

C ALL Centre
1983

C ALL Scotland
2008

25 years of
CALL
1983-2008





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CALL
1983-2008

Acknowledgements

We owe thanks to many individual people and institutions for inspiration, support and encouragement over CALL's 25 years - too many to list in full here. Highlighting a few below certainly does not mean we have forgotten the others.

Thank you from the CALL Scotland team to:

- All the children with communication support needs, and to their staff and families, who have continually challenged us - and taught us all we know.
- Phil Odor, founder of CALL - a brilliant mind and a vision ahead of his time.
- The Scottish Government which provided a core of financial support for CALL's research and development efforts over the years, creating and holding in place the foundation upon which other developments and services have been built.
- The University of Edinburgh - for housing and including us.
- Colleagues around the world from our small specialist field, whose professional enthusiasm sustained us when we hit dark days.
- Our long suffering wives, partners, children and friends who continue to put up with our long working hours and frequent travelling.

Time to Celebrate

We are delighted to celebrate the 25th Anniversary of the work of Communication, Access, Literacy and Learning (CALL) Scotland. It is difficult to believe that it is 25 years since we first opened our doors to people with disabilities and to children with special educational needs who might benefit from specialised technologies to help them to communicate. The years have gone past very quickly - life is certainly never boring in CALL!

Beginnings

CALL was education researcher Phil Odor's brainchild, and began in a basement in Buccleuch Place as an outpost of the Godfrey Thomson Unit. CALL's first two years took the form of an Action Research project. CALL sought to provide information and services, investigate the usefulness of communication aids and computer-based learning systems, and design and develop new approaches.

Today, CALL continues to strive to respond to the needs of people with communication difficulties within a value base that we believe is central to what we do and how we do it. We are proud that the centre has built a reputation as a leading edge innovator with a national and international reputation and several 'world firsts' to its credit.

Much has changed over the past quarter century. In this booklet, we've tried to give a flavour (rather than a comprehensive 'history') of some of CALL's most significant activities, and to indicate some of the changes and new developments in a 'timeline' in the centre pages.

Then

The social landscape and indeed language itself has changed strikingly since 1983. We no longer work with *handicapped* children with *special educational needs*, but with children with *additional support needs*, who may have *complex communication support needs* rather than *communication problems*.

In education, we have lived through and taken an active part in an (ongoing) historic movement towards the removal of discriminatory barriers, and towards inclusion and accessibility. While CALL's earliest work was largely carried out as case studies in special schools, the move towards inclusion and, in the 1990s the



Phil Odor



Paul Nisbet



Sally Millar

disaggregation of the large regions of Scotland into smaller local authorities with more flexibility, created a demand for CALL input directly into mainstream settings where specialist expertise was otherwise thin on the ground.



In the world of technology, we have seen computer power and storage increase exponentially, as has the range of possible uses of ICT. In the early days, CALL worked with *Commodore Pet*, *Atari*, and the stalwart *Apple IIe* computer, and experimented with the new Sinclair Spectrum.

Innovative technology development by Phil Odor (the first switch operated predictor, for Irish poet Christie Nolan) and other colleagues from the UK Group for Technology and Disability (such as Patrick Poon's *MacApple* writing

aid software), gave a glimpse of a future that allowed people with severe physical disabilities to write letters, essays and even books using a single switch. There were gleams in many developers' eyes, and interesting prototypes on drawing boards, as the earliest text to speech synthesisers such as '*DECtalk*' began to emerge (albeit virtually unintelligibly, looking back!).

In 1983, the only commercially available communication aids were the *Possum Typewriter*, the original *Toby Churchill LightWriter*, the *Canon Communicator* with ticker tape printout (text only) and the *Sharp MemoWriter*. All of these were text only (input and output), so were for competent readers and spellers only.

Pre-readers and non-readers might communicate using *Blissymbols* or *Makaton* signing - the main low tech communication systems used in 1983 but although *Rebus* symbols and *Picture Communication Symbols* (PCS) began in the 1980s, actually using them to make communication boards and charts was a copy and stick (on paper) job and it was not until well into the 1990s that usable symbol software was available (*BoardMaker* and *Widgit Writing with Symbols*) and colour symbols commonly used. It was the introduction into the UK of the *Minspeak* devices *TouchTalker* and *LightTalker* that began the succession of voice output devices with symbol based interfaces. CALL hosted the Scottish launch of Bruce Baker's *Minspeak* systems in 1986.



We were fired by visions of transforming children's learning through technology (e.g Seymour Papert's, *Mindstorms: Children, Computers and Powerful Ideas*. The introduction of the *BBC Micro* into education in the early 1980s was a significant landmark and CALL was very much involved in those heady days of early educational software development, and the first use of adaptive devices such as the *Concept Keyboard*, expanded keyboards and specialist items such as the *Photonic Wand* and *Twinkle* switch (eye movement switch).

...and now

Although the technology and the schools have changed enormously over the last 25 years, there are many things that remain the same.

The specialist support needed to work out and apply the best ways to enhance people's communication, to improve their access, to enter the world of literacy and to participate actively, successfully and confidently in their learning, remains a constant challenge. Progress with communication and learning for children with disabilities can certainly be facilitated by technology but it remains the 'soft technologies' of knowledge, experience and skills - plus a 'sky's the limit' attitude - plus a healthily pragmatic approach to the day to day reality of school life, that underpins the ultimate outcomes of intervention with technology.

CALL was then and still is at the forefront of developments in these and many other new hard and soft technologies for people with complex support needs.

An Overview of CALL Work

CALL Scotland is today a small unit within The Department of Educational Studies at The University of Edinburgh (Moray House School of Education, at the Holyrood Campus). The Centre is co-located with the Scottish Sensory Centre, offering a rich resource for visitors and information seekers.

However, much of CALL's work is carried out on-site in schools and other settings across Scotland, in the client's own environment, rather than in the Centre.

We have ongoing 'Service Level' or 'Partnership' Agreements with ten of Scotland's local authorities (including the furthest away from Edinburgh) and provide one-off assessments elsewhere. CPD and training has been provided in every authority in Scotland. We continue to notch up many thousands of CALL miles each year, between us!



CALL is a Research and Development centre as well as a working Service unit. Both elements are necessary and important - they inform, enrich and support each other. CALL has a practical hands-on approach to working with individual pupils in schools. As a result, CALL research and development work is always firmly 'grounded' in the real needs of pupils, teachers and families. At the same time, the academic and specialist technological knowledge developed from research and development supports the centre's service work.

This leads to a highly integrated approach, a hallmark of CALL Scotland, distinguishing it from both purely research establishments and from purely service based resources.








CALL's integrated approach, transdisciplinary practice, long experience and Scotland-wide remit has given the CALL staff team the opportunity to see and work with technology with many children who have

highly complex additional support needs. Most individual teachers or other professionals would only ever see one or two of each type of child in their entire professional career and would not have the chance to build up expertise. The CALL team's 'task-force' approach enables us to link and share specialist knowledge and experience amongst otherwise isolated professionals around the country.

