SPECIAL NEEDS

NCET

RESOURCES

SPECIAL UPDATE

June 1992

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Special Update – June 1992
Published by NCET, Sir William Lyons Road, Science Park, Coventry CV4 7EZ (0203 416994)

Special Update

Welcome to the latest edition of *Special Update.*

This issue contains news and views from network members all over the country. Here is your chance to catch up on CD-ROM developments, laptops, new resources and projects. Those of you who are struggling to market the service you provide will find Sally Paveley's article 'So you'd better start swimming' on page 7, a useful insight into developments in the enterprise culture.

The section on sensory impairment includes an article by Ron Hinton on Nomad, 'an audio-tactile device' designed for blind computer users. There is also a graphic account of a language field trip to the Isle of Man undertaken by the Hearing Unit at Heywood Community School, which is essential reading for anyone who is planning a school visit.

There are features on a whole range of special education issues and, as in the last edition, much is relevant to post-16 providers whether they work in education, training or social services. A special feature of this edition is the section on languages which includes developments in community languages: 'A Prototype Speech Synthesiser for Hindi and Urdu' by Paul Blenkhorn, and Jenny Taylor's article 'From Ratatouille to Talking Flash Cards' on teaching French to pupils with special needs.

By the time you read this, NCET's first national conference, run in conjunction with NASEN and sponsored by Northwest SEMERC, will have taken place. We look forward to bringing you news of the key presentations and workshops in our next issue.

If you are engaged in any work which you feel would be of interest to others, please contact the special needs team at NCET so we can include you in a future edition of *Special Update.*

The Special Needs Team:

Tina Detheridge, Manager for Special Needs
Tina oversees the work of the team and liaises with national bodies and associations in order that appropriate educational technology can be fully exploited. She liaises with the Midland region special needs networks.

Glyn Holt, Senior Programme Officer
Glyn is at present working with the SLD community and focusing on differentiation. He liaises with the North West and North East regions special needs networks.

Sally McKeown, Project Officer, post-16 Special Needs
Sally is developing an FE network and coordinating the development of resources for post-16 learners. She is also responsible for cross-phase work on specific learning difficulties.

Maud O'Brien, Secretary to Special Needs team
Maud is the secretary to the special needs team. She is often the person who is easiest to contact.

Mick Thomas, Senior Programme Officer
Mick is involved in the application of new technologies for learners with special educational needs. He also coordinates the production of special needs resources such as Blue file software. He liaises with the South West and South East regions special needs networks.

Terry Waller, Senior Programme Officer
Terry is responsible for the special needs information service. He is the person to contact if you have any queries or you want to know anything about any of the special needs projects.

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Keeping in Touch

The circulation for this magazine has now reached 4,000 and is one of the many ways in which we try to keep in touch with our network.

This network was based on the original SEMERC structure, and despite many setbacks (including the closure of SEMERCs, the rise and fall of the advisory teacher service and now delegated budgets), it still survives.

The network is not a single entity: it comprises groups of experienced advisory teachers and teachers in special schools, and will occasionally include LEA advisers and lecturers from further education. Each of these contacts works in different authority structures which impose different freedoms and constraints on membership of such networks. One of our responsibilities, therefore, is to look carefully at the outcomes and benefits of such contacts, to ensure maximum benefit to the individual, to the authority and, through NCET, to the whole country.

Most of our contacts belong to one of the regional groups which meet each term. This year we have asked these groups to suggest the most practical and effective ways in which we can help them. NCET has offered small-scale financial support for projects or events which encourage inter-authority collaboration. Such projects will contribute to the contact's own professional development, provide some new development or understanding of I.T. for Special Needs which can be shared on a national basis, and through sharing of expertise, will spread good practice.

The maintenance of such a group of key practitioners is essential for the healthy development of technology to help students to access the education to which they are entitled. Each year, after careful review, we modify the ways in which NCET collaborates with, and supports, this network.

However, despite our best efforts, not everybody can belong to a regular network group, and so we have arranged the National Conference on I.T. in support of Special Needs. It is being run in association with NASEN and being generously supported by North-west SEMERC. This will be an exciting event and will bring together practitioners from all over the country, with experience from many areas of educational interest. We hope that it will attract those with expertise in special needs who are looking for starting points in I.T., as well as those already experienced in this area. We also hope that it will attract delegates from all educational sectors. The conference has been timed to run towards the end of the school term when work pressures are slightly easier, and soon after the close of the college term, before staff may have dispersed for holidays. If it is successful, it may become a regular feature of the calendar.

Other mechanisms available for individuals to keep in touch are NCET's publications, which include software, support packs and training materials, as well as Occasional Papers on particular aspects of I.T. and special needs. We are also planning to introduce new Briefing Sheets; these will comprise short, informative papers identifying ideas and resources in particular aspects of educational technology.

One of the casualties of the financial changes taking place within LEAs has been short courses. It is no longer financially viable, even at a subsidised rate, to offer specialised courses. The nearest we are likely to come will be through the regional initiatives and the National Conference. One thing we can offer, however, is information from a register of names of potential presenters at local training events. Many of the key contacts from our network have valuable expertise and can provide specialist training.

Keeping in touch is not a one-way process, however, and despite our best efforts, not everything we do reaches its target. We need feedback from those of you working in the field if we are to deliver a useful product or service. The Special Needs team at NCET welcome ideas (and constructive complaints!) and if you can't get to regional events or meetings to feed back, please send your thoughts direct.

Finally, NCET is trying to increase awareness of I.T. for special needs. To this end we are collaborating with NASEN again to help create an I.T. Special Interest group amongst NASEN members. We have also embarked on a campaign to see articles published in a wide range of magazines and journals – Sally McKeown had a massive response from an article in *Woman's Own*! So once again, if you have something going on that might interest other readers, let us know.

NASEN – I.T. & SEN Group

National Association for Special Educational Needs

This new association is likely to become the major organisation catering for teachers and tutors in the field of special needs. It is proposing to host a number of special interest groups, and NCET is actively trying to promote such a group for I.T./SEN. NCET will undertake support work for this group which

would write articles for inclusion in NASEN journals, organise regional activities and keep members informed of interesting developments.

If you are interested in being part of this special interest group, contact: Trish Hornsey, Fitton Hill Curriculum Centre, Rosary Road, Oldham, Greater Manchester OL8 2QE (tel. 061 627 4469) or Mel Philipson, Education Technology Centre, Learning Support, Linskill Site, Linskill Terrace, North Shields, Tyne and Wear, NE30 2BD (tel. 091 258 5707).

Tina Detheridge

CD-ROM for Blind and Partially Sighted Learners: accessing the curriculum

This is a collaborative project between the Open University and the Royal National Institute for the Blind which began shortly after BETT earlier this year. It is funded by the DFE and managed by NCET.

CD-ROM technology offers exciting possibilities for all learners, and for those who have a sight impairment, the impact of this technology is potentially even more profound. For children with a visual impairment, scanning text is at best very difficult and at worst impossible. Consequently, the sort of exploratory leaning that most of us take for granted as a learning strategy has been denied to this group of learners. Similarly, National Curriculum attainment targets concerned with information retrieval are impossible for many visually impaired children unless they have a helper.

The project will allow visually impaired learners to access CD-ROMs independently, using, where appropriate, magnification software and/or speech synthesis. For example, with the addition of a speech synthesiser, a blind child will be able to search an encyclopedia, save relevant articles, edit them as necessary and either keep them on disc for later reference, or print off a Braille copy.

Unfortunately, there is no way of anticipating which CD-ROMs will work with speech output. Generally speaking, discs which are solely text based stand the best chance of working but this can only be found out by trying speech with individual CD-ROM titles. One of the aims of the project is to suggest ways in which those who produce and publish these resources can provide accessible programs.

A core of six CD-ROMs will be trialled with students in four schools and one FE college (RNIB Vocational College, Loughborough). The Open University is responsible for configuring the systems to work, if possible, with speech and magnification software and for the evaluation of the whole project. The RNIB will be providing training for staff and students at all of the project sites. Staff training is scheduled to take place during the summer term and student training in the autumn.

The CD-ROMs that will be examined initially are: *Information Finder, Mammals, World Atlas, Shakespeare, Grolier Encyclopedia* and *The Times and Sunday Times.*

It is hoped that by the New Year we will be in a position to publicise the results of the project, starting with a workshop on the Special Needs Day of BETT in 1993.

Peter Trethewey

If you would like any more information about the project, contact Peter Trethewey at the RNIB National Education Centre, Garrow House, 190 Kensal Road, North Kensington W10 6BT (tel. 081 968 8600).

