

The Child, Education and Augmentative and Alternative Communication

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There are now many children in Scotland who use AAC systems, both low and high tech, as educational aids. Some are in special schools and units, either as individuals or in groups of AAC users. Increasingly, AAC users are educated in local nurseries and mainstream primary and secondary schools. A common pattern for mainstream education is for a single AAC user in a local school to be supported by a special auxiliary and/or a SEN or Learning Support teacher on a daily basis, and by a visiting speech and language therapist on a once or twice weekly basis.

This paper cannot cover all of the issues that arise for all children with very different types and complexities of special educational needs, but discusses some key stages in the school life of various types of AAC user, highlighting some priority areas for planning, and some suggestions about supportive approaches and resources.

Setting the Scene

For children in school, using an augmentative communication system effectively is not an end in itself, but a means to many ends, such as participation in the classroom, access to the curriculum, play, friendship, learning, thinking, pursuing interests. For AAC to be effective, attention needs to be paid to the continual change in the life of a child and to the way people and systems work around the child as much as to the actual AAC system chosen. Careful assessment is important, but there is probably no 'best' or 'right' AAC system for an individual, but only 'workable' systems. In some cases, there may be an argument for starting early with a powerful communication aid that can 'grow with' the child, although in other cases the argument may be for a range of very simple pieces of communication technology that staff find easy to use in a variety of different situations and that are cheap enough to be 'replaceable' later as the child's needs change. What really counts is the way technology is *used*, not the technology itself.

Sometimes there seems to be so much to learn, and so little time in the classroom – after all the competing demands of physical care, eating and drinking, special therapies, medical care, travel, etc. – that there appears to be little hope of fitting in all the necessary teaching and learning experiences!

Overcoming barriers, setting educational and communication priorities and implementing appropriate strategies and methods for AAC use in education involves making choices and compromises. This requires all of the professionals involved to work very closely together, not forgetting partnership with parents and families.

Working Together

Firstly, all children who need or use AAC should have Records of Needs / Statements. Educational psychologists can help by presenting children's special educational needs in the Record not as a disjointed collection of separate reports from therapists and teachers but as an integrated set of educational aims which incorporate speech, language and communication (including AAC) aims.

Much lip service is paid to 'teamwork', but a recent Scottish Office Report¹ suggested that collaboration between speech & language therapists and education staff is all too often "more apparent than real" (p30); if so, the child suffers. Communication and language cannot be separated from learning generally; all educational attainments will be enhanced as communicative competence increases, and vice versa. Communication is a key element in each area of the curriculum. The child in school needs an integrated 'AAC in education' programme, not a separate 'AAC programme' and an 'education programme' which proceed independently and which are somehow supposed to come together 'later'. Can the 'traditional' ways of working cope with the creation of integrated programmes and integrating long term and short term AAC goals into the child's IEP (individualised educational programme)?

Professionals often engage in multidisciplinary team working. Although they are aware of each other's work and share information about goals and outcomes, they work with the child separately, on their own programmes, in parallel. The danger is that they may be duplicating some processes (e.g. assessment and reporting) while leaving gaps or mismatches elsewhere. It may be difficult to integrate their various activities, and the child may become overloaded or confused.

In *interdisciplinary* working, which is a much more appropriate approach for AAC users, professionals aim to provide a highly integrated approach by incorporating each other's viewpoints and goals within their own

This is a revised and updated version of a paper which first appeared in Communication without Speech (1996)

activities. Joint assessment, identification of priorities, planning and reporting prevent duplication of work and confusing overlap for the child.

Underpinning Warnock² was the implication that liaison between different professionals in education was straightforward. But professionals are not trained in collaboration – it is difficult and it takes time (although early investment of time in joint work may save time and work later, in the long term). Furthermore, unless collaboration also takes place at the level of pre- and post-qualification training, policy making and funding, management, contracts between purchaser / provider, and school level contracts between schools and their therapists, the collaborative efforts of professionals ‘on the ground’ are made harder³.

A recent Scottish publication⁴ provides guidelines and ideas for good practice in the education of children using AAC and stresses the need to establish AAC use firmly as an educational issue rather than something that is viewed solely as a speech and language therapy responsibility. Similarly, a group in England is working on developing guidelines for *AAC Policies in Special Schools*⁵ Some schools already have such AAC policies, but there is a further step to be taken before policies are translated into curricula.