Staffing and funding

Who we are

In Full Time Equivalent (FTE) terms, the current team adds up to 7.9 (from 9 people). The current CALL staff team's specialist knowledge is based on a combined total of over 130 years work in the area of education and disability with most of that in the specialised area of special educational needs and ICT. CALL staff work as an inter-disciplinary, multitasking team, currently consisting of:

Current Team		Start Date	
Sally Millar FRCSLT Speech and Language Therapist & Joint Coordinator from 1991	1 FTE	1983	
Paul Nisbet CEng Engineer / Educational Technologist & Joint Coordinator from 1991	1 FTE	1983	
Dr. Stuart Aitken C. Psychol. and MDVI specialist	0.5 FTE	1987	
Allan Wilson Information Coordinator	1 FTE	1993	
Sarah Marjoribanks Administrator	0.7 FTE	1999	
Sandra O'Neill Specialist Teacher, & CALL Training Coordinator	1 FTE	1999	
Fionna Balfour Specialist Teacher	1 FTE	2005	
Rebecca Gow Secretary and Resource Developer	0.7 FTE	2006	
Robert Stewart Technical Support Officer	1 FTE	2007	

In addition to professional qualifications, CALL staff bring specific specialisms to the team e.g. with symbol based communication systems, visual impairment, curriculum support, and robotic interfaces.

There are no permanent members of University of Edinburgh staff within CALL: all staff are on short-term contracts. The core grants from the Scottish Government have been usually for one year with an 'expectation' of a 2nd year: CALL's current grant ends in March 2009, with the hope of extension until March 2010. CALL receives no financial support from the University of Edinburgh, but we are grateful for the provision of accommodation, heating, lighting, janitorial, human resources and finance services etc. - for which we pay, on a Full Economic Costing basis.

We have included a full list of all CALL staff, past and present, at the back of this booklet.

Funding



For the 1980s, and well into the 1990s, funding of the CALL Centre was a patchwork of short-term project grants from a variety of sources including the Scottish Office Education Dept., with a contribution from the Scottish Office Social Work Services Group; the UK Dept. Trade & Industry Dept. of Employment; European Union TIDE and Social Fund and from research funders such as the Nuffield Foundation and the Leverhulme Trust. Since 1991, funding for key CALL projects came from the Scottish Government Education Department - though the application process was sometimes a bit of a struggle! Happily, in 1999 official 'core funding' was put in place on a year by year basis.

Additional funding has come from the Scottish Government Social Work Services Group (now from Scottish Health) and from service level agreements with a gradually increasing number of local authorities. From time to time throughout CALL's history, funding for services has also come from individual schools, as well as the University of Edinburgh Disability service. Short-term grants for research and development projects have been awarded by other funding sources and in some cases also by other government departments.

What does CALL do?

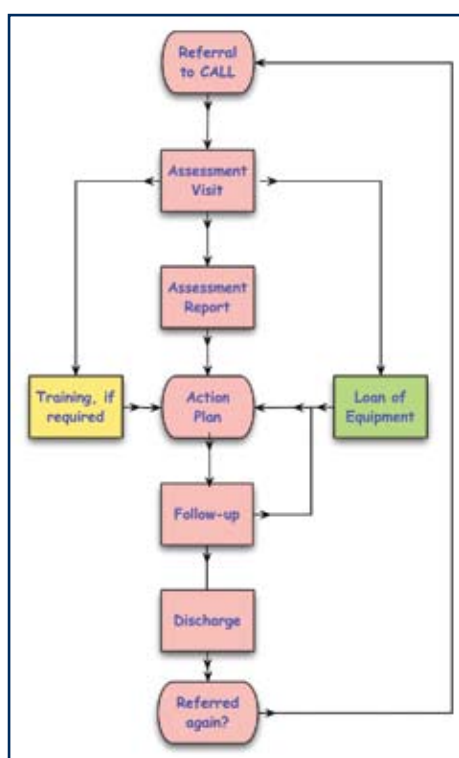
With our recent change in name it's a good chance to take stock and to review the sorts of support CALL Scotland offers in the areas of:

Communication
Access
Literacy
Learning

Communication

Assessment and Support 1983-2008

Specialist assessment and support of individual children (and, in the 1980s, also adults) with complex communication needs lies within the core of CALL's ongoing service commitment. Children are referred, seen for assessment in their own settings, and a comprehensive written report is provided. Commonly, equipment is loaned to establish whether the equipment recommended is indeed suitable, before purchase. System configuration and design and programming of a suitable vocabulary can represent considerable work time. Training is provided, if necessary, to the team around the child. Several follow up visits and reviews are made. In some complex cases, input is continued on an ongoing basis, through a rolling re-referral process.



Personal Communication Passports 1991



The introduction of Personal Communication Passports is one of CALL's lowest tech and proudest achievements. Passports give children, young people and adults with communication support needs a voice that can otherwise be lost amongst the flurry of reports about, plans for, and reviews of children. Personal Communication Passports are a practical and person-centred way of supporting children, young people and adults who cannot easily speak for themselves. Passports help to pull complex information together and present it in an easy-to-follow format. They are easy to read, informative, useful and fun.

Personal Communication Passports have been taken up widely throughout Scotland, the UK, and in many overseas countries for both children and adults with disabilities.

Sally Millar invented Personal Communication Passports in 1991/1992 (coinciding with a similar approach by G. McEwen then in Newcastle known as 'Client Books'). Sally has delivered countless training sessions to teachers, therapists, parents and carers, so that Passports have become widely used in home, care, social work, health and education settings. Today Passports are regarded almost routinely as an indicator of good practice in any kind of work with individuals with communication support needs. CALL Scotland continues to develop Passports, most recently through publication of a Good Practice checklist and Minimum Standards document (2007, see <http://www.communicationpassports.org.uk>) and dedicated web site.



Personal Communication Passports help to make sense of formal assessment information and record only the important things about a child, in an accessible and child-centred way. Passports work best when they are more than the end-product booklet but where their creation is seen as a process of ongoing dialogue amongst families and professionals, and in which the child is involved as much as possible.

"It's good because there is a bit of a handover between school and respite care, and I can let him go with new people without worrying so much. He's starting to grow up a bit and it's good if he can go off without his Mum with him all the time."

Mum

"It's funny, I feel I know Caroline better now, having put this thing together. My wife maybe knew all this, but I've found out things I didn't know before."

Adoptive father

"We have found the Communication Passports book and templates very useful, especially in times of transition for our clients."

