Hillmead Infants School - Brixton's Beacon of Light

Hillmead Infant's School is a neighbourhood school in London's Borough of Lambeth. It takes children between 5 and 7 years old, and at present has 120 children. A nursery school on the same premises accommodates younger children. During the period of observation, a decision was taken to merge the school with Hillmead Junior School (for children from 8 - 11). The merger will be in effect from September 1997.

Locality

As you emerge from the underground station, Brixton's character assails you. Activity and noise. A lady in West African dress leans on the stair railing talking loudly in her language on a mobile phone. A smell of Eastern incense comes from a stall in the entrance. Outside, a man on the pavement proclaims loudly and endlessly the case for faith in Jesus. An array of street vendors and stalls announces the market round the corner - a market with the smells, colours, foods and bustle of Africa and further East mixed with traditional London cockney stall-holders selling haberdashery and vegetables. The market stretches right down to the railway arches. You walk under the bridge and enter yet another world. This time it's the third world of England, the desolate inner city. Now there are fewer people, the road is busy with traffic, its dreariness relieved by a huge mural on the end of a house which shows a brightly clothed skeleton above the roofs of Brixton. This street was at the heart of Brixton's notorious riots a few years ago. To reach the school you turn into a housing estate, some houses with their windows boarded up, most inhabited. Immediately before the school, the street is lined with garages and cars, some very battered, some incomplete; the local men are at work on repairs. No white faces.

The entrance to the school building is on the far side from the road entrance. The gates through the playground are locked. I can't get in. I shout to the dinner ladies who I can see inside - they show me a footpath round. School security is an issue since Dunblane.

First impressions

Inside, all is bright, cheerful and calm. Immediately you sense the presence of the head teacher, a slight woman whose quiet authority permeates the atmosphere. The teachers - all women - are all welcoming and friendly, the children disciplined.

I talk first with the head and the teacher who will work with me. They see Mailbox as an opportunity for the school to open on the world. They have been trying to get help to establish links with European schools for two or three years, but applications for support through the LEA (Local Education Authority) office have not been successful. A year previously, participation in the Brixton Connections project had given them an opportunity. Already they have done much exciting work using the Internet connection. The children in the school typically have impoverished family and economic backgrounds - very many are the children of young single mothers, many are from recent immigrant families. The mix of ethnic and cultural backgrounds is very great - 22 languages spoken amongst 120 children! The wealth of this community is in its multilingual and multicultural environment. Email provides further enrichment.

I go round the school. It is cramped. A single storey building, it's a large hall with partitions to accommodate the classes. They are not so much classrooms as partially enclosed spaces. Each corner is used in a different way. A separate nursery section is attached to the school. Big windows give onto the playground, which has walls with bright murals. The central area contains various facilities to be used in common, and the partitions are covered with display material - maps, greetings in different languages, pictures - the multicultural flavour is everywhere. One part is set apart by low shelving as the library area. Here too is the Internet computer.

There is a very low level of reading readiness amongst children in Lambeth on school entry. It is a challenge to schools to raise standards. Hillmead school was inspected recently. The inspectors' report calls it "a beacon of light".

Computers in the school

Computers: 3x486 including 1 used for multimedia applications.
3x186 in 2 reception classes (children aged 5) - there are now problems getting any new software for these old computers.

Internet computer: the computer was provided as part of the Brixton Connections project, not selected by the school; the VDU has a 14" (28cm) screen. This is rather small. The teacher sometimes places the monitor on a table so more children can cluster round.

There is also 1x 386 and 1 x 186 in the adjoining nursery

How the school started to use the Internet
Lambeth Council, the LEA, acquired funding under Brixton City Challenge (EU supported) for an Internet project. The school was one of 16 local primary schools which signed up. The project covers equipment, (computer and modem), software, Internet link but not phone charge, and also training for a teacher. The Head was keen to take part and put forward two teachers for training - the previous IT teacher who had just taken up a post under section 11 (help for bilingual children) and a new one, based in the nursery. Both went forward for training - half a day each on Internet, email, the Web. Later further training took place when a software upgrade was installed. All of the observation and much of the discussion took place with the first of these teachers referred to as T below.

How the school uses the Internet
The main purpose of sessions is awareness and familiarisation. The concrete skills in computer handling that the children learn and apply fit with the national curriculum. Confidence with email comes from a grounding in IT skills delivered in the classroom. The children learn not to be worried if things go wrong with IT.