AAC and the 5-14 Curriculum

The Scottish 5-14 curriculum provides the foundation for a shared common framework for joint working, but is insufficiently detailed on early language and communication skills and needs to be differentiated, individualised, adapted and elaborated for children needing or using AAC, particularly those working within Level A. McIlhenney⁶ showed an example of how to expand 5-14 by adding curricular areas to better match the priorities and needs of pupils with complex learning difficulties.

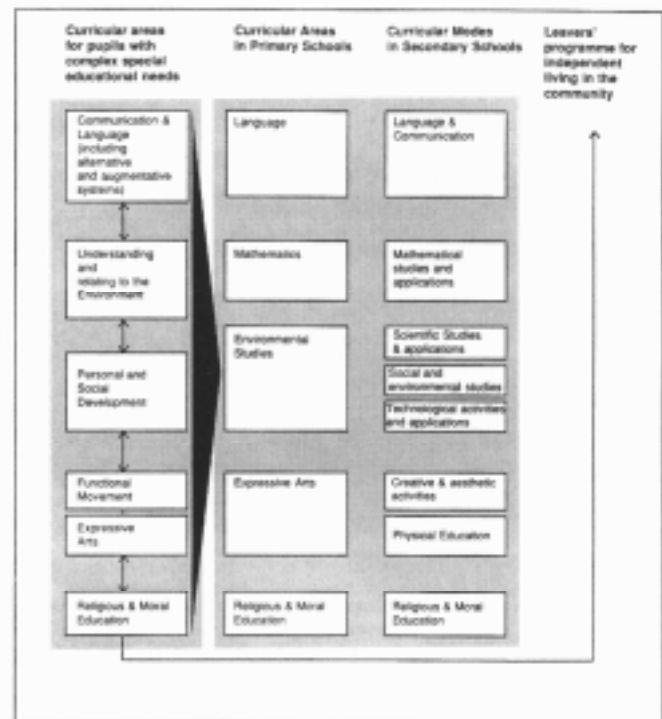
A team from 3 education authorities in Ayrshire⁷ have further elaborated upon this for pupils with complex learning difficulties. Within ‘Communication and Language’, an attainment outcome of ‘interaction’ has been added, and ‘reading’ and ‘writing’ have been replaced by ‘pre-reading’ and ‘pre-writing’. Interaction includes strands and targets such as: ‘Accepting and Sharing Feelings’; ‘Attending and Responding’; ‘Vocal and Gestural Production’; ‘Turn Taking’; ‘Concept Development’; ‘Interactive Play’. The pre-reading attainment outcome (reading for enjoyment) starts at the level of “looks at a single picture for a few seconds” and works up to “takes part in reading by filling in words in favourite stories”.

Other schools with pupils using AAC at different levels have started to develop the curriculum for their own pupils in a similar way, but there is an urgent need for more training and support for teachers in the area of curriculum elaboration and differentiation for pupils with special communication needs.

Different Perspectives of AAC

We cannot assume that everybody around the child shares the same perception of what AAC is for, and what it can do. One young child with severe communication difficulties was shown to interact regularly with 24 adults each day, plus classmates and other children. (For children in ‘split placements’ that number may be almost doubled.) Over a period of a few years, with natural annual progression from class to class and with high levels of staff turnover, several more different therapists and teachers may be added to the list. It’s easy to see how continuity over time is difficult to achieve and how at any given time a number of different (conflicting?) aims and strategies regarding communication may be in operation. The AAC approach must attempt to identify, accommodate and coordinate these diverse perspectives. Otherwise there is a danger that the child will learn not overall communicative competence but only skill ‘fragments’ from different people – for example, he/she may learn to use an AAC system simply to ‘perform’ in class or therapy – for example, for answering questions, or completing structured language exercises, but be unable to use it for any of the other functions of language such as initiating conversation, requesting, commenting, asking questions, changing topic, creative writing, interacting socially and playing with family and peers, terminating conversations – i.e. expressing him or herself fully.