Corseford School Speech and Language Therapy Department

Passports aim to:

- Present the person positively as an individual, not as a set of 'problems' or disabilities.
- Provide a place for the person's own views and preferences to be recorded and drawn to the attention of others.
- Reflect the person's unique character, sense of humour etc.
- Describe the person's most effective means of communication and how others can best communicate with, and support the person.
- Draw together information from past and present, and from different contexts, to help staff and conversation partners understand the person and have successful interactions.
- Place equal value on the views of all who know the children well, as well as the views of specialist professionals and forces sharing of a common language rather than hiding behind professional jargon.

Read more at: <http://www.communicationpassports.org.uk>

CALLtalk (2000) and CALLtalk 2 (2007)

Sally Millar and Janet Larcher developed *CALLtalk*, a 'vocabulary package' for communication aids with dynamic screen systems. *CALLtalk* is designed principally for primary school pupils able to benefit from a more extensive and sophisticated language resource.

CALLtalk has over 100 'screen pages', with 3000+ words and phrases and has been developed to run on several computer and communication aid systems. Today there are versions on sale through communication aid manufacturers and suppliers across the world for several communication aids including:

- *DynaVox 4* and *DynaVox V*
- *Tellus / Mind Express*
- *The Grid 2*
- *Say it Sam*

Over 400 licences for *CALLTalk* have been sold to date.



Listening to Children 2002, 2004

Communication is more than something we teach a child to do. It involves us listening and encouraging children to participate and to express themselves. The past 25 years have witnessed a shift take place across the globe: increasingly, the voices of children and of disabled people are sought and are seen to matter. The challenge of 'nothing about us without us' has resulted in people doing things differently. The United Nations Convention responded to that challenge and drew up the UN Convention on the Rights of the Child. Lawmakers and policy makers began to respond with new laws and new policies.



On its 25th anniversary CALL is privileged to have as guest speaker, Professor Kathleen Marshall, one of the central figures who helped to guide through the UN Convention at all stages. And while CALL Scotland's role has been tiny in comparison, our work with Sense Scotland on *Listening to Children with Communication Support Needs* is proving an enduring resource for practitioners who want to seek the views of those children and young people whose voices are rarely heard.

The series of books, video and CD contain hundreds of resources which are now used routinely in classrooms and social work services across Scotland. The work has helped to influence the Additional Support for Learning (Scotland) Act and has informed CALL and Sense Scotland's joint contribution to the Support for Learning Code of Practice.

Read more at: http://www.callcentrescotland.org.uk/About_CALL/Publications_CAA/Books_CAB/LtC2004_CAC/ltc2004_cac.html

We still have a long way to go - the UK has yet to ratify the United Nations Convention on the Rights of Persons with Disabilities.

FE and Complex Needs

CALL was commissioned by the Scottish Executive to help find out about young disabled people's experiences of Further Education - whether information received, the process of applying, suitability of courses, what kind of support was available and so on, and, specifically, about the need for attendance at specialist colleges in England. Across Scotland, we used interviews, Talking Mats™, ratings, symbol questionnaires, supported discussion groups and many other specialised techniques to help find out the views of young people who had a range of communication, sensory, physical and learning disabilities.

The exercise was carried out over 10 weeks. The results made bleak reading but (we hope) made a difference informing government policy on post-school transition and provision.

Read more at: <http://www.scotland.gov.uk/Publications/2006/03/03103843/19>



Access

'Access' has many different meanings - including both the right to access and the ability to access - eg. to buildings, services, education/curriculum, employment, information, and participation. In CALL Scotland, in our work with people who have additional support needs of many kinds, we concentrate on access to independence (whether that be of mobility, communication or of learning) through technology, and on access to information and active participation (through low tech and/or high tech communication tools).

All CALL developments started, in true Action Research style, as responses to real problems faced by real children in real-life situations.

CALL Centre switch interfaces



When CALL started 25 years ago there were no switch interfaces or alternative access devices. You either typed on a keyboard or you couldn't access computers. CALL designed and built a variety of different electronic interfaces (33 different designs, between 1983 and 1986) to meet the needs of a range of people who took part as case studies and/or we were invited to assess. These ranged from connecting simple switches to a variety of different computers (*Apple, Commodore, BBC, Sinclair*), to feedback beepers, experiments with metal detection, infra-red and ultrasonic switches, devices to slow down computer games, delay settings to cut out triggering by over-rapid uncontrolled switch presses, to an 8-way footswitch

interface for complete computer control and so on. Some of these were first examples of interfaces that are now 'standard' within the field of assistive technology.



Mouseulator Mouse Emulator



CALLBox 3 Switch Interface



Mercury Tilt Switch

Other people in the field were also - from necessity - creating such interfaces, and gradually some of these began to be available commercially (eg. through the Manchester SEMERC). One of CALL's most successful interfaces was the CALL Centre Mains Switcher (1986) which allowed someone who could not operate fiddly switches to safely control mains operated equipment - such as a tape recorder, a lamp, a footspa, food processor or other household equipment.

This design was passed to a manufacturer (QED) and sold commercially for many years. Today similar devices from other manufacturers and suppliers are still useful and popular products.



1986: CALL Mains Switcher



2009: Inclusive Click-On

Ongoing public funding has allowed CALL to continue its commitment to providing blueprints for others to build. Without support from the Scottish Government it is unlikely that these and other products to assist children and young people with complex support needs would have been brought to market. Economies of scale are rare in this specialist field, and without them development of new ideas remains unattractive to commercial firms.

Access to mobility and to independent interaction

The CALL Centre Smart Wheelchair

Winner of the British Education and Training Technology (BETT) 1998 Gold Medal Award and seen worldwide on the Discovery Channel, the Smart Chair was invented and designed for children with severe and multiple disabilities who could not operate ordinary mobility aids. The chair gives some degree of independent mobility but it is more than that - it was created to offer children new opportunities for active explorative play and interaction, recognising that communication and learning do not easily develop in children who are passive and dependent.

The first prototype was designed in collaboration with the NHS Bioengineering Centre in Edinburgh in 1988 (and unfortunately ran amok and pinned CALL's Advisory Group chairperson against a wall). Trials by four children in Westerlea School in Edinburgh were very positive and funding was obtained from the Scottish Office Health Department to develop and build twelve systems, which were evaluated in three schools in Edinburgh. The evaluation, funded by the Nuffield Foundation, demonstrated that the chairs offered a unique opportunity for children with severe physical disabilities to explore and assert themselves. CALL tried to interest wheelchair manufacturers in commercial production without success and in the mid-90s started manufacturing and selling the Smart electronics in response to requests. Following this, first QED and then Smile Rehab, in 1999, took on commercial production under licence from the University. Smile and CALL have together continued to develop the chair and the Smart Platform, which allows children to get into the chair and experience mobility quickly, without the need to adapt seating.



The Smart Wheelchair - Winner of the Gold Award for Special Educational Needs at the BETT '98 conference and exhibition

"I think it is clever and it makes me feel clever when I'm in it. But what is great is other people think I am clever when I am in it."

