



**Department of
Ageing,
Disability &
Home Care**

**Guidelines for
the development, implementation & review
of communication support systems
for persons with an intellectual disability
& complex communication needs**

**Prepared for the NSW Department of Ageing, Disability & Home Care (DADHC)
by the Centre for Developmental Disability Studies - University of Sydney,
in consultation with clinical staff from
DADHC, Disability Services and non-government services in NSW**

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1 Summary

These guidelines are designed primarily to inform the practice of DADHC, Disability Services clinical staff. The specialist expertise of the Speech Pathologist is emphasised, while at the same time the importance and benefits of adopting a multi-disciplinary approach to assessment and service delivery are outlined. The guidelines are also intended to inform the work of other DADHC, Disability Services staff supporting people with an intellectual disability and complex communication needs. However, the need to refer for specialist advice and formal assessment is reinforced.

The guidelines highlight the need for all persons with an intellectual disability and complex communication needs to have access to appropriate and effective communication systems, and how they and their communication partners can benefit from training and support in the use of those systems.

The importance of focusing on both the receptive and expressive communication skills of the person with complex communication needs, together with the skills of their communication partners are emphasised.

Furthermore, the importance of establishing multi-modal communication systems for use in a variety of environments, tailored to the assessed needs of the individual, that are both age and developmentally appropriate, are discussed. Examples of various communication strategies / systems, including environmental, unaided and aided systems are provided.

The links between a person's communication skills and their every-day behaviours are discussed, together with the integral role communication strategies and systems have to play in the development and implementation of behaviour support programmes.

Issues concerning the development and delivery of training in the use of communication systems, for both people with complex communication needs and their communication partners are detailed. The importance of conducting this training in a functional way, in naturalistic settings where people can immediately apply their skills to every-day situations is reinforced.

Processes to be adopted and considerations to be taken in to account to ensure effective delivery, monitoring and evaluation of communication systems, in keeping with relevant DADHC policy, are outlined. These include the importance of working within the client *Prioritisation and Allocation* Policy, and of implementing communication systems within the *Individual Planning (IP)* Process.

Contact details of organisations from which additional information and advice could be sought are documented. References to resources, together with contemporary literature informing the development of the current guidelines are also provided.

2 About the Guidelines

These guidelines have been developed as a resource for DADHC, Disability Services staff supporting people with an intellectual disability and complex communication needs.

In particular, the guidelines have been designed for use by clinical staff. These staff include, but are not limited to, those trained in the disciplines of speech pathology, psychology, occupational therapy, physiotherapy, nursing, social work and special education. The guidelines will also be an important source of information for programme staff involved in the provision of behaviour intervention and support services.

The guidelines are also a useful source of information for direct care staff and staff working in remote or isolated areas, where immediate access to specialist clinicians is not readily available. However, in these situations the importance of consulting with specialists, as part of developing specific communication strategies or systems, is emphasised.

The guidelines address:

- the assessment of the communication needs of individuals and their communication partners;
- the prescription of appropriate communication systems, including both augmentative and alternative communication (AAC) systems (e.g., unaided AAC systems such as sign or gesture systems and aided AAC systems such as board or computer based systems);
- the education and training of persons with complex communication needs in the use of appropriate communication systems;
- the education and training of those providing primary support services to persons with complex communication needs in the use of appropriate communication systems; and
- the monitoring and evaluation of the effectiveness of communication systems for persons with complex communication needs and / or the implementation of these systems.

The guidelines are based on current research and evidence-based clinical practice. The guidelines are informed by the experience of senior clinicians; draw on current DADHC, Disability Services policy; and emphasise the value of a trans-disciplinary approach in the development and implementation of communication systems. However, the core skills and specific expertise of particular professionals, such as Speech Pathologists, are acknowledged and the importance of interdisciplinary referral emphasised.

The guidelines relate to the development and implementation of communication systems for both children and adults. Attention to both age-appropriateness and developmental-appropriateness in the design of such systems is discussed.

The guidelines are not intended to detail every procedural step to be taken in the assessment, development, implementation and review of communication systems for persons with complex communication needs. Rather, they set broad parameters to inform best practice and document contemporary strategies and resources to which clinical staff and others providing services to people with an intellectual disability and complex communication needs could refer.

The guidelines are not intended to define professional standards or competencies for the various professional groups. These competencies are defined elsewhere, by the appropriate professional bodies and / or statutory registration boards.

3 Definitions & Principles

3.1 Definitions

Intellectual Disability is described in the DADHC, *Disability Services Intake Policy* (December 2001), consistent with American Psychiatric Association, 1994:

- Intellectual functioning measured at 2 or more standard deviations below the mean for a full-scale score on a recognised test of intelligence; and
- Significant deficits in two or more areas of adaptive functioning, measured on a recognised test; and
- Deficits in cognitive and adaptive functioning are manifest before 18 years of age.

Adaptive Functioning is understood to involve the exercise of skills in a variety of areas: communication, self-care, home living, social activities, community use, self-direction, health and safety, functional academics, leisure and work (American Association on Mental Retardation, 2002; American Psychiatric Association, 1994; World Health Organisation, 2001).

Communication is one of the three core activities deemed necessary for independent living, along with mobility and self-care (Australian Bureau of Statistics, 2001). It is the process by which ideas, information and messages are exchanged between individuals, through both verbal and non-verbal behaviours (Blackstone, 1986). Communication can involve a variety of forms or modes, of varying degrees of complexity (Balandin & Iacono, 1997). Some people might be able to gradually increase the complexity and range of their communication systems over time, given appropriate education and experience. However, others, though increasing their proficiency in a particular communication strategy, will remain static in their form of communication. See also Appendix 2: *A hierarchy of communication forms*.

Receptive communication skills are those that enable the person to understand spoken language and to pick up on and understand what is occurring in their environment. These skills include, recognising attempts by others to communicate with them (e.g., the ability to orientate, watch or listen and concentrate).

Expressive communication skills are those that the person uses to get their message across to others (e.g., the ability to use an object, gesture, vocalisation or speech).

Pragmatic communication skills are those skills that a person uses in social interaction. They include being able to gain a person's attention, start or interrupt a conversation, keep a conversation going, repair communication breakdown, express agreement or disagreement with an issue and appropriately use humour, etc. The effective use of Augmentative and Alternative Communication (AAC) requires particular attention to developing the person's pragmatic social communication skills, through training and regular practice in naturalistic, every-day settings.

