Computers in bid to break hearing barrier

GEORGIA ENGLAND of the Brighton Centre for hearing-impaired children (CHIC) describes how students communicate through the use of computers.

Since October 1986, I have been using communications at the Brighton Centre for Hearing Impaired Children. We use the electronic information transfer systems Keylink T, Keylink D and Nexus. This project has been an extremely valuable learning experience for us all. The children’s experiences have broadened their horizons, helped dispel their sense of isolation, enhanced their self esteem, and provided them with a facility in technical skills as well as giving them valuable practice in language usage.

The Brighton Centre for Hearing Impaired Children (CHIC) is one of six primary school centres in South Australia. Four are in the metropolitan area and two in large country towns. Our centre serves the south western suburbs of Adelaide. The children travel to and from school each day by special mini-buses or taxis provided by the Education Department.

Presently twenty one hearing impaired children are enrolled at the Centre. They range in age from five to thirteen. The majority are severely to profoundly deaf, that is with hearing levels well below that necessary to hear the normal speech range, in most cases even when wearing hearing aids. The staff consists of five full time teachers, a principal and two teacher aides, one full time and the other part time.

Physically the Centre shares buildings and facilities with the Brighton Primary School which has about 450 pupils. Some of the hearing children, with their parents’ consent use the classes in our centre on a full time basis for a period of usually two years. This is known as reverse integration and has been operating at Brighton since 1977.

In 1988 the children were divided into three groups loosely paralleling the year levels Reception/Year 1, Year 2/3, and Year 4/5. There were small groups of hearing children in the younger classes. The senior class integrates three mornings a week with a class in the primary school for language activities.

The Communications Project

In September of 1986 Anne A’Herran, the computer adviser for our region, suggested that the children in my group (then Year 6) and the Year 7 class might like to try using communications through the computer. This was very new to me but I could see the potential for the children in terms of communication by means of a visual medium. In October 1986 the necessary equipment became available. We had our own Amstrad computer. We borrowed the communication equipment, that is a modem and Commmstar interface, for a portion of each week from our regional education office. At that stage there was only one telephone line into the centre and we had to fit in with its administrative and other functions. The problem of where and how to begin arose. What and with whom should we communicate? How should and could our activities be incorporated within the curriculum of the group?

We knew that the Victorian School for Deaf Children (V.S.D.C.) in Melbourne had computers and communications equipment. Anne had read a paper by Karen Best (a teacher at V.S.D.C.) in the conference papers of the 1986 ACEC. We got in touch with her and agreed to set up a link via Telememo, a Telecom electronic mail service, writing letters to children of a comparable age. In November we took the nine oldest children from Brighton to Melbourne. They were able to meet and spend some time with their computer pen pals who provided accommodation for us.

Once we were registered on Telememo (later Keylink T) we began receiving letters from children in Area Schools throughout South Australia. Our children replied to these. We also began experimenting with Nexus, an electronic information transfer system provided by the South Australian Education Department through its Computing Centre at Angle Park. The chat facility became very popular, especially with those children with reasonable language fluency. They met several people including one nineteen year old tertiary student who was an old scholar of Brighton Primary School. The children were eager to call up Nexus to see if any of their new friends were on line. They also wrote stories to send to the Bulletin Board Primary Talk, a gathering point to which young writers can send their work. This provided an additional, much wider audience, for their stories.

Some Early Problems and Experiences

All through this early period we encountered many problems. At first we had very few written instructions to guide us. However, every problem became a challenge which we met as a group through trial and error or by ringing anyone we could think of who would be able to give us advice. The Systems Administrator in the Education Department who administered Telememo for the Department, was extremely helpful.

One of the main concerns was that we were unable to work out how to load letters and other material onto disk and then send them quickly from the disk when on line, thus reducing the cost of calls. It was a very slow process with such inexpert operators typing away while on line. After some enquiries, we learned from the Deputy Principal at Kangaroo Island Area School exactly how to send from disk. There was much elation the first time we were successful.

To add to our difficulties we did not have continuous access to the modem. In addition the phone was only available to us during certain periods. Access was reduced as the frantic activity of the end of the year intensified.

This was the only project that was interrupted by the summer holidays. Five of the original nine children moved on to high school. However, we were left with a core of four children all enthusiastic to communicate using the computer.