The Special Educational Needs Database

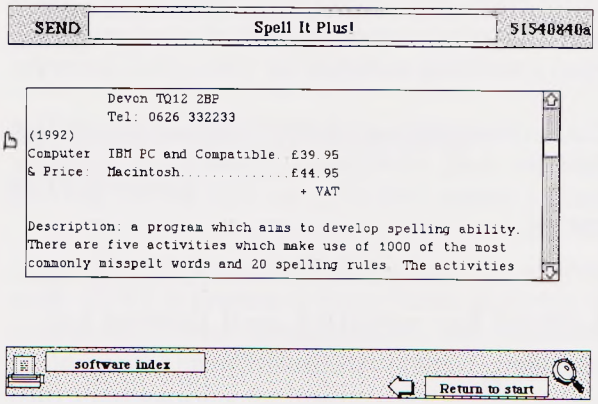
SEND, based at the Scottish Council for Educational Technology, has been available on Prestel since 1985, and has become known principally as an on-line (i.e. dial-in) database. SEND deals almost exclusively with the use of microelectronic technology with learners who have special educational needs, providing

up-to-date information on available software, relevant publications, hardware and add-on devices and useful contacts, as well as a forum for exchange of information. The information itself is arranged so that it may be searched in various ways. A record containing information on a software program, for example, is indexed by relevant disability, by learning/teaching area, by computer type and by title.

Each record consists of:
- name of product
- supplier's address
- price of program
- computer on which it may be used
- description of what the software does
- use for special needs
- the skills it aims to develop
- how it may be accessed.

Some of the products also include a user comment or a reference to a review of the software.

Last summer we conducted a survey of 500 SEND users and non-users in order to gather their views on the database as it stands and on how it should be developed further. A major issue for SEND was the question of how to make such a large amount of frequently changing information available to the largest number of people who might make use of it.



On the question of the suitability of on-line viewdata (such as Campus Prestel) as a medium for SEND, the sample group was split almost exactly in half as the following comments show:

"Don't like on-line viewdata – it's too expensive to run; tedious to access; we don't have the right equipment..."
"Established links with other users, particularly contact with a local worker; found up-to-date information on courses and exhibitions we wouldn't otherwise have known about..."

It was evident that many potential users see on-line viewdata as a barrier rather than as a benefit, mainly because of cost and the need for dedicated equipment, such as a modem and communications software. Conversely, many users are attracted to SEND principally because it serves as a focus for the sharing of information between users, an aspect of the database which relies on on-line technology. How could we make SEND accessible to all its potential users, at the same time preserving the valuable on-line service? The best response to this, from our point of view, was to make SEND available both as a stand-alone database, with enhanced search facilities, in addition to the existing on-line service.

With the help of three Apple Macintosh computers, we were able to produce a working version of 'SEND Offline' by January 1992. The end result is that SEND Offline is now available for both Apple Mac and for PCs and compatibles with Windows 3. Although the off-line database preserves the index structures of on-line SEND, an additional keyword search facility provides an alternative way of finding information. There is also a facility which allows information to be printed out directly or saved to a text file and amended to suit the user's needs. In this way, the user may extract subsets of SEND information, and produce, for example, a booklet outlining software for the Archimedes to develop language and communication skills. Information from the publications section, (for example, details of books suggesting uses of the Archimedes in the classroom), could then be incorporated in the booklet.

Work on the enhancement of SEND with pictures, sounds and video sequences has already been done in association with the Open University and NCET, with encouraging results. Ultimately, we intend to make SEND's information available in whatever form users may desire it, whether it be on paper, on-line, on floppy disc, or on CD-ROM.

An annual subscription to SEND Offline costs £35.00 + VAT, including three updates per year and three editions of the *SEND Word* newsletter.

Stuart Beresford, SEND Programme Manager

Further information is available from: SCET, 74 Victoria Crescent Road, Glasgow G12 9JN (tel. 041 334 9314).

Information technology in support of curriculum reform

If schools are to plan policy effectively, and to make optimum use of existing resources, then they will need support, a significant proportion of which can be provided by information technology. NCET is publishing two books to help in this process. The first, *Special Needs Issues*, was originally conceived as a supplement to the planning tool *Focus on I.T.* In practice this supplement also stands very well on its own as an introduction to the development of an I.T. policy both in mainstream and in special schools. It has been edited by Glyn Holt with contributions from several advisory teachers, and in particular from Siân Nichol, advisory teacher for SEN from South Glamorgan, whose team produced the mainstream pack. This new publication is compact and easily accessible, with practical ideas and activities. It will be available later in the summer.

The second publication, still under development, concentrates on the planning necessary for meeting individual needs. It is being written by Linda Spear and Norman Tweedley of CITE, Cambridgeshire, and is to be published by NCET early this autumn. This also gives very clear, practical guidance on strategies for the identification of, and provision for, special educational needs, particularly for students in mainstream schools. *Meeting Individual Needs* focuses on the support that educational technology can provide for students, and in providing a staff-room guide to resources and sources of support.

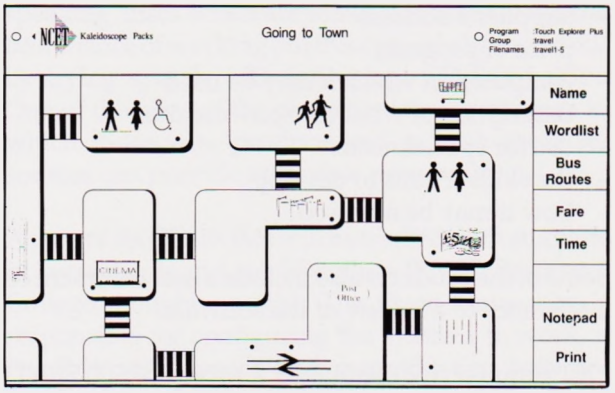
Bristol SEMERC

Bristol SEMERC closed in March. The equipment has been shared out between the South Wales area and the English LEAs which were members of this SEMERC. Bernie Henderson now organises the regional network for the South Wales authorities and will be holding termly meetings. Ian Butterworth will organise meetings and events on behalf of English LEAs and hopes to run one joint event per year.

Contact: Bernie Henderson, West Glamorgan Centre for Computer Education (WGCCE), Elmwood Road, Baglan, Port Talbot, West Glamorgan SA12 8TF, (tel. 0639 822656, Email no. 01:YSN001) or Mr Ian Butterworth, Wiltshire Special Needs Computer Centre, St Peter's School, Bath Road, Devizes, Wiltshire SN10 2AP, (tel. 0380 729311, Email no. 01:YSS025).

Kaleidoscopes

With the closure of Bristol SEMERC there has been some concern about the future of Kaleidoscopes, the low-cost curriculum support packs for a variety of NCET framework programs including Touch Explorer Plus, Prompt Writer and List Explorer.



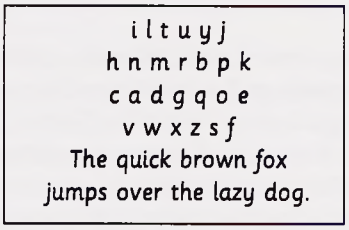
Derek Maxted at NSNSU is contacting the original Kaleidoscopes authors and plans to reissue Kaleidoscopes in a new format. These will not be public domain software but will be very good value, at an average price of £10. Scenarios will also be included under the Kaleidoscope range. Derek would like to hear from new prospective authors who have developed interesting materials for framework software.

Contact Derek Maxted, NSNSU (National Special Needs Software Unit), RESOURCE, Exeter Road, Doncaster, South Yorkshire DN2 4PY, (tel. 0302 340331, fax. 0302 328735).

Letters for reading and letters for writing

Why should we think that the letter shapes that adults find easy to read should be the best for children? This was the question at the root of Dr Rosemary Sassoon's research into typefaces that children found easy to read. The 100 children in the study, half with learning difficulties and the other half competent readers, were definite in their preferences: they liked letters with a slant, with the clarity of sans serif ascenders. From this evidence, and using her experience in the field of handwriting, Dr Sassoon designed Sassoon Primary, a typeface specifically for

children. Letter and word shapes were accentuated by extending ascenders and descenders and adding exit strokes to the base line to clump the letters together.



Sassoon Primary was originally used as a publishing font for children's books. However, as it had been created as a Postscript font on the Apple Macintosh, it only required a small jump of the imagination to consider its possibilities as a word processing font for children and teachers to use. Since then, Sassoon Primary has been converted to PC format, running under Windows 3, and it will shortly be available for Archimedes as well.

Now an increasing number of schools and LEAs are taking an interest in the typeface. Dr Sassoon has described Sassoon Primary as providing a vital bridge between reading and writing. Teacher-produced materials, children's writing, wall displays and work on letter families can all be stimulated by the use of this friendly and legible typeface.

Jill Day, Senior Advisory Teacher (IT), Surrey LEA

For further information contact Dr Rosemary Sassoon, 34 Witches Lane, Riverhead, Sevenoaks, Kent TN13 2AX

Maths for specific learning difficulties

In conjunction with the Dyslexia Institute in Sheffield, NCET is preparing some maths materials to help learners who have problems with numbers. Children who have dyslexia have considerable difficulty in recognising the link between words and the concepts they represent. They are often floored by the terminology and do not realise that 'the sum of' is the same as 'plus' or 'add' and that 'minus', 'subtract' and 'find the difference between' are all asking for the same thing. The project is at a very early stage at the moment but there are plans to incorporate a whole range of activities around the theme of holidays, using overlays to develop a sense of place value.

