

SECTION C:

Some Ways of using Video Conferencing in the Classroom

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Introduction

There is no doubt that video conferencing is a communication tool which offers extensive learning opportunities across the curriculum, from the Early Years to the sixth-form and beyond. There is a wide range of practical applications for the technology, and conferences can range from a simple five-minute 'point to point' link between two schools to a 'multipoint' session linking a number of schools and experts for a whole morning.

In this section you will find examples of its use: case studies and summaries of case studies written by teachers from the Devon schools video conferencing project and by other teachers around the United Kingdom and further afield.

The Devon teachers all worked on the project for six months. They were loaned video conferencing equipment and asked to explore its potential for supporting their teaching in some way during that period. With the exception of Knowles Hill School, Newton Abbot, and The King's School, Ottery St Mary, none of them had used video conferencing before.

So often, the use of a particular technology in a school to support teaching depends on one teacher's expertise and enthusiasm and, if that teacher leaves, the work sometimes stops. What became very clear as this project progressed is that video conferencing can be used by any teacher with the minimum of technical expertise. In none of the Devon schools was the work restricted to the lead teacher.

When we started work with video conferencing, it also became clear very quickly that there is a lot of work in this area going on in schools around the country so, when we came across examples, we invited schools outside Devon to contribute case studies to the project.

Ten of the Devon case studies are included in full at the end of this section and all of the case studies are included on the BECTa website www.becta.org.uk, the Global Leap website www.global-leap.com and the Devon Curriculum Services website www.devon.gov.uk/dcs. A grid listing all the case studies and the curriculum areas they cover can be found on the next page.

This is not, nor was it intended to be, a collection of case studies covering all areas of the curriculum and all possible uses of video conferencing. It is an insight into some of the ways video conferencing can be used to support teaching and learning in the classroom.

Science	History	Geography	MFL	Art & Design	Design & Tech.	RE	Citizen./PSHE	Music	Other
							KS1		CPD
							FC		
KS1									CPD
KS2									CPD
						KS2	KS2		
		KS3				KS£	KS3		
							KS4		
	(US)						(US)		
		KS3							
KS1-2							KS1-2		
			KS3				KS3		
			KS3						
			KS5						
			KS4-5						
							KS5		KS5 Key Skills, Leisure & Tourism
							KS2&3		KS2&3 Cross-phase links
							KS2/5		KS2&3 Cross-phase links
KS2-3									CPD
			KS2&4						
			KS3-4						
KS2					KS2				
KS1-4									
								Gr. 1	
									KS5 External Tutors
									GCSE Latin
KS2									
KS2									
KS2									
	KS3								
KS2-3	KS2-3						KS2-3		
KS4-5		KS4-5							
KS3									
		KS3							
KS2									
		KS3							
							KS4		
				KS2/4					
						KS3	KS3		

So, once you've got the equipment and arranged a suitable room, what can you do with it?

A good way to start video conferencing is to link with another school, ideally one that you already know, and to plan a range of activities together. You can develop your skills and confidence at your own pace and take advantage of the many opportunities there will be for working together.

There is the potential for a variety of short and long-term projects spanning small-group to whole-school work. There is also scope for school management and professional development initiatives. The more cultural differences there are between the two schools, the more scope there is for generating richly diverse curriculum activities.

LINKS BETWEEN PRIMARY SCHOOLS

The first step for the teachers and children is to become familiar with the equipment and learn how to make best use of it. This comes quickly with experience and is absolutely essential for the success and sustainability of any video conferencing initiative. The simplest way of doing this is to set up a couple of informal sessions - although these will still need some structure.

In the first session there will be the excitement of the children seeing themselves on television to contend with and then the excitement of seeing their partner school for the first time. After a 'settling down' period, they will need to be introduced or introduce themselves to one another and then conversation needs to develop, with encouragement and guidance from the teacher as necessary.

Conversation can be structured loosely, as in the Tipton/Cockwood example, or more tightly as in the 'Biographical Buddies' idea. Artefacts can be used to aid conversation, as in both these examples. The children can be given the task of finding things out about their partners or their partner school - "Find out five things about their school that are the same as ours", "Find out five things about their school that are different to ours", "Is their classroom the same as ours?" "What about the playground?" "What books have your partners been reading?" "What television programmes do they like watching", "What hobbies do they have?" "Have they any brothers and sisters?" and so on.

If the size of your group inhibits conversation, children can work in smaller groups. When they have finished their conversation with their partners, each group can report back to the rest of the class about what they've discovered, while the next group are having their turn.

In a second session, conversations in the first can be followed up. Favourite toys could be brought in and shared, extracts from favourite books could be read and shared, pictures from the books could be shown in close up, paintings and drawings could be shared, photographs of families, homes and holidays could be brought in and shared and extracts from favourite CDs could be played. As soon as the children are comfortable with the technology and getting used to this way of communicating, you can move on to a more formal link or series of links, built into specific projects or programmes of study.

Here are Some Examples:

1.

Background: Tipton Primary and Cockwood Primary in Devon explored the use of video conferencing to develop and strengthen existing links between the two schools. Both were particularly interested in developing its use with Reception and Year 1 children. These are details of their first three sessions.

Curriculum Context: Key Stage 1. Speaking and listening/developing communication skills/using a range of ICT tools to communicate with each other.

Content: 3 x 20 minutes sessions during a school morning.

Part One - The children sat on the carpet in front of the television with their respective teachers. Introductions took place. They told each other their names and ages. They started to establish other points in common. Questions were asked about "things we had", and children in both classes went to find reading-bags and PE kits to show to the camera. Contents of lunch-boxes were a source of interest and could have occupied most of the morning. "Where things are" was the next line of questioning, including the very important "Where are your toilets?"

Part Two - After a short break for planning and setting-up, the two groups of children gave a 'conducted tour' of their respective classrooms, using the camera control and zoom facility to show role-play areas, the shop, computers and the reading areas, all chosen by the children.

Part Three - During playtime, both sets of children were filmed in their respective playgrounds with a camcorder. In this final session, each video was played back with a live commentary from the children, through the video conferencing system. This also allowed children to see the older children in each school. The session finished by experimenting with singing, using a song known by children in both schools.

Variations: If you don't have a camcorder, you could use close-ups of photographs or drawings. The 'sharing lunch boxes' idea could be extended to work on healthy eating, cost of food and so on.

Full Case Study on page 63

ADDITIONAL TEACHING IDEA

Biographical Buddies

Groups of three to six children in the linked schools are selected for two short conferences one or two weeks apart.

Curriculum Context: Key Stage 1 or 2. Biographical writing/geography/local history/developing communication skills

Content: 2 x 20-minute sessions. Each child is invited to bring to school three very different objects that collectively say something specific about the child, e.g. a favourite toy, an article of clothing, and a book. Each child in the host school is paired with a 'buddy' in the remote school and asked to 'show and tell' about the objects they have brought in. Between the two conference dates, each child is asked to produce a short biographical piece of writing that describes the character of their 'buddy' in the light of the object they have chosen. This piece of writing is then used as the basis for the second video conference link, in which the prepared piece is read out and discussed by the groups of buddies.