Expanded 5-14 Curriculum (after McIlhenney)



Planning Implications

The points raised above highlight some important issues:

- AAC goals need to be identified and agreed amongst many people, not just by class teachers and/or speech and language therapists.
- AAC goals need to be specific, clear and explicit – they cannot be assumed to be ‘obvious’.
- AAC teaching and learning will be carried out by many different communication partners, so programmes need to be manageable and practical.
- AAC goals / outcomes need to align with attainments specified in the curriculum and the child’s IEP, and should be divided into short, medium and long term. To take a concept development goal:

Short Term

Understanding and Relating to the Environment: *Week 1 – 3 of each term – learns and practises 8 new symbols related to the term’s specific theme (first one is ‘water’), using a special 8 location topic symbol / word chart.*

Medium Term

Communication and Language – Talking & Interacting: *By the end of term, can use topic chart/VOCA with theme symbols on overlay in discussion.*

Personal and Social Development: *Participates spontaneously in class group at discussion sessions, using these. Can transfer use of this vocabulary to water-related play and story sessions appropriately.*

Long Term

Communication and Language – vocabulary development: *By end of Year – has integrated selected key symbols / words from the 3 terms’ themes into personal vocabulary on ORAC and can use these reliably in a range of play, social and story-reading settings.*

- AAC learning and use needs to be part of everyday life, not set as ‘work’ to be done occasionally.
- There needs to be an agreed ‘co-ordinator’ (or small team) of the AAC in education programme, planning, monitoring progress, ensuring continuity and with the time and authority to contact everybody and to follow things up, ensuring that recommendations are carried out.
- There needs to be an agreed ‘key person’ who is in daily contact with the child and all of the other regular communication partners around the child, who is able to monitor daily events and deal with practical issues that arise, immediately.
- School management teams need to recognise that time needs to be scheduled for management and implementation of an AAC in education programme – this is not a trivial task that can be squeezed into marginal ‘free’ time like coffee breaks.
- Since she may spend most time in 1:1 with the pupil, there needs to be recognition of the importance of the special auxiliary for an AAC child participating in programme planning meetings, Record of Needs reviews, staff development sessions and specialised consultations and training courses etc. (i.e. not to be paid only for ‘contact hours’ with the child).
- The speech and language therapist should be included as a member of any ‘school development plan’ working group engaged in elaboration of the curriculum, so that AAC is ‘built in’ not ‘tacked on’ later as an afterthought.

Early Primary Priorities

The ‘passive spectator’ syndrome is one of the greatest dangers threatening pupils with communication difficulties.

○ *Active participation*

The ‘passive spectator’ syndrome is one of the greatest dangers threatening pupils with communication difficulties. Even if they do not yet have a fully functioning AAC system, children must from the start be encouraged to participate and contribute, using whatever means of communication they have at their disposal, e.g. eye-pointing, gesture, indication of pictures or symbols. They will need communication opportunities to be specially structured for them by adults, to develop their confidence and spontaneous expression.

○ *Use of pictures and symbols*

Sometimes parents or teachers think that using symbols will distract the child from learning to speak or to read letters and words. It is important to remember that all children need language to communicate expressively from about 1 year on. Even if a child is expected to read eventually, he/she could not realistically be expected

to communicate entirely through the written word until at least about 9 years old (and much later, if ever, for some), so a huge gap develops in a non-speaking child, between their understanding of language and their ability to express themselves – a gap occurring precisely at the ‘critical period’ for language development. Symbols can help to fill that gap and ensure that the processes of acquiring language, learning to interact, and laying the foundations of later literacy are carried on while waiting to see how speech and reading develop.

Symbols can play a valuable role in developing emergent literacy, for example helping the child to learn to attend to marks on a page and to know they carry meaning; training visual discrimination and visual memory; learning to ‘read’ from top to bottom, left to right; and giving children the pleasure of ‘reading for meaning’. Text should always accompany the symbol on the chart, so some children may start to acquire a basic sight vocabulary, and the symbol can be gradually ‘faded’ and disappear from a vocabulary chart leaving only the word. For others, symbol support for reading will be an ongoing strategy which builds confidence and motivation.

In some other children, symbols can improve poor comprehension of language, and can be used to help them make sense of the environment and to structure the day (e.g. through labelling items in the room and activities, creating timetables, menus and so on). Use of picture and symbol based vocabulary can support the child’s personal development and interactive communication skills, enabling them to make active and independent choices about their preferred activity, food & drink, story book, game.

○ *Access to Language*

Sometimes in amongst sorting out seating and positioning; determining the preferred selection method, access to the curriculum, choice of AAC system; learning to program and use electronic voice output aids; launching early literacy programmes etc. we can temporarily lose sight of the most important thing of all, at the heart of communication and learning – that is *language*. Children may be able to signal their needs and wants and to answer in class with preprogrammed messages, but the ultimate long term aim of education must be to provide them with true language as a tool for creative communication, for thinking, problem solving, writing.