Using Telecommunications in the Classroom

These children became avid Nexus chaters. It proved a marvellous opportunity for them to have conversations using colloquial language through a visual medium with little need for audition. One boy with a degree of language fluency, who comes from a deaf family, established a network of Nexus friends and this helped overcome his feelings of isolation because of his deafness. He could chat on equal terms and he did not have to tell his
new friends he was deaf unless he wanted to. At first this particular boy would only feel comfortable chatting with people he knew. Later he was happy to chat to anyone, even in multiple conversations.

The other children followed his lead but with varying success. Chat can sometimes be a little confusing for them, especially if several people are talking at once. As in normal conversations, getting a word in or voicing an opinion is a skill that comes with practice. The others did not have the language skills to handle this by themselves. They needed to be able to read quickly and formulate a reply. Often they did not have an adequate command of the syntax of the language to do this quickly. However, with someone sitting with them they were able to take part. At times I pitied the person on the other end trying to make sense of their rather disjointed messages.

Other children preferred to write letters or stories independently, using the wordprocessor. Later they would send the text down line to their computer pals. Writing in this way they were not under pressure to respond so quickly. They were able to model their letters on those received or sent by other children in the class.

All the children became very proficient and independent with the technical skill involved in activities such as calling up, reading, sending, chatting and logging off. One problem which two profoundly deaf girls faced was the fact that they could not hear the telephone ringing tone change to the high pitched squeal which signals the start of communications. They had to depend on someone else to listen for them. Other students, though not able to hear the squeal, could tell when the ringing tone stopped.

That year, as well as our interstate connection with the V.S.D.C., we set up links with five New South Wales country schools using Telememo. The children wrote letters at their leisure using the program Softword, loaded them onto disk and then later sent them in batches.

Extending to Other Classes in the Centre Late in March 1987 we decided to admit the Year 2 and Year 4 children into this particular section of the project. They corresponded with children of the same age in the five New South Wales schools. The older children helped introduce the younger ones to the system. Their two class teachers enthusiastically learned the procedures along with the children. The five year old reception children were just starting to write on the computer.

Of course the understanding and contributions of the children depended on their age and their stage of language development. The Year 2 teacher observed that while the hearing impaired children in her class may not understand exactly what we are doing in sending and receiving letters through the computer, the computer itself is a great motivator for them to write. They are eager to sit down with their hearing peers or an older deaf child and model letters similar to those of the other children.

In these two classes, Year 2 and Year 4, the sending of electronic mail fitted in with other letter writing activities. The Year 2 group ran a mail distribution service within the Centre. They emptied the letter box daily and distributed the mail. The Year 4 children wrote letters to a number of well known people, such as members of the Royal family, sporting and T.V. stars and Pop singers. They visited the post office and helped sort mail. In introducing the idea of electronic mail to these children we drew comparisons with the conventional postal systems.

Two twelve year old hearing impaired boys with additional learning problems, who spend some time of each day with the Year 4 group and some with Year 7, also became involved in a limited way. They dictated letters to be typed by someone else and these were sent to the children in New South Wales. This helped them to feel included in our activities, and as well gave them the opportunity to see their own ideas expressed in written form.

At the beginning of 1988 the four Year 7 children who were the main innovators in the project moved on to High School. However, the younger children were able to continue with the activities. These children do not display the same inhibitions when chatting on Nexus. Even those with limited language are keen to participate. They do find it more difficult to take part in multiple conversations. Consequently we have set up some prearranged chatting times with other schools, both hearing and hearing impaired. We exchange letters with these children and arrange visits.

We have continued to correspond regularly with two small New South Wales schools, at Khancoban and Bemboka. This year we have extended our computer pals network to include children in both Auckland and Christchurch. We are also in the process of establishing links with hearing impaired children in Brighton, United Kingdom, and with others in Portland Oregon, U.S.A., with whom we have been corresponding by what we term "snail mail" for nine years.

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In the Centre, instruction and information charts are displayed on the walls above the computers so that the children and teachers can consult them when engaging in the communication activities. Large maps of Australia and other countries, showing the towns where our computer pals live, are displayed on classroom walls together with charts and drawings expressing the children’s impressions of how the system works. Print-outs of letters from our friends are on view for everyone to read.