Variations: Each child brings in three objects which say something about school or the area they live in, rather than themselves.

2.

Background: Chalvey Early Years Centre, Slough arranged a series of six weekly links with Arbour Vale School for Early Years children.

Curriculum Context: Foundation stage - storytelling.

Content: 6 x 20-minute sessions. Each session started with introductions and then a teacher read a story to the two groups of children. While the story was being read, the book could be seen in close up by the other school. After the story, the storyteller asked questions, and children at both ends had a chance to answer them and discuss the book. Each session finished with all the children singing some songs selected by the children and led by a teacher with a guitar.

Variations: The same story could be used two weeks running and during the second telling, the children could share pictures they had drawn to illustrate the story. The children could retell a story themselves or original stories could be used.

Variations for Key Stage 1 or 2: Depending on the age and ability of the children, they could go on to discuss the plot and the characters. The beginning of a story could be used one week and the children could write their own endings and share them the following week. One group of children could write and tell the first part of a story and the other group could write and tell the second part the following week.

3.

Background: Branscombe Primary and Farway Primary, two small schools in rural Devon, looked to extend and develop their collaborative work through the use of video conferencing.

Curriculum Context 1: Key Stage 1 - Toys we like to play with

Content: 8 x 30-minute sessions. The class was divided so that the Reception and Year 1 children were video conferencing for one session and the Year 2 children the other. This made group sizes of eight for the reception and Year 1 and six for the Year 2s.

The children took it in turns to talk about the toy they had selected and became quite animated when it was their turn to talk, especially when it was about something that they had made from a construction kit.

Variations: This session was the first in a series about toys. Others included toys people used to play with, toys that move and toys around the world.

Curriculum Context 2: Key Stage 1 - Data handling

Content: 1 x 30-minute session. The focus was data handling, so the two classes compared what the children had in their lunch boxes and counted up how many of each item the two classes had. They talked about healthy and unhealthy foods, compared the number of children having packed lunches to the number of children having school dinners and what effect the class sizes had on the numbers.

The session finished with Farway telling the Branscombe children about the lunch boards which the children use every day to say whether they would like packed lunch or school dinners.

4.

Background: Branscombe Primary and Farway Primary, two small schools in rural Devon, looked to extend and develop their collaborative work through the use of video conferencing

Curriculum Context 1: Key Stage 2 Humanities - 'Our Village'.

Content: 1 x 20-minute session. The children had previously researched the history of the school and written notes. They talked about their school today and compared and contrasted the two schools. They discussed people's jobs within the school and the facilities they had, e.g. computers, their favourite lessons and extra-curricular activities.

Curriculum Context 2: Key Stage 2 science

Content: 12 x 20-minute sessions over six weeks. Groups of Year 3, 4, 5 and 6 children met twice a week for six weeks to present their work to each other and ask each other questions about the science lessons they had all been having about 'light'.

Full Case Study on page 67

5.

Background: A BT Future Talk www.bt.com/futuretalk/ project for Lea Junior School, Slough working with Hawkes Farm School, East Sussex. Communication methods to be used were video conferencing alongside e-mail, message boarding, phone and fax.

Curriculum Context: Key Stage 2 Literacy - narrative poetry writing.

Content: 6 x 20-minute sessions during the term the project ran. Both groups started by studying The Oxford Book of Narrative Poems, looking at subjects, style and form. Next, communicating initially by e-mail, both groups came up with ideas for the story, and eventually a plot was agreed, with various amendments and additions. Video conferencing was used at various stages in the creative process for groups of about a dozen Year 6 children to confer about the poem. After collaborating on the opening, each group was allocated part of the story, which they wrote on their own. There was collaboration again on the ending, editing and redrafting.

Many computer-based video conference systems provide software-driven tools which provide numerous possibilities for interaction during video conference sessions. The tools can be great 'ice-breakers' or can be used as a stimulus for highly structured activities that exploit video conference software and hardware tools. The tools available include:

- **Virtual whiteboards**, where each video conference participant can use the 'draw or write' facility on a shared whiteboard.
- **Shared applications**, enabling the host computer to load any software application and share it with the remote site.
- **Text chat facilities**, picture capture and file transfer.

In addition, most video conference systems have the facility to connect a second video source such as a video cassette recorder, a camcorder, document camera or an electronic microscope, which opens up all sorts of opportunities for children to make presentations to one another.

ADDITIONAL TEACHING IDEA

'Squiggle'

This activity is suitable for very young children or as an 'ice-breaker' for slightly older children. A class of children meet individually across a video conference link with another class of children. Before the video conference link is made, both parties need to check that they have a shared whiteboard facility and that it works across the link.

Curriculum Context: Key Stage 1 or 2: Language development/drawing/ICT

Content: Once the connection is made, pairs of children take it in turns to make a 'squiggle' (a short series of random lines or shapes) on the virtual whiteboard. The partner at the remote site then proceeds to add to the drawing, turning it into a meaningful picture. While this is happening, the child at the host site guesses what it is that the other child is turning the squiggle into.

ADDITIONAL TEACHING IDEA

A Video Commentary

Children share pre-prepared video footage, with live commentary, over a short video conference link between two classes.

Curriculum Context: Key Stage 1 or 2: Presenting to different audiences/media education/drama.

Content: Children in both schools film a short piece of video footage, which may initially simply be about their school - a 'video prospectus', perhaps. This pre-prepared footage is played to the other school via the video conferencing unit and the children provide live commentary, comment, or just an introduction. The children in the other school then reciprocate. Afterwards, the children can compare and contrast the two videos. One of the advantages of this exercise is that the video doesn't need to be edited. Children can select the bits they want to use, taking note of the counter numbers, and then fast forward through the unwanted sections.

Variations: Different versions of the video about the school could be made for different audiences - one for parents, one for children, one for teachers and so on. Later collaborations could be more ambitious and include polished improvisations or scripted, costumed scenes relating to the theme being studied (e.g. Victorian school children, World War II refugees, characters from a children's book).

Geoff Turrell, Athena EiCEAZ

These are just a few examples of links between primary schools, all of which knew their partners **before** they started video conferencing together or, in the case of Lea Junior, were given the contact school as part of the BT Futuretalk project.

The ability to video conference with teachers and children in other parts of the country lends itself to all sorts of opportunities. Finding a school to link with is often the most difficult part of the process. See *Section D* for more information about how to make contacts.

In this next example, West Down found the link school from the Global Leap website.

6.

Background: A link between West Down Primary School in Devon, a predominantly monocultural county, and Montem Junior School in Slough, which has a multicultural intake.