Augmentative and Alternative Communication (AAC) is a set of procedures and practices by which an individual's communication skills (expressive and receptive) can be maximised for functional and effective everyday purposes. It involves supplementing or replacing natural speech and / or writing with either unaided or aided systems, including the use of symbols (American Speech & Hearing Association, 2002). AAC can be used to support both the expression and understanding of ideas by a person with *complex communication needs* and the reception / comprehension of communication by their communication partners.

A Communication Partner is any person who enters into an exchange of ideas with another person. Where that other person has *complex communication needs*, the communication partner will need to have particular skills and proficiency in the strategies used by the person with *complex communication needs*. For this purpose training and professional support are important.

Complex Communication Needs (CCN) has replaced the term 'severe communication impairment' (SCI), denoting a situation in which speech is temporarily or permanently inadequate to meet all the individual's communication needs, and the inability to speak is not due primarily to a hearing impairment (ASHA, 1991 & 2002). Complex Communication Needs (CCN) is now the preferred term. "Some people have complex communication needs associated with a wide range of physical, sensory and environmental causes which restrict/limit their ability to participate independently in society. They and their communication partners may benefit from using Alternative or Augmentative Communication (AAC) methods either temporarily or permanently" (Balandin, 2002, p.2).

It is estimated that in NSW there are 32,200 people with an intellectual and / or developmental disability with complex communication needs. This is approximately 55% of all persons with an intellectual and / or developmental disability in NSW, or 0.5% of all persons in NSW (Australian Bureau of Statistics, 2001).

Here it should be noted that communication is a two-way process. The complexity of a person's communication needs are therefore understood to be determined by the interaction of the skills and abilities of both the person and those with whom they are communicating. Both the person with disability and their communication partners need to take responsibility, relative to their own skills, for enhancing communication.

Pre-intentional / Unintentional communication is the term applied to the communication activities of some people with intellectual disability who do not intentionally engage others in communication activities and who are unable to use symbols such as words, pictures or objects to communicate. *Pre-intentional / unintentional communication* includes reflexive actions such as a startle response, looking at objects or orientating to people who come near or who are talking near by. With *pre-intentional / unintentional communication* the purpose of the person's behaviour is determined by those around them, who observe what is happening and ascribe meaning according to the prevailing circumstances / context. The person themselves does not intentionally seek to communicate with or engage others in their activity, though this might be the unintended result of their behaviour, as others try to anticipate and meet their needs (Bloomberg & West, 1999; Butterfield, Arthur & Sigafos, 1995).

Note - for some people with extensive to pervasive support needs, especially those with multiple physical disability, the intentionality or otherwise of their communication behaviours (i.e., their behaviour state) can be extremely difficult to determine. In these situations, specialist assessment by an experienced clinician is recommended (Arthur, Hook & Butterfield, 1995).

Intentional communication is the term used to describe the activities of people who begin to determine or assign meaning to their own actions. It could include the purposeful manipulation or use of objects, or the use of gestures (e.g., pointing to something they want). Generally these communicative behaviours are concerned with the person's immediate, tangible needs.

Symbolic communication describes the behaviours of more able individuals who are capable of using symbols to represent an idea or concept. For example, pictures, line drawings, signing, key words or phrases. A single symbol can be used to denote a particular idea or concept, or a more general class of ideas, depending upon the complexity of the person's communication skills. Symbols can also be used in combinations, though the latter necessarily requires greater skill on the part of the person; e.g., pointing to a series of pictograms to express an idea; combining several signs or words to construct a sentence.

Communication strategies can be designed to address difficulties with both expressive and receptive communication. Strategies might be specific to particular purposes or contexts (e.g., choosing what to eat or drink). However, the use of two or more communication strategies can be coordinated in order to establish an effective **communication system**, encompassing a variety of purposes or contexts (e.g., expressing a number of preferences in different situations). Communication systems are generally described as falling into one of two categories; un-aided or aided AAC systems:

1) Un-Aided AAC systems

Unaided AAC systems are those used by the person and their communication partners independent of any device. They range in complexity and include the use of facial expression and postures, gestures, touch, vocalisation and the use of key words or phrases, key concept signing or other formal sign language. Though they can be used independently of any specific aid or device, to maximise their effective use, both the person and their communication partners are likely to require training and support.

2) Aided AAC systems

Aided AAC systems are those that employ some form of device or technology. They are generally divided into low (light) technology systems and high technology systems.

Low (light) technology systems include the use of objects, photos and graphics (e.g., line drawings or letters). Typically, these are relatively easy to produce and are fairly low cost. However, there may be ongoing maintenance costs. Such systems include object symbols, community request cards, communication boards, communication wallets and communication pages or books, etc. Despite being relatively easy to construct, professional involvement in the selection and design of an appropriate aid is important.

High technology systems are those that use microcomputers and software packages, usually with the capacity to provide voice output, and sometimes printed output. Typically they are of higher cost than low (light) technology systems, and require greater professional support with their selection, implementation, maintenance and repair.

Selection / access techniques denote the ways in which the person accesses their communication system. These techniques are generally described in one of two ways (Speech Pathology Australia, 1997):

Direct selection involves the person independently pointing to, activating or manipulating an object or symbol in a predetermined way for the purpose of communication.

Indirect selection involves the person being offered choices via the systematic presentation of objects or symbols. The person then indicates a preference by use of a predetermined signal; e.g., by the use of eye gaze or a switch.

3.2 Principles

The following principles draw on and are consistent with Speech Pathology Australia's 1997 Position Paper 'Augmentative and Alternative Communication' (AAC).