At the beginning of the Project the Centre possessed one Amstrad and an Apple computer and printer, which we had used with a variety of software for two years. In April 1987 another Amstrad computer, a printer, a modem and interface, and additional software and hardware were donated to us. Since then additional purchases have made it possible to have an Amstrad stationed in each classroom and one devoted to the telecommunications link.

The computers have become learning centres in the classrooms - one activity among many others available. The computers are used for activities other than communication. However, this aspect plays a very big role in our curriculum.

We use an integrated approach in learning language. Speaking, listening, writing and reading are interwoven in our language activities. We believe that language learning takes place throughout every area of the curriculum. As we learn language we learn about language and we learn through language. Communicating through the computer fits into this approach very well.

This year other CHICs in South Australia have followed our example and are establishing telecommunication programmes. Two hearing impaired children who are mainstreamed in their home schools in our region and are visited by teachers of

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RICK WOOLEY describes a new library system that’s winning hearts and minds

ACT SCHOOLS AUTHORITY LIBRARY AUTOMATED USING ASCIS

by Brenda McConchie, Executive Officer Library and Information Services

The Library and Information Services Unit of the ACT Schools Authority has recently automated its catalogue and loans systems using the DOBIS/LIBIS software available through its membership of ASCIS (Australian Schools Catalogue Information Service). As with projects of a similar nature the automation process has been slow and tedious but the operational rewards are starting to be realised as many of the more labour intensive library tasks are integrated into the software routines and the benefits of an online database are realised.

For a number of years, the Unit has contributed information to the ASCIS database using the cataloguing module of the software. We then decided to take up the other modules to automate associated routine library tasks such as the loans system. Access and input to the database is via a multiple point 4800 BPS dedicated service to the ACT’s Ausplex node in Melbourne where the software and telecommunications are managed with the direct involvement of both ASCIS and Authority staff.

The aim of using the ASCIS system to automate the library was to take advantage of being part of a national education information network. In this way the Authority could combine its commitment to providing information about school resources, the library’s collection, curriculum developments at the national and local level and other education related information on one system. Electronic mail is also part of the software package and any sites connected online to the system can communicate using this method if they wish.

By using the ASCIS database, (which is contributed to by the other government and non-government education systems) as its prime source of cataloguing information, Library and Information Services identified which items it had available for loan or wanted to become unique to the ACT component of the ASCIS database and added any other information wanted for users. A particular aspect of value is the capacity of the software to allow the addition of extra information to the standard database record such as summaries of films and videos. This in turn enables users of the system such as teachers to search for an item by individual words or combinations of words and phrases using the ‘free text’ facility as well as the usual author or title or subject approach. The flexibility of access to locate an item caters for both beginners and more sophisticated information retrieval system users. It is anticipated that this facility will improve the capacity for classroom teachers to access information and resources that will enhance the quality of their performance.

A sophisticated statistics reporting package within the overall software will generate statistics on a range of levels. One aspect that will be of significance provides details of the items that have been loaned and their subject area. This in turn will provide valuable information for the selection and purchasing of resources for the library. Other statistics such as the number of loans and composition of the database will facilitate better decision making and accountability for the management of the Unit.

ASCIS ONLINE TO ALL SCHOOLS

Currently the total ASCIS system is available online in the Authority’s Library at the O’Connell Education Centre or by using the ASCIS dial-up service. As well as the online connection a microfiche has been provided to each of the Authority’s schools and various office sites. The microfiche contains all the information about the library’s collection as well as various curriculum related networks that are also part of the ASCIS service such as ACIN (Australian Curriculum Information Network) and NSCU (National Software Coordination Unit).

By the start of the 1989 school year all ACT government schools will have access to ASCIS and therefore the Library and Information Services system online through the Authority’s computer network using a gateway or host to host connection between this network and that of ACI in Melbourne. The use of the ASCIS package has enabled the Authority to create its own service...