Curriculum Context: Key Stage 2 religious education, Hinduism

Content: 1 x 40-minute session. Children in the Devon school wanted to ask the Slough children about what it was like being a Hindu. After a discussion in class beforehand, 12 of the Year 6 children prepared questions which their teacher e-mailed to the teacher in Slough. As it was near Christmas, most of the Devon children's questions concerned the similarities and differences between Christianity and Hinduism. When the children had asked their prepared questions, the Slough children read short prepared pieces about Hindu gods and showed pictures they had drawn of some of them and small statues of the gods they had brought in. At the end of the prepared parts of the session, other children joined in and there was the opportunity to ask questions more spontaneously.

Variations: Links with schools in different parts of the country are rich in video conferencing opportunities: the chance to compare two schools, the schools' immediate environments, the localities, regional accents, local traditions and cultures, different eating habits, family life, sport and leisure, local industries and so on.

LINKS BETWEEN SECONDARY SCHOOLS

Links between two secondary schools can be more difficult to arrange because of timetable constraints. The likelihood of your Year 10 English group, for instance, having lessons at the same time as your partner school's is minimal.

Nevertheless, with a little flexibility on the part of the teachers involved and the support of other colleagues and the senior management team, it is usually possible to arrange something, although you do have to be persistent!

Another significant factor is **where** the video conferencing system is situated. In schools where it is in a dedicated video conferencing room or space, it is easier for groups of students to leave their class at fairly short notice and video conference on their own without disturbing anyone. In other schools, the class doing the video conferencing may have to swop rooms with the teacher whose room the equipment is in, which needs a little more notice.

Here are four examples of video conferencing sessions linking students and teachers in two secondary schools:

7.

Background: Links between Year 7 and 8 pupils at Sidmouth Community College, a Devon comprehensive school, and Baylis Court Secondary School in Slough.

Curriculum Context: Key Stage 3 geography

Content: 4 x 20/30-minute sessions. The aim was to give the students a better understanding of the two very different environments. Each of the Devon students selected a picture from the local area and annotated it, and these were sent by post to Slough along with an Ordnance Survey map. In the first session, the Devon students talked more about their pictures and the Slough students asked them questions. In the second session, there was more informal and spontaneous discussion between the two groups about where they lived. Before the third session, all the students devised and completed a questionnaire on local leisure facilities. In this session the Slough students presented their findings and the Devon students asked questions. In the fourth session the roles were reversed.

Variations: Year 8 pupils in the two schools also linked for religious education, aiming to raise awareness of Islam and the Muslim way of life and of Christianity and the Christian way of life, and to compare and contrast the two. They made arrangements and exchanged e-mails before two video conferencing sessions in which they discussed their respective religions.

Full Case Study on page 72

8.

Background: South Molton Community College and Sidmouth Community College in Devon established links between Year 10 groups.

Curriculum Context: Key Stage 4 English - speech making and original writing.

Content: 2 x 30-minute sessions. A Year 10 English group at South Molton Community College was working on the power of rhetoric and speech making and the students wanted to deliver their speeches to a new audience. Contact was established with Sidmouth Community College and arrangements made for two sessions. In session one, after the introductions, the South Molton students delivered their speeches. After each speech there was feedback from Sidmouth. At the end of the session there was an opportunity for informal discussion. In session two, the pupils read extracts from their coursework for original writing and responded to each other's work.

Variations: This model of students getting together, presenting work to one another and following up with feedback and discussion, is one that can be productively applied to all sorts of curriculum areas. With the increasing emphasis in the National Curriculum on awareness of different audiences, video conferencing can provide real audiences of all kinds. As well as linking with contemporaries in the UK, similar links can be made with students of different ages, with groups of adults, with students in different countries and in fact virtually any group of people which has access to video conferencing equipment.

Full Case Study on page 77

9.

Background: East Lyme High is a suburban school in Connecticut, USA with a predominantly white and 'middle/upper class' student body. Bridgeport Central is an urban school with a predominantly minority and 'middle/lower class' student body in the same US state. The schools linked classes of 15-17 year old students in both schools and worked together from 7.00 - 7.45 am DAILY for a term, with the aim of helping both schools deal with the issue of diversity.

Curriculum Context: African-American history.

Content: 1 x 45-minute session daily for a term. The two groups of students physically met twice during the school year. The teachers spoke once a week to plan and prepare for the forthcoming week. Worksheets and assignments were faxed daily. There were several techniques employed in the teaching of the class. The main technique was discussion. Weekly, the classes discussed several topics surrounding the issue of African-Americans. They ranged from the issue of Slavery, the Underground Railroad, to the Civil Rights movement of the 1960s. Primary sources were also used as a teaching technique. Students would read, analyse, and in many cases criticise the various sources. For each unit at least one video was shown that was used in a variety in ways from discussion to an in-class activity.

Variations: Joint delivery of whole courses to two classes sharing teaching expertise and resources using video conferencing has been tried in the UK. It is difficult to organise, mainly because of timetable constraints. In this example in Connecticut, the only solution was to timetable the class to take place at 7.00 am each morning!

10.

Background: Students from North East High School and Harbor Creek High School, two 'rival' high schools in Pennsylvania, USA, shared in an academic writing experience by taking part in a Coffee House Poets video conference. The two teachers involved have been neighbours for over 20 years and always talked of doing something to connect their creative writing classes between the two schools.

Curriculum Context: English - collaborative poetry writing

Content: 1 x 60-minute session. Teachers at the two schools planned activities for the lesson, making sure there were opportunities for each student to participate as a writer and responder. The lesson started with the two groups of students creating a circle poem. Each student added a word that connected with a previous word provided by a student from the opposite classroom. Once the poem was completed, each student had a time to share poetry written previously in class. Once the student had read the poem, students from the other school took some time to make written responses. After the video conference, students at the two schools worked together to produce an on-line publication of their work

Variations: The Pennsylvania high schools are keen to repeat the exercise and to involve schools in the UK. There are many more ways that video conferencing could be used, in conjunction with e-mail and the telephone, to support collaborative writing projects.

UK SCHOOLS LINKING WITH SCHOOLS IN OTHER COUNTRIES

All the examples so far have involved schools in the UK and USA linking with neighbouring schools and schools further afield, but still in the same country.

There are enormous benefits to be had from linking with schools in other countries, both from the cultural and linguistic points of view. The following are examples ranging from a 'one-off' link between schools in Southampton and Cape Town, South Africa, to daily links between two schools in Exeter and Brest, France.

11.

Background: A link between students at Applemore College, a comprehensive school in Southampton, and students from a number of high schools in Cape Town, South Africa.

Curriculum Context: Key Stage 3 geography - part of the college's Development Day exploring issues around the topics of development, trade, and sustainability.

Content: 1 x 60-minute session. Ten students from each end presented two-minute talks on their area, each taking a slightly different theme. They used PowerPoint presentations on a whiteboard and shared these via NetMeeting and they also used a document camera for photographs. Questions had been prepared before hand and, via a chairman at each end, questions were asked and answered. The session ended with a more informal discussion between the two groups of students.