What Rickie, an Australian Smart Wheelchair pilot, liked about the Smart Chair

"I can't be in it all the time. I have to share it."

...and what Rickie didn't like

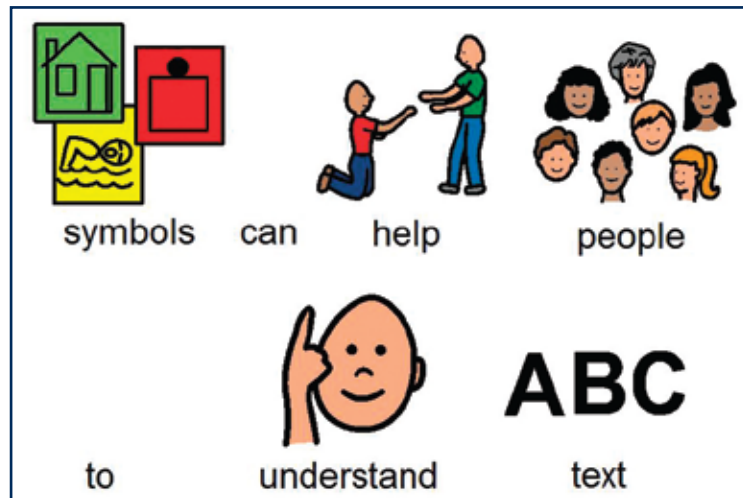
The Smart Wheelchair is a good example of CALL's practical approach and of our intent to make a difference 'in the real world'. There have been many robotic and sensor-assisted wheelchairs developed by Universities across the world, generating large numbers of research papers and doctorates, but the CALL Smart Wheelchair is the only system that has been commercialised and made available.



Read more at: http://callcentre.education.ed.ac.uk/Smart_WheelCh/smart_wheelch.html

Access to Information

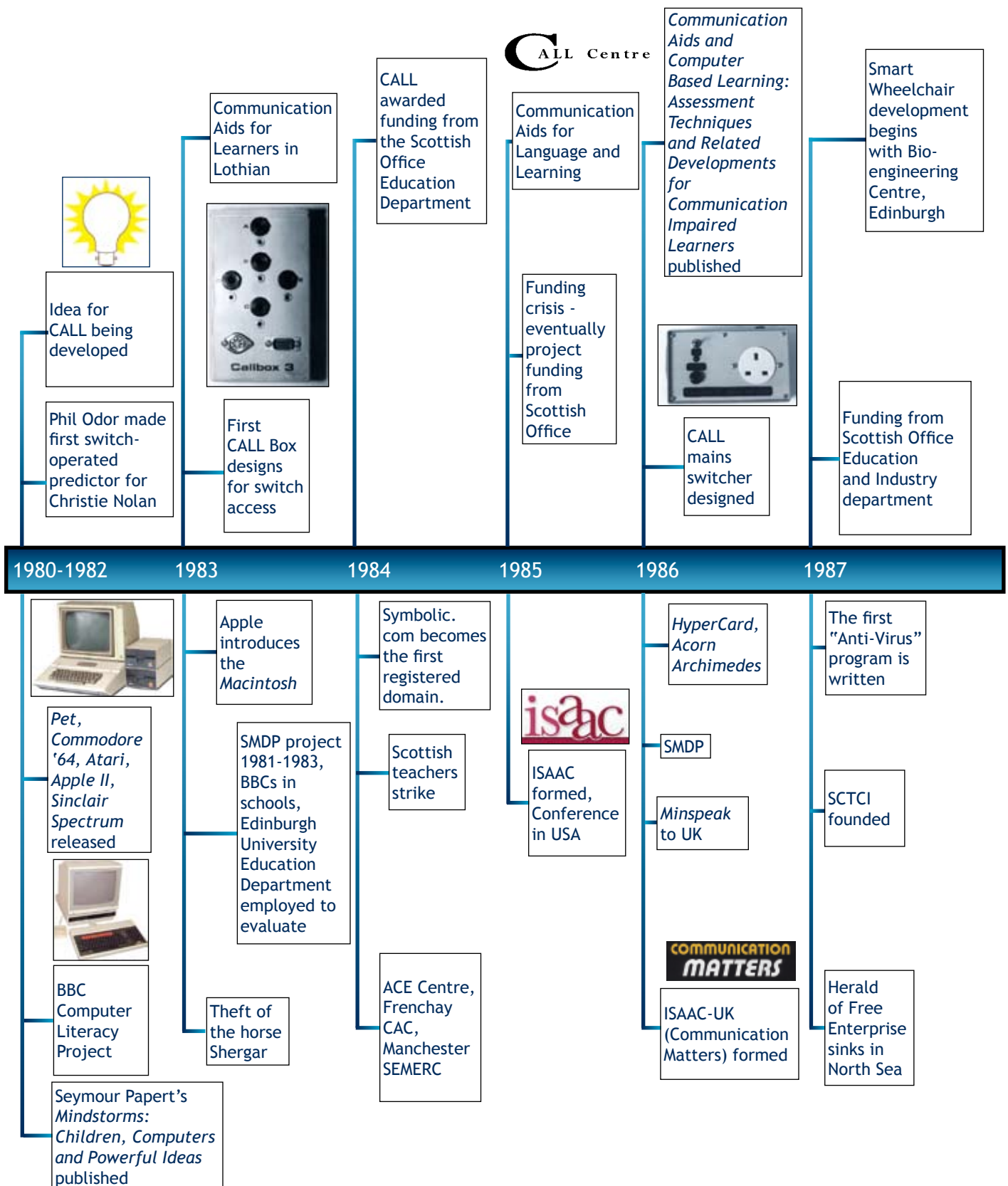
Communication is a two way process - input and output. Access is the input side. People who have difficulties with understanding spoken and/or written language may need information and learning materials presented to them in an alternative format that IS accessible for them. From the earliest days of the 1980s, CALL has been a pioneering user and a vigorous promoter of software generating visual, especially symbol, materials,