Very young children usually do well with pictographic symbols such as PCS to ‘get their meaning across’, but for more able and older children mixing in some Bliss symbols and/or written words can help to support concept development, the use of more abstract vocabulary, and the use of basic syntax. Only a tiny percentage of the most commonly used words in spoken English are natural ‘picture producers’ so that to communicate linguistically in pictures is difficult. At this stage, use of a voice output device (with a symbol or multi-meaning icon overlay or display) can help to reinforce language use. To be linguistic as well as communicative, a system must offer the facility of sequencing and ordering words and phrases into longer and novel utterances. Mastering this is probably the single most important process of the child’s education, underpinning many other educational processes, so time spent in language development through AAC – even if it has to be at the expense of other timetabled subjects – is a good educational investment. Balanced against this is the recognition that some children will perhaps not achieve communication at a fully linguistic level but need to have a working vocabulary for functional day to day communication and social interaction. We don’t know much yet about how non-speaking children learn language, or how to predict which children are which. How and when to teach which aspects of language and communication are the core dilemmas of teachers and therapists working with AAC in education. Riding several horses at once and being constantly poised to switch horses in mid-stream just about sums up the best approach in our current state of knowledge.

○ *Access to appropriate vocabulary*

Choosing the set(s) of words and messages a child will be able to ‘say’ with their AAC system is a bit like ‘playing God’. This job should be shared between families, teacher, speech & language therapist and others, as each has their own bias. (Teachers tend to favour ‘work’ and ‘answering questions’ (colours, shapes, basic concepts, numbers); speech & language therapists favour functional interactive language (“it’s my turn now”); parents and families may want names of people, toys and activities, while auxiliaries are often thinking of vocabulary for personal and physical care (“I need to go to the toilet”). A mixture is required. A balance is required too between the vocabulary suggested by the patterns of normal language development, and those items which are meaningful for that particular child.

○ *Use of multiple charts, overlays, devices*

It is unlikely that any one display could possibly contain all of the words and messages a child might need for the whole range of different situations faced throughout the day. Rather than having a sort of ‘lowest common denominator’ sort of display with vocabulary that doesn’t quite match any particular situation, it is preferable to offer a ‘core vocabulary’ chart for basics, plus a whole set of additional different vocabulary

displays (or pages, or overlays and ‘themes’, on an electronic device) – each one matched precisely to the specific vocabulary requirements of a whole set of different situations and topics, e.g. snack display, news circle display, lunch display, water theme display etc.

○ *Use of simple technology*

At the Nursery and very early Primary stage, trying to use a complex electronic system all the time might ‘get in the way’ of direct and active communication. Low tech solutions might be more practical. If technology is used at all it is the simple devices, such as the *BIGmack*, that are quick and easy to use and to reprogram that may be most flexible and most effective.

○ *Control of the ‘means of production’ must be in the classroom*

If symbols of any sort are to be used, it is important that the hardware and software needed to print out symbol labels, charts, overlays for AAC devices, books etc. are in the hands of day to day school staff, so that vocabulary that is needed for specific activities can be produced *immediately* and without fuss as part of normal classroom material preparations. In some schools, this job has been allocated to a particular auxiliary or a speech & language therapy assistant. The more teachers have lessons, materials and required vocabulary thought through well in advance, the easier it is for other staff to prepare symbol materials. If symbol materials are not generated routinely in the classroom, but seen as the responsibility of a ‘specialist’ who is around less often, the danger is that they simply won’t get done in time. Without access to the vocabulary he/she needs, the child will be communicatively passive in the educational activity.

○ *Learning to read and write*

Many children with severe communication difficulties have difficulty with acquiring literacy. Many barriers however can be overcome by early alertness to the need to ensure access to print and literacy activities (using adapted materials if necessary); keeping levels of expectation of success high; ensuring access to a means of communication to ensure active participation in print related activities; providing access to the appropriate vocabulary. The whole language interactive story book reading approach has been found particularly productive, along with integration of literacy related experiences into play and daily living activities.

○ *Classroom based topic specific AAC devices, as well as personal devices*

There is no real reason why a child should be expected to use only *one* communication aid; AAC devices should be ‘tools for learning’ and a child may use many different ones which happen to match his or her learning needs. If, for some new activity such as a story, it is too difficult or time consuming to programme in specific new vocabulary needed to the child’s main personal communication system (and to teach him or her to remember the item, buried in amongst many other vocabulary items), then it makes more sense to simply use another way of accessing the necessary vocabulary, on that occasion. Some of the strategies used successfully include:

- collecting up ‘obsolete’ technology (no longer needed for a specific child) like *IntroTalkers* and programming these up with the vocabulary needed for particular stories or games, so they can simply be pulled over for use in class at the appropriate moment, rather than having to reprogram the child’s own device (with vocabulary which will mostly probably not be needed again anyway).
- programming a repetitive line of a story or rhyme into a simple single message device such as ‘*BIGmack*’ or a cassette tape with a 10 second telephone answering machine loop tape in it.
- using multiple message voice output devices such as *SpeakEasy* or *VoicePal* so that a class group can interact in the same activity, all accessing the same device.
- using voice output devices to ‘play’ with sounds to instil an awareness of rhymes and alliteration.

