The Creative Use of the Internet and Related Technologies

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At Holy Cross Convent School in south London, the teaching staff, while thoroughly committed to the use of ICT to support the work of their pupils in every subject, have been wary of the Internet as a technology for learning. We have preferred to explore the use of the computer to unify the very fragmented secondary curriculum, by bringing together different subject areas through cross-curricular projects - in the manner of any good primary school. This approach has brought considerable improvement in academic standards, because it allows the pupils the opportunity to open windows between subjects, thus strengthening their understanding, while allowing us, as teachers, to retain the integrity of individual subject specialisms. We have deliberately held back from giving our pupils, girls aged 11-18, easy access to the Internet.

Too often, pupils have seen the Internet merely as a kind of gigantic CD Rom from which they can down-load vast amounts of text and images, throw these onto a page, and claim that they have "done a project". Even with careful guidance, this remains, for us, the main problem with the Internet. Accordingly, Holy Cross School has taken its own distinctive path in using "the Net" and related technologies, with the focus on linking directly with people across the world, rather than on exploring the database aspects, valuable though these can be, if properly managed.

Objectives

We have therefore undertaken a phased series of international projects, each of which has allowed us to concentrate on a new aspect of this technology, so that our expertise has had the chance to develop at a reasonable, and manageable, rate. This is important, if change is to be purposeful, meaningful and permanent.

a. theoretical background

Pupils write best when they have a clear sense of form, purpose and audience. The projects described here, can easily be adapted creatively to suit the needs of the individual classroom, and each explores a new aspect of writing in a cross-curricular setting. The first gives a sense of audience, the second creates another dimension by adding images to this process, and the third explores the use of music as a third element. All involve the pupils' understanding of audience.

b. Case Studies

1. "Phoenix" email magazine - text based.

2. "Time Capsule" exploring email and image files to create a drama with the help of an Australian student teacher.
3. "Japan 2000" Project, exploring how GM music files can be used to create links across the world.
4. "Millennium Project" - integrated cross-curricular model for international educational collaboration

Case Study 1 "Phoenix" Magazine - text-based

Our first project was the creation of an Internet magazine, designed specifically for students who were new to the Internet. "Phoenix", which arose out of the ashes of an earlier email magazine created on the old steam-driven TTNS system, is a magazine in which students can only publish their work if the text has been word-processed, and sent directly to the editor by email.

The advantages for the "sending" institutions are that:

a. there is a real purpose in the word-processing aspect of the work (it will be published),
b. accuracy is essential, since the text is published, if selected, without editorial interference,
c. students enjoy seeing their work in print, and so are very keen to participate.

The advantage to Holy Cross students, in the "receiving" institution, is that they can quickly develop their own desk-top publishing skills, without the chore of word-processing large amounts of text. The text simply flows across the school' s intranet into their machines, and they have the pleasure of working to format, illustrate and present the text as beautifully as possible. The pupils need also to show that they are able to respond appropriately, and sensitively, to the content of the material which they are presenting. This process can be especially demanding with poetic texts.

National Curriculum requirements for the "contributing" students to produce work which shows a sense of form, purpose and audience, and to develop their word-processing skills, are all successfully, and simultaneously, combined in such a project. English, I.T and a great sense of fun, all work together.

Initial responses to our request for text came from Texas, and the students at Midway High School, Waco, were very proud to be the first to participate in this "entry level" text-based project. By the strangest chance, the Deputy Principal of Midway High School was visiting Holy Cross at the time of publication, and so the Editor, Keisha Williams, a girl of eleven, was able to present a special hard copy of the magazine into the visitor's hands. It was a lovely moment for everyone.

Case Study 2 "Time Capsule" - Drama and the Internet

The second phase then was, of course, to add the exchange of images to such international project work, and this was developed in collaboration with Deakin University, Australia. (Images can be sent as attachments to email messages.) The link arose out of a chance meeting at an IT conference in Birmingham, where I met Gillian Barnsley who, like myself, was a delegate. We were both working there on a media workshop, on behalf of Project Miranda at London University. Moral: Go to conferences. You never know the outcomes!