Variations: This method of presentations followed by questions and discussion is a format which can be adapted for all sorts of purposes. Instead of using Powerpoint you could film video footage to illustrate the talks, connect the camcorder to the video conferencing system and play selected clips 'live' into the video conference with the students talking over them. If you haven't got a document camera to show pictures, you can either use the main camera for a close up of the picture or attach a second camera to the video conferencing system.

12.

Background: Halfway Primary School in Llanelli established links with Lincoln Elementary School in Sioux City, USA, four years ago. Since then they have been in regular video conference contact.

Curriculum Context: Key Stage 1 and 2 - citizenship, humanities, numeracy and English are among the curriculum areas touched on by this project. The schools conference once a term and decide the subject matter three months in advance, so they can make arrangements and do the necessary preparation.

Content has included:

E-pals - 1 x 40 minutes. An introductory session during which all the children read short descriptions of themselves to their partners.

Police to Police - 1 x 60 minutes. An American police officer was invited into Lincoln Elementary and a Welsh police officer into Halfway School to participate in a video conference.

Sports Conference - 1 x 60 minutes. Before the conference, each school selected two or three sports. The children put together reports about their sports and invited professional players of the chosen sports to attend the video conference.

Variations: If one school has a visitor, they can always 'share' their visitor with their partner school via video conference (as long as the visitor doesn't object!). This is just as practical whether the schools are five miles or 5000 miles apart. Not only does it share the burden of finding and arranging suitable visitors, but it also opens up all sorts of possibilities and adds new dimensions to the potential for discussion.

Christmas Conference - Gift Survey Analysis. 1 x 60 minutes. Before the conference, whole school surveys were undertaken to discover what the favourite gifts children wanted for Christmas were. In the conference, children from each class discussed the survey and the similarities between the Welsh and American lists.

Demographic Conference - 1 x 90 minutes. Before the conference, both schools prepared a 'cultural exchange box' containing items that represented their respective localities. These were mailed ready for the conference. During the conference, these items were taken out of the box and the children gave a report about each of them.

Price Comparison Survey - 1 x 60 minutes. Before the conference, communicating by e-mail, ten items were selected by the children, prices were researched and converted to sterling and dollars, respectively. During the conference, prices for each item were compared and the similarities and differences discussed.

13.

Background: Students at Langleywood School in Slough was doing a geography project investigating the arctic. They wanted to link with a school in the area and found J.C. Erhardt Memorial School, Makkovik, Labrador, Canada, via the Internet.

Curriculum Context: Key Stage 3 geography and citizenship

Content: 1 x 60 minutes. The pupils in Slough gave PowerPoint presentations and talked about the Mars Confectionary factory and Windsor castle, their school day and their favourite activities. The pupils in Canada told them about their remote community and life in a region where the snow stays from October to June. Their presentations, which included Inuit artefacts and costumes, were followed by questions and discussion.

14 - 16.

Background: Montgomery Combined School in Exeter has had an exchange with Ecole Sanquer in Brittany for two years. When both schools acquired video conferencing equipment, pupils started to meet daily to converse in French and English.

Curriculum Context: Key Stage 2 and 3 Modern Foreign Languages, daily conversation. Cultural links.

Content: 1 x 20/30-minute session, daily. The sessions between four English and four French children each day took place during the last half hour of the lunch break. The French school had an extended break for lunch, so the time difference was not a problem. The children talked for about 20 minutes each session and asked questions to discover information such as: name, age, date of birth, family and pets, etc. The teacher present translated additional questions that the children wished to ask. Children were given a recording sheet to enter details of the interviewee, which also served as a useful prompt. **Developments:** Sharing class lessons, the virtual tour and Eurovision Karaoke

Full Case Study on page 80

Variations: Monkseaton Community High School has a similar arrangement with a school in Spain for GCSE students and another with a Lycee in France linked to their AS/A2 programmes of study.

17.

Background: This project arose out of the existing links between Knowles Hill School, Devon and Bromangymnasiet, Sweden, and was developed to enhance sixth-form students' knowledge of the culture and way of life of the partner country.

Curriculum Context: Key Stage 5 citizenship, communication skills, aspects of PSHE and health and social care AVCE Advanced Level.

Content: 1 x 30-minute session per week. Small groups of sixth-form students met weekly for half-hour discussions. There were 13 sessions in the term and they conversed on matters ranging from human rights to the World Cup! Examples of work prepared were subsequently exchanged, including videos, a box of 'goodies' and PowerPoint presentations. There was also an exchange of Christmas cards and greetings.

18.

Background: Cowes High School joined a multipoint session set up by an Italian High School with another UK school and a school in Japan.

Curriculum Context: AS media studies: new media technologies.

Content: 1 x 60-minute multipoint session. Students prepared case studies on a range of technologies - mobiles, MP3, digital, IMAX, and Web based. In the session, each school gave a presentation to the other schools and answered questions from them.

ADDITIONAL TEACHING IDEA

Harvest

This project lends itself to monthly conferences over an extended period of time between two schools situated in different countries.

Curriculum Context: Key Stage 1 and 2: science and geography - Growth/nutrition/health/climate

Content: 1 x 30-minute session a month. Having linked and planned the project using e-mail, children in both schools plant a variety of indigenous vegetable seeds. They take photographs, record progress, and share this information via e-mail. Each month in the video conference the two classes report on the progress of their seedlings. They can share anecdotes about problems encountered, compare climates and growing conditions and share advice. A camcorder attached to the video conference system can be used to view the growing area 'live'.

Variations: After a pre-arranged period of time, each school harvests the vegetables and sends them to the twinned school (check with the Plant Health and Seeds Inspectorate in York - www.defra.gov.uk or 01904 455191 - for details of how best to do this) along with some appropriate recipes. When the vegetables are received, the schools arrange a lengthier conference to cook and taste the vegetables and dishes created. Alternatively, instead of sending the vegetables, each school uses their own to cook with and then compares recipes and results during the final video conference.

LINKS BETWEEN PRIMARY AND SECONDARY SCHOOLS

The move from primary to secondary school is a critical one for all pupils. Most secondary schools have a programme of meetings and visits in place for their September intake which normally start months beforehand. There are a number of useful video conferencing activities which can support and enhance the transition process.

19 - 20.

Background: A small group of Year 6 West Down Primary School pupils video conferenced with a group of Year 7 pupils from Ilfracombe Community College who had been at West Down the previous year. The conference took place once the primary school children had been allocated their secondary school places.

Curriculum Context: Pastoral - transition

Content: 1 x 60-minute session. There was no need for introductions as the children all knew each other. The session was an informal one with the Year 7 pupils saying a bit about their schools before the Year 6s started asking questions. The Year 7s had brought along things to show like their school diaries, books and text books.