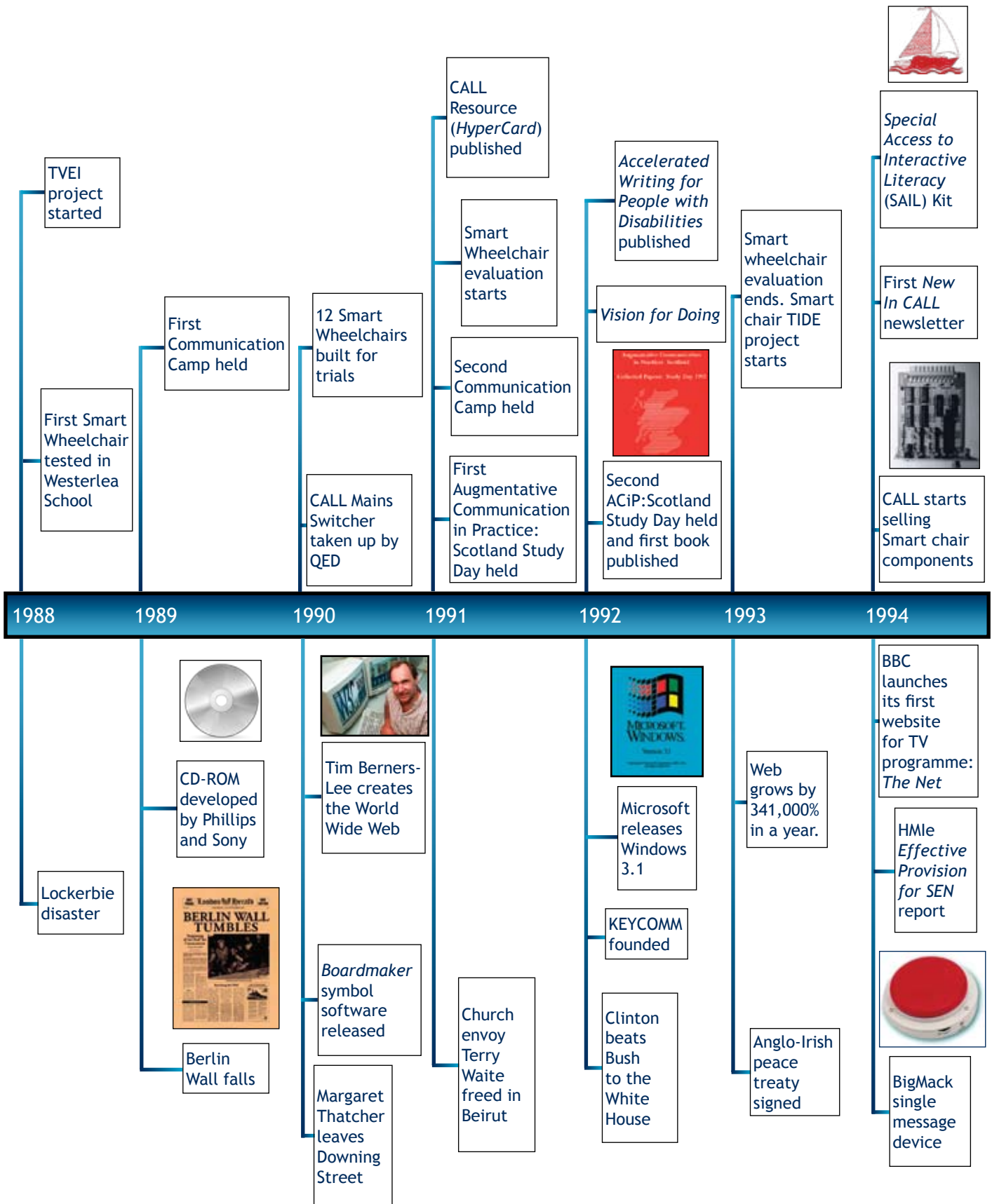
using *Bliss* software and early *PCS* software on the old *Apple IIe*. Nowadays there are vastly more usable symbol software options but CALL still takes every opportunity to raise awareness and to encourage the use of these programs in schools, for example by providing training and sample materials.

Over the years CALL has devised ways to improve access and to include children with the most complex support needs, enabling them to participate in their everyday home and classroom activities. CALL has achieved a great deal to highlight the rights and often hidden abilities of people with disabilities to better access.