Aims:

To explore the creative uses of the Internet, using text and image files To develop drama in a secondary classroom (London)

To provide opportunities for the training of drama teachers (Australia)

Objectives:

To create a series of drama lessons, exploring historical and social aspects of life in Australia (Melbourne)

To produce a video recording of the whole process by Year 10 Media Studies pupils in London

To produce a written record of the Project with still video images taken by the pupils of Year 10 Drama Group

To develop the experience of all participants in using the Internet, and to record this in a written final report for publication on the Internet.

Participants:

In London - Lawrence Williams (Director of Studies), Lesley Sedgwick (Head of Drama)

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At Deakin University, Melbourne, Australia - Gillian Barnsley, Damien Blythe

email gillianb@deakin.edu.au

Preparation:

The University drama students at Deakin were asked to produce a selection of "items" for inclusion in a Time Capsule which would be sent to London over the Internet. The Capsule would be "opened" by a group of Year 10 Drama pupils (aged 15 -16 and studying for their GCSE Public Examinations). The girls would respond to the stimulus of the contents, and a drama would unfold around the objects and the participants. Responses would be relayed back to Deakin for critical comment and guidance on historical and cultural details, so that the pupils' participation could be maintained, and developed.

Contents of the Time Capsule:

This would be subject to agreement and development, but would include items which were evocative, challenging, resonant. For example, fragments of letters, posters, photographs(of people and /or objects). A photograph could be taken, torn in half and then scanned electronically. The scanned image could then be sent over the Internet, together with other items.

Constraints:

The only serious problem was real-time communication for any drama (Australia is 9 hours ahead). Hence the idea of a time capsule which could be opened independently of the actual sending time.

Development of the Project

The topic agreed upon was the historical treatment of aboriginal people in Australia, and their struggle for self-determination. The method was for Damien Blythe to carry out research, and to send us appropriate, detailed information about early settlers and their relationships with aboriginal people. After work on stereo-typical ideas about Australian life, this new material was then introduced into the drama classes at Holy Cross, for the girls to respond to, and to develop in their lessons. Questions arose which demanded further information, historical details needed to be checked, attitudes needed to be explored, opinions sought. Great excitement was generated by the urgent and challenging nature of the information, leading to deep involvement and engagement in the drama by the participants.

Not only were girls from Year 10 involved, but the work was extended into Year 11 as well. Damien kept us well informed, sending us word-processed articles, letters, and other historical documents. Some work was sent as email, some as attachments to email, and he even created a web site on the University server from which we could retrieve other items which he had researched. He found text and images in books buried deep in the Library vaults, commented on the written responses which we sent to him, answered our questions, and basically enjoyed teaching in London, without leaving Australia!

Outcomes

The girls responded very positively to the stimulus material which was sent. Indeed, I think that much of the success of the project was due to Damien's expertise as a trainee drama teacher. (One needs to choose one's partners carefully when working internationally.) His skill in sending the right sort of material, which really was resonant, evocative and challenging, contributed enormously to the ability of the girls to respond. In particular, a great deal of very real emotion was generated in the classroom by the photographs of aboriginal people, who, in one powerful image, were seen demonstrating against the destruction of their traditional burial grounds. The girls were incensed that the white people could be so completely insensitive to deeply-held religious beliefs. Many powerful, dramatic moments were recorded on video, and freeze - framed using a still video camera. The Drama Department has long used still video, and have found it invaluable for recording such dramatic material. The girls, too, have become proficient in working in this way, and these images were saved onto the school network, where they were then imported into the drama reports, and their media assignments, for GCSE course-work.

The project was an outstanding success. The Drama pupils at Holy Cross produced their best work ever, stimulated by images and text to which they could not possibly have gained access without the Internet; the Media Studies students produced an excellent video, which was eventually awarded a grade A at GCSE. All parties benefited enormously from the project, further details of which are published on our site. The use of the Internet for Drama work is now effectively established.

Case Study 3 "Japan 2000 Project" email, image files, and GM music files

Spurred on by this second success, the next move was to see if Music could be added as another dimension to our work over the Internet. Accordingly, the school set out to collaborate with a school in Japan - Ikeda Junior High School, Osaka. Coupled into a whole Year Group project (Year 9) using IT across the curriculum, and incorporating an Open Day with Performing Arts productions (integrating music, dance, drama and IT) the school sent Ikeda JHS some simple specifications for music to be performed on the actual day. This was accompanied by explorations of the technical difficulties of collaborating in this way.

