

A New Learning Model

Lawrence Williams

Integrating aspects of the Holy Cross and NASA curriculum models

The Holy Cross Model

Until now, at Holy Cross we have deliberately shunned using the web, because of its static nature, and have instead used the new ICT tools to develop dynamic projects centred mainly on the creation of Expressive Arts events. Using video-conferencing equipment running over ISDN 2 telephone lines, these have included shared music workshops with the LSO and Japan Philharmonic Orchestras, the 'Kabuki Gift' drama, which was performed simultaneously by school students in London and in Osaka, as well as a scientific exchange with NASA scientists.

As indicated in my 'Poskole 2000' paper, at Holy Cross we are trying to develop the integration of the new ICT tools for learning, so that each tool is used not only to its maximum individual potential, but at the same time **in harmony with other tools**. One way in which we are developing this model in practice is through the 'Virtual Reality Drama' which we are currently writing for Ikeda Junior High School, Osaka. Following the success of the 'Kabuki Gift' performance, we know this can be achieved.

The model involves using email letters for planning, and email attachments such as General Midi music and JPEG art files to develop aspects of the play, and then within the play itself, to explore in a creative way, the use of the same tools. For example, in the play, the students come across a library book, place a picture of a Japanese animal mask under the document camera, only to discover that the picture comes to life on the monitor in front of them. This is because the same image is actually being sent live to the monitor from Osaka, and is transformed from a picture into a Japanese dance by the Ikeda students before the eyes of the performers, and of course the audience....

Many other ideas are being developed to create a coherent drama within this virtual reality context, for example, coupling the monitor up to the web to access a specially created web site which the performers explore as part of the drama; using video-tape for outside 'scenes'; sending email messages to the 'characters' in Japan as part of the play, and so on.

In this way, we hope to see how best to use the new ICT tools in harmony with each other, and within a creative framework.

The NASA Model

The NASA model works through the development of pre- and post- conference activities, using the web as an electronic library where relevant and useful scientific information is

stored and can be researched by the students. They can also communicate with NASA team members through email, and share ideas through the video-conference.

The presentation styles involve either Topic Guest Speakers who share their expertise with the students, or the Panels of Experts, who can share their thoughts both with the students and with each other, during the course of the conference.

The results of the conferences are monitored and evaluated through the web.

Integrating these two Models

The next logical step, therefore, in working with the new ICT tools is to develop a working model, which brings about the further integration of these tools by blending the above **models** into one. The **static** nature of the Web and the **dynamic** nature of the other tools can thus come together creatively.

How this will work:

The Bristol '**Science, Creativity and the Young Mind**' Project Workshop is an example. Week beginning July 2000. Ten groups, each consisting of three English and three Japanese students (a total of sixty students, aged 16 plus), will be set a problem at the beginning of the week. Working, in most cases, with the academic staff at Bristol University as mentors, the students will work together to solve 'Real World' problems, presenting their findings and solutions to the whole group on the Friday.

- The web will be used as the resource for information, which one group of students, '**The NASA Group**' will access before the Workshop and video-conference begins. On it, there will be information relevant to 'The Problem' in aeronautics, which the students will be set. They will have had some weeks of preparation time to research this material. (A pre-conference activity)
- On the first day of the Workshop (Monday, 9.15 am US time, and 2.15 pm UK time) the six students of the NASA Group (3 from Japan and 3 from the UK) are then set their task by NASA through the first video-conference. This is to ensure that they clearly understand the nature of the problem, which has been set. (Use of video-conferencing equipment)
- During the week, in the same way that the other groups of students have access to the academic staff at Bristol University, the NASA group will have access to tutorial help through email and fax with the NASA panel of experts.(Use of email and attachments)
- Short digitised video-clips of work in progress will also be sent back to Ohio for comment by the NASA scientists (Use of digital camera and email)

- The overhead document camera can also be used to show diagrams and sketches of the students' solutions (Use of document camera)

- On the Friday, while other groups present their findings to their peers and tutors in Bristol, the NASA Group will also present their work through a final video-conference to their tutors in Cleveland. (Use of video-conferencing kit again)

- Finally, the email messages, the evaluations and video clips of the various presentations will then be uploaded onto the NASA web site, so that the process can be continued and developed. (Further use of the web)

This creates a graceful cycle of ICT use, starting and ending with the web.

In this way, the ICT tools used are all essential to the success of the project, and are used in harmony with each other, but the web site itself is also developed, and therefore becomes dynamic rather than static, as new ideas are added through similar future projects.