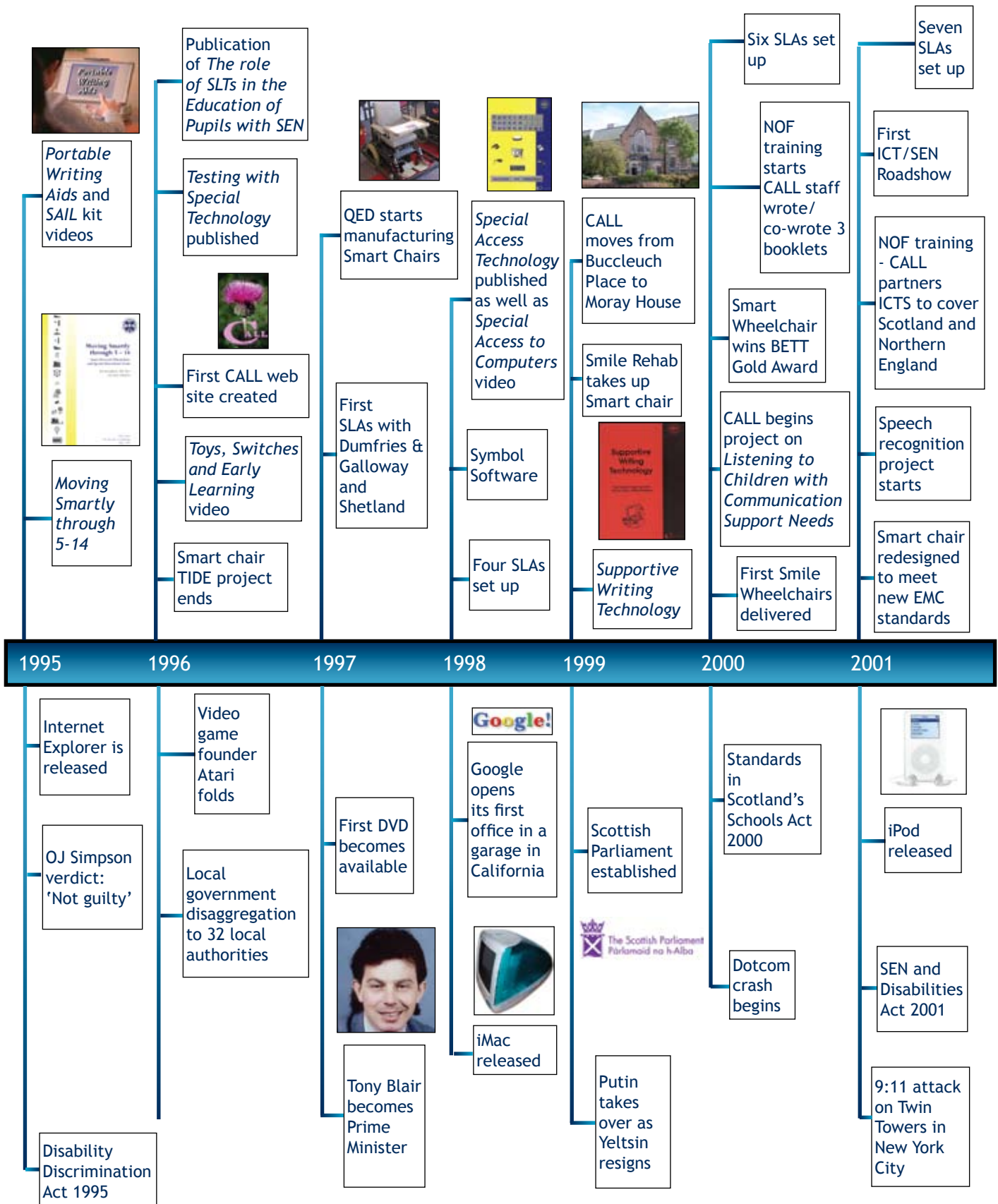
CALL Milestones



CALL Milestones



CALL Milestones



The Wider World

CALL Milestones



The Wider World

Literacy

Supporting pupils to read and write

SAIL Kit 1994 (Special Access to Interactive Literacy) Project

Most children with physical and speech, language and communication impairments also experience difficulties with learning to read and spell. The development of low cost easy to use voice output devices (the BIGmack and its companions (1994) and software with speech feedback as well as symbol output opened up innovative opportunities for children to participate actively in literacy experiences in new ways. This coincided with academic research into the significance of 'emergent literacy', and the pedagogical implications of this. In 1994, two CALL staff attended the 'Literacy and Disability' summer school at the University of North Carolina and on their return, created a 'kit' of materials for loan that could 'kick start' teachers to include children with communication impairments actively in literacy activities. The kit included, for example, examples of how to adapt story books, puppets and toys and crib sheets with 'quick programming' notes to go with familiar stories, easily programmable single message voice output devices for 'call and response' in stories with repetitive lines, story overlays for common voice output devices, and, ultimately (1995), a video demonstrating the use with children of such materials.



Selecting resources ...



packing them ...



using them!

This approach marked the beginning of a new perception of symbol use and voice output as classroom tools and resources for all children (rather than as 'special aids' for individuals with 'special needs') and fitted well with the search for ways of meaningfully including children with significant physical communication and literacy difficulties in new initiatives in literacy teaching - Raising the Standard (Scotland, 1997) and the 'Literacy Hour' (1998, England & Wales).

This *Special Access to Interactive Literacy* (SAIL) kit / approach proved to be a forerunner of many resources that are now regarded as commonplace - story bags, symbol story packs, talking stories, switch operated stories - which CALL continue to develop and promote.



From CALL leaflet on Literacy

WordTalk



WordTalk's developer, Rod Macaulay, won a Microsoft Innovative Teacher Award in 2007

Developed for one pupil with severe dyslexia by Rod Macaulay at the *Technological Assessment and Support Service for Children and the Curriculum (TASSCC)* in Aberdeen, *WordTalk* adds text-to-speech to Microsoft Word for PCs. CALL were very impressed with *WordTalk*'s simplicity and effectiveness and approached the then Scottish Executive Education Department for funding for him to develop the prototype into a product available through CALL. *WordTalk* can now be downloaded and installed on any computer for free; since August 2005 it has been downloaded more than 10,000 times by users in 114 countries, from Albania to Vietnam. Rod has been working on a new version for release in 2009 which allows *Word* documents to be converted into audio MP3 files.



Lots more pupils with visual or reading difficulties can now access books, text and other materials for studying, enjoyment and to raise attainment and gain greater independence. (So if that pupil in S4 is caught listening to her iPod in school, she may just be listening to King Lear and not the latest downloaded music track.....)

Read more at: <http://www.wordtalk.org.uk>

Scottish Qualifications Authority and Adapted Digital Exam Papers



Digital papers offer a means for pupils to sit examinations independently and reduce staff, accommodation and facilities costs, compared to use of readers and scribes - currently the most common type of support currently used to support pupils in exams.



In 2006 there were almost 17,000 requests to use a reader in SQA exams, and over 15,000 requests for a scribe: 17,000 separate instances of pupils sitting in separate rooms in schools across Scotland, with a member of staff scribing and/or reading for them, each with a personal invigilator.

CALL and SQA set out to do something about this, using cheap, easy, scalable ICT tools that would fit into the existing SQA procedures and working methods to allow rapid implementation. The digital papers are another type of adapted paper, like enlarged, colour or Braille papers, distributed to schools on CD as discrete PDF file, and used and marked using the same procedures as all other papers. Anything which would add cost or complexity for pupils, schools or SQA was avoided wherever possible. We set out to maintain reliability and facilitate the introduction of digital exams for students.

Pupils use free *Acrobat Reader* software to access the papers with free or low cost (*PDFaloud*) text-to-speech software and so cost to schools is very low: since we are aiming for eventual implementation on a large scale (every secondary school in Scotland) it is important to keep costs and complexity to a minimum.



2008 marked the culmination of a 4-year investigation in partnership with SQA into the use of adapted digital exam papers and this year SQA offered the papers to any candidate who required them. We believe that SQA are the first examination board to make this type of provision available and we are pleased that we have been involved with this major development. In 2008, 46 centres requested 515 papers for 209 candidates (compared with 12 centres and 80 candidates in the 2007 pilot) and there has been considerable demand from schools and local authorities for CPD and advice on introducing the papers.

The approach to development is 'classic CALL': a solution to an identified problem, in contrast with many ICT-driven initiatives which are too often a solution looking for a problem. The partnership with colleagues in SQA has been efficient and effective and we look forward to continued collaboration in the future.

The Scottish Voice

Pupils with reading or visual difficulties use text-to-speech software to read documents (such as digital exams) on the computer. However, the voices that are on most computers are relatively robotic and American. Higher quality British commercial voices are available but most are very 'English' English. We noticed that the Scottish Government web site had a facility to for citizens to listen to reports and documents spoken out in a high quality voice with a Scots accent, and so followed the trail from Victoria Quay, to Sweden, and then back to CereProc in Edinburgh (next door to CALL's first location in Buccleuch Place). We wrote a proposal for the Scottish Government in 2007 to licence 'Heather' for use by all pupils and schools in Scotland and in 2008 Heather was made available on a dedicated CALL web site.



The Scottish Voice can be used to listen to digital exam papers, *Word* documents (e.g. with *WordTalk*), talking books, *Clicker* grids, or other curriculum resources available via Glow.

Read more at <http://www.TheScottishVoice.org.uk>

"The Scottish Government has also funded the CALL Centre to take forward ... a Scottish voice. This high quality computer voice, known as 'Heather', can be downloaded by all schools free of charge from the CALL centre website."

Adam Ingram, Minister for Children and Early Years. Scottish Parliament 8th May 2008

Learning

CALL supports the learning both of pupils with additional support needs directly through assessment and support and the ultimate aim of the developments described earlier (under Communication, Access and Literacy) is to enable and enhance pupils' learning. We also support childrens' learning indirectly, through training and support provided to teachers, therapists, other staff and families.

From time to time, special projects have been funded to develop specific teaching resources. For example, 'The CALL Resource', funded by TVEI in the early 90's, utilised the newly released *HyperCard* technology and was a pre-cursor of today's internet - based online learning.