In Japan, the students use Apple Macs - at Holy Cross the girls use Archimedes A5000s and PC600s. Initially, this seemed to be a problem. In fact, it turned out to be easily solvable. At Ikeda JHS, the students simply saved their work in General Midi format, and the files were then sent as attachments to email files, and despatched to the Holy Cross email box. They were down-loaded, decompressed, decoded and then simply dropped into "Sibelius 6" and played through a Roland Sound Canvass. They were then printed out as hard copy over the school's network. Incidentally, the resulting copy was later taken to Japan, as part of the sister-school link, to the classroom where the original music had actually been created, and where a second copy was printed. The two copies were compared. Not only did they sound virtually identical when played, but the two printed copies also appeared the same. Holy Cross has now upgraded to "Sibelius 7" so that we

can save our own music files in General Midi format. We are now able to create files in General Midi format, so that we can work together on the same piece of music. This is not possible with "Sibelius 6". For the future, we aim to work as one class of about fifty pupils, although in two groups separated by many thousands of miles. We shall be linked on a regular basis for our collaborative venture, sharing musical ideas, which will find expression through performance.

(A short technical note for music teachers: we were not sure how to use "Sibelius" with whole classes of students. The trick is to couple up an electronic music keyboard to one computer, save files played straight into the "Sibelius" program onto the school's network, then down-load the same file back into another machine, for the necessary editing and further development. This releases the first machine for the second student to enter his or her musical "text" quickly. This is a much faster method than a note by note input on the computer keyboard.)

Having thus established a successful pattern of working, the students at Ikeda JHS set about writing some Japanese-style fanfares to introduce the Open Day, undeterred by the powerful typhoon (reported on UK television) which hit Osaka Bay at a crucial moment in the whole process. The music files arrived in good time, nonetheless. We were deeply impressed by the determination of the Ikeda pupils!

The whole Japan 2000 venture brought Holy Cross staff and pupils, and the work of Ikeda pupils together in a day of vibrant collaboration. On the Open Day, the school welcomed a small Japanese vocal group, who sang a number of Japanese songs, and performed a traditional dance. The girls from Year 9 then took up the theme in a series of integrated music/dance/drama/martial arts performances, in which they explored various aspects of Japanese life and culture.

This was all carried out against a colourful background of art, textile, and pottery displays, and included a range of Japan 2000 Project Folders produced during information technology lessons, which showed the girls of the school using and integrating up to sixteen different IT tools. These included desk-top publishing programs, word-processors, databases and spreadsheets, flat-bed scanners, clip art, digital cameras, CD Roms, files from the Internet, files from the school's intranet, art packages, graphics programs, and music software.

During the day, a computer in the Main School Hall was connected to the Internet via a new ISDN 2 link, one of four lines now in the school, and the music from Ikeda JHS, the Japanese sister school to Holy Cross, was played to visitors. Email messages arrived from Japan during the day, and these were displayed, and read by interested groups.

Mrs. Watson, the Head Teacher commented, "We see our many international links as small steps towards world peace. If our children can grow up with an understanding of people from different cultures across the world, they will find no need to engage in conflict with them, when they are older. We see the Internet, used creatively, as a powerful tool for spreading peace and harmony in the world. Today marks one more step forward towards that goal."

Case Study 4: Holy Cross Convent School Millennium Project

The next phase attempted to integrate all of the above initiatives into one coherent international project. In our view, it is very important that new tools should be explored for their unique potential to enhance learning. If there are other ways, use them! Further, a useful paper on the NCET Internet Site drew our attention to the failure of many video-conference projects to develop fully the potential either of the technology itself, or of the work of the students involved. Most could have been completed merely by telephone, or by the exchange of video-tapes. We agreed that heeding this warning was essential. Interaction was to provide the key.

Aims:

To develop a new interactive MODEL OF LEARNING

To explore creative uses of high technology business communications equipment, such as video-conferencing equipment running on ISDN 2 at 128K, or ISDN 6 at 384K.

Objectives:

To create two inter-related, and interactive web sites, one in UK, the other in Japan, about Japan and its culture.

To create an international, collaborative Kabuki drama, "live" over ISDN lines.

The model was therefore planned as follows:

Electronic mail was used by the participants at Holy Cross, and at Ikeda Junior High School, Osaka to set up the Project.