- All people should be able to communicate to the fullest extent possible, using multi-modal techniques and / or systems according to their individual needs and preferences. See Appendix 1: *Communication Bill of Rights*.
- Everyone uses a variety of strategies when communicating. However, when people experience severe communication difficulties, naturally occurring strategies (e.g., gestures, facial expression & writing) can become increasingly important. It is important to encourage people to use a variety of strategies, according to their skills, preferences and the circumstances in which they find themselves. See Appendix 2: *Hierarchy of Communication Forms*.
- People with complex communication needs, including those with an intellectual disability, should be able to access AAC strategies, regardless of the severity of their disability. Candidacy for AAC is determined on the basis of the individual's communication needs, rather than on a profile of his or her capabilities. There are no prerequisite skills required by individuals for the introduction of an appropriate AAC system (Beukelman & Mirenda, 1998).
- Some people with an intellectual disability have a limited range of communication skills to effectively understand what is happening in their environment, to seek help or information and to make comments or express their needs, feelings, ideas and aspirations; for example "*I need; I want; I don't want*" (Durand, 1993; Durand & Crimmins, 1992). Consequently, repeated and growing frustration over time can give rise to psychopathology (e.g., anxiety and depression), manifested as challenging behaviour (McVilly, 2002). For many people, their challenging behaviours are the most effective means of expressing themselves. For example, in a sample of 3662 people with intellectual disability it has been observed that there is a significant increase in the frequency of problem behaviours (e.g., self-injury, hitting others, damage to property, non-compliance etc) associated with a decrease in the ability to speak (Bott, Farmer & Rohde, 1997). Therefore, the development of effective AAC strategies are integral to the development of effective behaviour intervention and support strategies, providing the person with more efficient and socially acceptable ways of communicating.
- Those who live and work with people who have complex communication needs should be familiar with and proficient in the use of the person's preferred AAC system. Where staff are employed to provide support to persons with an intellectual disability and complex communication needs, instruction in the use of established AAC procedures needs to form part of their induction and in-service training.
- The assessment, development and implementation of an effective AAC system necessarily involves the person for whom the system is to be developed, together with significant others who live and work with the person on a daily basis (e.g., family members and support staff).
- The assessment, development and implementation of an effective AAC system can be complex. The process therefore should be conducted using a multi-disciplinary approach. Professionals familiar with the person need to be involved in the assessment.
- Persons using AAC will usually require long-term follow-up, with some form of on-going support to both them and their key communication partners. For example, advice and practical assistance with the maintenance of a communication aid, its adaptation or further development in keeping with the person's changing needs.

Note - The form and frequency of support to clients of DADHC, Disability Services will be provided according to the *DADHC Disability Services Prioritisation and Allocation Policy, August 2002*. In keeping with this policy, services will be reviewed at least every three months. Interventions of longer than 6 months duration can only be considered when clinically recommended, and approved by the Manager, Community Support Team.

All clinicians involved with a person with complex communication needs should monitor the use of established communication systems and refer for specialist review (e.g., by a Speech Pathologist) as required. Non-clinical staff, with training in the area of AAC, could provide some monitoring. Alternatively, communication partners could be provided with specific instruction in how, when and to whom to refer for further assistance.

- For some people, education and experience could have the effect of enabling them to gradually increase the range and complexity of their communication system. However others, due to the nature of their disability, while possibly increasing the proficiency of their communication skills, will remain static in their general form of communication. For example, a person might become more adept at using objects, but never progress to the use of photos or graphics; they might increase the number of key words in their vocabulary, but never progress to using phrases or sentences.
- Service delivery should be flexible and responsive to the needs of individuals. It needs to be provided in a collaborative way, involving the person with complex communication needs, their communication partners and other professionals currently involved with the person. It can be provided according to a number of consultancy models (cf Frassinelli, Superior & Meyers, 1983):
 - Collaborative consultation based on regular contact with the person; e.g., conducted concurrently with regular therapy [Note - *DADHC Disability Services Prioritisation and Allocation Policy, August 2002* requires programmes to be reviewed at least every 3 months]. This is the most intensive form of consultation. It is necessary when assessing needs, designing new systems, training people in how to use new systems or making significant changes to an existing system.
 - Collaborative consultation based on a prior assessment, with no or minimal regular contact. This form of consultation can be effective for monitoring the use of AAC systems and providing support to existing communication partners, or where there is a change in a primary communication partner. Effective consultation at this level usually requires some years of clinical experience.
 - Collaborative consultation involving no direct contact with the person with complex communication needs. This form of consultation is usually provided to other clinicians or highly experienced communication partners. It requires a very high level of clinical expertise on the part of the clinician providing the consultation.
- Consultancy services are most effective when delivered collaboratively, by trans-disciplinary teams. In this model, a number of clinicians collaborate in the assessment of the person and their needs, the development of strategies, together with the implementation and evaluation of strategies. The core skills, specific to particular disciplines are recognised (e.g., specific assessment skills). However, in order to provide an effective and efficient service, common skills are also recognised, and some roles shared between clinicians, within the bounds of their professional skills and experience. For example, once an AAC system has been established, clinicians from a variety of backgrounds could be involved in educating the person and their communication partners in the everyday use of the prescribed strategies; and monitoring the effective implementation of the strategies (Bergan, 1994; Doyle, 1997; McCormick & Schleiellbusch, 1984).

- Communication systems should be tailored to the needs and preferences of the individual.
- Communication strategies and systems are best when they are readily adaptable to the different environments in which the primary user lives, works and socialises. However, individual systems might need to be developed for particular environments. Where possible, these systems should be based on strategies with which the person is already familiar.
- Communication systems developed in one environment need to inform the development of systems in subsequent environments. For example, where a person has a communication system established while at school, this system needs to inform the development of systems for use in their adult life (though with due attention to ensuring age appropriateness of the system). Similarly, when people move between residences and work places, new communication systems need to be built upon existing systems.

Note - Clients of DADHC, Disability Services with established AAC systems will usually have in place a *Visual System Tracking Form*, developed by the Speech Pathologist responsible for establishing the AAC system. This form includes a photo of the communication system, together with a written description. This form is used for the purpose of documenting the existence of the AAC system, explaining its use to communication partners and to assist with the replacement of the system should it be damaged or lost. See Appendix 4: *DADHC Tracking Form for Visual Communication Resources*.

- Guidelines for how to respond appropriately to controversial information communicated by AAC users should be available for those providing direct support. These guidelines should be consistent with guidelines for the reporting of such issues by any person. They should include mention of how the communication is to be documented and who is to be informed. In these circumstances, referral to a professional with specific expertise in the use of the person's AAC system (e.g., a Speech Pathologist or a signing interpreter) could be important.
- AAC techniques, including sign language and the use of both low (light) technology and electronic communication systems, have not been found to be detrimental to their user's existing or potential speech skills. There is evidence that the consistent use of such techniques, in an environment that is responsive to people's needs, encourages and can actually increase vocalisation and language development in both children and adults (Hurd, 1996; Konstantareas, 1984; Reichle, York & Sigafos, 1991; Ronski & Sevcik, 1996).