New Opportunities Fund in Information and Communications Technology

In 1999 CALL was the sole Scottish member of the *Inclusive Training and Consultancy Syndicate (ICTS) for Severe and Complex Special Educational Needs*. As part of the Government's £25million roll-out of equipment, Internet linking and teacher training, CALL staff contributed to writing three of the twelve units that made up the pack of distance learning materials used by all 5,000 teachers undertaking training across the UK in this specialist field.



In delivering the programme, CALL staff supported 1,047 teachers over 2.5 years in 105 schools across Scotland and the north of England. Teachers and classroom assistants graduated with new skills in ICT and since then we have worked with many of these teachers and observed their skills flourish.

Through training and staff development

Training and staff development has always been a core CALL activity and CALL continues to increase its range of training and staff development. Most courses are aimed at staff working with children with additional support needs, including teachers (Primary, Secondary, SEN, Learning Support), support for learning assistants, speech and language therapists and others. Staff working with adults with disabilities frequently attend as they find that courses are also valuable to them.

Across Scotland

We deliver courses both on-site in any part of Scotland, and at CALL. Topics include:

- Using Objects of Reference; using Symbol Systems for Communication; setting up complex communication software for high tech communication aids; making and using Personal Communication Passports.
- Technology for early years and ASL; using Interactive Whiteboards.
- Producing digital versions of examination papers; creating materials in alternative formats; using speech recognition systems.
- Routes for Learning; Listening to Children.

"Course organisers and presenters of very high quality and very approachable. This is the best In-Service I have attended for a long time."

Teacher

"Can you run summer residential workshops with a similar style, but with time to allow staff to build resources for use in school (or is this an outrageous suggestion?) Many thanks to everyone - it has been a very helpful day."

Head Teacher

Responding, informing advising and publishing

From the start, in 1983, CALL has always offered an open-access national information and advice service on communication and technology for people with disabilities, especially children and young people with additional support needs. There is an open-access reference library, with many resources that would be difficult to find otherwise, which can be consulted by appointment. Enquiries are received from teachers, parents, therapists, carers and many others. Need and demand for such services increases continually, though with email taking over from letters and phone calls as the main way of communicating at a distance.



The integrated nature of CALL's service and development work is perhaps well highlighted in the approach to information sharing. We might receive and respond to an individual enquiry from a teacher or therapist, or identify and issue with an individual child in a school. As a result of regular monitoring of CALL's enquiries and activities database the original enquiry emerges as one of a number of similar enquiries and the need for further development work may then be identified. Eventually the fruits of that development work may result in a book,



article, video, piece of software or an alternative resource. Contents of a book may be downloadable from the CALL website. New ways of thinking about the original enquiry are introduced to a wider public.

"Thank God for the CALL Centre publications - they're the only thing that keep us sane!"

Speech and Language Therapist

"You are absolutely amazing in all respects and the phrase "Very satisfied" comes nowhere near describing how thrilled we actually are with the service."

Voluntary organisation staff

CALL also undertakes research and development, and we disseminate findings through academic publishing and presentations and exhibitions at conferences and other events. For a full list refer to the annual CALL Scotland Reports available from www.CallScotland.org.uk

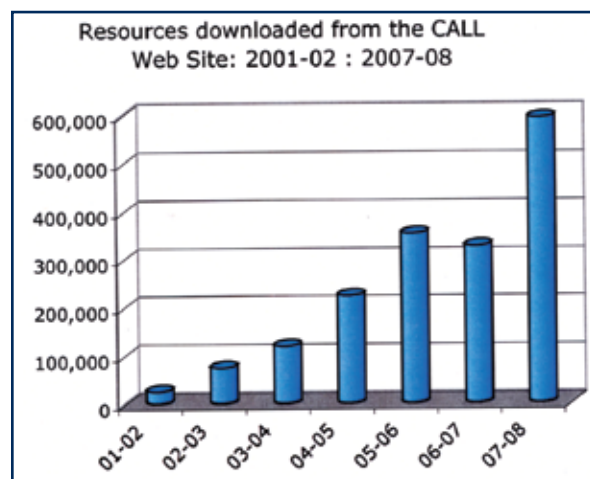
Internet

CALL has had an Internet presence since 1995. The website has undergone three major revamps, with its most recent launched this year. Features of the new sites, based on user feedback include:

- O High level of accessibility, with the facility to easily change background colours, and text size, font and colour.
- O Content management system to make it easier for staff to upload material directly - so we can work harder!
- O Much improved useability.

CALL's website is a gateway to our 'knowledge base' and includes information about services, guides to using technology, leaflets, newsletters and even whole books. It's open and available to people in Scotland, the UK and worldwide. The increase in number of resources downloaded from the CALL website has been exponential since 2000-1, increasing from a couple of thousand per year by 250 to 300 times that figure in 2007-8.

The website is now an integral part of CALL services and adds to the open-access reference library housed in CALL. The website receives many visitors as shown by a few figures from our 2007-8 traffic:



- O over 7.5 million 'hits' from almost 750,000 separate visits.
- O nearly 600,000 books, information sheets, quick guides and other resources downloaded including over 100,000 downloads of our MS Word Equation Editor Quick Guide.

CALL 'mini-sites'

To make teachers' busy lives easier we've also created a few accessible web 'mini-sites' on Adapted Digital Exam Papers, WordTalk, Books for All, The Scottish Voice and Personal Communication Passports (shown opposite). This allows people who have particular development needs to delve straight into their topic of interest.

With positive user feedback (an average of 4.8 on a scale of 1(poor) to 5 (excellent) we feel we are on the right track, especially when people tell us about our information, advice and enquiries service, including our website:

"A great service, they provide much needed information to improve the life of families with children like my daughter."

Parent

"The information and advice received from CALL is always helpful. You always pick up information, facts, advice which is helpful to supporting use of computers, programmes and software to help you further support your child through AAC."

Parent

"Man, you guys did a great job with your web site! It provides a ton of great tools and resources for your viewers."

Teacher from the USA



The main CALL website

www.callscotland.org.uk



Adapted Digital Exams

www.adapteddigitalexams.org.uk



Books for All

www.booksforall.org.uk



Personal Communication Passports

www.communicationpassports.org.uk



The Scottish Voice

www.TheScottishVoice.org.uk



WordTalk

www.wordtalk.org.uk

Books for All



CALL Scotland's Books for All initiative is helping pupils to access learning materials while also making it easier for teachers to obtain curriculum materials in accessible alternative formats. Pupils will be able to access learning materials independently and more effectively, relying less on support from staff.

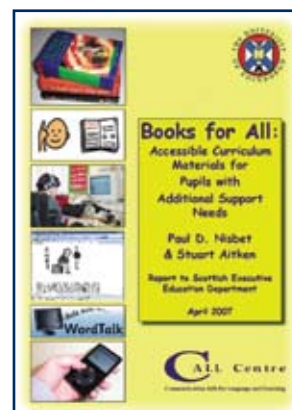
In April 2007 CALL published Books for All, which included a roadmap for national and local government and other agencies to develop strategies and structures for providing learning materials in accessible alternative formats for all pupils with print disabilities.