Email is checked by a teacher every day. It is used with children about twice a week. The school has built up a number of different connections and projects. The youngest children are for example exchanges postcards, as part of their work on communications. Their class teacher is thinking now of trying email for it. T tries to tie Internet work to curriculum where she can. An international email project on weather for example fits with year 2 work. The teacher has prepared a display board in the open area with a map of the world. She'll use it to display the weather data that comes in from elsewhere by email. They feel frustrated that they are the only school in England to have signed up for it - it would be nice to have others contributing from UK. Similarly they are the only school in England (out of 450 schools, all with email addresses) for the postcard exchange. A map on school wall shows where all the cards have come from.

The infant schools in Brixton Connections seem to use the Internet more than juniors. A child from one junior school reported "The cupboard is never opened". But even for infants there are constraints - older children are kept busy preparing for their national achievements tests (known as SATS). Internet teaching time fits in somehow.

Problems
There was talk of a "nightmare of resources". The telephone bill for the Internet line is about £60 per quarter. The school was not at all sure it could sustain this. There was a massive cut in the LEA budget for the second year running. Teachers were stretched. The merger of infants and juniors was for economy.

Problems facing teachers are time, lack of expertise with IT, no funding to go on courses. Internet work has to fit in with other commitments. While they were willing to put in extra hours, most have other demands on after school time, including personal demands - 3 of 5 class teachers themselves have children under 5. This means it is hard to stay after school. Neither IT teacher felt they had mastered all the skills necessary but between them they could cope. The LEA's IT adviser responsible for Brixton Connections helped a lot on an ad hoc basis. 1 class teacher had attended an Internet introductory course

Section 1: three children using the Internet

A case study of correspondence

1 Receiving a letter

Three children, Harriet, Claire and Becky[1], and a teacher sit in front of a computer. The computer is linked to the Internet through a modem and dial up connection. The teacher starts the session with a question:

T: What are we going to do?
H: We're going to ask the computer some questions
T: Well….
H: We're going to answer some letters
T: Harriet knows what to do, she helped me yesterday…*Harriet takes the mouse and starts clicking to log on* What are we going to do?
All: We will ask other computers to answer some questions
Harriet succeeds in dialling up with a little help from the teacher
T: What's it doing now?
C: Making a telephone call to other computers
T: What do we do next? *Becky now takes the mouse and gets on to Netscape*
T: How do we ask if there are any letters?
All: Click on the envelope.
A letter from America has arrived! The children read it aloud, in unison. The teacher helps by scrolling it up the screen. The letter is too long to see it all at once.
T: What can we do to make it easier to read?
All: *Some discussion then all shout* Print!
Discussion follows about the cost of long phone calls. The children agree the next thing to do is:
All: Tell the computer to turn off the phone!
T: How do we do that?
Becky points at the icon of a door Go out the door.
T: Try that… What does it tell you?
All read: "One or more connections still active. Do you want to disconnect?"
All shout: Yes!

The three children are aged between 5 and 7. Already they are acquiring the IT skills they will need for life in the information age. They are new to using email but have used computers in class regularly since they started school and are quick to understand the process involved in electronic correspondence.

2 Planning the reply

The letter gives some information about the weather in America and asks questions about the weather in England. The first stage in replying is discussion. Questions about weather become the vehicle for discussion about energy, temperature and climatic difference:

The letter talks about "record cold weather" in America when the children were allowed to stay home from school.
T: What does that mean?
C: I think they recorded the sound of the weather.
Teacher explains it was so cold that they wrote it all down, and what they wrote down is a record.
C: *thinks about very cold weather, hugs herself and shivers* Wuwuwuwuwu!
T: *Commenting on letter* Have we missed school in bad weather?
All: No!
T: The letter asked, "how do we heat our houses?"
B: Gas
C: We have a box on the wall
T: ?
C: Well it has a round thing and you turn it to 30 when it's freezing and 20 when its hot
Children work out this makes it hotter or colder
C: We have radiators.
T: How do they work?
C: You plug them in.
T: Where?
Silence
T: Do you plug them in the tap?

[1] Becky: age 7, bilingual, from Zimbabwe; Harriet, 7, bilingual from Nigeria; Claire, 5, trilingual, from South Africa but spoke Russian as an infant.

All: No!
T: Do you plug them in the drain?
All: *Louder* No!
C: You plug them in the wall… a hole in the wall
T: What comes out of the hole?
More questioning. Children sent to look at electricity socket in wall behind computer. Eventually come up with the answer Heat *then* Electricity!

3 Writing the reply
The children set themselves very high standards of expression and presentation. Each word is carefully selected and discussed, its accuracy checked, the whole is polished.

