Video conferencing in the Classroom

Case Studies of Effective Practice

Case Study Five
Icknield Community College

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Becta
ICT Research

Contents

School background

Icknield Community College is specialist arts school located in a large suburban 11-16 mixed school in the south Midlands, of some 1368 students and 90 FTE staff. There are four full time ICT technicians employed. There is a large ethnic mix in the school. There are approximately 350 PCs available to students and a wireless network in the school, with about 80 laptops available for staff.

History of video conferencing in the school

The school has been video conferencing since 2003, but has quickly built up a wide range of activities involving it. The initial impetus was a request for bids for funding for a pilot study. Several pilots were funded including video conferences with primary schools to deliver French lessons and links with schools in another LEA to collaborate on a Constable project. The successful pilot led to contacts with a local commercial IT company, who funded another project on Key Stage 3 thinking skills. This led the school to become the lead school in the region for video conferencing. The Specialist Schools Trust has further given matched funding to support the development of video conferencing and embed it in the curriculum. Recently, a new Principal has taken over and has fully supported the use of embedded video conferencing, begun by his predecessor.

Philosophy of video conferencing use

The philosophy of the school is to ‘make learning happen’ and ICT is seen as an important, but not exclusive way of supporting that aim. Video conferencing is therefore part of an overall strategy of using ICT in a central way to support learning, because we live in a visual society, video conferencing is used as a way of making teaching interactive rather than text-book based. Student surveys suggest that they are seeking the immediacy of contact and learning that electronic resources allow and video conferencing is one way in which this interactivity can be achieved. In a global community, video conferencing is also seen as integral to reaching out to the world, and one in which the students enjoy immensely. Video conferencing is also seen as having the potential for interactivity that is likely to engage students more in their own learning.

Video conferencing equipment and location

The school uses both Polycom and Isight video conferencing equipment and transmission is by both ISDN and IP. There are two dedicated suites for video conferencing, holding approximately 30 people in each. One is a recently built room, expressly designed for video conferencing and located in the performing arts block. Webcam is also available. Projection is usually onto a large screen, although a TV monitor is used for more individual conferences. There are facilities for using a document camera, sharing applications and employing an interactive whiteboard during conferences.

Current patterns of use

While there has been some systematic use in subject areas, such as science, art and maths, target groups include the gifted and talented cohort and PSHCE programmes, across all age ranges. Conferences occur on at least a weekly basis. These occur between the school and feeder schools, other local schools, some in the United Kingdom and non-European schools. There are contacts with national cultural and commercial organisations, as well as with the Open University and the Specialist Schools Trust.

Teaching by video conference happens through a variety of models of use, for example between individual students, small groups and class-to-class contact. There is also remote teaching between schools, with teachers in the host school providing the programme. Thirty per cent of teachers will deliver meaningful series of video conferences during the year. Booking is an issue because of the quantity of video conferences that takes place. This is likely to get worse as teacher-driven demand grows. Video conferences also occur beyond the school day, both for students and in adult education situations.

Examples of effective practice

The use of video conferencing in this school is widely dispersed amongst departments, through a focus on cross-curricular activities and the provision of 'value-added' activities. One group of students who have been brought into using video conferencing are the gifted and talented cohort, for whom video conferencing is used as a means of extending their experiences beyond the school gates. However, mainstream curriculum area activities are also targeted.

> 'It's all right when you have 'live' cricket on TV, but it kind of hits it home when you feel you are conversing with someone and there is a three second gap while they are getting back to you – it's like talking to the television… and it's more flexible than the telephone because you can have more involved.'
>
> Year 9 male student

For example, maths students at D grade are currently being targeted for the use of video conferencing (as well as using internet and real life projects) to focus on the learning skills need to push forward their grades to the C level. This would involve remote experts delivering sessions in thinking and revisions skills to provide a different type of experience to the students. The aim would be to allow these students to 'cross the threshold', with benefits both to the individual student, to the department and to the school.

> 'We definitely prepared more because we got big sheets of graph paper and I enlarged it so that it would be easier to see by the camera.'
>
> and
>
> 'Our class had done the problem before in pairs and we all came up with pretty much the same method, but when we looked at the other maths classes in the other school, they had a different method and then we looked at the other school and they had another method.'
>
> Year 11 maths student

One example of a research type activity was a group of students being interviewed by Open University lecturers, using video conferencing. The school and the lecturers had negotiated a *quid pro quo* arrangement. The OU personnel were interested in the reaction of the students to the OU website and asked them to study it and offer a critique, with the aim of improving its attractiveness to young people. In return, the lecturers agreed to explore the students' 'personal intellectual activities'.

The surprise for the school was how widespread such previously unknown to the school interests were. Students' use of language and deployment of argument in discussing such areas as code breaking impressed their watching teachers. The students' experiences were enhanced by engagement with a real set of lecturers, who were both interested in their thoughts and were also going to act upon their advice. The students felt this latter activity was 'having a real impact on the world'.

> In response to a question about a Bletchley Park expert: 'They asked very good questions – direct so that we could understand them and then they continued on from our questions. They looked like they genuinely wanted to be there and genuinely wanted to answer our questions.'
>
> Year 9 female student

In a project on the artist Constable between two schools, there was a great deal of preparation by the students in developing a joint project, using visual stimuli. For example, each end of the conference devised questions to ask each other. There was a competitive edge to this quiz between the participating schools, so that the students took extra care in devising their questions, because they wanted to 'win'.