4 Assessment of Complex Communication Needs

Assessment of the communication needs of persons with an intellectual disability are usually complex and are best conducted by a multi-disciplinary, team approach (American Speech-Language-Hearing Association, 2002). However, the core skills of the Speech Pathologists, in particular, need to be recognised in the assessment and development of communication systems.

4.1 The Aim of Assessment

The main purposes of a communication assessment are to identify:

- both the *form* (how the person communicates) and *function* (the purposes the person seeks to achieve through their communication behaviours) of the person's current communication;
- the person's current communication contexts and immediate communication needs, including how others communicate with them; and
- where specialised systems of support could improve both the effectiveness and efficiency of the person's interactions with their communication partners.

Assessment and subsequent support services should focus on enhancing both the person's *receptive communication skills* (i.e., how, and how well they understand the messages others are giving to them) and their *expressive communication skills* (i.e., how, and how effectively they get their message across to others).

Assessment should explore the individual's personal interests, preferences and priorities, with the intention of devising strategies that will better enable them to express issues of immediate relevance and / or importance to them (Durand & Crimmins, 1992): I need or I want; I don't want; I think or I feel

Assessment, combined with on-going evaluation can ascertain if the person's complex communication need is likely to be permanent or temporary, and if education and / or a change in the way services are delivered are likely to benefit the person. To this end, assessment can help determine what sort of communication strategy or system is appropriate for the person.

Assessment can also clarify if the person's complex communication needs arise as a result of:

A Language Disorder – difficulty understanding and /or generating words at a cortical level, due to a cognitive impairment arising from intellectual disability or acquired brain damage (e.g., Broca's [expressive] dysphasia; Wernicke [receptive] dysphasia; or global dysphasia);

A Motor Disorder – difficulty coordinating breathing, forming words or sustaining vocalisations, which is neurological in origin, with physical implications (e.g., dyspraxia, dysarthria);

A Voice Disorder – difficulty regulating the sound, quality or pitch of vocalisations, often due to physical problems with the laryngeal apparatus caused by viral infection, polyps, paralysis arising from neurological injury, or prolonged abusive vocal patterns such as excessive shouting; or

A Fluency Disorder - an abnormal rhythm of speech, including unusual hesitations, pauses or repetitions of words or syllables and interjections of non-speech sounds, (e.g., stuttering). There is no current consensus for the origins of stuttering, though an interaction of physiological and psychological factors is hypothesised.

Assessment also needs to examine the experience and skills of communication partners, and their fluency in the use of various communication strategies.

Assessment processes are most effective when they incorporate strategies for developing a shared understanding of the person's complex communication needs and their every day needs and preferences. There is minimal value in only the clinician conducting the assessment having an understanding of the person's needs and aspirations. The person's communication partners also need to have developed this understanding, and therefore need to be involved in the process.

4.2 Assessment processes and tools

Effective assessment processes will involve the person and their significant communication partners (e.g., family, friends, support staff, and other professionals currently working with the person) (Beukelman & Mirenda, 1998).

Standardised assessment can prove problematic with people with an intellectual disability. Often these assessments require modification to their standardised format, for which purpose consultation with an experienced clinician is advisable. Also, standardised assessments can fail to capture the full range of people's abilities (Calculator & Bedrosian, 1988).

There are a number of formal assessments and check lists that have been developed specifically for use with people with a developmental disability (including those with an intellectual disability). DADHC, Disability Services clinicians have developed a list of recommended tools for use when assessing the communication needs of persons with an intellectual disability. Some of these and other tools are listed in Appendix 3: *Examples of tools useful in the formal assessment of the communication skills*.

Observation of the person in their usual every day activities remains a critical part of any assessment, together with an assessment of the environment in which those activities take place. Interviews with communication partners should also form a vital component of the assessment process (Butterfield, Arthur & Sigafos, 1995; West & Bloomberg, 1997).

4.3 Assessment issues and considerations

Understanding of a person's complex communication needs is significantly enhanced by a multi-disciplinary assessment, taking into account the following issues:

- functioning of the person's senses (i.e., vision, hearing, touch, smell and taste);
- physical abilities (e.g., vocalisation, orientation, mobility and dexterity);
- physical and mental health status (including their medication regime);
- intellectual abilities (e.g., alertness, attention span, comprehension & understanding of both symbolic representation and cause–effect relationships, receptive and expressive language, memory and executive functions);
- functional academics (i.e., reading, writing and arithmetic);
- activities of daily living, including social skills and the ability to make choices;
- social circumstances / social networks, and the different contexts or environments in which they live, work, participate in education and / or socialise;
- personality, personal preferences and priorities (e.g., likes, dislikes);
- emotional support needs;
- self-advocacy skills (including issues of self-esteem and assertiveness);
- personal history and future plans or aspirations;
- previous intervention and support strategies

Questions to consider include, how does / can the person:

- make sense of their environment by drawing on a variety of cues (e.g., sights, sounds, smells, touch or taste);
- understand what is happening around them and both participate in and influence those events in a positive way;
- communicate in every day settings;
- engage the attention of others, including naming people of particular significance;
- effectively signal a protest or rejection of something or someone;
- request an object, an action, assistance or information;
- express preferences and / or make choices;
- express emotion in response to various situations;
- comment or express an opinion on issues of importance to them;

Also, it is important to consider the range of people with whom the person can currently communicate, those with whom they want to communicate and those with whom the person might benefit from being able to communicate. Employing AAC to broaden the number and range of people with whom a person can communicate is important for their general health, well-being and development, as well as their personal safety.

Importantly, assessment should also include consideration of the skills and support needs of the person's communication partners (Butterfield, Arthur & Sigafos, 1995). This should include assessing how effective and consistent communication partners are at:

- generating opportunities, as part of the person's naturally occurring routine, that promotes interaction;
- encouraging participation in shared activity;
- providing opportunities for choice making throughout the day;
- acknowledging and responding appropriately to the person's attempts to communicate;
- indicating to the person that a response is expected;
- discussing activities and routines with the person prior to, during and following their occurrence.
- Modifying or adapting their communication to better match the person's skills

The assessment should also include consideration of any existing barriers, or opportunities for constraints to the development and implementation of the AAC system (Beukelman & Mirenda, 1998). These barriers could include:

- issues specific to the person (e.g., their comprehension of symbols or physical ability)
- resource limitations (e.g., availability of equipment, funding and personnel time);
- the experience and skills of communication partners and their fluency in AAC;
- the attitudes of the person's communication partners;
- the physical or social environments in which the person lives or works and how receptive / supportive these are to the use of AAC; and
- the prevailing organisational philosophy, policies or procedures that might impede the implementation of an AAC system.