T: How do we start a letter?
B: Dear..
Becky starts typing "Dear Elizabeth" She names each letter as she finds the key. She makes a mistake.
T: How do we rub out?
Becky does a backspace.
T: Look, we've got two Elizabeths. Can we say "Dear Elizabeths"?
B: *Very firmly* No - it's not very polite
Each child types a name. Then there's more discussion on what goes in the letter. The children dictate, the teacher types because it's faster. The children watch for mistakes. Teacher types "a nd" for "and".
B: Look I spot it look! *She jumps to her feet so she can almost touch the screen and points - instantly spots "toheat" - a lot of laughing*

The result is this letter:

Dear Elizabeth, Elizabeth and Beverley,
Most children use radiators electric and gas to heat our houses in London.
From Becky, Harriet and Claire
Age 7, 7 and 5

4 Sending
Children then find "Send" instruction. Trouble with mouse, click wrong thing, then teacher clicks undo
T: Look what it's done
Children look. One says: It took off our names! *Much laughing.*
T: Did I click the right button?
All: No!
T: I made a mistake. What did we learn?
B: Not to undo
T: What do we have to be with the mouse?
All: Be careful!

The learning
Much impressed me as I watched these children learn. First, the team work. The correspondence was a completely shared process, children and teacher working together. So much so, that it was natural to all laugh together at typing mistakes. And learning was fun, such fun that time flew. The session went on for an hour, far longer than the normal attention span of children that age in school. The children were actively learning throughout.

Excitement extended the children. They read well, attempted long words, and asked when they didn't understand. They thought hard about replies. They worked carefully - even typing email addresses without an error. Later, problems occurred - the connection went down, material was lost - the usual frustrations of communications technology. Did they mind? Not at all.

I asked them what they liked about using computers. They told me they liked writing on computers better. Why? "Well it's difficult doing rubbing out, you have to hold the rubber, it's easy with the computer." They liked the neat writing they could do on the computer. They didn't mind having to do some of the writing again when they lost some of the text. "It's fun using your hands".

They went on to compare the free-standing computers used in normal class work with the one connected to Internet. Claire liked the Internet one best. Becky liked both, couldn't decide. Harriet

reserved judgement. Eventually they agreed the Internet one was best, more fun. “It’s fun when you write letters.”

What was the worst thing? “You can get stuck. You don’t know what to do.” But I noted how well the children coped when something went wrong. Working on line is unpredictable. At first the children greeted the unexpected with horrified gasps - the normal world of school is one of complete certainty - but very quickly turned to solving problems for themselves.

In a few hours, over a few days, I watched these children learn so much about learning. They became confident in handling the electronic mail application. And as they became more confident they were able to start searching for information on the Internet. Only a small group of children could use the single school Internet computer at any one time, but the letters they wrote and the material they identified were fed into general classroom work.

More letters
Next - James has sent a letter saying “Testing”
T: We’ve got a letter from James. He wanted to know if his computer was working. Is it?
A little thought
All: Yes!
Becky proposes a reply: Your computer is working, we got your letter, so there is no need to worry.
T: Do we have to write all that down?
B: *Firmly* Yes

Teacher prepares letter
T: Is it OK
Children read and check Yes
T: Claire can you send it?
Claire needs some help. Becky starts to intervene
T: No, don’t do it for her, tell her
B: OK
Claire sends
T: Do you remember that we disconnected the telephone? Can the computer send the letter?
All: No
T: What do we do?
All: Turn it back on
B starts it up this time
T: What’s it doing?
All: Asking the other computer to turn the phone on
T: What’s it going to do?
B: Send the message
T: How does it get across the sea to America?
B: Other computers
T: What do the other computers do?
One child: Use telephones
Another child: use other computers
T: Oh look we haven’t got through. What do we do now?
Children agree you have to click on retry. They do.
Some discussion about how its always busy at this time because people are waking up in America. Children a bit bored and fidgety. Connect. Much excitement, all eager to do the work, hard to wait for your turn..
T: What do we do next?
Silence
T: We can’t send it till we click on the envelope
Click on envelope.
T: The red light is on. What is it doing?…It’s seeing if we’ve got any more letters..
Children fidget again. Waiting is boring.
T: What does this say?
Child reads: Document done
T: Where’s our letter now?
All children: America!

Comment: this sequence illustrates first how the children adopted a formal style of communication for their letters. It also shows how, with teacher guidance, the children quickly learned the sequence for

using email at the same time as beginning to grasp how the communication system worked. They were soon bored with inactivity but were very quickly re-engaged when something new happened.