Marion Parkes, NCET project officer

"So you'd better start swimming..."

Few can have failed to notice that one or two changes have taken place in recent years. The 'enterprise culture', child of the Thatcher years and marketing strategists, has penetrated the very fabric of our society. Education and Health, two pillars of the old welfare state, are frantically engaged in a struggle for survival: glossy brochures, company logos and all the paraphernalia of 'corporate image' have become the order of the day. If you have a service to offer you must sell it and sell it well! As one who has recently crossed the great divide from the public into the private sector I would like to share some thoughts with you.

I will begin with a few words about myself. I am a teacher. I have also been fortunate enough to have been given an opportunity to combine an interest in learners who experience educational difficulties and a conviction that the 'new technology' has an important part to play in offsetting some of those difficulties. I used to be an advisory teacher for I.T. and Special Needs. I'm not sure what to call myself these days!

Educational technology and special needs education have, in my opinion, some interesting features in common. There was a time when computers were confined to special 'computer rooms' or at least remained with the most knowledgeable and interested member of staff. Could this not also be said of learners with special needs? Now all teachers have to cope with them and many find this difficult. Computers and learners with special needs are to be found in every classroom.

There is, however, a marked difference in terms of the Government's attitude towards them. Technology is much favoured: the creation of the City Technology Colleges illustrates this. Meanwhile learners with special needs are not so highly regarded. The matter of meeting special needs, with or without the addition of technology, is expensive and does not appear to have high priority in Ministerial circles.

Education providers need support and training if they are to make the most of the technology now available to them. They also need support and training if they are to be expected to provide all of their learners with appropriate and purposeful educational experiences. Training and support, at least for those who came under the umbrella of the local education authorities, was reasonably easy to obtain. Recent changes have led to dramatic reductions in

such LEA-run services, but the service providers are still needed.

We who are involved in supporting learners with special needs, whether in schools or colleges, at the chalkface or as part of a more remote service, are used to fighting our corner. Indeed we have made tremendous progress over the past twenty years or so. We will continue to do so. When change takes place our response is positive; we look for ways to use the changes to improve the services we offer.

The introduction of the National Curriculum is a case in point. Whilst it would appear that those learners with the most complex of special needs in educational terms were not taken into account when the first documents were drafted, it was not long before the notion of Educational Entitlement for all was translated into positive action.

Similarly the move from public to private sector was made by myself and my colleagues at The Advisory Unit: Computers in Education in response to Government-led changes in local authority provision. This has given us a unique opportunity to review our past performance and build the best of it into a new way of working. Such chances to look back in order to plan for the future are few and far between. We are selling our services because the economic and political climate says we must. We are also selling our services because we believe them to be of value. Change can herald difficulty or opportunity. Much depends upon how you look at it. Sink or swim.

Sally Paveley, The Advisory Unit: Computers in Education, 126 Great North Road, Hatfield, Hertfordshire.

Laptops and Students with Special Educational Needs

The following report is a distillation of the views of a group of teachers and advisory teachers who met at a 'bring along a laptop' day at the Dorset IT centre in March 1992. A variety of laptop computers were on display, but the purpose of the day was to review the issues surrounding the uses of laptops with students with special educational needs.

There are a number of general isssues which need to be addressed. The first concerns the intended use of the laptop and the need to decide whether a more powerful computer is needed or if a simple word processor or typewriter will serve. The price range needs to be established at an early stage as this will often limit choice considerably. Finally the the question of the needs of the intended user of the laptop should be considered. Various types of special need are considered in detail later, but general questions in this category might include:

Student Questions

What does the student need a laptop for?
Are typing skills good enough?
Does the student need instant output?
Is the student of an age/ability to use a laptop supported/unsupported?
Does the student really want to use a laptop?
Do parents support the student's use of a laptop?

School Questions

Can the student be supported in use of the laptop at school?
What are staff training needs and can they be supported?
Are all staff happy with this student using a laptop in their classroom?
Do the physical limitations of the school make use of a laptop possible?
Do facilities exist in school for transporting and printing files?
Is there sufficient access to facilities in school (at home?) to support connectivity?
Who will own the laptop?
Who will insure it?
Who will repair it?
Who will monitor student use and ensure appropriateness and curriculum continuity?
Who will be responsible for review and development?
Do GCSE boards need to be informed?

Laptop Questions

What does the laptop weigh?
How portable is it?
How durable is it?
How long is the battery life?
Is there easy access to spares/repairs?
How easy is it to use?
How accessible are connections?
What can it be connected to?
What software is available?

Three groups of Special Need were then considered in more detail: visual impairment, physical handicap and specific learning difficulty.

Visual Impairment

This proved the most difficult group to make recommendations for, as impairment is very specific to the student and requires individual solutions in terms of software and hardware. We concluded that hardware and software issues (in addition to those outlined above) to be considered included:

type of keyboard (standard/non-standard)
colour of screen
size of screen
size of memory
print-out size
size/colour of text on screen
font sizes
size and magnification of mouse pointer/cursor
availability of magnification software.

The recommendations for hardware and software for this group would need to be the result of careful liaison between specialist teachers of visual impairment and advisory teachers for I.T., and are likely to be expensive!

Physical Disability

Hardware and software issues for this group include:

availability of keyguards
switch access
mouse/trackerball
opening/closing/switching on
combinations of key presses
availability of prediction software/wordbanks
scanning software
print-out facilities.

Specific Learning Difficulty

In general we felt that this was the group that could be catered for with the simpler word processor based laptops. Hardware and software issues included:

screen size and colour
size of text on screen
spellcheck, prediction software and wordbank facilities.

The group found it difficult to make general hardware recommendations as so many individual and local issues would affect choice, but popular machines within the group included the Tandy WP2 and FD1100, the Toshiba 1000, the Commodore c386SXLT and Nimbus Notebook. The group felt that there the greatest need was for recommendations based on full and careful assessment of students which would reflect the issues outlined above and involve consultation with teachers, parents, educational psychologists and above all (and sometimes overlooked) with the students themselves.

In case all this should appear daunting to anyone contemplating the use of laptops with students with Special Educational Needs, all the group had experienced working with students whose access to and participation in the curriculum had been significantly enhanced by the use of a laptop computer.

Lisa Johnson

I.T. and the Hearing Impaired

The Hearing Network

Regular network groups of teachers of the deaf now meet with the support of NCET in the south-east and south-west. The summer term meeting for the south-west group was on 4th June, looking at Logo and programmable toys and also a chance to play with some of the recent 'laptop' computers and notetakers.

The south-east group is meeting on Thursday 2nd July and will be looking at applications and filemaking for Touch Explorer Plus on BBC, Archimedes and Nimbus computers (contact Sue Pinder on 0689 850271). Please don't be put off by the 'high-flying' content of these days if you feel you are a beginner – the main objective of both these groups is the opportunity to share experiences and ideas and to help each other, whatever stage of I.T. expertise we are at. If you've missed these meetings, get in touch for next year's dates.

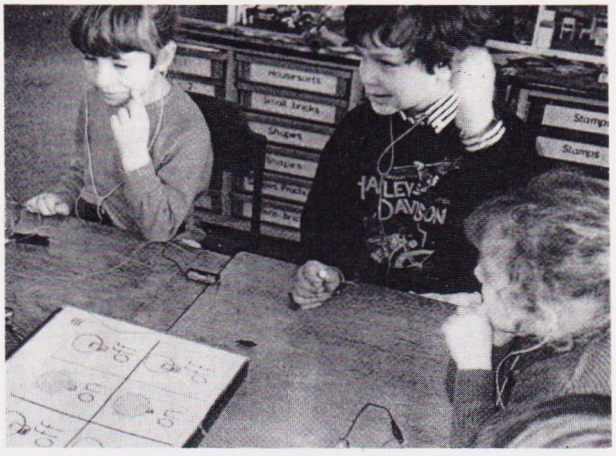
Following the creation of a BATOD (The British Association of Teachers of the Deaf) sub-committee – the 'I.T. Support Network' last autumn, work has concentrated on the establishment of a network of contacts from each region of BATOD to create a small working group which will start to initiate events and information during the following year.

Anyone interested in becoming involved in this group – whether or not you are a BATOD member – should contact Katie Pester or Jonathon Shaw (addresses below). It is hoped that this group will be able to combine the networks and expertise of both NCET and BATOD in supporting the use of I.T. with hearing-impaired youngsters.

Information technology has been a major part of the agenda at a couple of BATOD regional meetings this year – one in the North-west Region in autumn 1991 and one in the South-west in spring 1992.

You may also find the occasional paper *Information Technology and Hearing Impairment* useful. It is available from NCET at a cost of £5.00 plus postage and packing. This collection of practical classroom ideas is a useful starting point and resource in a school or service wishing to develop the use of I.T. with its youngsters.