"We are totally committed to ensuring that all our pupils can access the curriculum. The Books for All report has enabled us to identify gaps in provision and take positive steps to ensure that we can achieve that aim."

Adam Ingram, Minister for Children and Early Years

CALL is now building on this work by helping to improve on:

- Arrangements for copyright licensing.
- Awareness of which pupils benefit from which accessible formats.
- Teachers' knowledge about how to produce materials in accessible formats.
- CPD arrangements to assure standards are in place for producing materials.
- Mechanisms for sharing resources that both address the support needs of the pupils concerned and maintain security and integrity of copyright materials.
- Meet aspirations of Curriculum for Excellence.



Over the coming years we hope to continue to develop this work in partnership with Learning and Teaching Scotland, Scran, the Scottish Government, Copyright Licensing Agency and through liaison with the many teachers and others who have highly specialised skills in producing materials. We want to build on Scotland's expertise in this area to benefit all pupils who have additional support needs.

Scottish Books for All Database

One important strand in Books for All is to allow teachers to quickly find out whether someone else has already made an accessible version of the particular book, worksheet or other resource a pupil needs. The Scottish Books for All Database, a partnership between CALL Scotland, Learning Teaching Scotland and Scran will provide teachers with the facility to do just that, improving efficiencies and giving pupils access to the curriculum.

The Books for All report can be found at <http://www.scotland.gov.uk/Publications/2007/06/05081600/0> and at the Books for All website <http://www.booksforall.org.uk>

"Finally, the greatest achievement of the group has been the creation of a database of adapted resources for all pupils with additional support needs."

Adam Ingram, Minister for Children and Early Years

Values and principles

CALL services have evolved alongside our key values and principles - of inclusiveness, openness, integrated working, directed to practical solutions, and paying close attention to detail. Important to us are:

- Highly qualified and specialist staff with long experience - even our newcomer staff come with a wealth of experience.
- A small but interdisciplinary team: before there were policies on inter-agency working there was talk about policies - and long before that CALL had a team comprising an engineer, a speech and language therapist, a psychologist, specialist support for learning teachers, an information specialist, a technology support officer and administration managers and assistants. More often than not we forget which specialism each other has.
- Adopting a systems approach - considering the needs of an individual child at a highly detailed level (from the teacher, clinician, therapist and parent or carer's perspective). At the same time assessing the implications of proposed technology and approaches within the wider context of the class, school and group and in relation to the curriculum.
- We see things through - we want to solve the problem, whatever route that might take us down.
- And perhaps above all, we want to make a difference.

CALL adopts an integrated approach to address each of a child's complex support needs working to varying degrees across the following areas:

- The physical environment.
- Mode of communication.
- The level of specialised resources, facilities and technologies required.
- The curriculum and how it is delivered.
- The level of pupil support required.
- The level of specialised support agent(s) involvement.

For support to be effective it has to be child-centred but it has to also work within the particular context. Each pupil's needs must be addressed within an integrated framework of support. Within this perspective ICT is not an end in itself or a general 'resource' for schools, but one part of a set of interrelated factors that has to be understood if we are to offer effective support to a child or young person.

Conclusion

We all feel privileged to have worked - in much-valued partnership with many others - over the past 25 years, on so many innovative and exciting projects and initiatives.

What other people think of us

"I have great admiration for the work that the CALL Centre has done over the years - you are a great team of people and have achieved a lot and all that you do is of a high standard. I wish you all well in the next 25 years."

Caroline Gray - former Director of ACE Centre, Oxford

"The CALL team have been among the leaders in the field with regards to AAC in Scotland. Their help and support has been invaluable to me working as a therapist in a smaller regional centre. As well as the regular and highly relevant learning opportunities that CALL offers, I continue to make regular use of the loan bank, letting me try out specialist equipment as part of my assessment and support for children in my area. The loan bank enables access to a wider range of equipment for longer trial periods than can be arranged in any other way, and leads to more effective use of funding to meet individual needs in a more targeted way at a local level.

Happy Birthday CALL!"

Pamela Cornwallis - Clinical Manager - Speech and Language Therapy

"I have a lot of experience of supporting youngsters with additional needs through the use of ICT. Part of my confidence is knowing that there is a network of contacts that I can use to help me when I don't know the answer. This network include ICTSLS Members especially CALL Scotland. CALL is a resource that I can refer to knowing there is a very strong chance someone there will have an answer. I found CALL to be particularly helpful for needs or situations which are low incidence at a local level, but someone at CALL has worked with a pupil with similar needs. There is a wealth of experience to call upon.

One of my pupils is now in S2 at Peebles High School. This lad with very severe motor difficulties is doing very well indeed and everyone is delighted with his progress and high level of accessing the curriculum. These successes are always the result of a team effort, of course, but I am very pleased to let people know that three key points CALL came up with vital advice; determining the best input device when this was far from clear to me; working out how his dedicated system could be made portable for use in High School; recommending the best way to convert his course materials in an accessible format for him.

With the advice of CALL behind me I was confident in pressing for an innovative system of support, that is proving a success for this pupil.

I also appreciate the advice given re pupils with communication needs. This is not my area of expertise, but CALL advice over the years has allowed me to render a service to staff working with these pupils. The course 'Listening to Children' is very highly esteemed in Scottish Borders."

Philip Whittaker - ICT Support Service for Additional Needs

CALL Staff

Current Staff

Sally Millar - Speech and Language Therapist & Joint Coordinator

Paul Nisbet - Engineer & Joint Coordinator

Stuart Aitken - Psychologist and MDVI Specialist

Allan Wilson - Information Coordinator

Sarah Marjoribanks - Administrator

Sandra O'Neill - Teacher & CALL Training Coordinator

Fionna Balfour - Specialist Teacher

Rebecca Gow - Secretary and Resource Developer

Robert Stewart - Technical Support Officer

Past Staff

Phil Odor

Violet Brown

Farid

Emma Lawson

Jean Kerr

Susan Gibb (now Macauley)

Neel Shearer

Margaret Milne

Margaret Rennex

Liz Sutherland

Ian Craig

Emma Arthur

Samantha Maguire

Chris Maxwell

Helen Galloway

Amy Joss

Marian Watson

Pam Henderson

Maureen Kaye

We are extremely grateful for the contribution that all of these fantastic people have made to the success of CALL over the last 25 years.

Margaret Milne's retirement presentation in 1998



Alternative Media

This paper may be obtained in a variety of alternative media, if required. For example:

- ☐ Large Print (state preferred font and size)
- ☐ Braille
- ☐ Audio tape
- ☐ Electronic format

Please contact CALL to request your preferred format.

Tel: 0131 651 6236

Fax: 0131 651 6234

Email: info@callscotland.org.uk



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