Searching for information
They decide they'll have some fun now. They'll look for some information on the film 101 Dalmations.
T: What do we ask it to do to get information?
A: Send!
T: No, what am I doing here ? (she turns and starts taking books off library shelf and looking at them)
A: Search!
T: *Looking at computer* Oh dear it's being very bad tempered *It's not connecting*
C: I know why. It's got tired
T tries search using Bookmarks but can't get on to Dalmatians so then tries Yahoo search engine.
T: Who's going to write?
All: Me! *All put hands up*
Child types 101 Dalmatians
T: Can we tell it to look more carefully? Whose film is it?
Silence
T: Dis…
A: …ney
Children leaning forward over mouse and keyboard - something happens…
T: Who bashed the wrong button?
The cursor has to be found and all put back on track
T: How do we know if it is doing anything
A: The red light is on.
T: What's it doing?
A: Asking other computers
List comes up with over 28,000 entries. Teacher picks one. Response slow
T: It's having to talk to America *While waiting* What shall we look at tomorrow?
C: Discovery channel
Computer has failed to connect with page requested
T: Oh dear we can't have it….Shall we stop?
All: No… Yes… No
T: Did you know our school has a home page?
A: No
T: Would you like to look?
A: Yes
Claire takes mouse and uses it to click on school name on bookmarks list.
Children beginning to fidget. Home page comes up - school logo
T: Does that look familiar?
A: It's on our jumpers!
T: How many people have looked at our page?
A: 89
T: are you sure?
A: 189
T: Let's see if we can find anything interesting. Look for anything with a line underneath
Children find "Please look at our cards" - entries for a Christmas card design competition. One slowly comes on screen
T: What did Mary draw?
Silence
T: Have you seen it in Brixton?
Pause
A: Oh it's where there's that big skeleton painting
T: Yes, Mary did a picture of father Christmas landing near the skeleton mural. *Next one* Now what have we got?
A: Big Ben
T: No…
A: Oh, the Brixton town…
T: What?
A: Hall!
T: Now how do we get back?… Click on back…
B: I know I know I know
T: let's see if Becky can do it all the way through

Becky shuts down, with a bit of prompting. Children turn off all 3 appliances - quite hard to reach. Children dash off for dinner break

Comment: during the search, the teacher was part of the group - children and adult were working together, laughing a lot, all making mistakes. The searches got a bit boring - there was some fidgeting. But when something happened, the teacher had to exercise a bit of control, the children were so excited.

Talking over the session with the teacher, she told me she aims to get two or three children in each class fairly confident, so that they could then show their friends how to use email and the Internet, with loose supervision. These children must be able to read - the teacher selects the more literate children. About 20 children in the school have used email and the Internat. Work with communications technology was more challenging in some ways than off-line work. Classroom use of computers is more predictable, networking is unpredictable, children are at first uncertain as to how to react. The work gets children thinking hard - problem solving

The teacher told me how they like it when they get instant feedback from a school in America - if they email after dinner, the message gets through at morning assembly time in the USA and the Americans sometimes reply straight away.

The activities above were all on the first day of observation. On day 2 work continued with the same three children. The activity reinforced what I saw on the first day. The transcripts are included at the end of the report (Annex 1)

Discussion with these three children
Claire and Becky both have access to computers at home. What they do with computers? - "games". Claire talks about a learning programme she has - PC Genius. She likes it because it asks you questions and if you get them right you get ticks. She always gets it right. Some comparison of class computers and Internet one. Claire likes Internet one best. Becky likes both, can't decide…Then says the Internet one is best, more fun. "It's fun when you write letters".

Writing - they like doing this on computers better - Why? - Well its difficult doing rubbing out, you have to hold the rubber, it's easy with the computer. They didn't mind having to do some of the writing again when they lost some of the text. "It's fun using your hands". They liked the neatness of writing with the computer.

What's the worst thing? "You can get stuck. You don't know what to do."

Section 2: Working with very young children

What is email?
Emma and Clive are both aged 5. Emma's parents are from Nigeria, Clive's from Ghana. This is the first time they have used the Internet computer.

T: Do you remember last week we wrote a letter on the computer, printed it and stuck it on a postcard, then we gave it to Joy to put a stamp on and put it in the letter box? Today we're going to see if we can send a letter on the computer
C: *looking at something on the screen* Oh look it's moving
T Why is that happening?... How about if you click where it says "log on"? Where were we sending the letter to?
C: Jamaica!
E: No, America!
T: Does it take a long time for a letter to get across the sea to America?
C: *nods* Long time.
E: My Daddy lives in America
C: My Daddy lives in Ghana.
T: No Clive your Daddy lives just down the road.
C: He used to!
T: *To Emma* How does Mum get in touch with Daddy?
E: She phones him... or writes a letter.
T: Now we can ask this computer to make a phone call. We're going to ask the computer to write a letter, then ask it to phone another computer, then send the letter. Do you think it can do it?

