were to be deployed and maintained.

The headteacher sees one of her main responsibilities in ICT as having up-to-date information about what is available, identifying budgets, encouraging and motivating the ICT co-ordinator and other members of staff. She is very comfortable that she has a strong sense of direction for school development. She knows what she wants with regard to where the school is heading in ICT, but, when it comes to the technical aspect, she can be unsure as to how to achieve it. The strategic direction of the school is the headteacher's, but the detail as to what is actually purchased is delegated. The ICT co-ordinator has a lot of expertise and puts forward ideas to the headteacher:

“We are going to purchase Promethean whiteboards. I decided that all the boards should be the same, and how much we could afford to spend. The ICT co-ordinator researched which board to buy. He invited people in and we contacted other schools to check our decision. Real decision-making is delegated. I rely on him to give me sound advice because he knows so much more than I do. I have to place confidence in him and go with his judgements. I have a big school to run.” (Headteacher)

The headteacher sees developments in ICT impacting on all areas of school improvement. Currently, all children from Year 1 to Year 6 are taught French or Spanish for 45 minutes a week. The headteacher would like to develop video conferencing links with schools abroad to support developments in modern foreign languages. She knows this is an area for future development and is waiting until appropriate opportunities arise:

“When [video conferencing with a local college] does take off, I think it will be quite valuable, particularly in supporting modern foreign languages. We do international weeks and video conferencing would also support that work.”

The headteacher would like to see mini-suites in small bays around the school, big enough for 8 to 10 laptops to support children with special educational needs. She believes that ICT ought to support the administration of the school and would be prepared to try anything to make life easier.

### **How do they make it happen?**

The headteacher sees one of her responsibilities as identifying the amount of funds available for ICT each year.

There have been some inherited difficulties that have had an impact on funding. The PCs in the suite were leased and the headteacher realised they were not good value for money, but could not get out of the contract. Now the leasing period has expired, it has freed up substantial funds. The money spent in a year on leasing has now been used to purchase 20 new PCs and 2 IWBs.

In order to involve all teachers in school improvement the school dedicates an INSET day to school improvement planning. At this meeting, the ICT co-ordinator puts in a bid for funding alongside other curriculum co-ordinators:

“We have a school improvement planning day the first day back after Easter. We look at statistics and identify where the priorities are, but, in my mind, I already know where I want the school to be heading in the next academic year and it is a case of selling that idea to the staff. This year, I knew I wanted to invest a substantial amount in ICT and ran the idea by the staff and most people were in favour.” (Headteacher)

This year, IWBs have been such a priority that the ICT co-ordinator has received as much funding as could be afforded. Curriculum co-ordinators and the ICT co-ordinator look at software together. E-Learning credits are bid for by co-ordinators, who make a case for purchasing the software they have identified.

As communication is considered to be of great importance, many developments are designed to support CPD and shared planning in school. As teaching arrangements are complex, with children set into ability groups, all planning can be accessed to check what other groups are being taught. There have been several projects involving children and staff emailing other schools locally and further afield:

“The Year 3 email project was set up by the local authority and [is] now in its third year. During the first year, it was less successful because there was an assumption that all staff had the knowledge to be able to set up the project in their own school. Some schools we emailed and we got nothing back and some would be in regular contact. In the second year, they set up two training sessions and explained much better the aims of the project and how the technology worked. There was much greater involvement. We had the same staff involved for the second year and it went really well. The children met children from other cultures and from other parts of the city when they all met up for a picnic.” (Headteacher)

### **Who do they involve in turning the vision into reality?**

The headteacher feels her staff are quick to utilise new opportunities in ICT:

“Having a young, vibrant staff means that we do not have to contend with people who lack confidence or people who are afraid of pressing the wrong button.”

The ICT co-ordinator is very experienced and can provide CPD in ICT for all staff. For six months, the ICT co-ordinator was released from class to support training. He taught alongside every member of staff in the ICT suite. He believed that teachers significantly increased in confidence over that period. Staff training needs are identified through questionnaires. The information is collated and training is provided

according to staff needs, for example, the last survey identified the need for training in the use of spreadsheets.

Currently, the ICT co-ordinator is providing support for TAs in ICT. He has been released to do a six-week block with 16 TAs for an hour a week. Teachers and TAs also have the opportunity to share knowledge and ideas in the designated period for shared planning, when the school closes early on Friday afternoons.