Contacts: Katie Pester, SSEN, Elmfield House, Greystoke Avenue, Westbury-on-Trym, Bristol; Jonathon Shaw, 5 Kershaw Street, Glossop, Derbyshire, SK13 8BN.



Minicom Project

In 1980 the Breakthrough Trust funded the first text telephone – a converted Telex machine. It was very heavy and needed two people to lift it! In contrast, Minicom (which costs less than £200) is very compact – one model fits in a pocket. In many areas, Social Services are providing minicoms but this varies from county to county. The Royal National Institute for the Deaf has negotiated with British Telecom so that individual users who are registered as deaf get a 60% discount on phone bills (typing messages is slower than speaking and so each 'call' costs more). Unfortunately, as yet there are no reductions for institutions.

NCET is working with the Cheshire Society for the Deaf and ECSTRA, a post-16 unit for the deaf in Coventry. Together we are running a small project to develop the use of Minicom as a bulletin board so that students can get access to information and leave messages. There are a series of menus which are developed in conjunction with local groups: for example, users in Cheshire requested Sports as an

option. Information is stored in Wordstar text files. Users are given codes so they can add to the original information but not delete any of it.

The thinking behind the project is to enhance the development of written communication skills and to enable students to take responsibility for initiating communications instead of relying on others to interpret or to 'speak' for them.

Heywood Community School

"OK, Sajad, once more before you go – what's the formula for respiration?". Sajad is word perfect. He packs his rucksack and disappears. "Goodnight, Sir", Belinda grins cheekily on her way out. She is an attractive fourteen-year-old going home from Heywood Community School on an ordinary Wednesday night. She has just checked in her phonic ear with the teacher in charge of the Hearing Unit, Jonathon Shaw. Jonathon is a member of the Rochdale Sensory Impairment Service.

Heywood is a mainstream comprehensive school that is resourced for senior pupils who have hearing impairments. Belinda and Sajad are profoundly deaf but they, like all the other students in the school, are in an ordinary tutor group and spend the majority of their day in regular lessons. They give the class teacher the radio microphone as they go into class. This sends signals to their own hearing aids, making the best use of what residual hearing they have.

The Hearing Unit

Children who have no problems with hearing are bombarded with language from television, overheard adult conversation and song lyrics as well as speech that is actually targeted at them. Families and peers as well as teachers and therapists will have taught hearing-impaired students a wide vocabulary of everyday words for objects and activities in their environment.

The Hearing Unit provides individual support and extra tuition to cater for a variety of language and personal needs, but an essential area for *all* their students is that of 'technical vocabulary' – the particular vocabulary which is needed for a specific topic area or subject.

When most twelve-year-olds come to do chemistry for the first time there will be lots of new words for them to learn, but it is likely that many of them will be words that they have encountered and have some sort of context for. They can also scan what is being said to them and ask for explanations of the bits that they don't understand. Adolescents with a hearing impairment will not have had the chance to pick up the sounds, shapes and context pragmatically. They will also know only too well that having someone constantly stopping and explaining things carefully to them is a gross social intrusion.

So, much of the work of the Hearing Unit is teaching the technical vocabulary of school subjects. But there is also a great deal of technical vocabulary that students need in a wider context.

A Language Field Trip

Last year Jonathon, with the encouragement of a supportive Head, organised a Language Field Trip to the Isle of Man. The party would travel to Douglas by plane from Liverpool Airport, spend time exploring a strange environment with adults who were there to focus on their language and understanding, and then take the ferry back to Liverpool.

It was essential to prepare thoroughly for the trip so that everyone would get as much from it as possible. Two major foci were the airport and the ferry terminals. These places are confusing for anyone experiencing them for the first time. The students would need technical vocabulary concerned with tickets, baggage, aeroplanes, ferries and security. They would also need to understand the geography of terminals and the sorts of procedures that they would undergo.

Students and resources

The Unit has a regular supply of students on placement. They are all required to make some materials using framework programs. Tom Baite, a teacher from Nottingham on the post-qualifying course at Manchester University's Audiology Department, was asked to take on this project and make computer support materials to introduce the topics to the students. He made two Touch Explorer files, one of which was a map of the airport. The students had to learn the sequence and language of the 'check-in' procedure. By making his own overlay, Tom was able to use the exact geography of Liverpool Airport and most importantly, put the students and staff themselves into the scenario:

> *"I'm fed up" said Belinda as she waited by the luggage. Belinda is **always** fed up.*
> "
>
> *Where's the whisky?" croaked Miss Harris.*
>
> *Miss Harris was due to have a **hard** time!*
>
> *Sarah gave her ticket to the lady behind the check-in desk.*

Parrots and peg-legs
Serious work was also done on the ferry terminal. The return party was uncharacteristically quiet as they stood on deck waiting to depart. Finally a rather pale Rosie asked Miss Harris where the plank was. "The plank, what plank?" – "The plank that you walk". Once everyone was reassured that planks were a thing of the past along with parrots, wooden legs and pieces of eight they regained their bounce and their appetites. "Where's the galley?" asked Stephen, "I'm hungry". He was rather disappointed that galleys had disappeared too but did manage to find his way to the café for burgers and coke. It is important to remember that people with hearing impairments have fewer ways to detect fantasy and irony and may be wholly dependent on a few people for their vocabulary.

When they were in Ramsey they persuaded a friendly police station to look after mounds of luggage for them while they did some serious sightseeing. When they returned they were given a guided tour of the station and a preview of arrest and detention procedures (more technical vocabulary here). The highlight of the trip was a burly Manx police sergeant locking Jonathon into a dank cell. He seemed quite happy to keep him there indefinitely but Belinda reluctantly decided that Heywood Community School would not be the same without him.

Thanks to Belinda, Stephen, Sajad, Rosie and Sarah as well as Jonathon Shaw.

Jenny Taylor, Northwest SEMERC

PS The Hearing Unit has just bought a Concept Keyboard to go with their Mac SE30, and Intercept from MicroDaisy. First impressions suggest that this is going to be really exciting. Apart from the obvious entering of text, one can also use keyboard short-cuts so that spell-check, new, cut, paste, quit and so on are all available. There are endless possibilities once Macros are used from the board. There is also the potential for direct addressing of Hypercard, turning it into an all-singing, all-dancing Touch Explorer.

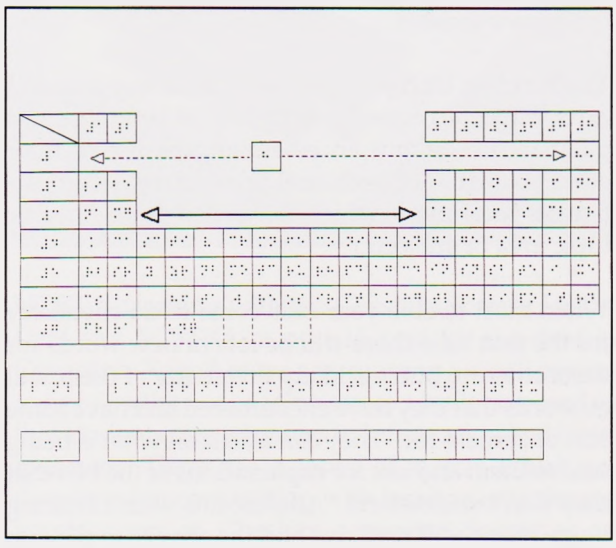
Stimulating access to graphics for visually impaired students

Nomad, described as an 'audio-tactile device' is a computer add-on which is rather unusual in being conceived especially for blind users. Its software, menu format and indeed its whole philosophy, are framed with the blind user in mind. This is not to say that the device will not find other uses in special or mainstream education, but it must stand or fall in the final analysis, by its performance with blind pupils and their teachers.

Basically it is a touch pad on which tactile graphics can be placed for linkage to a PC and voice synthesiser. Controlling computer files are created simply by typing the diagram information on the PC keyboard and then 'painting' on the graphic by finger pressure in places where the information is to be supplied. Spoken information is then recovered via the synthesiser at the 'Listen' menu option by finger pressure on the graphic and pad.

Many people see a similarity with the Concept keyboard, but this is a very superficial comparison, and is misleading. The resolution of the Nomad pad is considerably finer than one finger tip (5 mm in fact). We sometimes use a small probe to input information accurately. Although a useful tool for many other applications, the Concept keyboard would be hopelessly inadequate for many of the graphics which we have made for use by secondary geography and science students.

The spoken information provided by Nomad means there is no need for Braille notation on the graphic, thus creating a clearer and less cluttered diagram. Anyone with tactile diagram experience will appreciate that particular benefit. The type of resource which Nomad creates can support not only a one-off teaching situation, but also give flexible and convenient access to reference material like the Periodic table illustrated. Indeed this is an example where such easy and meaningful access to the information would be difficult to provide in any other way, even for bright children with full vision. The spatial arrangement of the Periodic table forms the access to detailed information on each element on three levels.