They look uncertain. T says she will show them what happens if you plug an ordinary phone into the socket the computer uses. They are going to try and ring the School office. They find the place where the computer plugs in, T unplugs the computer modem and plugs a phone in instead.
T Pick the phone up. *Emma picks up the receiver They both listen* E: It's going hrrrm. T: Is it making the right kind of noise? *They nod* Shall we test it? *Emma calls the school number* T: Is it going ring ring? *It turns out to be engaged. Emma is sent to look round the office door and see what is happening. Head teacher is on the phone!*
T: Shall we ask the computer to make a phone call and try this again later? *She guides them* "Connect" - what does that mean? Join two things together. *Clive clicks*
T: It's calling another....?
C: person
E Computer
C: Can computers walk all the way to come here?
T: No they have to use the telephone *They go under the table to look at the black box and see the telephone lights* We're ready to talk to the computer
C: Ready!
T: Our little computer has to talk to a bigger one.
Clive is boldly playing with the mouse. All on screen disappears! T tries to get back, in the end turns off and restarts This time we'll be really careful!
E: Me!
T: Click... Good girl
C: *A bit embarrassed* It's my magic... I make it like that
Dialling - they dive under the table to check the modem
T: is it making a noise?
C: It's going du-du-du-du
T: Has it stopped?
Children: Yes
T: Come up then and see if we've made a telephone call - you won't be able to see the computer under the table ... Click on the big N - It's like going to the post office... How do you get letters in your house?
Children: From the postman
T: wouldn't it be easier if you could get them from the computer - see the envelope - click on it - Any letters today?
C: We've got lots of letters! *On his feet, reading names. Very excited.*
T The one with a box round it is a new one today. Shall we see what it says? *It's from Pete the project co-ordinator asking if there is any news. What will they tell him?*
T: Is anyone new learning to write letters on the computer?
C: You me and Emma!
They decide to write and tell him. How?
Children: We've got to go all the way up there to write it?
T: No
Children: If we write a postcard ...
T: We don't need to.. We'll do a test to see how fast he will get it. When would he get a postcard?
Children: Tomorrow
T: How would we get a message to him quickly?
Children: Phone
T: Or... I could tell...
Children: the computer!
T...our computer to tell his computer
Ch: YES
T talks them through process of setting up reply. They do the clicking. Teacher takes keyboard: Tell me what to say
C: "Me and Emma are learning to send
E: Messages
C: messages to Pete"
Some discussion "Janet Jenkins is watching us. From Emma and Clive and You." "*You" changed to teacher's name after discussion.* "We are both five years old"
T: shall we ask Pete to send us a message?... Shall we ask him to reply quickly? *Excitement - but they are also talking about dinner!* "Please reply as soon as possible"
C: Shall we take the computer to Joy to put a stamp on?
E: Yes!

T: I don't think so. I think it would be quicker to get the computer to make a telephone call. We'll get it to send it *Shows them how to do this* Now it's gone to the out box. It's no good there. "Send mail in the out box" is the one we want... Is that the one? Watch and see if it disappears.
Children: YES
T: It's gone - so it's gone all the way to Pete's office.

Searching
T: Think of something you'd like to ask the computer if it knows about
C: People from other countries
E: America
T: There'll be hundreds of things. Shall we ask what it knows about Ghana? What language does Daddy speak?
C: Twi - my Mummy speaks Twi too
T selects scenes form Ghana - picture of village drummers comes up - instantly excites Clive
C: That's my daddy *Townscape - pictures of Accra:* That's my Daddy
T: Have you been to Ghana?
C: Yes and it rained
T: Can you see "print"?
C: Yes *clicks*
T: It says it's starting to print
C: It's not...It's printing
T: How do you think it's doing?
C: I'm going to look and see *Starts chatting about when he went to Ghana, and his sister.*
T: I don't think your sister has been to Ghana... She went when she wasn't born?
C: Yes she went when she was in Mummy's stomach
T: Why is it slow?
C: Because it's Ghana... They think you're afraid of that man...