4.4 Prioritisation of needs & strategies

Assessment can identify a variety of needs and a range of possible strategies / systems to address those needs. However, it is important that these needs and strategies / systems are prioritised, so that those who are to allocate resources and act on recommendations can do so in a way that is most effective and efficient.

The prioritisation of needs and strategies is to be determined by clinical judgement and informed by the contemporary literature, as well as involving consultation with the person with complex communication needs, their communication partners, and other professionals who know the person.

Questions to ask include:

- What can the person already do themselves; and how could their existing skills be enhanced by a communication strategy / system?
- What can the person do with assistance; and how could their need for assistance be minimised with access to an appropriate communication strategy / system?
- What does the person need to be able to do more independently, appropriately or safely; and how could this be achieved with access to an appropriate communication strategy / system?
- What would the person like to be able to do more independently, appropriately or safely; and how could this be achieved with access to an appropriate communication strategy / system?

Issues that could influence the prioritisation of communication needs and strategies include:

- The person's every day functional needs, including domestic, social, educational and vocational needs. With whom and with what activities are they currently involved; how do they find out and understand what is happening around them; how do they understand what others are saying to them; how do they make their needs and feelings known to others?
- The person's current range of skills and how adaptable these skills are to a variety of different contexts or settings.
- The person's planned activities, as detailed in their existing Individual Plan (IP).
- The person's behaviour, and any subsequent foreseeable risk to their safety, health and well-being (e.g., breakdown of their accommodation, educational or vocational placement) and the safety of those supporting them.
- The likelihood of successfully implementing the strategy / system, given the resources available and both the skills and receptiveness of communication partners.

4.5 Preparation of reports

Documentation of assessment processes, their subsequent findings and recommendation are necessary to inform both current and future service delivery. Detailed and accurate reports should therefore be prepared to assist with:

- developing an intervention;
- justifying the allocation of human and financial resources;
- reviewing progress, and the overall success of the intervention; and
- professional issues that could arise in the course of therapy or the review of service delivery processes.

Reports concerning assessment and prescription of AAC strategies, including recommendations for both low (light) and high technology options, should provide specific details of:

- what form the assessment took;
- what objective indicators were evident (e.g., test results and functional observations);
- what subjective factors were taken into account (e.g., reports by significant others and clinical judgement) when formulating the recommendations.

Assessment reports should also include a plain English summary of key issues and actions. Given most recommendations will need to be implemented and monitored by either a lay person or another professional not necessarily experienced in AAC and associated procedures, the language used in the summary might not reflect the more technical language necessary in the report as a whole. Sometimes summaries of issues and actions are best presented as either a check-list of things to do on a regular basis or as a time-line, stipulating key tasks to be undertaken (Cumley & Beukelman, 1992).

Guidelines for re-referral and / or scheduled reviews should also be clearly documented in reports. This is especially important where other professionals or lay people are to be responsible for monitoring and reviewing the use of communication strategies / systems.

Also, clients of DADHC, Disability Services with established AAC systems will usually have in place a Visual System Tracking Form, developed by the Speech Pathologist responsible for establishing the AAC system. This form includes a photo of the communication system, together with a written description. This form is used for the purpose of documenting the existence of the AAC system, explaining its use to communication partners and to assist with the replacement of the system should it be damaged or lost. See Appendix 4: DADHC Tracking Form for Visual Communication Resources.

5 Prescription of Communication Systems

5.1 Background Issues

Communication systems include, but are not restricted to the use of aids or devices. They need not be complex (Bloom, & Treloar, 1996; Quill, 2001).

- A person's receptive communication abilities could be enhanced by the consistent use of environmental strategies, such as regular routines and / or the consistent use by communication partners of visual and verbal cues, touch, taste and smells. Strategies could include communication partners consistently using touch cues, cue cards, key word signing or key words.
- A person's expressive communication abilities could be enhanced by supporting them in the use of either non-aided strategies (e.g., using gestures or key word signing) or aided strategies (e.g., using objects, sounds or smells, photographs or graphics).

Furthermore, a communication system will not ordinarily be restricted to a single mode of communication, as people generally use more than one mode of communication at the same time. Integrated modalities (e.g., objects + key words; communication board + chat book, accompanied by signs, vocalisations or words), responsive to the demands of different environments and changing communication contexts are to be encouraged.

The primary user's skills and personal preferences, together with their current and previous communication strategies should all be taken into account in the formulation of any recommendations for the development of a communication system (Balandin & Iacono, 1999). While a clinician might identify an option that is technically more efficient, if it is not in keeping with the primary user's skills and preferences it is unlikely to be used effectively (Sigafos & Iacono, 1993).

Communication systems need to be readily accessible to the person for whom they are prescribed, and suitable for use with a range of communication partners. Communication systems also need to be durable, readily transportable and adaptable for use across a variety of environments accessed by their intended user.

The use of the system must be innately rewarding. This will encourage both the person and their communication partners to use the system on a regular basis. The system selected should enable people to communicate in the fastest and easiest way possible, and at the same time enable them to interact with others and have their needs met in the most satisfying way possible.

There must be a match between the person's cognitive abilities (e.g., their memory and their ability to both understand and use symbols), their physical abilities (e.g., how they will access the system) and the systems that are designed for them. For example, it is inappropriate to develop and attempt to introduce a communication system based on graphics for a person who is *pre-symbolic* in their communication (Bloomberg & West, 1999). The person will be unable to use the system. Subsequently, communication partners might then interpret the lack of use of the system as the person being unwilling to communicate, rather than the person being *unable* to communicate with a system that is too complex and therefore meaningless to them.

The selection and design of a communication system needs to take into account the person's physical ability and any associated limitations (e.g., their ability to use their arms or head and / or their reliance on a physical aid or wheelchair for mobility). The person's personality and individual preferences (e.g., content, colour, and design) must also be considered integral to the assessment.

Communication goals need to be based on the person's assessed needs, in every day contexts. They should be clear and precise. They should be sequential, with the achievement of one skill laying the foundation or setting the scene for the next. They should be readily achievable, for the person and their communication partners, and measurable.

High-technology systems need to be complemented by backup, low (light) technology systems. These back-up systems need to be readily available where the primary system is temporarily unavailable due to, for example, charging of a battery, up-grading, scheduled servicing and / or repairs. Also, there could be times when the use of a high technology system is problematic, for example, in bed, in the shower, at the pool or in a vehicle going from one place to the next.