Variation: 1 x 30-minute session. A group of Year 6 pupils from Decoy Primary in Devon linked with a group of sixth-formers from Knowles Hill Comprehensive. They had prepared questions before the conference and e-mailed them to the school. The conference started with the sixth-formers introducing themselves and the school, before the Year 6s asked their questions.

21.

Background: Devon County Council Science Adviser, Geoff Tew, has been looking at the potential of video conferencing to support progression in learning in science from Key Stage 2 to 3. He worked with Knowles Hill School, a technology college in Newton Abbot, and two of its feeder primaries, Decoy and Wolborough.

Curriculum Context: KS2 and 3 science

Content: The project set out to evaluate the potential impact of video conferencing in four areas: **1.** Improving the support for primary science teaching. **2.** Enhancing cross phase liaison between staff. **3.** Evaluation of procedures for video conferencing between local schools. **4.** Professional development of participating staff.

Full Report on page 92

There are also other opportunities for primary school pupils to link with older pupils at secondary schools, to the benefit of both.

22 - 23.

Background: Monkseaton Community High School in Whitley Bay offered French lessons to Year 3 and 4 pupils at local first schools. These were followed up with video conference links between the pupils and GCSE students at Monkseaton. The school also established links between the GCSE students and Year 8 pupils from their three feeder middle schools.

Curriculum Context: Key Stage 2 and 4 MFL

Content: Approximately 6 x 60-minute sessions with each first school. Year 3 or Year 4 pupils (depending on each school's preference) undertook a short introductory course in French as complete beginners, taught by a member of Monkseaton High School languages department. Pupils received five lessons, one per week, and covered personal ID (i.e. name/age/where you live/pets). Each lesson was followed by a series of video conferences. The aim of the video conferencing sessions was for the primary school pupils to exchange information on these subjects, in addition to some basic number work, with students from Years 10 and 11 at Monkseaton and, depending on availability, with a native speaker.

Curriculum Context: Key Stage 3 and 4 MFL

Content: 6 x 30-minute sessions with each school. Year 8 pupils in each of Monkseaton's three feeder middle schools took part in a series of six video conferencing sessions (one per week) with students from Years 10 and 11 at Monkseaton High School. Each school had its own block of sessions, the aim of which was to exchange information in French on a pre-determined subject, reflecting work covered in class with their own Languages teacher. Topics included school, personal identification, hobbies and holidays.

JOINT DELIVERY OF LESSONS OR EXAMINATION COURSES BY TWO OR MORE SCHOOLS

There are a number of ways for a teacher in one school to deliver a lesson or series of lessons to another school:

- Pupils in School A can join a lesson in School B - so the teacher is teaching two groups simultaneously.
- Pupils in School A can access expertise and specialist equipment in School B.
- The teacher in School A can teach a lesson from a distance, exclusively for pupils in School B
- The two schools can pool expertise - e.g. the teacher in School A could teach part of a course to students in both schools and the teacher in School B could teach the other part.
- The two teachers could team-teach for part of the course, via video conferencing, sharing the expertise of the teachers and giving the students the opportunity to interact as well.
- The teacher in School A could teach up to three additional schools, linking via a bridge (MCU). Teachers in Schools B, C and D could also contribute to the teaching.

Here are five examples illustrating different models:

24.

Background: A science teacher at Ilfracombe Community College took a lesson with 30 Year 5 and 6 pupils at West Down Primary.

Curriculum Context: KS2 science - rocks and soils

Content: 1 x 60-minute session. The lesson was arranged at a time when the class would normally be having science, so the West Down science co-ordinator was there. The subject they had chosen was one which the science teacher could deliver in the video conferencing room (not in the laboratory) and one for which he had lots of artefacts to share. He taught the lesson as he would have done a Year 7 group, demonstrating points, asking questions and finishing with discussion.

25.

Background: Seven primary schools in the Newcastle area linked via video conference with St. Thomas More School in Blaydon, enabling the primary schools to gain access to Denford - Computer-Aided Manufacturing machinery. This is one of several hundred similar projects set up by Denford since 1995.

Curriculum Context: Key Stage 2 design and technology - CAD/CAM

Content: 2 x 30-minute sessions for each primary school. The primary teacher taught the CAD skills and 30 pupils from each primary school designed their projects using Denford MillCam Designer software in their own schools. The designs were transferred to St Thomas Moore via video conferencing and pupils were also able to watch their projects being manufactured.

26.

Background: Sawtry Community College is a third phase technology college and part of its remit is to ensure strong links with the community, both locally and within national networks. The college is using video conferencing as a cost effective way to branch out into local, national and international communities with 'face to face' communication. This project involves the delivery of science lesson content to hospital and special needs schools around the country.

Curriculum Context: Key Stage 2 and 3 science

Content: 1 x 60 minutes per session. The topic decided on was 'rates of reaction' and the actual content was customised to suit each individual school. The teacher adapted the lesson to suit the nature of the delivery, using pre-set camera shots to make it easier to deliver and to make the most of the demonstrations.

Variations: The teacher plans to use paper-based resources, delivered via e-mail, and PowerPoint in future sessions.

27.

Background: A primary liaison teacher with Athena EiCEAZ (Excellence in Cities Education Action Zone) in Birmingham taught a series of literacy and numeracy lessons to groups of borderline level 4 Year 6 children in five primary schools in the Harborne area. Some of these sessions were joined via video conference, by schools from other areas, to explore the potential of video conferencing for delivering such crucial input.

Curriculum Context: KS2 numeracy

Content: 1 x 60-minute session. A lesson on time and converting measures taught to two classes, one taking part in the session via video conference.

Variations: The schools in Harbourne are each having video conferencing equipment installed, so next year the teacher will teach some of the lessons 'live', to get to know the children, and some by point to point and multipoint video conference sessions.

28.

Background: A music teacher at Hato Paora school in New Zealand teaches Theory of Music AND keyboard playing to groups of students at three other schools.

Curriculum Context: Associated Board of the Royal Schools of Music syllabus, grade 1.

Content: Weekly 1 x 40 minutes session. The students had one lesson a week during term time. The course took between six months and a year to complete, depending on the ability and previous experience of the students.

DELIVERY OF EXAMINATION COURSES BY EXTERNAL PROVIDERS

There is a groundswell of movement today towards delivering some GCSE, AS and A2 examination courses via video conferencing.

With some sixth-forms shrinking and comprehensive provision of minority exam courses increasingly difficult to achieve, groups of sixth-forms and colleges sharing their teaching expertise is a natural development: a teacher in one school delivering a course to pupils in another school or teachers in two schools sharing the teaching of two groups is something a number of schools are trying.

At present, however, timetabling constraints are preventing this method of delivering courses from developing very fast, so a number of authorities are looking into co-ordinating sixth-form timetables across the county with a view to developing distance learning provision.

29 - 30.