Next day: Emma and Clive receive a letter
Clive: I told Daddy I made it by printing
Emma takes phone to ring Joy (school secretary) in the office - to check the computer is connected like a phone
E: Hello Joy this is Emma in the library. Are you in your office?
listens
Yes, because we're sending postcards and Clive is doing the computer *Clive has remembered how to log on and is busy doing so while the phone call is in progress. T has to stop him dialling up; "you can't because we're on the telephone"*
C: How can our computer talk? *On telephone* Yes, it's interesting. I love you, Bye Bye.
T: So now we know it's a real telephone...
E is ready to click on the phone and then "Connect"
T: Now we can see if there are any letters. Clive, how do we find out if there's any letters? ...What do we click...?
C: We click the envelope
T: I'm going to press... Look, a letter from Pete
Both: Ooooooh!
Both read aloud:
"Thank you for your message. Work hard!"
They are thrilled. Clive is on his feet, Emma sitting, she hugs him in excitement. They print it
T: Did it print?
Both: Yes
T: Can you bring it out?
They read it again together.
T: So Pete's letter got back very quickly!

Comment: the most striking feature of this experience is the speed with which these very young children are grasping the procedures. Their class experience of computers is rather limited because they are so young but all the same they quickly learn what to do and appreciate different means of communication.

Clive's attempts to interpret events are interesting. At first he thinks email means putting a stamp on the computer. He brings in magic to explain what is going on. He is excited by the pictures of Ghana and tried to identify the characters he sees.

The teacher guides the children step by step, leaving them to do as much as they can alone. Learning as a magical voyage of discovery.

Annex 2 has transcripts of further work observed.

Section 3: Using computers in class
After watching the children using the Internet, I wanted to see what they did with computers in class. I watched a group writing a story.

Writing stories
Five 6 year olds - 3 boys, 2 girls, helped by a teaching assistant. They sit in front of a 386 computer. They are writing a story about themselves.
T: We're going to learn some new keys … we're going to see what this button does…Who remembers?
Children: ….Space bar!
T: and what is this one?
C: Rubber!
T: Who remembers the actual name? …. It begins with d . d . d… "Delete". It means to rub away. Now do you remember, if you press ENTER…
C: It goes back to the beginning
T: And this one?
C: If you want to get a bigger letter
T: Do you remember its name? It begins with a sh… sound….. SHIFT … because you shift the letter up
C: It makes big letters
She then helps them find the other shift key and the capital lock key and shows them how to use them. They prepare to start typing the story now.
T: Now we won't be able to type all at the same time. *Christian to the keyboard* We have to start with a big letter. How are you going to start? *Boy mumbles something*
Julian: I'm going to talk about when I went to the seaside!
T: Lovely, well you can start thinking of all the words *(to Christian)* Would you like some time to think? *Boy nods and moves aside with some relief. Girl called Jillian moves into his place.* Tell us how you think about yourself. Tell us what your name is *Jillian starts but she is very small and so is her chair - the computer is too high for her - the teacher gives up her chair to Jillian and sits on a child's chair herself.*
T: *to all of them* I hope you're thinking about what you're going to describe
Jillian types M but is unhappy - she wants it bigger. Teacher changes to 24 point. Jillian searches for y.
T: Have a look at the keyboard - you'll find it somewhere near the top. *Jillian continues typing slowly and carefully - she keeps looking a teacher's face for reassurance. She types My nae - sits back and looks a bit worried.*
T: That's OK because we've got this button - what's this button called?
J: Delay
T: Delete, so you can always delete. *Jillian continues - My name is j - looks at teacher - deletes and types J.*
T: Who can see what Jillian's done?
- a space
- a bigger letter
T: That's right, why do we do big letters?
- because its a name!
Jillian types her name fast. Then a few more words are negotiated
T: Is that the end of the sentence?
J: Yes
T: What do we have?
J: Full stop (does it)
T: Lovely. We need a space after. Lovely. So what are you going to talk about?
J: I am going to a country - to Antigua.
T: you could just tell us…?
J: I am going to Antigua.
T: Is it a holiday or are you going for ever?
J: Next month..
T: Your going there for good! *She nods.*
T: Now because of the short time we've got…
J: *Anticipates* I've finished my story.

Another child takes over and starts his story. All this takes a long time, but all the children are kept interested and the teacher brings them into discussion by asking individuals questions.

Comment: each child gets similar regular opportunities to work at a computer and they gradually build up skills. Their work is kept in a personal folder. Most work is group work but copies are kept in each child's folder. In Jillian's folder I found a story:

> **THE GIANT**
> Once upon a time there was a giant. His name was Jack. He was a jentl giant. He lived in a house in the forest. He worked as a bilder.
> [5 names]

Teacher's written comment:

> Well done Jillian. Worked as a group. Helped each other with spelling. J is confident and knows the keys well. She was able to help the others when stuck. She has a wonderful enthusiasm for working with the computer and seems to enjoy learning new things.

Some other examples of class work and comments
These examples give an indication of how computers are used to build up competence across the curriculum progressively. The teachers' comments are typical - they always seek out ways to reinforce rather than discourage.