The school employs a full-time technician who also deals with reprographics. She sorts out some of the technical problems. They also employ a technician one day a week who is particularly good at installing new software and dealing with more technical difficulties. A retired headteacher comes into school once a week to update the website. He posts newsletters and children's work on the website for the parents to see.

**Is there any advice they can offer to other schools?**

- As a top priority, get a really good ICT co-ordinator:  
"Be seen to be using ICT yourself and challenge your staff. We made it a priority for staff to have to present staff meetings through ICT when we had had projectors fitted. Every member of staff had to do that as part of their performance management to get them used to using the data projector and it helped enormously." (Headteacher)
- Have a technician for at least one day a week to sort out licences, to keep the inventory up to date, and to free up the ICT co-ordinator to deal with the important things like training – and not the daily hiccups that occur in class.

## Findings

These schools are embracing change. They are using ICT to support their own particular passions and needs. In itself, ICT is so vast that no school can tackle all aspects, so these schools have not been looking to become Leading Edge schools in ICT, rather they have used ICT to support innovative practice within their schools.

Schools are judged by Ofsted based on their capacity to improve. It is considered a strength of a school if it demonstrates the ability and willingness to change and improve. We cannot afford to stand still. The major imperatives for change are a changing world and rapid developments in ICT. Our very best schools have children able to research using ICT, and to present their interpretations of their learning through a range of multimedia packages. They use digital photography, the internet and digital video from a very early age. ICT is integral to most lessons. Of course, ICT is only a tool, like a book or a calculator, and will only prove to be inspirational if it is used by effective teachers.

One could also argue that, in order for Britain to maintain its economic status in the world, it is essential that headteachers take ICT seriously. The schools involved in this research have done just that. They have all developed, in different ways, reflecting the school's specific priorities, the size of the school and the enthusiasm of the staff – especially that of the headteacher – and, in particular, the pupils' needs in relation to their catchment area, as well as the skills they may need for the future:

“The technological challenge for education is to enable young people to make their way with confidence in a world that is being shaped by technologies which are evolving more quickly than at any time in our history.” (NACCCE, 1999)

The group of headteachers involved in this research were from dissimilar schools, yet all embraced the challenges brought about by developments in information and communication technology. The schools were from a variety of social settings and were of very different sizes. The headteachers were also very different from each other. Despite their differences, they shared several common ideas and beliefs.

### **How do these headteachers develop and share their vision for the use of ICT in their school?**

Headteachers do the following:

- They have a passion for education and school leadership that allows them to see the value of ICT, and they appreciate how it can help them achieve what they want to achieve.
- They understand what is required and ensure there is sufficient support when it is needed. They listen and are prepared to change tack when difficulties arise.
- They have an enthusiasm for children and their achievements, pedagogy and raising self-esteem rather than for ICT itself. They reflect on the impact that initiatives have on children's learning.
- They are excited about the future and believe that their schools are improving and will continue to improve.
- They are aware that they don't need to be an expert or the lead practitioner but they do have to have enough knowledge to recognise a good thing when

they see it, and to understand what the implications would be in the classroom.

- They regularly visit other schools and take the best ideas back to their own schools. They want to see a product being used before they spend hard-earned cash. They want best value in purchasing decisions.
- They listen to others from within school and go out and visit other schools – locally, nationally and internationally. They visit education shows and often take publications which help them become aware of what products are available.
- They encourage others to contribute to the formulation of the vision but are always involved in strategic developments.
- They are opportunists. If there is an opportunity to be part of a pilot scheme or to evaluate something, then they are likely to take up the offer.
- They want their schools to be ahead of the game. They are aware of the challenges of the future and see change as a process that makes their schools dynamic and effective. They believe that to stand still is to go backwards.

### **How do they make it happen in their schools?**

Headteachers do the following:

- They are innovative in finding additional funding; they don't wait to have a surplus before spending on ICT.
- They understand the implications for teachers and what is required in order for new technology to be used well. They don't necessarily need to be able to use it themselves.
- They stay in touch with how children learn in order to see the value of what is available.
- They understand the training needs of staff and work within appropriate timeframes, properly resourced and with appropriate training providers.
- They have a sense of timing, of knowing when staff are ready for new initiatives, and they do not increase stress levels unnecessarily.
- They keep parents and governors involved and informed of new developments.
- They are adaptable. If something does not live up to expectations they have a rethink and make adjustments.
- ICT is expensive. To get it right takes time and a lot of money. Headteachers have been courageous in finding and spending considerable sums of money. They are prepared to replace outdated machines and take out loans to buy new equipment, if necessary.