Communication systems should allow for ease of adaptation as the communication needs and priorities of the primary user changes over time. For example, a person might discover something else they like to eat, something different they like to do, or someone new with whom they wish to communicate. These changes must be incorporated in the system.

Strategies need to be sensitive and relevant to the person's cultural circumstances, taking into account their primary language, their belief / value system and prevailing social situation. The involvement of, or consultation with an interpreter is required if the person speaks English as a second language or spoken English is not a functional means of communication (e.g., when a person uses sign language).

Strategies should be designed to enable the person to engage and communicate with family members and friends, support staff and other professionals, as well as other service providers and members of the wider community. Consideration should also be given to how the person could initiate contact with an unfamiliar individual with the view to establishing a new communication partnership (e.g., a friendship, interacting in the general community, or with a new service provider).

Strategies need to be age appropriate, reflecting the person's chronological age. Where there is disparity between the person's chronological age and their assessed stage of development, consideration needs to be given to developing strategies that are both respectful of the person's status in society (e.g., child, adolescent, adult, senior) and at the same time accessible to them.

Advocacy issues should be considered a priority in the development of AAC strategies. People have a right to express concerns or make a complaint about the way they are treated or the way services are provided to them (Disability Services Act [Commonwealth], 1986; Disability Discrimination Act [Commonwealth], 1992; Disability Services Act [NSW], 1993). When developing AAC strategies, with advocacy purposes in mind, consideration should be given to making the strategies readily comprehensible to people in addition to the person's primary communication partner.

5.2 Examples of Communication Strategies

A collaborative, multi-disciplinary approach to the assessment and development of communication strategies and systems is recognised to be of benefit to the person with disability and their communication partners. Speech Pathologists can offer particular expertise in design and provision of communication strategies, relating to adequate assessment and description of augmentative and alternative communication systems. In some cases specialised clinicians, including Occupational Therapists, working in assistive technology centres should also be consulted. The advice of an Occupational Therapist can be particularly important when seeking to address the complex physical access issues that some people with multiple disability encounter when needing to use communication aids. A Psychologist can also provide specific assessment and advice to assist when seeking to match the person's cognitive ability to an appropriate strategy or piece of equipment and when developing teaching strategies, although cognitive

ability should not be a prerequisite for considering AAC (Beukelman & Mirenda, 1998; Kangas & Lloyd, 1988).

Many of the communication strategies that follow can be used to enhance both a person's *receptive communication* (e.g., enabling them to understand what is occurring around them and what their communication partner is trying to say), and their *expressive communication* (e.g., enabling them to explain to their communication partners what is important for them). However, it should be noted that these strategies represent a range of complexity, from those that are relatively simple, to those that require quite advanced cognitive ability to master. It is essential that the strategy selected is appropriate to the person who is to use it (Bloom, & Treloar, 1996; Quill, 2001). For this reason thorough assessment by a Speech Pathologist, or other professional trained in AAC, is recommended.

Examples of communication strategies include:

- | | |
|----------------------------------------|-------------------------------|
| a) <i>Routines, Rituals & Cues</i> | d) <i>Graphics</i> |
| b) <i>Objects</i> | e) <i>Gestures & Sign</i> |
| c) <i>Photographs</i> | f) <i>Spoken Word</i> |

a) *Routines, Rituals and Cues*

Consistent routines and rituals can be an important component of any effective AAC system. This is particularly so when people with complex communication needs have difficulty with receptive communication, and subsequently experience difficulty understanding what is happening around them or what is expected of them by others.

Consistent routines, in addition to forming the basis of day-to-day communication with a person with complex communication needs, have a vital role to play when introducing a new AAC system or adaptations to an existing system. Consistent routines promote learning by providing regular and predictable opportunities to rehearse skills (for both the person and their communication partners), together with regular reward and reinforcement for their use.

The effectiveness of routines in promoting communication can be enhanced by the use of both unaided and aided communication strategies. These could include:

- Touch cues
- Smell cues
- Taste cues
- Sound cues
- Visual cues

For example, touch can be very important for people with extensive to pervasive support needs and those with significant and / or multiple sensory impairment (e.g., people who are deaf-blind) (Goold & Hummell, 1993). Because touch cues can be very subtle, it is imperative that they be used consistently; e.g., a light touch on the [R] elbow to signify that it's time to move from one place in the house to another (such as from the lounge to the dining room table for a meal) and a light touch on the [L] elbow to signify that it's time to leave the house to go for a drive. Touch cues can also become personal signatures, to assist people identify particular people who live or work with them (e.g., a distinctive ring on a worker's hand, which they allow the person to touch whenever they communicate with them).

Similarly, smell (Olfactory) cues can be useful for some people, especially those who are blind or deaf or those who have severe or profound disability. For example, the consistent use of an aftershave or perfume associated with a particular activity or person, or alternatively the burning of incense or scented oil at particular times of the day (e.g., prior to a bath or a meal). Smell cues could be used in conjunction

with taste cues, such as the consistent use of a particular food or drink prior to a key activity, such as leaving the house or going to bed (note - to be effective, the food or drink needs to be specific to that time or activity, and not used in other contexts). As with the use of all communication strategies, care should be taken with respect to people's personal preferences and in particular, for smell and taste cues, allergies should be taken into account.

Sounds and visual cues could be incorporated into people's regular routines or used to signal specific events as they occur. For example, the playing of a consistent song or piece of music at predetermined times could help to alert a person that a particular event or activity is to take place. Music can be particularly effective at times of transition, such as finishing the day's activities and preparing for the drive home.

Visual cues can be provided in a variety of forms, including the use of objects, photographs, graphics and sign.

b) Objects

Objects can provide a tangible basis for an AAC system (Park, 1997). They can be:

- Indices - objects used in the activity they symbolise (e.g., a paint brush signifying art classes);
- Icons - objects that resemble the activity they symbolise (e.g., house keys signifying its time to go out for a walk); or
- Symbols - objects that have an arbitrarily assigned meaning (e.g., a blue stress ball signifying its nearly time for new staff to come on duty).

Objects can be employed in a number of different ways as part of an AAC system:

One way of using *objects* involves the person being taught to initiate contact with an everyday item in a consistent manner in order to communicate a particular need; e.g., taking a cup from the bench to signify they want a drink of coffee, picking up a glass to signify they want a soft-drink, finding a bath towel to indicate they want a shower. As with any symbol system, it is important that a consistent response is provided to the presentation of key objects.