> "I do riting on mi kommputor it ets elektrisity"

> Theme: time
> "I like bed time beecos it is cold
> [picture of smiling boy tucked up in warm bed]
> *Teacher comment: J has a computer at home but is not allowed to use it as it belongs to his brother. He is very enthusiastic. He has used the computer in school before and handles the mouse well"*

> All the children drew pictures of computers to show the different parts. B and her freind did a very clear one which showed monitor, screen, plug, mouse, keys and keyboard and labelled "hard disc insid" [only spelling error]
> *Teacher comment: what a star! B listened carefully and joined in the group discussion. She has paid careful attention to detail and has labelled independently.*

> Becky in class: I watched Becky and two friends writing a story on the computer in class. Another girl typed. She made many mistakes. Becky was silent. Strange - she would have noticed these errors at once on the Internet computer.

Interviews with teachers
1 L teaches a group of 29 children - 6-7 years old. Her classroom is tiny. It includes the multimedia computer which everyone uses at least once, preferably twice, every half term. For example they recently spent a week working on weather charts. The computer was used a lot. Children do word processing and printing, mainly - they are encouraged to show teacher their work before they print.

The most able ones can use the computer at any time alone. The best ones help the less able. Special needs children need an able helper. They often pick a friend to help and ask for the same person each time. Children sometimes want to stay in at playtime to work on the computers. They can choose to play games, but can only do so at certain times. Some children need more encouragement than others. Sometimes using the computer is a prize - "First three to finish can go on the computer"

Sometimes there are whole class sessions at story time with a multi media CD -e.g. Dorling Kindersley World Explorer - they love that. They all sit on the carpet, the children work the mouse.

L. started using computers after going on a course about 7 years ago. She takes a computer home - her own children (11,9 nearly 5) are better than she is and help her. She does not use the Internet computer in school.

Learning results: IT competence is confidence building for individuals. Computing can be "Discovering themselves". Motivation - "Can I stay?". About two thirds of the class confident. One third less so, need encouraging. Maths - they like maths games

Need to have a way to record the skills children have - you have to watch to see their control of processes - save and retrieves, in and out, etc. Trying to explain is not the same as watching them do it.

Unexpected outcomes: Writing: 1 child hated it but loves the computer, wrote a marvellous story on it. Does the child have some problem that relates to handwriting? Certainly understands story making.

Several children have computers at home.

2 A. has formal responsibility for IT in the school. IT has a high priority in the school development plan, but the budget available is very low. A. has to prepare a scheme of work for IT in the school, and organise in-service training sessions, both in and out of school. She stays late to do staff training every other Friday, helping the least confident teachers. She monitors each class twice a term, observing IT work and helping as necessary. She ensures equipment working, looks after maintenance contracts, orders stock and new equipment within the constraints of a tiny budget. One of her headaches is matching computers and software - old software won't work on new computers and vice versa. When the old computers get stolen, the school gets a new one on insurance but no new software.

A is senior teacher in nursery, and spends little time in the infants school. The only time formally allocated is that assigned to class monitoring. She works closely with C, the teacher I observed who was formerly responsible for IT in the school. A feels she is lucky to have C as a colleague

A. started with computing 4 years back when she was sent on a one day course. She took over from Cheryl as IT co-ordinator two years ago. Most of her learning was on the job, handed down from C.

Modern computers have arrived only recently in the school. The teachers find new applications very hard, one has a real phobia. Two teachers can handle the new multimedia computer. C. helps a lot, she trains the children and they train the teachers.

Internet: only C and A have had training and use. They use the Internet to find material for teachers from time to time - e.g. printing off famous paintings for a project A. saw was happening in a class. One helper uses the Internet too and works with children on computer skills generally. The children like Internet and email work, they enjoy it, it improves their skills, children are not frightened of it.

Hard for A. to find time for Internet work - she tries sometimes to introduce nursery children to it but very hard to find the time. She mentioned the postcard project - communicating all over the world. The nursery has instead a travel buddy - Leo the lion - who helps with geography and intercultural understanding.

Improvements suggested:

- Put the network computer in a place where it is easier to keep an eye on it/ the children so they can use it more freely.
- More time for staff training and familiarisation
- More time for teachers to search for and get information
- More money - e.g. faster modem - modem link into each classroom, to ease access.

3 C was sent on a course 12 years ago. She was the school IT person for 3 or 4 years, stopped over 18 months ago.

The school is starting to make an IT curriculum map, with a cross curricular approach. They are listing IT items and linking to curriculum area and to programs and software that they have in the school. Every child has an IT logbook, right through from nursery. Every 3 weeks the books are sent in for monitoring - the head and IT teacher review them.