Eighty 'home' students were involved in a citizenship event, entitled 'Why vote?' for four sessions over a morning. The activity had been organised by the near end school, who invited four speakers to offer introductory comments and answer questions from the near end students and students from two other schools via video conferencing. The invited speakers included an Electoral Services Manager from the local council, two Borough Councillors and a local MP. The authenticity of the experience, in that the students had access to real politicians and bureaucrats involved in electioneering, prompted some searching questions from both near-end and far-end students.

Students and teachers reported a very positive reaction to the events, with the students particularly enjoying seeing politicians at first hand struggling to answer some probing questions! The school itself carried out a full evaluation of the event, with the intention of improving future contributions of this kind. Opinion was canvassed from all the participants. The speakers were complimentary about the contributions of the students and liked the idea of reaching a wider audience through video conferencing. The students remained positively engaged throughout the morning, even where, in one far end school, the same students were present for the whole of the morning. This was one of the factors that would be changed in future events. The evaluation also established that using a wider range of political speakers (perhaps by video conferencing) would offset the rather local bias of the session.

A very sophisticated video conference was observed in the school. This involved an external expert using the school's video conferencing facilities to deliver a session both locally and to two other schools. The session was a simulated archaeological excavation, which was tied into a number of curriculum areas, but had a primary focus on the nature and interpretation of evidence. Despite some technical glitches and the sheer excitement (and therefore noise levels) of the student participants, the session aimed to achieve a mix of different activities and inputs, using a number of different technologies, at the centre of which would be video conferencing.

The key to success in these circumstances was thorough preparation. All the schools had had access to all the materials needed in good time, so that everything was at hand. Pre-conference tasks had been established for the three schools. After an introduction by the expert, students shifted to a number of tasks, for example analysing different soil samples or viewing material pre-prepared on computers. These were taken from a real archaeological site. At this stage, the video conference link was live, but only used for accessing the expert at the near end site. When analysis was complete, posters of results were placed on display boards where the camera could view them, giving all students access to the data.

The expert had carefully included three Roman coins in the sample materials. An expert (from Sweden) was available by phone link to offer information on the dating importance of these. Students then presented their results to the other locations in turn. Worksheets were used to support this activity and help the students to prepare what they were going to say. At this point, even the 'quieter' students were able to offer information to the remote others. The video conference link therefore enabled students to see and hear three different sets of information and bring these to bear on follow up work, which would include a video conference with the three schools two days later.

In interviewing the expert after the video conference, the benefits and problems were readily identified and solutions put in place for the later conference. Despite issues such the level of noise generated, the random switching to noise-activated cameras and the rules for turn-taking, it would be hard to underplay the sense of excitement and engagement exhibited by all the students both at the near and far ends. The extended nature and thorough preparation of the project gave students time to explore issues relate to the nature and interpretation of evidence. The integrated use of worksheets, other ICT applications and scientific experiments, as well as the sharing of different information across the three sites, gave a 'value-added' experience that would be difficult to replicate without a great deal of travelling.

Management of video conferencing

Co-ordination

There is a senior Vice-principal in charge of innovation in learning and teaching who also acts as the main co-ordinator of video conferencing activities in the school. There is a full time support worker who carries out technical and contact activities, who is instrumental in organising preparations for video conferences and who has some responsibility in setting up any activity.

Integration into the curriculum

Integration is project-driven, where the school champion comes up with ideas in discussions with departments, the community and other schools to identify ways of creative learning, including the use of video conferencing. This builds up teams in order to avoid the loss of key personnel syndrome, so that if the school champion leaves, video conferencing would continue to play a central part.

Mainstreaming

The drive to raise achievement is based on the school's learning and ICT policies in which video conferencing is an important part. The principle involved here is 'start small and grow'. This allows trials to take place so that mistakes can be avoided when it is rolled out into the school. However, the school requires departments to specify how they are delivering aspects of the curriculum and there is a rolling programme of exploring with departments opportunities for using new technology, including video conferencing. The school also attempts to generate demands from the students themselves, by providing interesting video conferencing experiences, so that departments want to investigate its use.

Technical issues

The school has tried to solve technical problems by having a dedicated ICT technician for video conferencing and building an e-learning lecture theatre, with Excellence in Cities support, as a 'spoke' school. The e-learning lecture theatre incorporates an ICT rich environment, which includes video conferencing. Inset is built around getting the message across about the robustness and ease of use of the systems.

Future plans

Inset training for teachers is planned, but the school wants developments to be needs-driven from the learner, but also from teachers, with the latter being encouraged to be more adventurous in their teaching using ICT and video conferencing. This would tie to rigorous evaluation of what pushes learning forward and what is just show. The school sees itself as central in achieving a vision of education that utilises technology in a positive way. By providing a model for other schools and showing how things can be done and making ideas about video conferencing happen, it brings in other schools to an activity they believe raises achievement.

The school also aims to develop video conferencing as a whole school teaching resource. The target is that 60-70 per cent of staff will have had experience of using video conferencing and there would a significant number of drivers, who would be video conferencing with other schools regularly, within two years.

The school also wished to pilot a new type of software using video conferencing, experimenting with the idea of using remote teaching to replace cover lessons. This would include having teacher assistants in cover lessons, being delivered via video conferencing by a senior member of staff, across the school.