Email attachments allowed images and General Midi music files to be exchanged.

Video-conferencing provided the means to develop music, drama, dance, language, origami, caligraphy and textiles lessons. The two schools were linked for the actual drama performance, with Osaka Kyoiku University giving support.

The results of this interactive link were photographed, recorded on video-tape, and as text files, and these ideas and responses were added to the Web Sites built by the two schools.

Another part of this educational initiative was the "Kabuki Project".

The "Kabuki Project" was a highly innovative and extremely ambitious attempt to provide a cross-curricular framework within which the two schools in the UK and Japan could work to explore many aspects of the curriculum, and to exchange ideas over a more sustained period of time, by sharing agreed objectives, including the simultaneous performance of a play. Such a framework allowed for the development of a range of educational ideas, including music, textile design, art work, translation, calligraphy (for the publicity aspects of the performance) and language lessons in Japanese, to help the Holy Cross cast to perform a scene in what we hope was acceptable Japanese.

The "Kabuki Gift" is a play written in English. Parts of it were translated into Japanese by the Ikeda students, so that by using video-conference technology, the two schools could undertake a simultaneous performance of the text in two countries, on two school stages, in two different styles and in two different languages.

There followed a series of exciting educational exchanges through which the two schools explored the limits of these new technologies, and prepared for the event. The first video-conference set out to see how far dance movement could be successfully relayed over ISDN 2 lines at 128K. Also, there were attempts to explore the sound quality of choral singing, violin solos, and passages of drama. It was a lovely moment for all when a Year nine student of Holy Cross was applauded for her solo violin playing by students and teachers "live" from Osaka. The result was obviously pleasing, but when displayed on a 29 inch colour monitor, while the movements were clear, they were rather disjointed, and lacked fluidity. The updating of visual material is insufficient at 128K. It was obvious that, in spite of the cost, the two schools had to move to 384K to allow fluent and detailed dance and drama movement. Both schools therefore set out to acquire this in time for the final production of the play "Kabuki Gift".

Another aspect of this work has been to see how new teaching methods could be developed. Accordingly, during one video-conference, this time with a second Japanese school, Hikari Junior High School, we developed an interesting and imaginative use of the equipment. A Japanese

Master of Shodo, Miss Misa Manabe, was invited to Hikari School, where she very skilfully and patiently gave Holy Cross students an art lesson in how to write "Welcome", the Holy Cross school name, and some of the students' names, in Japanese script. By showing the brush strokes in close up on the camera in Japan, the girls at Holy Cross were able to copy these brush strokes, and create for themselves their own Japanese characters, which they proudly showed to Hikari, to enthusiastic applause. To be given a lesson in Japanese art was a unique and wonderful experience. More important, in no other way could such an exchange take place, nor could the students in the UK benefit from such expertise.

As regards the development of the drama aspects of the work, Ikeda School opted to perform their scenes in a style which incorporated some elements of traditional Kabuki. By contrast, Holy Cross chose to perform their scenes in contemporary modern English style, which allowed the addition of modern music, several dances, and the inclusion of a choral finale accompanied by the Holy Cross School Choir. The finale was shared by both casts, when to the choral accompaniment of the love song from the film "Titanic" both schools joined in a dance, separated by thousands of miles, but symbolising the union between them. The earlier preparation of dance, drama and choral exchanges had paid off. In the Appendix there is the short script of an additional introductory scene to the play, written especially for the performance, showing how the virtual reality aspects of this technology can be creatively explored.

The Project caught the attention of the BBC, who were planning to produce a special Japanese edition of "Blue Peter" in preparation for the State Visit of the Emperor and Empress of Japan. A visit to Holy Cross resulted in a film showing the video link with Ikeda, who co-operated effectively to create a special conference which, while taking the production of "Kabuki Gift" forward, also acted as a show-case of past exchanges. Great excitement was generated in both schools at this chance to share these exciting ideas with a somewhat larger audience than had been expected. Instead of about five hundred in the two schools, there were about five million.

For the future, we aim to develop our skills in using a new document imaging camera. This has a high quality lens which can pick up amazing detail on the page over which it is placed. This image can then be beamed to Japan, and elsewhere, over ISDN (128K is fine for this) where the image can be seen very clearly indeed. This has enormous potential for the development of interactive art and design lessons, where the images can be discussed, manipulated and developed.