### **Who do headteachers involve in turning the vision into reality?**

Headteachers do the following:

- They identify strength in their workforce and pupils and use it.
- If it suits the needs of the school, they are prepared to invent new jobs and reassess roles and responsibilities.
- They involve stakeholders and use all the expertise available to them. They involve governors and use their experience to grasp the wider potential of ICT in the workplace.

- They ensure that school development planning is a dynamic process that is informed by many interested parties.
- They do not lead in isolation. They have faith in their staff, see their strengths and look for opportunities to build on those strengths.
- They are prepared to employ appropriate people to support developments. They understand the demands made on the ICT co-ordinators and often have innovative ideas for providing differing levels of technical support.

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## Appendix 1

As a result of visiting these schools, I asked myself a series of questions that may be of help to a headteacher or ICT co-ordinator looking to develop ICT in their school.

### What do you want from ICT in your school?

- What aspects of ICT excite you most?
- Where do you want to put computers? In classrooms, suites or mini-suites?
- What do you want ICT to do in your school?
- What impact do you want the changes to have on teaching?
- What impact would you hope improvements in ICT would have on learning? How would you monitor this improvement?
- Do you want ICT to increase creativity, improve communications, improve differentiation, reduce workload, support planning and assessment or make systems more effective?
- Could ICT help you improve provision for personalised learning or help you develop international links?
- Is your vision sufficiently ambitious to inspire your school community?
- What about learning platforms, PDAs, multimedia, animation, etc? How do you know what is out there?

### Who will help move the school forward?

- Who drives school improvement forward through ICT? Are there others amongst the teachers and the wider school community who could help the process?
- Does the way that you organise the curriculum give teachers sufficient opportunity to use ICT?
- Do the staff know what needs to be done and who is going to do it?
- Does the way that you currently organise curriculum leadership allow for sufficient opportunity to consider aspects like teaching and learning, embedding ICT, assessment for learning, home-school communications and personalised learning?
- Are all stakeholders involved?
- Have you arranged for sufficient technical support to allow teachers to work effectively and for your ICT co-ordinator to have a realistic job specification?
- Are you using TA support to best effect in ICT? Do they have more potential to support ICT than you are aware of?
- Do you have training needs in ICT? What are they?
- Do you use a lead teacher? Do you need one?
- Does distributive leadership support your work?
- What do your staff find most difficult?
- How do you ensure that everyone moves forward together?
- How do you identify training needs and how they can be met?

### How will you achieve your vision?

- Do you and your ICT co-ordinator have sufficient opportunity to see what is going on in other schools?
- How do you provide CPD in ICT for staff? Is it sufficient?

- As headteacher, are your skills sufficient for you to know a good opportunity when you come across it?
- Who is involved in drawing up development plans relating to ICT?
- How do you fund purchases of hardware and software? Where could you get funding?
- Can you modify your vision if in practice it doesn't work out quite as expected?
- Do you have to be able to do what you are asking your teachers to do?
- What about parents? Is ICT improving communication? Do they have training needs if they are to support their children with ICT?
- What needs to be done to allow ICT to become a vehicle which would allow your children to fly?
- How do you introduce new ideas and pace the expectation for change?
- When you know what you want, how do you make it happen? How do you provide CPD?

## Appendix 2

### Abbreviations

AST	advanced skills teacher
CPD	continuing professional development
DfES	Department for Education and Skills
ECDL	European Computer Driving Licence
HTML	HyperText Markup Language
ICT	information and communication technology
INSET	in-service education and training
IWB	interactive whiteboard
LCD	liquid crystal display
MFL	modern foreign language
NAACE	National Association of Advisors for Computers in Education
NCSL	National College for School Leadership
NGfL	National Grid for Learning
Ofsted	Office for Standards in Education
PC	personal computer
PDA	personal digital assistant
PFI	private finance initiative
PPA	planning, preparation and assessment
SATs	Standard Assessment Tests
SDP	school development plan
SEN	special educational needs
SENCO	special educational needs co-ordinator
SLICT	Strategic Leadership of ICT
SMT	senior management team
SSAT	Specialist Schools and Academies Trust
TA	teaching assistant
VLE	virtual learning environment

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