In the meantime, over 150 schools in the UK and more than 2000 students are using the services of an external provider, a company called Moorhouse-Black, formerly 21st Advanced Options, www.mbdls.com. This company provides tutors for a growing number of courses: AS/A2 Accounting, Critical Thinking, Electronics, Film Studies, Government and Politics, Law, Psychology, Sociology, Dutch and, from September 2002, Physics, Chemistry, Mathematics and GCSE Latin. Two of the case studies, (29.) the King's School, Ottery St Mary (**Full Case Study on page 98**), and (30.) Lawrence Sheriff School, Rugby, include details of their work with Moorhouse-Black.

The concept of distance learning has been practically demonstrated in the USA and UK over many years - the Open University being a prime example of its use and effectiveness. In the UK, distance learning has yet to create a major impact in the area of 5-18 education, although its use has increased over the last ten years.

In the world of education, particularly post-16, an excellent and effective illustration of video conferencing can be demonstrated by Moorhouse-Black particularly in the delivery of subjects such as accounting, electronics, government and politics, law, psychology and sociology.

It is this type of delivery that is particularly attractive to a county like Devon. The location of schools and colleges coupled with the size of sixth-forms makes the concept of video conferencing attractive, along with the wealth of skills and expertise that exist in the teaching staff of these schools.

Video conferencing would offer the advantages of:

- a cost-effective means of maintaining and expanding AS/A2 level options
- a pooling and sharing of expertise for the good of our students
- flexible timetabling
- shorter contact time needed to complete courses
- groups of small numbers become viable
- students manage their own learning better
- students being better prepared for higher education

At the present time video conferencing, as a means of providing education, is being used effectively in the USA and Japan. Indeed if it does not already exist, then very soon the virtual school/college, where students receive their education from a wide variety of sources without 'going to school', will be a reality.

*Extracts from a discussion document about the place of video conferencing in Post-16 education. **Colin Manser**, Deputy Headteacher, The King's School, Ottery St Mary.*

BRINGING EXPERTS, OTHER THAN TEACHERS, INTO THE CLASSROOM

As the number of schools with video conferencing capability increases, so too does the number of 'experts' ready to share their particular expertise, specialisms and experience with schools.

There are opportunities to bring visitors from all over the world into the classroom, one of the real strengths of video conferencing.

Many museums, art galleries, zoos, environmental organisations, archives, government organisations, etc., mainly in the UK and America, are already offering schools the opportunity to take advantage of pre-prepared units of work, and some of them are also prepared to customise them to suit a school's individual requirements.

There are some useful video conference directories available which list organisations willing to share expertise and offer 'virtual tours' of specific locations. Many of these are free, but there is a charge for some of the services and, as demand increases, so in all likelihood will the charges. See *Section F* for more details.

Here are ten further examples of links with 'expert providers':

31.

Science Museum, London (1)

Background: Lent Rise Primary School, Buckinghamshire, linked with the Science Museum, London.

Curriculum Context: KS2 science - Earth, Sun and Moon

Content: The school arranged a session with an astronomer/space expert at the Science Museum. The teachers planned the session with the museum's education officer and discussed the sorts of questions that would be relevant. The two Key Stage 2 classes involved liaised on the preparation of questions and e-mailed them to the Science Museum. The session itself started with 15 minutes input from the astronomer, who then went on to answer the prepared questions. The session finished with the opportunity for spontaneous questions and discussion.

32.

Science Museum, London (2)

Background: Davenies Primary School, Buckinghamshire, was one of three schools taking part in a multipoint link with the Science Museum, London, organised by Global Leap.

Curriculum Context: KS2 science - Earth, Sun and Moon

Content: The session was to be a link with an actor in role as astronaut, Gene Cernan. Beforehand, the children found out as much as they could about Cernan and planned questions to ask. The session itself started with input from the 'astronaut' and then the schools had the opportunity to ask questions.

33.

Science Museum, London (3)

Background: As part of Barbara Sanders MA in Educational Studies at DeMontfort University, 'What is the Potential of Video Conferencing to Enhance Teaching and Learning in Schools?' she carried out research in collaboration with Castle Lower School and Goldington Middle School, Bedford, Russell House Services, and the Science Museum.

Curriculum Context: KS2 science and KS2 food technology

Content: In the first session, a small group of Year 4 children conferenced with an actor playing 'Clarence Birdseye'. In the second session, a group of Year 7 children linked with an actor playing Gene Cernan, as in the previous example.

As part of its distance learning provision, the Science Museum also offers sessions based on the lives of Amy Johnson and Richard Arkwright.

The actors playing the part of these historical characters bring them to life. In the case of Gene Cernan (example 2 and 3), the Apollo 16 astronaut and the last man to walk on the moon, it is not unusual for pupils to be convinced they have been working with the great man himself.

The Public Record Office Education Department in London also uses drama as part of its video conferencing presentations.

There is more detail about the PRO's presentations at the end of Section F.

34.

Public Record Office, London (1)

Background: A link between Sidmouth Community College, Devon, and the Public Record Office in London, set up by the school.

Curriculum Context: Key Stage 3 history - the Domesday Book

Content: The history teacher discussed the session in advance with the PRO and the students prepared for the session by studying materials provided by the PRO to familiarise them with the roles they would be playing in the conference.

The session itself was introduced by Philip Stanley-Berridge from the PRO; then there was a presentation by actors who played the parts of a village reeve and a Domesday commissioner.

In the final part of the session Philip engaged the Sidmouth pupils in discussion about the Domesday Book. This discussion started as 'factual' exchanges about what the book was made from, but developed into a fascinating session in which pupils asked questions which conveyed their emerging sense of just how special - and valuable - the Domesday Book is.

Full Case Study on page 101

35.

Public Record Office, London (2)

Background: Great Ormond Street Children's Hospital School link with the Public Records Office, set up by Global Leap.

Curriculum Context: Key Stage 2 history - The Victorians

Content: As part of the pupils' preparation for the video conference their studies had included work on the historical context of the Victorian period in general.

The Public Record Office turned its classroom into a Victorian sitting room for this video conference as pupils were transported back to the 19th Century and had the opportunity to meet and interview actors playing Queen Victoria and Prince Albert.

36.

Liberty Science Centre, New Jersey

Background: A link between Strabane Grammar School, Northern Ireland, and the Liberty Science Centre, New Jersey, set up by the Western Education and Library Board.

Curriculum Context, Session 1: Key Stage 4 geography and science

Content: The schools arranged a virtual field trip to the Hudson River Estuary and an indoor interactive lesson on water erosion and marine life, customised to suit their requirements by the Centre. The virtual field trip was conducted by the American teacher and included a tour of the famous Manhattan skyline, with stops at Ellis Island and the Statue of Liberty. Next, Strabane pupils joined a group of American students to work on a model of the Hudson River Estuary. Together, the two groups made alterations to the model to test how erosion might be decreased. They also did experiments to gain a better understanding of marine life.