We also aim to explore the interaction between the various tools themselves, so that, for example, with Hikari School, we are building web pages on our own separate sites about aspects of History. These pages are being developed using email links between the two schools, and the results of the finished pages will then be viewed and discussed over the video-conferencing link. Printed pages can be examined using the imaging camera facility. Thus, this suite of tools is providing opportunities for new ways of teaching and learning, to complement the methods developed through the "Kabuki Project".

c. activities for teachers

All of the above ideas can be readily adapted for general use. For example, there are many schools in Japan which urgently require links with UK schools. These schools can be found easily through the Holy Cross Web Site at:

http://schoolsite.edex.net.uk/193

and

on the Kingston LEA server

Links between the English Department, ICT teachers and the Geography Department can easily be created as part of such a process.

Partners for email projects do not need, however, to be found abroad. English classes in feeder primary schools can form useful partners, giving a different sense of audience. Writing for a younger audience can form part of the National Curriculum requirements for English, for example.

The importance of planning

International collaborations will clearly be successful only if there is a balanced commitment on both sides, to shared objectives. This is achieved by exploring the curriculum needs of each group, and then finding common ground. For example, with the "Phoenix" project, students in the Texas High School needed to given a clearer focus for their IT lessons, and in London, the students needed "raw material" to work on, in order to improve their DTP presentation skills. Both problems were solved by bringing them together, through the project.

With the "Time Capsule", the Australian student needed to show his skills in using ICT tools to enhance his ability to create effective drama lessons, and in London the students needed access to written and visual material, which would otherwise have been impossible without help from Australia. Again, both problems were solved by bringing them together.

Both schools in the "Kabuki Project" needed to develop an understanding of each other's culture. By working together towards the simultaneous performance of the play "Kabuki Gift", in two styles, in two languages, and on opposite sides of the world, a great deal of cultural information was exchanged, as well as the solving of the many practical problems which are part of the creation of any dramatic performance. Ideas about music, dance and theatre styles, as well as language and artistic issues were exchanged over a sustained period of time.

Evaluation

Evaluation is measured against objectives. If a project has been effectively planned, and the aims and objectives clearly stated, and these are proven to have been met, then the project can be considered successful.

Where problems arise, there are opportunities for further development of the project in future years. For example, with the "Time Capsule", the actual time scale initially planned proved to be too short for the wealth of new ideas, drama lessons, requests for clarification about Australian culture, video-taping of performances, review, and evaluation which the project generated. Accordingly, a greater time-frame was planned for the "Kabuki Project". Put simply, you learn from experience. Where there are technical problems and staff traiing issues regarding the use of the new technologies, these can be fed into a school's Development Plan and Inset provision, so that teachers can become increasingly confident.

A note on creating a web site

The starting point here is in asking the question - Why?

What are the aims and objectives in creating a web site? Some schools simply create a "school prospectus" with occasional examples of computer art work. While this is a fairly interesting task for those engaged in it, one has to ask - What is the purpose? Our own experience suggests the following.

The Holy Cross web site at http://www.schoolsite. edex.net.uk/193 is a response to requests from schools and universities across the world for further information about our cross-curricular project work.   Instead of churning out reams of paper at the photocopier, and spending large sums on postage to distant parts, we decided that since the files we were printing were electronically generated, they could be better disseminated over the web. Accordingly, we set out to create a web site of educational projects.

Another strength of the web is that information can be easily updated. This is better than obtaining some kinds of information from CD Rom, which can quickly become obsolete. The Greenpeace site, for example, is not only attractive, and informative but most important it has current news. Making this kind of web site takes dedication and time, often by a small group of skilled enthusiasts, but it is in our view, legitimate use of virtual space.

Summary

We have found that the stimulus of using ICT to develop our curriculum has had a quite astonishing effect on the motivation of pupils across the whole school. There is a real sense of purpose to all of the related curricular activities. Our belief is that, like any new technology, ICT is neither intrinsically useful nor interesting. However, our experience also shows us very clearly that, used creatively, email, email attachments, the Internet and ISDN lines open up new audiences, bring together new partners in learning, and stimulate pupils to reach ever-increasing high standards in their work. We owe it to our students, therefore, to approach these opportunities with all of our skill and imagination.