Another way of using *objects* involves the person being taught to communicate by the use of items especially set aside in a particular place for the specific purpose of communicating pre-defined needs; e.g. a key representing the desire to go for a drive in the car or a piece of plastic fruit to indicate they want that particular kind of fruit. Real objects can also be used to set up a daily timetable or weekly calendar of planned events (i.e., a *Schedule box*). *Schedule boxes* can be used in a variety of settings such as the home, school, or workplace. They consist of an ordered series of containers in which objects or symbols representing activities are placed, together with a 'finish box' in which the objects or symbols can be placed once the activity is completed. The person is taught to go to the *schedule box* and to refer to the next object or symbol in the sequence as a prompt for what to do next. They then complete that task and return to the *schedule box*, place the object in the 'finish box' and refer to the next object to prompt them what to do next.

When using objects it is particularly important that the items are kept in a consistent place, that they are readily accessible to the person and that they are not used for any other purpose apart from communication (McLarty, 1995).

Where the object is too large or the person experiences difficulty manipulating it, miniature objects can prove useful. However, to be effective, these need to be a readily recognisable representation of the full-

sized object in question. Parts of a larger object (*a fragment*) can also be useful (e.g., a piece of seatbelt to represent 'time to go to the car').

Note - the effective use of objects, miniatures or fragments is highly dependent upon the person's level of understanding of symbolic representation. That is to say, real objects could not be used as symbols to effectively communicate meaning for a person who is un/pre-intentional in their communication. Similarly, miniatures and fragments of real objects are more difficult to comprehend as symbols than real objects for those who are early intentional communicators. To assist with selecting appropriate systems and symbols, assessment by an experienced Speech Pathologist would be recommended.

c) Photographs

Photographs can provide readily recognisable images of the people, objects or situations they are intended to represent. However, people still need to understand what the photograph represents and how they can use it to communicate their needs, feelings, thoughts and aspirations. People who are pre-intentional or pre-symbolic in their communication will not be able to use photographs.

A common difficulty with photographs is that they are too 'busy', and include too much detail or too many items that distract the person from the 'core message'. Where photos are to be used, they should provide a close and clear focus on the item in question. Placing the item on a neutral background (e.g., a white sheet of paper) before photographing it can be useful. Alternatively, it might be best that the photograph depict one distinct and easily recognisable component of the object; e.g., the front entrance of the supermarket, rather than a wide angle shot of the entire supermarket. Here it is important to consider what particular features stand out for the person, and to take the photo from the person's perspective or point of view. Pictures of people are best when they focus on close-ups of faces and again, such pictures are best if taken against a neutral background.

To teach people how to use photographs effectively, systematic instruction techniques, conducted in naturalistic and functional settings, are recommended. Such training needs to involve (repeated) pairing of the photograph with the item or action it is intended to represent and in turn demonstrating how use of the photograph will lead to a person's need being met, in real life situations. Such practice should be conducted in functional communication contexts and not as a drill program or regime. For practical purposes, access to a digital camera or polaroid instamatic camera can be useful. This allows the photo to be taken in situ and the person to immediately see the connection between the real-life situation and the photograph.

A digital camera can allow for the same photo to be edited, or repeatedly duplicated for use in a number of different communication tools. However, the person still has to later associate what they experienced and then saw on the camera screen in situ, with the developed photograph.

d) Graphics

Graphics are symbolic representations that can take a number of forms, of varying degrees of complexity (i.e., ease of understanding). Graphics can take the form of 2 dimensional (2D) or 3 dimensional (3D) images. Graphics can be coloured or black & white. They can take the form of line drawings or graphemes (i.e., letters of the alphabet). They could be *pictographic* (e.g., a picture of a house = 'house'), *ideographic* (e.g., a picture of a heart = 'love') or *arbitrary* (e.g., a string of letters, d-o-g = "an animal known as a dog") in their construction. Here it should be noted that people who are pre-intentional or pre-symbolic in their communication would not be able to use graphics.

The decision to use graphics and the subsequent selection of an appropriate graphic, needs to be informed by a thorough understanding of what symbol systems the person has previously used and the person's current comprehension of symbols. For example, their understanding of object representations, remnants (or parts) of objects, photographs, coloured cartoon drawings, line drawings, letters, etc. Consideration also needs to be given to the age appropriateness of the graphic to be used and the person's ease of access to the graphic (e.g., how big or what colour do they need to be in order to be seen; what form should they should take so they can be physically manipulated by the person).

Symbol systems commonly in use include:

- Softpics (Australian Product - *Innovative Programming*, NSW)
- COMPIC (Australian Product - *Communications Resource Centre*, Victoria)
- Picture Communication Symbols - PCS (Board-maker)
- Makaton Symbols (Adapted for Australia - *Makaton Australia*, NSW)
- Rebus symbols
- Blisssymbols
- Pick and Stick
- Product logos

Where a person exhibits difficulty using graphics one question to ask is, '*does the person understand what the symbol represents?*' (i.e., a question of personal learning experience). Another equally important question to ask is '*does the person understand that using the symbol (e.g., pointing to it) is a means by which their needs can be communicated?*' (a question of the person's stage intellectual development). When seeking to answer these questions, formal assessment (by a Speech Pathologist) might be necessary.

Where it has been determined that the person has the potential to comprehend graphics, difficulties with comprehension could be overcome by the use of systematic instruction techniques. These generally involve pairing the presentation of the symbol with the item or action it is intended to represent and in turn demonstrating how use of the symbol will lead to a person's need being met. Repeated exposure to such training, in functional contexts and naturalistic settings, is usually required. In these settings, people and their communication partners can benefit from prompts and cues, when and how to use their communication strategies. However, as the person and their communication partners gain competence and confidence, prompts and artificial cues need to be faded.

e) Gestures & Sign

Consistent gestures can be used by communication partners to help people understand what is happening or what is expected of them. However, the person can also use their own idiosyncratic gestures (including body movements, face and eye movements, stereotypic movements such as arm flapping and hand wringing, breathing and challenging behaviour) to let communication partners know their needs, expectations and feelings. To be effective, as part of an AAC system, these gestures and their respective meanings should be identified, documented (e.g., photographed or accurately described) and responded to consistently by communication partners (Chan & Iacono, 2001; Sigafos, Woodyatt, Tait, Tucker, Roberts-Pennell & Pittendreigh, 2000).