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The Advantages of Communications for hearing impaired Children

The chat facility on Nexus provides a unique opportunity using a visual medium for these hearing impaired children to converse with others using colloquial language in the free give and take of natural conversation. Participating in conversations and chat is the way most of us learnt our language. Just as in face to face conversation it is difficult sometimes to get a word in, this is so when chatting on the computer. The reluctant or hesitant writer has to move with speed, to respond swiftly, to predict what the others will say and have a ready response. Syntax may be fractured and common mistakes made by deaf children such as mangled tenses or disregard of plural forms are to a large extent ignored in the need to get meaning across. However, the hearing impaired child, often unconsciously, models the correct language forms from the hearing conversants. Colloquial terms which the hearing impaired may have never seen are encountered, for example “That’s cool” and “It’s a small world”.

Similarly in letter writing the hearing impaired children from an early age are exposed to, and gradually become familiar with, the genres associated with the accepted forms of writing to others and the correct syntactic structures. In time, through modelling, they learn to use these. To a lesser extent this occurs in their story writing.

Communicating through the computer provides a wider audience for their writing whether directly to specific people in private mail on Nexus, through Keylink or in more general ways through the bulletin boards on Nexus. It gives real purpose to their writing.

However, the children themselves see the most significant advantage in communicating through the computer to be the opportunity to make friends. This medium is an unequalled leveller for these children who typically have low self esteem in social encounters with their hearing peers. The older children suffer from a profound sense of isolation. Using the computer their computer friends don’t need to know they are deaf unless they want to tell them. When asked in chat where they are from they usually reply Brighton Primary, not Brighton CHIC.

Already they have met in person some of the people whom they first encountered on the computer. Several have visited us at the Centre. Some of our children have expressed a wish to have a modem at home so they can chat to people at night. Remember, too, that these children are not able to have long chats on the phone to their friends, as most children love to do. Some have Porta Printers which enable telephone conversations to be recorded on narrow tape, but only with a person who also has access to a Porta Printer. The children’s social isolation is also compounded by the fact that they travel long distances to school and often do not know the children in their neighbour-hood. Their school friends also live some distance from them and they are usually unable to take part in after school sports matches because of the difficulties of getting to and from practice and games. Anything that can help relieve this sense of social isolation is of inestimable value.

Another advantage in the children becoming familiar with these forms of communication is that they are learning to understand computers and how they operate in a meaningful practical context. This raises their self esteem and equips them with a set of skills for later life. Communicating through the computer broadens the children’s horizons as well as giving them valuable practice in purposeful language usage.

Conclusion

Although at the beginning of the project we faced many problems through not always having access to equipment when required, having to share the phone link, a lack of written information and our own ignorance in this totally new operation, we were able to solve these as a group. It provided many opportunities for purposeful shared problem solving activities. What elation we felt when we overcame yet another problem through our own endeavours! The children came to realise that they could discover the answers as readily as I could, and that if this proved impossible, we could turn to people more knowledgeable in the field for advice. This was discovery learning at its best.

Mail links with children within South Australia and with those in other states and countries have helped broaden the children’s horizons. The interchange of photos, videos, booklets and visits have made these written exchanges even more meaningful and enjoyable.

The most exciting development has been the chat facility on Nexus which has given the children a unique opportunity to take part in the give and take of conversation.

"Our communication through the computer has been able to fit in with, and enrich, many areas of our curriculum as well as the field of language development."
The modelling of different language genres and acceptable syntactic forms is an important lesson learned both in chatting and writing.

The children have acquired technical skills and knowledge about computers and telecommunication in practical settings. These will be valuable assets for them in the future.

Our communication through the computer has been able to fit in with, and enrich, many areas of our curriculum as well as the field of language development. In Social Studies the children have studied communications and have made comparisons of urban and rural life. Our friends in New South Wales have been able to tell us a little of their life styles in country towns. The younger children have been able to expand their knowledge of the postal system to include electronic mail. This year we have studied the development of postal and telephone communications in Australia over the last two hundred years.

In conclusion I will quote from Anne A'Herran, our regional adviser, who in a submission for funding wrote:

Communicating through computers offers the hearing impaired child hope for supplementing an inadequate oral receptive language. Only in this way can the hearing impaired child participate with hearing partners, in the kinds of conversations that the hearing world takes for granted. The evidence indicates that communicating using computers not only motivates these children, who are essentially language deprived, to write, but that it as well widens their horizons, encourages them to socialise on equal terms with mainstream children, raises their self esteem and equips them with a set of skills for later life.