Curriculum Context, Session 2: 'A' Level geography

Content: The school arranged a session on 'Forces that shape the Earth', again tailored to meet their requirements. Preparation involved researching recommended websites and filling in questionnaires and worksheets, which were then e-mailed back to the Centre. During the actual lesson, the Earthquake Simulator in the Liberty Science Centre was used. The teacher invited the pupils to 'build their own earthquake'. Students had the opportunity to see an earthquake simulator, make inputs on the height of buildings, types of materials, strength and length of a quake and see the effect!

37.

Space Centre, Leicester

Background: A link between Montgomery Combined School, Exeter and the National Space Centre, Leicester, set up by the school.

Curriculum Context: Key Stage 3 science - 'The Solar System and Beyond'

Content: 1 x 60 minutes. The teacher at Montgomery contacted the Space Centre which agreed to set up a special video conference session for them. The first part of the session was a video of the Centre, made especially for them by the Centre's Education Manager, with a live commentary from her. This was followed by a presentation about space travel, with some artefacts, involving the children by posing questions. The final part was a question and answer session.

38.

The Ocean Institute, California

Background: A link between North Axholme Comprehensive, North Lincolnshire, Brookfield School in Reading and The Ocean Institute, California, arranged by Global Leap.

Curriculum Context: Key Stage 3 geography 'The Causes and Effects of Earthquakes'

Content: 1 x 60 minutes. The link to the Ocean Institute is a regular video conference organised by Global Leap and customised to support various geography programmes of study. On this occasion, it was used to reinforce the work on earthquakes that the two schools had been doing. The pupils were able to ask specific questions of the presenter, Kelli Lewis, about living on the San Andreas Fault. As part of her presentation, Kelli described her personal experiences during an earthquake and the precautions which have to be taken by children in schools to prepare them for an earthquake situation.

39.

NASA Johnson Space Station

Background: Montgomery Combined School linked with NASA. The session was arranged via Global Leap and shared with another school.

Curriculum Context: Key Stage 2 science - Space

Content: 1 x 60 minutes. The children prepared questions in advance and sent them to NASA. The session started with a presentation by Rodney Rocha, a NASA scientist, which included video clips, photographs and diagrams. The final part of the session was taken up by answering the prepared questions from the children.

40.

Great Barrier Reef

Background: Harris City Technology College and Arbour Vale School, Slough, linked with Reef HQ - the Reef Education Centre for the Great Barrier Reef Marine Park Authority, Australia, arranged by Global Leap.

Curriculum Context: Key Stage 3 geography

Content: 1 x 60 minutes. Links to the Great Barrier Reef have to take into consideration the 12-hour time difference between Queensland and the United Kingdom. On this occasion the Reef Volunteers in Australia were part of an after-school club, which meant that a 9.00 am video conference suited the Australians' early evening activity.

The pupils in the UK had been sent work sheets to follow and had prepared a selection of questions to ask the students in Australia. In turn the students in Australia had prepared a variety of tanks containing different specimens, highlighting the different ecology of the reef. This was a video conference where students worked directly with their peers, explaining details and answering questions in great detail.

Video conferencing is the only method by which this type of visual, interactive collaboration can take place. Travelling thousands of miles to share a lesson has become a regular part of the curriculum for some students using video conferencing technology in the classroom.

One word of caution when arranging a conference of this kind. Most of the providers have 'off the shelf' presentations, which they adapt to suit whatever audience they're presenting to. Occasionally the information the presenter has received may have gone astray or been misunderstood, so do make sure that your preparation is thorough. If they're going off in the wrong direction or pitching it at the wrong level, stop them and point this is out. One of the benefits of video conferencing is that it's interactive and you can do this. It's not a video!

For more details about the Science Museum, Public Record Office, Liberty Science Centre, Leicester Space Centre, NASA, the Ocean Institute, the Great Barrier Reef and other expert providers of video conferencing, see Section F on page xx.

Organising your own experts

You may want to organise your own video conference to support some work you are doing with your students. You might be studying a particular author, for instance, and want to link up either with the author him/herself or perhaps someone who has specialist knowledge of the author.

Once you've made contact with the author or specialist, you'll need to get him/her to an establishment with video conferencing equipment. There may be a school nearby or a university that would be prepared to help or you may be able to borrow some equipment and a venue with an ISDN line. Failing that, there are video conferencing companies in the UK that can

organise a video conferencing room anywhere in the country and almost anywhere in the world. There will be a cost for this, but you might find you can persuade the company to support you for less than the going rate, as it is an educational project - also, there may be some publicity in it for them.

For more detailed advice on how to go about organising this sort of conference, see *Section D - 'Making Contacts'*.

Here are four examples:

41.

Background: An 'A' level group at Kimbolton School was doing an A level unit on South African protest writing, part of which was the study of some poems by Cape Town poet, Peter Clarke. The Kimbolton teacher contacted Martin Phillips, editor of a UK anthology 'Crossings - Three Cape Town Poets', which includes some of Clarke's poems. Martin arranged for Peter Clarke to go to the British Council Offices in Cape Town to conference with the students.

Curriculum Context: OCR A2 English Language and Literature - Protest Writing from South Africa.

Content: A 40-minute session with Peter Clarke, discussing his poetry.

42.

Background: A link between Sidmouth Community College and Robben Island, the prison where Nelson Mandela was held during the apartheid years. Devon Curriculum Services, Devon County Council's education advisory service, has strong links with the Robben Island Education Department. With the help of international video conferencing company Polycom, they have installed a system on Robben Island and are working with the island's education department to develop educational use of it.

Curriculum Context: Key Stage 4 English - study of the play 'The Island'.

Content: 1 x 40-minute session. A conference with Lionel Davis, an ex-political prisoner who was incarcerated on the island with Nelson Mandela. The Sidmouth group had been studying the play 'The Island', written by Athol Fugard, John Kani and Winston Ntshona, and were able to compare the play with real life in the prison, as experienced by Lionel Davis.

43.

Background: Devon County Council Art and Design Adviser, Chris Wightman, organised a multipoint video conference for three Devon schools with internationally famous sculptor Peter Randall-Page. Peter went to the Media Education Centre in Exeter and the students joined him, via video conference, from their classrooms.

Curriculum Context: Key Stage 2 and Key Stage 4 art and design

Content: A GCSE group from South Molton Community College visited Peter Randall Page's Dartmoor studios for a day, interviewed him and did some videoing using a mini DV camcorder borrowed from the LEA's Media Education Centre. South Molton organised two video conferences, one with Year 6 pupils at Decoy Primary School and one with Year 10 students at Sidmouth Community College.

In both these sessions they talked about the sculptor, showed extracts from the video and suggested some work they might do, inspired by Peter Randall Page's work. A month later, all three schools came together for a multipoint video conference with Peter himself. After a 15-minute introductory session by the sculptor, they talked about his work and discussed their own work with him, using the camera to show close-ups of paintings and drawings.

