Connected Classrooms creating learning communities using video conferencing technology and Quality Teaching

Jane Hunter, Senior Project Officer – Communications for the Connected Classrooms Program, and Sue Beveridge, Education Outcomes Business Change Manager for Schools in the Connected Classrooms Program, showcase this exciting investment in NSW public education.

About Connected Classrooms

The Connected Classrooms Program is the largest single investment in public education by the NSW State Government. It was announced as a $158 million program of work in March 2007, and it includes $66 million for the Interactive Classrooms Project.

By the end of June, the Interactive Classrooms Project in the Connected Classrooms Program had installed over 200 interactive classrooms in NSW Department of Education and Training schools. In 2011, there will be over 2200 such learning spaces across the state. Equipment in this interactive classroom comprises an interactive whiteboard (IWB), video conferencing kit and data collaboration software.

An online survey completed by school principals after installation indicated a high level of satisfaction with the process and the suite of equipment. Included in the data collected were the schools’ plans for learning using the new interactive classroom (Figure 1).

Since July, schools in each region have begun activities that familiarise teachers with the tool and its prospective use in teaching.

The learning potential of IWBs as a central part of the equipment suite is supported in education literature (Higgins, 2005; Kennewell, 2006; Schuck and Kearney, 2007) and, to a similar degree, education knowledge of learning using video conferencing technology (Arnold, 2002; Chua, 2005). Case studies provide insight for use of this technology; in NSW public schools its use is already fulfilling what Marie Martin alerted us to a few years ago:

... video conferencing requires creative and imaginative teachers to unlock its potential.

Martin (2005), p. 404

The real challenge, according to Martin, is not so much in operating the video conferencing equipment but in using it to exploit its potential to enhance and enrich teaching and learning. With video conferencing, as
with all other technologies, the focus should be:

... less on the fact that (technology) may be consciously employed to do a task, and come to see the task itself as central, with the technology as substrate.

Martin (2005), p. 403

Focus for teacher professional learning in video conferencing

Education literature (Gage, 2002; Heppell, 2004; Hu, 2006) emphasises that video conferencing professional learning for teachers in the school context is successful when it:

• raises awareness of what is already possible using the technology
• provides opportunity to learn about good practice through accessing actual case studies covering a range of curricular areas
• creates time to dialogue with educators – practitioners in the field
• revolves around holding workshops that enable brainstorming of ideas and creative approaches.

Much of this awareness raising and innovative thinking could actually be done by the video conferencing tool itself, saving time and energy and giving teachers hands-on experience of this user friendly technology.

Case study 1: Let the games begin

Prior to the start of the 2008 Beijing Olympic Games, Therese Coogan, Learning Systems officer from Illawarra and South-East Region, coordinated a group of Stage 3 and 4 students in 12 schools to speak via video conference with Alexandra Croak, a diver from the Australian Olympic Team (Figure 2).

Students prepared a set of questions to find out what motivates an elite athlete to keep performing, and they were intrigued to know if she still gets anxious up on the high platform.

Alexandra is a former student of Kiama and Karabar High Schools and completed parts of her high school education via Distance Education.

Initially, students sent questions to the video conference coordinator. During the session, three students from each school conducted the interview with Alexandra who provided an expert perspective and information on her training regime, personal life, highs and lows of a diving career so far, time management opinions and experiences, as well as saying it was important for students:

...to understand how to balance study and commitment when competing in sport at an elite level.

The students in these schools were also participating in a Moss Vale Linkages Project, Let the games begin, and through this activity were able to gather first-hand information and facts for their games project. Findings from this work will be presented at an evening event involving local secondary and feeder primary schools in the near future.

Case study 2: Where is your class?

This question was asked by quizzical Year 6 students watching Dianne Read, a NSW Department of Education and Training numeracy consultant, teach the concept of fractions via multi-point video conference. In August, a group of Northern Sydney Region teachers at a professional learning workshop at the Macquarie Information and Communication Technology Innovations Centre (MICTIC), Macquarie University, watched Dianne team teach a mathematics lesson with teachers and students at Narrabri West Public School in New England Region and Cambewarra Public School in Illawarra and South-East Region.