What about the demands on the teacher made by this equipment? The definitive version of the software is version 3.0 and this is markedly more user-friendly and has more features than earlier versions. There is also a Nomad II pad which has a carrying handle, a built-in synthesiser (if required) and a single connection to the computer, although Nomad version 3.0 software will run satisfactorily on the older Nomad if this is connected to the PC by a serial port with the serial/analogue converter available from the suppliers. We in fact run it continually in this way. A few brand-new Nomad I tablets complete with the converter are still available from the writer, or from Techno-vision Systems Ltd.

This year we have produced about 70 Nomad graphics for geography and science courses, which are currently in use in Exhall Grange School, Coventry and copies of these could be made available to other schools with Nomad.

We are able to advise schools on the installation and use of the device and also on the making of graphics. In fact we have the facilities and experience here to make effective Nomad graphics if schools prefer not to make their own.

There is insufficient space in this article to discuss all the possible applications of the Nomad device for special needs other than blindness, but we are happy to be contacted at the address given or on the phone by anyone in need of help, advice or information.

Ron Hinton, Loughborough University, Department of Education, Loughborough LE11 3TU

Opening up the world of Windows

Ateeb is in the leaver's class at a London school for pupils with moderate learning difficulties; he has always found reading and writing difficult. He loves using the computer but is reluctant to use it for word processing: finding the right letters on the keyboard is tedious for him. An overlay keyboard would allow him to produce text far more efficiently but Ateeb is almost 16 and wants to uphold his image as a young adult. The word processor for the overlay keyboard in the infant department would not be acceptable to him!

Jenny is a 14-year-old pupil at a west London comprehensive school. She joined the school two years ago when her special school was closed down. Jenny needs to use a computer and a switch to produce written work but she has become increasingly reluctant to use a computer which is different to those used by her peers. Having gained access to a mainstream school environment Jenny would like to have access to more of the facilities within it.

John is in the sixth form of a school for pupils with physical disabilities, just outside London. He is an able pupil and a competent switch user. Access to the new technology has enabled John to achieve academic success but he would like access to a broader range of computer applications. He also realises that his future independence will depend on his ability to adapt his skills to the demands of potential employers.

Access is a central issue for people with disabilities. Without access to the environments and facilities which people who do not have disabilities often take for granted, opportunities for learning and participating are limited and the disability is therefore compounded. The new technologies have certainly provided greater opportunities for people who have disabilities by affording them greater control over their lives in a myriad of ways. Against this backdrop we are hoping to make a small contribution to the slowly growing number of accessible environments by bringing switch and overlay keyboard access to MS Windows 3.

Windows Switch and Windows Concept are utilities developed for the Educational Software Partnership Scheme: an NCET programme funded by the DES. They allow switches and overlay keyboards to be used to access any Windows applications. This is achieved with drivers that enable the computer to communicate with the switch or overlay keyboard

and editors that can be used to produce individualised switch templates or overlay files. Both Windows Switch and Windows Concept are simple to use. Creating overlay keyboard files is simply a matter of dragging out an area with the mouse or keyboard and typing in the text. Switch templates are produced in a similar manner and can be created and edited by the switch users themselves.

Windows Switch and Windows Concept will work on any PC running Windows 3. These include the RM Nimbus PC 186, PC 386 and RM networks. A hard disc is essential.

For pupils like Ateeb this means that they can use an overlay keyboard but with word processors designed for the adult world rather than those designed for young children. Pupils in Jenny's position can use the same computers and software as the pupils in the school who do not have disabilities. Pupils like John will have access to an ever increasing range of applications within a software environment that is being used in the commercial world.

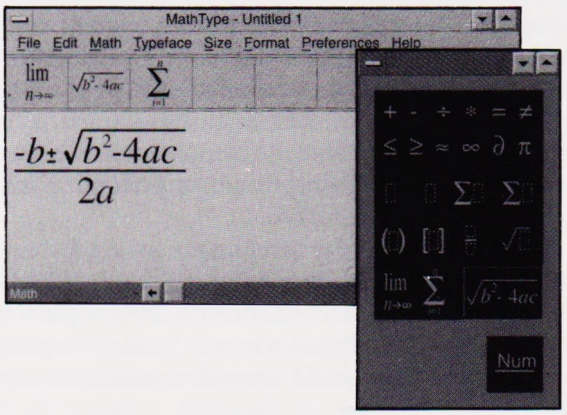
Sally Paveley, The Advisory Unit: Computers in Education

SAW from the ACE Centre

Until recently, if you had only one controllable movement, you could only have minimal access to the diverse software that runs in any Windows environment. You could word process but could not easily use drawing and graphics programs. Now, by using the SAW utility with only one or two on/ off switches to access the complex Windows 3 environment, you can write, draw and even do mathematical equations requiring very complex symbols.

The SAW utility provides an alternative direct input for those who find the usual keyboard and mouse or trackerball too difficult to use. It will enable more pupils to meet many of the demands of the National Curriculum. It will also be of value to older students, especially those struggling with coursework in further and higher education. More importantly, it will give them a skill which they can use in the world of work.

SAW has a sophisticated designer feature which allows the user to adapt it to meet his or her working needs. Such customisation can include changing the symbols or setting it so that just one action will set in motion a whole series of complex commands (macro making). It is also very simple to change the speed of scanning, the order of scanning, the contrasting colours for the boxes (i.e. to show highlighting during scanning) and many other aspects of the working environment.



John has severe cerebral palsy and is studying for GCSE maths and English. His speech is very poor and difficult to understand and he types using a switch mounted under his chin. Until recently he has used a keyboard emulator but he was finding this very frustrating to use because switching between text and graphics was very laborious and often impossible. He was therefore an eager participant in one of the first trials of SAW. His copy of SAW has been customised to meet his needs and was installed on a 386 IBM-compatible desk-top machine.

Even though he continues to use his old, familiar word-processing program, he has enthusiastically embraced the greater facility that SAW gives him when using the Windows 3 desk-top calculator, the Draw Plus program and when equation editing, the Mathtype program.

Although he has only been using it for a short time, SAW has clearly opened many new doors for him and when the speech synthesiser module and word-listing facilities are added to SAW, he will benefit even more.

The minimum equipment requirements for the use of SAW are:

IBM PS/2 and compatible portable or desk-top with 286 or 386 processors
Microsoft Windows 3
VGA or Super VGA display (colour recommended)
2 Megabytes of RAM

It will cost £250.00 for a site licence (for a maximum of three users) and should be available in summer 1992 from the ACE Centre, Ormerod School, Wayneflete Road, Headington, Oxford OX3 8DD. Tel. 0865 63508. Training in the use of the design tools can be provided by the ACE Centre and other agencies at extra cost.

Ann Kalmus, Oxford ACE Centre

Access and FE

The Assessment Disability and Technology Handbook by Sandra Curran and Steve Broadbent

This handbook takes the reader through a range of assessments for students who have physical disabilities such as multiple sclerosis or cerebral palsy, or sensory impairments (sight or hearing).

The book includes proformas which can be photocopied and filled in, basic guidelines written by staff, and checklists for the novice provided by speech therapists and physiotherapists. The pack also covers such topics as staff training and professional development, compatibility issues and the need for ongoing assessment, training and support for the learner.

The value of this handbook is that it assumes no previous knowledge and sets out to show in a very practical way just how much staff can help with routine assessments. If early initial assessments establish the right equipment and proper levels of support, students will be able to take up places on any course offered by a college or training provider and improve their chances of success.

The Assessment Disability and Technology Handbook, *price £6.00 is available from Geraldine Barry, Continuing Education, Old Town Hall, Middleton Road, Chadderton, Oldham OL9 6PP.*

The National Federation of Access Centres and the equipment resource bank project

The establishment of an Equipment Bank in April 1991 with funding and support from the DES marked a radical transformation in the resource base of the National Federation Access of Centres (NFAC).

The NFAC is a mutually supportive network of eighteen college-based centres, initiated by the Access Centre at Hereward College in Coventry. It was established in the mid 1980s to empower disabled people by working with them to identify and remove barriers to achievement.

Members of the Federation offer assessment, training and support to help users to identify and resolve the disabling aspects of study, training and employment environments. Making the best use of the technology and ensuring that this meets individual requirements is an important aspect of the process. The NFAC also offers courses for staff on the use of enabling technology.

Changing attitudes
Sometimes it is more relevant to focus on low tech and 'no tech' solutions, particularly where action is needed to bring about changes in policy, organisation or attitude changes. Access reports provide detailed accounts of needs in this respect, and the NFAC's Short Course Programme raises awareness and provides training opportunities for those people who may be in a position to influence and change provision.