This approach is described more fully in Chapter 10 of this book and in a recent CALL Centre video⁸.

○ *School Reading Scheme or Special Materials?*

The advantages of using a standard reading scheme are obvious – the availability of materials (increasingly, including talking computer software), and inclusion with the class group. It will usually be necessary to supplement the reading scheme materials ‘sideways’ with many other books and materials, as some pupils using AAC may be expected to spend more time at each level than speaking children and may get demotivated by repeated use of the same few books.

Many children, especially those with more complex learning difficulties, will respond better to personalised reading materials made up with photos and pictures of people and places they know, or have themselves

chosen from their communication books. An advantage of this approach – apart from the motivational aspect – may be that the pupil will already have most of the vocabulary they need in their AAC system, and using it for reading has the dual purpose of practising and reinforcing it for communication use (and vice versa).

○ *Writing – Connect to Computer*

Writing is a powerful and potentially motivating part of the literacy experience, but can be a problem for children who cannot use ordinary pencils or keyboards^{9,10}. Assessment for an AAC system should ensure that the device chosen has a printer ‘on-board’ or can be easily connected to a separate printer and/or computer. Many personal communication systems nowadays can be interfaced with a computer so that, as well as being able to key in alphabet letters, every preprogrammed word or message the user selects to say on their system is also displayed in text on a computer screen (and can be printed out from an ordinary word-processor). For children with significant physical problems, this also means that they can use their own switch and scan system to operate the computer, instead of having to waste time and effort mastering another slightly different access system. An alternative will be for AAC device users to also have priority (if not exclusive) access to a computer in the classroom, running the same software as that used by other children, but perhaps with special access technology attached and supportive writing software such as speech output, word banks, predictive typing etc.

○ *Assessment and Recording*

Assessment is ongoing throughout primary school and will yield rich and important information about an AAC user which can be difficult to represent fully through standard reporting procedures, or which may end up locked in confidential medical records. In preparation for the transition to each year’s new teacher, and to secondary school, it can be useful to create a Personal Passport^{11, 12} for an AAC user. This is a means of drawing together all of the key (unique) information about a child and his or her communication system, and presenting it in a simple, attractive and easy to read format which will help new people to understand and get the best out of the child who finds it difficult to ‘speak for him or herself’. Sometimes the process of making a Passport actually helps the professional to observe and understand the child better.

Secondary School Priorities

Leaving primary and starting secondary school can be traumatic for all children, and especially so for some pupils with communication disabilities. They are leaving behind teachers who know them well and for whom all teaching and learning is essentially child-centred, and entering a world where teaching and learning mean the subject, the curriculum, and looming assessment at Standard and Higher grade. Priorities at this stage include:

○ *Early Planning*

In many cases, planning for use of technology for classroom work begins only after the child has been in S1 for a term or so (and may have already started being seen as ‘failing’). This is far too late. Planning should start at the end of P6 / beginning of P7, so that there can be an extended and careful ‘handover’ from Primary, including whatever arrangements are needed for physical access, furniture, and for transfer or purchase of technology.

○ *Reassessment of Technology Needs*

Early planning may include an update of the assessment of need for technology for communication and learning, possibly involving input from a local specialist service or centre such as TASSCC. A child using a ‘silent’ communication system of pictures / symbols or codes, where his/her meaning is co-constructed by familiar people in the classroom, may need to learn to use a voice output communication aid where the role of helpers is reduced and his/her independence increased. It is wise at this stage to borrow new technological equipment for an evaluation period, rather than purchasing anything, until a ‘settling in’ period at the new school establishes whether the equipment meets the new needs, or whether further assessment is required.

○ *Portable Communication / Writing Equipment*

Instead of spending most of the time in one room using a classroom work station computer, in Secondary the children are likely to move around more. A child with writing problems may no longer be able to use a single fixed classroom work station computer for writing tasks but will require a more personal and more portable system.