Teachers at schools participating in the lesson, Peter Tarasenko and Steve Cornish, used a combination of hands-on computer and hands off interactive learning experiences with their students. The lesson was structured around two learning objects: The pikelet cutter and Ribbon maker (Figure 3), the interactive whiteboard, video conferencing and desktop sharing technology.

Team teaching for professional learning via video conference meant teachers in one location were able to observe the teaching and learning of

Figure 2 Students interviewing Alex Croak via video conference
students completing a Stage 3 Mathematics task, with a consultant in another location.

Students enthusiastically asked questions of each other’s teacher and then demonstrated use of the learning objects. They also asked each other questions while completing the set task on desktop computers using Brigit.

At the conclusion of the session, the teachers agreed to meet again via video conference to set up other collaborative learning opportunities. Students were also eager to repeat the chance to learn with other students outside their immediate context.

Why does learning using video conferencing matter?

Learning using this tool matters because it contributes to the vision of one global learning community. Teachers and students connect with contexts beyond the school gate, they have an opportunity to over-the-shoulder mentor other practitioners to expand and enrich their own pedagogical repertoire, and deepen their subject matter knowledge within a team teaching environment.

Six elements from the NSW model of Quality Teaching provide focus for lesson preparation for teachers who integrate video conferencing into student learning. These elements are:

- **deep understanding**: where students demonstrate a profound and meaningful understanding of central ideas and the relationships between and among those central ideas
- **problematic knowledge**: where students are encouraged to address multiple perspectives and solutions and recognise that knowledge has been constructed and is therefore open to question
- **engagement**: where most students, most of the time, are seriously engaged in the lesson or activity, they display sustained interest and attention
- **student direction**: when students exercise some direction over activities related to their learning and the means by which these activities are carried out
- **cultural knowledge**: where students can make contact with other students from diverse social groupings reflecting different economic class, gender, ethnicity, race, sexuality, disability, language and religion
- **connectedness for knowledge of real life contexts or problems, and a chance to share work and understanding with audiences beyond the immediate classroom and school.

Who do students want to speak to?

Becta research confirms that teachers report other outcomes, for instance, *improvement in student behaviour*, *access to other cultures, a sense of real audience and a shift to greater learner autonomy* (2004, p. 16) when video conferencing is integrated into learning for students.

Being aware of this evidence, we can also apply the pedagogical elements of student direction in the Quality Learning Environment dimension of Quality Teaching. With this in mind, members of the Connected Classrooms Program team approached the State Student Representative Council (SRC) to hear suggestions about who they would like to talk to via video conference. Some of the responses were:

- students in country schools … if they live in the city (Figure 4)
- aid organisations like UNICEF and Amnesty International
- Aboriginal leaders
- writers – names like J.K. Rowling and Melina Marchetta were mentioned
- performers from well known theatre companies, both urban and regional

![Figure 3 These learning objects are available from Mathematics K–6 programming support](www.curriculumsupport.education.nsw.gov.au/primary/mathematics/k6/programming/program_support/fractions/fract_learnobj.html)
Ask an expert during a virtual excursion

The recent Dig for a dinosaur video conference demonstrated the capacity of the Interactive Classrooms Project to provide virtual excursions to enable students to talk to an expert. In this instance, the experts were Robert and Fran, palaeontologists at the Australian Museum. For 30 minutes, 300 students from 10 schools across regional NSW questioned and responded to these engaging experts (Figure 5). It was a simple concept which had all the ingredients for success:

• good planning
  – video conference practise for teachers
  – pre-work and a task for students
• compelling content
• engaging presenters.

We are looking forward to supporting the next steps teachers and students in schools will take with these important technologies for teaching and learning.

References and further reading


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Figure 5 Robert and Fran, palaeontologists from the Australian Museum, respond to students’ questions during the Dig for a dinosaur video conference