A Range of Expertise
The Federation is unique in that it brings together centres from the continuum of further and higher education, including those based in national specialist and mainstream colleges, both to share skills and experiences and to establish common patterns of provision reflecting user needs and best practice. The benefits of these arrangements are that accidents of geography do not dictate the type of support that is available; if certain skills are not offered by one centre, these can be brought in from elsewhere in the Federation as required or, alternatively, a user can be referred to a more appropriate centre for assessment, training, or placement.

The Resource Bank
The flexibility afforded by the availability of a pool of professional skills within the NFAC has now also been extended to the equipment as a result of the establishment of the Resource Bank. The Bank is distributed across the Federation and includes multiple items of commonly used devices together with limited numbers and single items of more specialist equipment. Under these arrangements, 'one off' devices can be moved around the Federation according to particular requirements for short-term evaluation and trial. Students and advisers attending the centres are thus able to do so in the knowledge that the most up-to-date technology and techniques are

available, in an environment that is independent of manufacturers' interests.

Approximately 800 students have used the Resource Bank to date. A recent publication by the National Access Centre at Hereward College, *The DES/NFAC Resource Bank: a Descriptive Account* provides further information on the equipment held, together with a commentary identifying some of the problems that users have encountered. At the end of the current evaluation period in April 1994, a series of case studies will be produced describing the experiences of those who have had access to the Resource Bank.

Information on these publications and on the NFAC is available from the National Access Centre at Hereward College, Coventry CV4 9SW. There is also a video on the work of the Federation available for loan or purchase.

Janis Firminger, NFAC Coordinator

Banstead Place

The Access Centre at Banstead Place has been part of the National Federation of Access Centres for three years. Most of the Access centres are located in colleges of further and higher education, but Banstead Place is a centre for rehabilitation and re-education, dealing primarily with young adults who have sustained head injuries, for example in road traffic accidents. We cover the central south region of the UK.

Some students hear about us through articles in professional or voluntary magazines, others have met a staff member at an exhibition. Some are referred by a social worker, disablement resettlement officer, careers officer, occupational therapist, speech therapist or college tutor.

Many clients want to use a word processor at college, or for work or leisure pursuits. This may require a detailed look at alternatives to a regular keyboard and the options are many. For some it may be a mini keyboard if manual dexterity is limited or uncomfortable. Others with poor dexterity but a good range of movement might find an expanded keyboard meets their needs. There are many ways to access computer software without the use of a keyboard. For example, a wide range of switches which can be operated by a different part of the body can make the computer respond in the same way as when a key has been pressed.

Students who have very little or no useful vision may wish to explore the possibilities of a screen reader so that they can hear everything that they type in through a speech synthesiser.

The following case study illustrates some of the work of the centre:

> Jim referred himself to the Access Centre, having met us at a local exhibition. He was part way through his qualifying examinations in an insurance office and was becoming anxious that his work was suffering as a result of a rapidly progressing Friedrich's Ataxia. The aim of the assessment was to identify both software and hardware which would speed up his output and reduce fatigue.
>
> He was adamant that he did not want any equipment which would mark him out from the rest of his colleagues in the office. We first identified a state-of-the-art software program called Words Plus Key Wiz which was loaded to run with WordPerfect 5.1. The effect of this program is to make the word processor offer word predictions which the user can select with a single key press to save time and effort. Similarly a word abbreviation/ word expansion facility means that long strings of information such as technical data can be entered by keying in a few single characters.
>
> An 'ideas manager' called PC Outline helped Jim with his essay writing. It allows him to 'brainstorm' topics and issues and then move them around on screen with the key words or sentences or as memory prompts when the text is ready to be expanded into a complete assignment.
>
> On the hardware side, a discreet wrist rest, the same colour as the computer, slotted neatly under the keyboard to take the weight of Jim's arms while he was inputting text. This meant he could work for longer without getting tired.

At Banstead Place there are staff who specialise in clinical psychology, speech therapy, social work, physiotherapy, occupational therapy, and art and music therapy. A technician is always available who will also install equipment at a client's house and provide initial training in its use if this service is required.

Barbara Weston

Banstead Place Assessment Centre, Park Road, Banstead, Surrey SM7 3EE, (tel: 0737 356222 fax: 0737 359467).

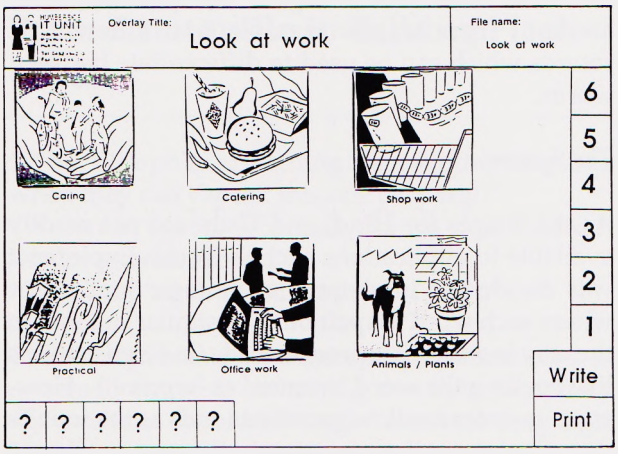
Humberside FE/IT Unit

The Unit is working with the County's Careers Service to produce Concept keyboard based learning materials to support adults and young people who have learning difficulties.

The careers service staff in Humberside, who have a special needs role, are convinced that students with learning difficulties need more appropriate materials to show the range of opportunities available in further education and through jobs.

This has resulted in the *Careers Guidance Pack* which costs £15.00. It is available in BBC and Nimbus versions and contains three A3 or A 4 overlays.

The first overlay represents a simplified map of Hull city centre and provides an example to staff of how a locality map can be constructed to identify places such as the Jobcentre or Careers centre.



The second overlay is concerned with issues for Youth Training and work experience: who can help? – how you can help yourself? – what are the differences between school, college, Youth Training and work? – what are your individual strengths and weaknesses?

The third overlay is designed to help students to compile their own simple text-based profiles and action plans.

Further materials will be available from September 1992. These will cover different job areas such as caring, catering, shop work, practical work, office work, and working with plants or animals, and will look at places of work, the general duties, the types of clothes worn and the working conditions.

Pam Dunwell
The Humberside IT Unit, Alderson House, Inglemire Avenue, Hull HU6 7LU

Basic Skills Software Guide – ALBSU

In October 1989 the first of the 11 Inner City Open Learning Centres funded by the Adult Literacy and Basic Skills Unit opened. A further 61 centres have since been funded by ESG.

These centres were part of a bid to change the image of adult literacy classes by offering drop-in provision in high-class accommodation. Although each centre has its own particular flavour, they all make use of flexible learning and educational technology.

ALBSU set up the WRITE Project at ILECC in 1990 to support staff who needed training in how to use computers and information about the software that was available for different machine bases.

As a result of the WRITE project, ALBSU has now published the *Basic Skills Software Guide.* This 80-page spiral bound booklet contains details of over 150 programs for Apple Macintosh, Acorn Archimedes, RM Nimbus, IBM PC and compatibles.

The guide covers software for adult literacy, numeracy, ESOL and training for employment. The authors have made clear distinctions between content-free software (word processors, databases etc.), drill and practice software to practise specific skills such as spelling patterns, and computer-based training programs which provide instruction and assessment usually for a particular vocational area.

The general guidance notes which head each section help tutors to make informed choices about types of software that they need; for example:

> *Educational databases . . . cannot hold as much information . . .menu driven databases are much easier to use than command-driven ones . . . Professional database programs are generally more complex and can take a long time to learn how to use. This defeats the purpose of using the program to develop basic skills.*

The entries are concise and do not presuppose familiarity with computer jargon. The index is well thought

out so that the reader can find suitable software by subject, by machine base or by publisher.

Basic Skills Software Guide *is available from Avanti Books, Unit 8, Parsons Green Estate, Boulton Road, Stevenage, Herts SG1 4QG.*

SKILL

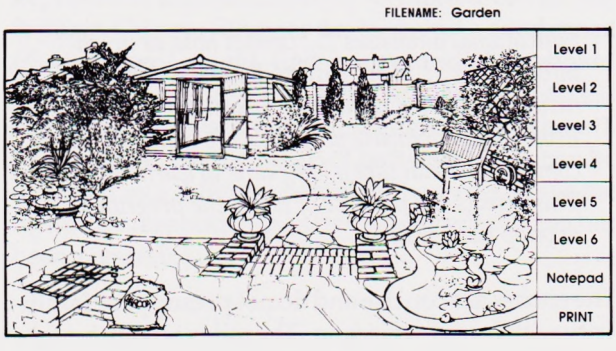
Sophie Corlett is the new Assistant Director of SKILL, the national bureau for students with disabilities. It is a voluntary organisation concerned with developing opportunities in further, higher and adult education, training and employment for young people and adults with special educational and training needs. It provides information to individual students and professionals, produces a wide range of publications including newsletters, and organises conferences and regional events. It is particularly useful for keeping up to date with news of Parliamentary changes and international developments.