○ *Personal Support Schemes*

In addition to basic physical care needs, the child using AAC may need additional support from helpers to

manage his/her technology in the new environment. Auxiliaries may be needed to help the child transport and connect up a personal switch access system to a variety of different computers around the school, or to have work printed out on a fixed printer in a 'home base'. The child may need the support of a teacher with computer skills, who can 'trouble shoot' when necessary. This may have staffing cost implications which will need to be signalled early.

○ *Special Timetabling*

Little mention has been made so far of curricular areas and activities such as home economics, music, PE etc. It may not be practicable to expect the child to do absolutely everything that their classmates are doing, in the day, and a specially adapted timetable needs to be devised, allowing time for 1:1 sessions to learn and practice new vocabulary, and to compose writing, if using a slow special access system such as scan and switching.

○ *Creative Human Support*

There are times when the aims of facilitating active independent use of an AAC system – because this may be slow – comes into direct conflict with other educational aims such as 'conveying information', 'presenting sharing and reflecting on ideas, experiences and opinions'. Some teachers and auxiliaries have found that a 'multiple choice' approach, used with high speed eye-pointing codes (e.g. to words on little bits of paper quickly stuck on to the desk, or to imaginary 'compass points' on a wheelchair tray) are the most efficient way for the child to transmit information and to participate actively in class.

Extract from a Personal Passport

My Sight

What can I see?

Practically, I can recognise people that I know when they are a few feet away, but this is mainly from recognising their voice, or because I use 'clues' like the colour of their clothes or the sound of their footsteps. If I hold objects about 5 inches from my right eye I can see them.

My Left

If you come at me from my left side, I will not see you until you are right in front of me.

Even though my left eye has got some sight, I can't see off to my left side, and I might get a fright if you suddenly appear from there

My Right

My sight on the right is much better. So please approach me from my right

It gives me some warning that you are there!

Wearing Glasses

I wear glasses when I'm walking about, doing things, especially outside. I don't wear them inside for reading or for close work.

Most of all, I need **time** to really look at things.

How well I use the vision I do have varies quite a lot, depending on how interested I am, or how activity is.

Give me lots of auditory/ verbal clues all the time, and I will 'see' much better!

Field of Vision

I have particular difficulties seeing **downwards**, because the bottom part of my visual field is damaged. I have to move my whole head so that I can always use the top of my vision to look at things. This may account for seemingly 'strange' postures I get into sometimes.

○ *Records of Achievement*

Part of the curriculum for Personal and Social Development includes development of pupils' ability to 'assess their own abilities and capabilities'. The Personal Passport method of collating and presenting information is a useful way of attaining this target, as, for many AAC users, 'standard' record of achievement pro forma are unlikely to be very appropriate.

Sitting Tests and Exams

Later in Secondary school, the issue may arise as to if – or how – a child may be presented for educational assessments and exams, if they use AAC or any form of specialised technology¹³. Basically, for a 5-14 National Test and for ScotVec modules, the child can generally use whatever type of special technique or technology they ordinarily use in class. They may apply for 'alternative methods of assessment' or for 'alternative interpretation of the outcomes', with ScotVec. For Standard and Higher Grades, and Sixth Form Studies an application needs to be made to the Scottish Exam Board (SEB) who will examine each application on a case by case basis and make 'special arrangements' for each pupil/each exam as it considers appropriate. Some awards may be 'endorsed' but research has shown that this is not an issue of concern to Further and Higher educational establishments, or to employers.

The key areas to consider are:

- start early in planning, and in choosing courses and subjects
- make application early for any alternative or special arrangements that might be required
- be aware that it takes time for a pupil to become comfortable and confident with any new technique or technology – they can't be switched at the last moment from their normal classroom method to a special exam method, 'on the day'.

School Leaving

Again, an AAC user is particularly vulnerable when leaving a familiar setting for new situations where nobody knows him or her. An up to date Personal Passport that can go with the young person is the most certain means of ensuring continuity.

There are a few specialist Further Education centres in the UK (only one in Scotland) where AAC users can attend courses specifically to develop their communication skills. A new City and Guilds accredited award bearing course* offering a standardised AAC curriculum, is due to become available to registered colleges in September 1998.

Students who are accepted for higher education establishments will find that in most universities there is now a Coordinator for Students with Disabilities who may be able to help them to acquire special support or equipment that they need in order to complete their course.

For further discussion on any of the topics raised in this overview, readers are advised to contact their local special educational needs and microelectronic service or centre if they have one, and are welcome to contact the CALL Centre.

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