Email helps with writing and creative writing - gives the children something to look forward to. It's less formal "They can write like children" e.g. very direct - do you know if…?
CD-ROM's at present are good as a research tool, e.g. for maps - the Internet should in time become more valuable.

Unexpected learning: Individual child suddenly CAN. Sometimes happens with child who is not successful at anything. The restless child can make the computer do things.

She observes more co-operative action with computers - sometimes amongst children who don't normally like to co-operate.

Computers at home - quite a lot of children have them, but mostly just games. Sometimes Mum is at college and has a computer, children may not have easy access.

The importance of computing is difficult to explain to parents - some ask "Why are they playing on the computer at school?" They don't see it as part of learning. She would like to have a parents' evening with computers but difficult to organise, don't have the manpower.

Openness of school - both in atmosphere and in lay out - means IT and the Internet fits in well with learning.

Willingness of staff to admit they are stuck. "Let's go and find out…"

Changes she would like to see:
- not to revert to the past
- more access to Internet
- more staff working with it
- parents to understand computer technology better, so they can be involved or support (in area, too few parents in the know to provide critical mass)

4 The Head.

The head stressed the importance of IT for the school and the importance of finding the right people to lead its development in the school. She hand-picked C and A for IT. IT expertise has developed across the school through reorganising in-service training. It has been important to get trainers to come in to the school.

The curriculum is broad for such little children The school does have difficulties because so many of the children need individual attention.

The Governors have encouraged the school to build up local and international links. At the local level, some parents offer expertise. Several parents try to buy computers for their children at home - may try to build up a support group of parents for an after school club. It would be good to find a way to generate more local activity - fun - a treasure hunt - communicating with other schools.

With the international make-up of the school, the Head had really tried for a Socrates link, but it was never agreed. C's enthusiasm never dampened even when they failed to find a partner school. At one time they had a part-time teaching assistant through the local community organisation who did environmental work with children, then went back to USA. They used this to make a link there. It's personal contacts that make links happen.

The school has a stable staff, with an ethos of sharing. The open plan school helps create a spirit of team work, a feeling of helping each other - the teachers are not embarrassed at being not so good at certain things.

C has demonstrated through her group work the value of the Internet. She has been generous with her time. C and A are constantly trying to move things. Replacing computers - A is good at fund-raising. Overspending inevitable because it starts at LEA level. The school is thinking about renting computers, some other schools do that and it's easier to update.

Email is particularly good for bilingual children - it helps them all but especially older newcomers - it's exhausting for them in class to cope with an unfamiliar language all the time, computer work really helps them, they learn fast, they can communicate in a different way, it's exciting.

Important changes needed:
- better and more suitable equipment e.g. larger keyboards for nursery
- more teacher training - the children will always learn quickly.

Vision. “We all know the vision, we just keep trying to get there” .

Towards a new school learning environment
It was illuminating to see such very young children acquiring such competence so fast. And more exciting still to discover these experiences were similar to those in other countries, at other levels and ages.

Correspondence is taken very seriously by the children. Letter writing was a starting point for curiosity about other cultures. A large map on the classroom wall showed all the places letters had come from. When the teacher asked the girls what they would like to find out about on the World Wide Web, the answer was instant and unanimous - “Other countries!”.

Writing letters appears to be more productive of learning than receiving them. The essentially collaborative nature of the writing process was striking. It is often assumed that learning using a computer is a solitary pursuit. The MAILBOX team has found that children in school often use computers as a means of sharing learning. In some cases children deliberately help each other - for example a fast typist inputs and a good speller dictates and checks spelling. Letter writing was in effect the trigger for much learning beyond the formal curriculum: team work, social skills, problem solving, coping with uncertainty, understanding and managing processes.

The teacher’s role was to guide the children within a purposeful framework. With the teachers guidance, letter writing could easily be related to core curriculum areas at the same time as the children gained competence in handling IT applications.

The observations illustrated how literacy and basic keyboard skills were both essential for productive use of the Internet computer. Even with minimum keyboard skills, the children were then enthusiastic enough to overcome challenges and produce high quality work.

Teacher orientation is vital, continuous in-school training the preferred strategy. Even teachers used to using computers in class daily felt they needed specialist training before they dared log on to the Internet. Resource constraints were mentioned frequently as a barrier - indeed it was remarkable how much was achieved with so little. Much is due to leadership and the commitment of a few within the school.

Additional resource material:
School home page (MAILBOX site)
Brixton connections project update - regular bulletins (you can access the pages through the Hillmead page on our MAILBOX site)
School OFSTED (school inspection) report - on web via DfEE