Contact: SKILL, 336 Brixton Road, London SW9 7OO (tel. 071 274 0565).

In the Garden

This is the first in a series of resource packs from NCET, targeted at staff who work with adults with learning difficulties. It contains eleven overlays on the theme of gardening, plus discs for the BBC and Nimbus. Topics covered in the pack include: the seasons, garden maintenance, working in the greenhouse and health and safety. There is an extensive range of activities plus a wealth of ideas for developing the gardening curriculum and instructions for making your own overlays.

In the Garden costs £22.50 and is available from NCET Publications, Sir William Lyons Road, Coventry CV4 7EZ (tel. 0203 416994).



A prototype speech synthesiser for Hindi and Urdu

This article describes the work currently under way in developing and using a Hindi/Urdu speech synthesiser with special needs children. It briefly outlines the Hindi and Urdu languages, describes developments to date, and how the work is to progress.

Hindi and Urdu

Hindi is the national language of India and is written using the Devanagari script, whereas Urdu is the national language of Pakistan and is written using a modified form of the Arabic script. However, for the purposes here, Hindi and Urdu are very closely related languages with their spoken forms having almost identical pronunciation, and having virtually the same grammar. They have a large vocabulary in common, but differ in a number of respects; for example, greetings are different in the two languages.

Some of the sounds used to speak Hindi/Urdu are similar to those used in English, but quite a number are not. There are, for example, four different 'T' sounds which can be used to differentiate between words.

The System

As the scripts for Hindi and Urdu are not readily available to applications such as Touch Explorer it was decided to implement a phonetic synthesiser where each word is spelt out in a similar manner to the way in which it is pronounced. (In English this is like spelling the word 'women' as 'wimin'.) However, in order to allow variations such as the four Ts described above, in some cases both upper and lower case letters are used to specify the sounds. So, for example, the four T sounds are: 'T', 'Th', 't', and 'th'.

The Current Situation

The prototype phonetic synthesiser has now been put together and testing will be undertaken soon. It is intended that this will take three forms:

- The pronunciation of the synthesiser will be tested with native speakers; this is likely to result in some of the sounds being changed and improved.
- The synthesiser is to be used with Touch Explorer Plus. This will involve using some existing overlays and perhaps also creating new overlays; in both cases the spoken information will be hand-coded to speak Hindi/Urdu.

- If suitable clients can be found, the system will be used with the Picture Communication system PiCom which runs on PCs.

Several areas can be tested:
- Can the Hindi/Urdu speech be understood by native speakers who are not familiar with PiCom?
- Is it effective to use a symbol system at home using Hindi/Urdu speech output, and at school using English?

In many cases, the symbols are multilingual so they can be used just as they are. It should also be possible to use the system with other applications as well as those described here.

If you are interested in helping with the testing of the Hindi/Urdu with either Touch Explorer Plus, PiCom, or your own programs then please get in touch with me.

Paul Blenkhorn, Lecturer, Department of Computation, UMIST, PO Box 88, Sackville St, Manchester M60 1QD

From Ratatouille to Talking Flash Cards

"What's the point of teaching them another language when they can't speak this one properly?"
"We haven't got time to teach them to cross the road, let alone speak French."
"Well, who's going to do it then? *I* can't."

The reaction of many teachers in special schools was extremely negative on hearing that their secondary age students should be taught a second language. They have had to cope with regular upheavals in the methodology and philosophy of teaching students with severe difficulties, and this just seems to be the last straw.

However, some schools have started to include a modern language in their curriculum for all of their students. Some have entered into it with scepticism, others have welcomed it as a new and interesting opportunity. Whatever one's initial reaction is, it is part of the National Curriculum and all our students are entitled to access to modern language teaching at an appropriate level.

At Belmont School in Lancashire, French is an integral part of the sensory curriculum for students with profound and multiple disabilities. Paul thinks that *pain au chocolat* is brilliant and would choose it against *ratatouille* any time, Christian hates the smell of garlic, and Debbie is rather interested in the taste of *vin rouge*. There are also a wealth of opportunities for different rhythm games and new songs. Staff have been finding records of French music, from baroque to this year's hits.

Lisa, who has severe physical disabilities, doesn't see or speak, and spends most of her life listening to adult conversation, often participating with smiles or frowns. She listens carefully to the records of French songs and obviously detects some new element, but when people speak French to her she giggles delightedly. She is learning to anticipate what she'll taste when someone says *"Ici du pain"* or *"Ici la glace"*.

A next step for these sessions would be to record them on video camera. Selected shots could be digitised on their A3000 and printed out on the Integrex colour printer to take home. The video or the photographs can be looked at later in the day – "This is what we did this morning", or taken home explaining what has been done today, or brought out again some time later. This enhances continuity and communication for a group of young people whose experiences are inclined to vanish behind them.

At Cromwell School in Tameside the school staff felt that they didn't have sufficient expertise to teach French to their students and asked for help from their peripatetic language team. They were allowed a teacher, Jean Budd, for each Tuesday for a term. This term was treated as an evaluation period to see if this was a fruitful area into which to put time and energy. They decided to give the time to the youngest students (elevens to thirteens) and their leavers' group. They would each, therefore, have half a day a week.

It was seen as essential that there was some explicit purpose to the lessons and so the focus was an end-of-term party for all the French Assistants in Tameside. It was hoped that by this time the students would be able to ask for and offer food, greet people and perhaps, be able to answer some simple questions about themselves. The party/catering element would involve other areas of the curriculum and also be a time for reinforcing the work done in French lessons.

The students quickly learned to greet Jean Budd with *"Bonjour, Madame Budd"*. It was felt to be important by all the participants that a completely new person had come in as the 'French Teacher'. Jean produced excellent resources and also brought with her some of the Assistants who were teaching in Tameside schools. The students were able to talk to them about

life in a different country and listen to their different accents as well as hearing them speak their own language. Jean left the resources with the class teacher between lessons and they were able to play the games and practise the flash-cards. She also left tapes of listening and speaking exercises.

The end-of-term party was a great success. The students had made good progress on the greetings and on vocabulary surrounding food. Most of them could also count in French and several knew the days of the week. Work with students on less concrete topics – about things that weren't actually there – was less successful. But it has to be borne in mind that this was a relatively short period of time and most of the intensive work was done on a once-a-week basis.

The Leavers' Class teacher, Jean Clarkson, was there with her students throughout the French sessions and feels it to have been a very exciting and important step for the students and the school curriculum. She confesses to have been sceptical to start with, but the benefits in terms of increase in skills, meeting new people, widening horizons and building confidence have been tremendous.

Northwest SEMERC became involved, initially through the Adviser who was greatly impressed with the work that had gone on. It was clear to us that there was great potential for using information technology as another vehicle for teaching French, as well as other languages. One of the features of Jean's material was to use a controlled vocabulary (say ten items of food) in a number of different settings – we could provide more settings with a variety of framework programs.

The school had just purchased an A3000 and a still video camera. SEMERC provided digitised sound samples from an Oakrecorder. Using ScreenPlay, Genesis and My World we have been able to create activities which the students can run themselves, in a context that needs no English intervention, with good models of pronunciation and which reinforces the work done in their French lessons.

Genesis has been used to create 'Talking Flash Cards' – click on the picture of the pop bottle and it says '*Orangina*', click on the waving man at the end of the page and he says '*Au revoir*'. ScreenPlay allows users to create animated sequences, with associated sounds, operated by a single switch, one key or an overlay keyboard. My World, a program for the A3000, has its own French, German and Welsh versions. The program invites users to manipulate and build pictures and add text. There are activities which are electronic jigsaws, weather maps, cloze procedures, choose what you want in a café and add up the bill and so on. The Cromwell students are able to use some of these screens, but we are also designing their own to go with the other activities, using the same sprites and including their own digitised photographs.

We are hoping by using information technology to give support for students with the greatest difficulties, that we will be learning lessons to pass on for all modern language learners.

Jenny Taylor, Northwest SEMERC

Multi-sensory education

Multi-sensory education is not a new phenomenon. Adults working with profoundly disadvantaged students have always provided stimulation of the senses as part of a programme to lead young people to fuller understanding of their universe. Perhaps it is true to say that sometimes these activities have been an act of faith rather than determinism, but there has always been a sincere effort to communicate.

What is new, however, is the level of technological support for the general approach. All over the country, educators are working with environments where sound, light, odour, warmth or the feel of moving air can be generated by switches so sophisticated that the movement of eyelids can be enough to generate an environmental response.

In South Yorkshire, Alan Bickerstaffe has developed techniques where micros are used to stimulate cortically deaf and blind children. Here in Cleveland, John Hargan monitors respiration and skin conductivity to assess his pupils' responses when they are not otherwise able to communicate them.

Before embarking on a technical dissertation, some context seems appropriate. We believe, in Abbey Hill, that our students should be self-advocating as far as possible. We also believe in the principles of interactive communication and everyone's right to dignity, and that educational experiences should be motivating and fun.