44.

Background: Following the events of September 11th 2001, Devon County Council Religious Education Adviser, Mark Brimicombe, organised a multipoint video conference for four Devon schools called 'Is Islam a religion of peace?', aimed at raising awareness of Islam.

Curriculum Context: Key Stage 3 religious education, citizenship.

Content: Members of Devon's Islamic community were invited to the South Devon Professional Centre, where they were joined by Mark Brimicombe and a Year 8 group from King Edward VI College. They were joined via video conference by Year 8 groups at Ilfracombe College, Sidmouth Community College and the King's School, Ottery St Mary. Shabir and Causa Ahmed gave a 20-minute presentation about being Muslim, and they were joined by two teenage Muslims, students from local schools, to answer questions from the four schools.

The session went off line for 90 minutes and the four groups of students all worked separately on presentations based on their thoughts and feelings about the morning. The four groups got together for a final session, when they each gave presentations - involving improvised drama, art and poetry - to the rest. Mark Brimicombe and the presentation team responded.

There are many opportunities for using guests in video conferencing sessions. These could involve journalists, authors, poets, mathematicians, scientists, inventors, environmentalists, politicians, businessmen, radio and television presenters, sportsmen and women... the possibilities are endless.

As well as contributing to curriculum activities, the opportunity to link to professionals via video conference also has implications for career advice. If you have a good contact who is prepared to come in to school to talk with the students about his chosen career, you could share the experience with a partner school and they could, in return, set up another guest. Another option would be for three or four schools to share the experience, via a bridge (MCU) and reduce the workload even further.

If a particular guest is unable to come to school, there is the chance s/he may be able to join you for a video conference from a remote location as this would take much less time.

LINKS WITH HIGHER EDUCATION

Many schools have links with local universities and there is potential here too for developing mutually beneficial video conferencing links.

45.

Background: MOTIVATE is a project incorporating a series of video conferences, run by the Millennium Mathematics Project at Cambridge. The MOTIVATE project has been in existence for about four years, gradually expanding to cover the whole school age range (5-19). It was started to bring world-class mathematics to school students, particularly those in disadvantaged areas, in a way that they can understand and which will help them to carry on to do their own mathematical research at their own level.

Curriculum Context: Key Stage 1- 5 maths

Content: At an initial video conference, the speaker talks about an aspect of mathematics about which s/he feels enthusiastic, and which s/he thinks will also enthuse the students.

Following this, the students work for about a month on projects from the MOTIVATE website, www.motivate.maths.org, then they present their work to the other schools and to the mathematician at a second video conference.

TEACHER TO TEACHER

As well as supporting work going on in the classroom, video conferencing can support professional development.

- Teacher trainees in Devon schools used video conferencing to discuss their lessons, share ideas, plan work together and discuss resources.
- Teachers at Cockwood and Tipton St John Primary schools used video conferencing for informal staff discussions, joint staff meetings and joint INSET sessions. On one occasion, a guest speaker at Tipton delivered the session to Cockwood teachers as well, faxing the handouts to them as they were required.

Video conferencing can be used to enable staff from one school to join training sessions with colleagues at different education centres. In Slough the number of teachers coming together for their EAZ training day was too many for one location. Three locations were used; each location hosted one keynote speaker, while the others received the presentation via video conference. Following each presentation, questions and answers were invited in the usual way.

Of course, joining and making a contribution to in-service training is no longer confined to a local or regional event. In July 2001 I was a keynote speaker at the 'Annual conference of the Marine Teachers Association in Queensland'. It would have been great to visit Queensland, but the video conference certainly provided an excellent alternative. There are other examples of conferences linking colleagues together for the duration of the conference without the inconvenience and cost of travel or, in the case of a school, supply cover.

In the Hastings & St Leonard's Education Action Zone, video conferencing was used as a solution to train School Meal Supervisors whose widespread locations and limited availability would have made a training programme involving personal travel an impractical option.

Mike Griffith, Global Leap

- Teachers in Exeter observed a maths lesson in a school in Barnstaple, 50 miles away, with a 'live' commentary from the numeracy consultant. They then discussed the lesson with the children and the teacher.
- A primary adviser in Devon delivered a presentation on the Foundation Curriculum to teachers and governors in three venues simultaneously in a multipoint video conference. The session was followed by questions from all three venues and then discussion between all the centres. This session was delivered six times, saving the adviser visiting over 20 academic council meetings.

- Advisers for Devon Curriculum Services hold regular meetings between East Devon, South Devon and North Devon Centres, saving hours of travelling time.
- Some interviews for teaching posts are being carried out by video conference, particularly when a candidate is from another country. The cost of hiring video conference facilities is far less than the travelling expenses.

The Appointment of Teachers from Overseas

When Arbour Vale School in Slough needed additional staff but were unable to make any appointments after following the usual procedures, the school approached an agency that offered applicants from a variety of countries. They decided to interview three teachers from South Africa.

The agency arranged for the application forms to be sent to Arbour Vale School, the school governors read these and a list of suitable candidates was drawn up in the usual way. The candidates were then interviewed by telephone to establish a shortlist of three to go forward for a final interview with the school governors.

The three candidates were all from the Western Cape area of South Africa, so we identified a company called Dimension Data in Cape Town and decided to link at the higher speed of 384K to increase the quality of the connection.

The candidates were given a time to attend the office of Dimension Data in Cape Town and the interviewing panel met at Arbour Vale School in Slough.

The interview was conducted in the usual way and everyone was extremely impressed with the quality of the link. In fact, the governors could see little difference from having the candidate in the room with them at the school. The whole process was very successful and can be recommended as a method of interviewing candidates for appointments where distance is a factor. The cost of the whole process was in the region of £400.

The three candidates were appointed and have now been working at Arbour Vale School for nearly two years.

INVOLVING PARENTS

Monkseaton Community High School in Whitley Bay runs a video conferencing session for families as part of a series of five sessions which make up its 'Family e-Learning' course. This is a community ICT initiative Monkseaton has devised and which it sells to other organisations.

The aim of Family e-Learning is to bridge the gap between technology and the e-Learning opportunities available to families and how they access it in the most useful and meaningful way - i.e. how to make the most of the technology they have at home. It is not intended to be an exhaustive course but merely offers them starting points in key aspects of the latest technology.

Whole families come once a week for five weeks and learn together about: the PC; the Internet; e-mail and e-commerce; television, video conferencing and working with text.

For the video conferencing session, two rooms in the school are used, each fitted with video conferencing equipment. Some family members stay in one room, while the others go to the other room, and they talk to each other about anything they like! If conversation runs dry, they are provided with some suggested questions related to their experience of Family e Learning.

The ideas in this section are all intended to be starting points. The full potential of video conferencing can only be realised when these ideas are adapted, improved and embedded into the curriculum. Combined with effective use of other ICT tools, video conferencing has great potential for creative use.