To this end, the area in which they gain these experiences should be one where choice is fundamental. The environment should be entered voluntarily or, at least, we should be aware of how young people are responding when they are there.

Abbey Hill is fortunate enough to have had a room created during the construction of the school, specifically to build on these kind of ideas. Known as the 'White tower' it is a development of work pioneered in Holland and there are now similar bases in schools around this country. The provision here, however, places particular emphasis on interaction between students and their environment, irrespective of the degree of learning difficulty, rather than a purely passive approach.

The tower is equipped with a range of lighting effects. There are projectors with effects wheels and discs, different coloured spotlights, a disco mirror ball, a huge bubble tube and space to add any others. Nor should the fish tank, set in one wall, be overlooked, since its light is particularly attractive. The canopy in the roof looks good too, when used as a projections screen. The sound system allows stereo or surround sound from disc, tape or CD and in addition there is a Musical Interface Digital Input (MIDI) keyboard which anyone can play just by moving around. The movements interrupt a scanning sound beam and are interpreted as MIDI signals. Would you like a nice breeze? No problem to install a fan. Basically, if it's electrical and useful it can be installed and controlled.

Control of any or all of the systems is by low-voltage switches which can be installed virtually anywhere in the space. The switches can be task specific and as complicated as you like, or they can be simple tilt switches mounted on a head or wrist band or a series of pressure pads on the floor. The MIDI keyboard is controlled by a transducer (a kind of sonar) which will register large or small movements and transform them into musical events. Any or all of the component parts of the systems mentioned above can be controlled from one or more switches. This allows the environment to be tailored to individual students.

Accepting that the educative process should include some kind of assessment of effectiveness, the whole system can be continually monitored by a microcomputer. The responses of individual students, and their frequency, give a clear indication of student preference and progress. This information can be used to assess how motivating the activities are, so that the space can be used as an environment where the teacher can reward an activity with an instant sound and light show. The possibilities are endless.

In the event that this all sounds a bit clinical, it is as well to consider that the whole space is soft padded, warm and separate from everywhere else. Sitting and listening to music or watching the fish in peace is an option students can exercise if they wish, and an elementary grasp of semantics is sufficient skill to put all of this experience into the context of National Curriculum. Something for everyone!

Edwin Thorman

Handling Data with SLD students

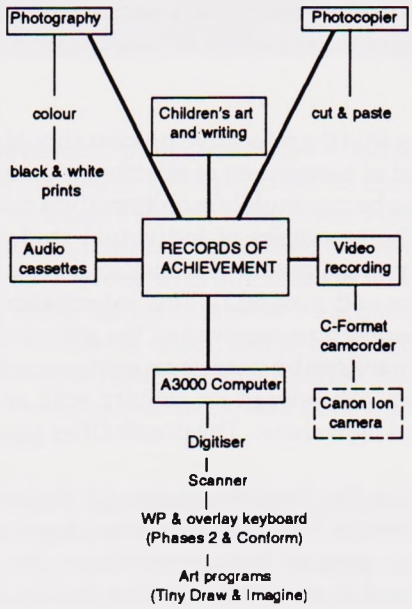
Myles Pilling has been investigating the handling of data element of the maths curriculum with his SLD students at St John's school in Bedford. Students use pressure mats as targets to detect the number of jumps that can be completed within an allotted time.

Panthera mats have their own associated software which supports a clear and attractive visual display of data collected. The results can be transcribed into database software – St John's have found Datashow and Our Facts useful here.

Myles makes a plea for more databases which can represent information in a pictorial way. If you know of any suitable software, or would like to discuss the work at the school with Myles, he is I.T. coordinator at St John's School, Bedford Road, Kempston, Bedford MK42 7AU.

Recording Achievements

The senior group of children with severe learning difficulties at Park Special School in Wakefield are very enthusiastic about recording their achievements. The recording takes many forms.



A team teaching situation is employed with the seniors. We are currently exploring ways in which more meaningful records of the children's achievements can be obtained by exploiting some of the latest advances in information technology.

The art work and written work is complemented by photographs which the children have taken and have helped to develop. Individual audio and video cassettes are being compiled by editing original recordings so that children have material which they have chosen to save. During the last twelve months the use of the A3000 computer and the C-Format video camera have greatly improved the quality of the students' records.

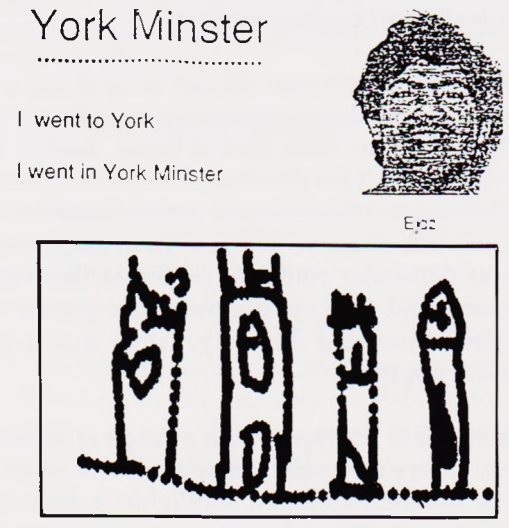
The ease of use of the C-Format video camera enables the children to make high-quality recordings of their experiences in school and on off-site activities. These recordings may be edited and stored, or may become a source for a library of stored digitised images which are then used to make writing much more exciting and interesting.

An A3000 computer fitted with a Lingenuity digitiser enables images from the video camera, video tape or television to be digitised and saved on disc. These stored images have created a new wave of interest in word processing.

For example, Steven may start his work with a picture of himself. He will decide the position and the size of the image. Other images can be included on the page. These could be about some of his experiences such as when he saw a fish on an outing to a park, and the friends he went with.

The word processor Phases 2 is used and text is added from Concept keyboard overlays created with the program Conform. Future developments will include the use of a scanner and Canon Ion camera for collecting digitised images.

Tiny Draw, an art program for the A3000 from Topologika, has been used successfully to record experiences. It is an easy program for SLD pupils to master. Selection of brushes, shapes and colour is not too difficult to learn, and commands such as Clear Screen, Print, Save and Load are available from the function keys. Completed drawings are moved into Phases, other images and text are added, and the print-out is a high-quality meaningful record of a child's experience as Ejaz's outing to York Minster shows.



We all like reflecting on our past experiences and successes. Recent developments in records that are kept by the seniors are proving to be highly motivating where each student is actively involved in monitoring his/her own achievements and subsequent progress.

David Haigh/Keith Bould, Park Special School

Apple Global Education and pupils with severe learning difficulties

Students at George Hastwell School may have learning difficulties, and those learning difficulties may be severe, but the purchase of an Apple Mac LC heralded the arrival of the Global AGE.

The Apple Mac LC represents an ideal system in which graphics and text can be used together, and n added bonus is the easy capture and release of sound. Together these facilities offer the opportunity for pupils to personalise their pieces of work by adding their scanned portraits and their voices. This allows the creation of programs which are both 'for' and 'of' the pupils.

A further extension of the system has been made possible by the purchase of a modem and a subscription to AppleLink, Apple's electronic mail system. AppleLink provides a connection with AGE, the Apple Global Education project.

Membership of AGE allows our students to communicate with students in other parts of the world. Links have already been established with schools in Norway, Canada and Portugal. These links have provided a very realistic context for the students to embark upon National Curriculum history and geography work. For example, they had to research the history of their own area before they could send this information to the other schools. Also, following a request from José in Portugal they had to locate information about the Royal Family in order to be able to comply with his request to send "the Royal Family from the beginning of the Twentieth Century".

It has been possible to witness the growth of the students' global awareness as they have come to realise that places actually do exist outside Barrow-in-Furness. For the first time a map of the world, on the classroom wall, is being regularly referred to. Discussions have taken place about the customs in other countries and this provides a good starting point for the consideration of cultural diversity.

The system allows anonymity and so the recipients of our messages are unaware that our pupils have learning difficulties and in this way we can enjoy Equal Opportunities in a way which has not been previously possible.

When the students go 'on line' (one of the many newly acquired pieces of vocabulary), an air of anticipation can be sensed in the room. If an arrow is pointing into our 'In' basket there is a high degree of excitement and an urgency to discover who has sent us a memo. If there is not an arrow the students are extremely disappointed because it means there are no messages.

The students know that their link with the outside world, which begins with the Apple LC in the corner of the classroom, is something special. They delight in being able to 'show it off' to the school's many visitors, which results in a noticeable rise in their self-esteem.

As Martin was heard to say, "It is marvellously brilliant".

Clare Martin and Bernard Gummett

For further information please contact: George Hastwell School, Abbey Road, Barrow-in-Furness, Cumbria LA13 9JY, (tel. 0229 823101).
AppleLink: HASTWELL.G

Special Update Circulation

We are keen to ensure that information about the work of the special needs team at NCET is disseminated as widely as possible. If you wish to copy this issue or to circulate it to colleagues, please do so.

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