Signing can take a number of forms, including finger spelling and Auslan. Here it is important to note that Auslan is the sign language of the deaf community and is a language in its own right. It is usually used by those who are congenitally deaf and, due to its complexity, is rarely used by people with intellectual disability.

For people with cognitive impairment there is 'Makaton key concept signing'. Makaton provides a simplified, key concept vocabulary paired with signs for every day use. Here it is important to note that only people who are symbolic communicators will be able to use sign, and that the complexity of the form that the signing takes will be determined by the person's cognitive ability.

Some people will use a formal of signing systems, while others will have developed their own idiosyncratic signs. Where people use sign language, it is useful to have available a signing dictionary to assist communication partners. Where people use idiosyncratic or adapted signs, it is useful to have these photographed and stored in a book that the person carries with them, i.e, a personal communication dictionary, to assist communication partners.

Where a person uses signing, those providing primary support have a responsibility to attain proficiency in its use and to use it wherever possible. Though the person's Speech Pathologist could provide some training, communication partners need to take responsibility for developing their own skills through in-service training and courses offered by, for example, TAFE and organisations such as Makaton Australia.

Sign and gesture can also be useful for persons with verbal communication skills, but who have receptive language difficulties. The use of sign and gesture with such people has been observed, in some instances, to increase the person's use of vocalisation and aid learning, especially among children (Hurd, 1996; Konstantareas, 1984; Reichle, York & Sigafos, 1991).

f) Spoken Word

Spoken words are the most complex form of communication. Their use necessitates the coordination of vocal sounds, which over time have developed consistent and shared meanings for the person and their communication partners. The effective use of the spoken word is dependent upon the person's understanding of the rules of *phonology* (i.e., how sounds are to be formed and sequenced) and their physical ability to produce those sounds (i.e., the ability to coordinate their breathing, tongue, palet and lips). To use the spoken word effectively, people must have an understanding of the *semantics* of the language (i.e., what the sounds / words mean). Their effective use of the spoken word also presupposes an understanding of *syntax* or *grammar* (i.e, how words are to be grouped to convey meaning) and *pragmatics* (ie., how the use of words, phrases and non verbal communication modes and phrases are to be adapted or modified in different social situations to convey different meanings or nuances).

Where people have difficulty mastering the many complexities of language, key words and phrases provide a useful tool both for the person with complex communication needs and their communication partners. They generally utilise key nouns in conjunction with single verbs. They are most often used in a concrete context, to talk about what is happening in the 'here and now'.

Key words can sometimes be generated by the person's communication partners, and then taught to the person through systematic instruction. However, often it is the person with the complex communication needs who already has a vocabulary of key words with idiosyncratic meanings that need to be documented and defined to ensure a common understanding between the person and their different communication partners. For this purpose, a personalised dictionary can be useful, particularly where a person has very individualised ways of using vocalisations, words or phrases. Where vocalisations, words or phrases are accompanied by consistent idiosyncratic postures and gestures, these could either be described or ideally photographed for inclusion in the personalised dictionary. Video recordings can also provide a useful induction tool for new communication partners.

Even where a person might not use recognisable words, the structure, tone and volume of their vocalisations could prove to be the basis of an effective AAC system. Again, it is important to document this information (possibly incorporating the use of a tape recorder) and respond consistently.

As with all AAC techniques, the effectiveness of key words and phrases is very much reliant on their regular and consistent use, by both the person and their communication partners.

5.3 Examples of Communication Systems

The communication strategies noted above can be used either independently or in combination, depending upon the person's assessed skills and needs. The various strategies can be used to form communication systems to improve a person's receptive and / or expressive communication skills. Their use can also provide communication partners with the means of promoting both personal and work-related relationships that are based on more effective communication.

Aided communication systems, are generally classified as either *Low (light) technology systems* or *High technology systems*.

Low (light) technology systems

Low (light) technology systems are relatively easy to produce and are of minimal cost. However, despite being relatively easy to construct, professional involvement in their selection and design is still important, together with the monitoring, maintenance and up-grading of the system in response to people's changing needs. Low (light) technology systems typically comprise objects, photos, graphics or key words. They can take the form of communication boards, communication pages or communication books, communication wallets, access cards and visual timetables, etc (Bloom & Treloar, 1996; Murphy & Scott, 2002).

When establishing such tools, it is important to consider the person's:

- understanding of symbols (i.e., the complexity of the symbols to be used);
- physical ability to identify the symbols (e.g., see them, feel them, etc);
- physical ability to access the system (i.e., reach, point, touch, hold) and manipulate the symbols (e.g., the size of the symbol and the materials out of which they are to be constructed); and
- semantic or meaning system - how they prioritise and structure information (e.g., which symbols or objects belong together and how to lay them out for ease of access); and
- the symbols / vocabulary they need for the different contexts in which they live, participate in education, work or socialise

The person's skills need to be carefully assessed prior to setting up a communication system. Often, the most effective way to develop an understanding of how the person would prefer to organise their communication system is to experiment with them over several sessions and have communication partners observe and report on how the person is using the various aids. Ease of transport and storage is also a critical consideration for the design of a communication aid.

There follows some examples of low (light) technology systems commonly in use, though this list is by no means exhaustive:

a) Communication Boards

Communication boards, choice or topic boards can incorporate photos, graphics and key words, depending upon the person's assessed skills and their needs. They can be used by the person to make requests, specific choices or their preferences known; to relate individual needs and / or express specific thoughts or feelings; to tell stories and maintain social closeness. They may also

be used for etiquette and of course humour. They can be used to initiate and participate in two-way conversations, if the person has the pre-requisite cognitive skills. Enabling the person to make choices and express needs, thoughts and feelings is important when seeking to relieve anxiety, and minimise some of the background factors contributing to 'challenging behaviour'.

b) Communication Wallets

Communication Wallets can provide a compact alternative to a communication board, particularly where portability issues complicate the use of a full communication board. They could include photos, graphics and / or key words. They are effective where a person has a limited number of specific needs they wish to communicate on a regular basis with a variety of people.

c) Rosters and time tables

Rosters and timetables can be very important in assisting people to understand the structure of their day and their week. Knowing what is to happen next can promote independence. Knowing what is happening next and with whom they are to undertake that activity can also relieve anxiety, and in turn minimise some of the background factors that contribute to 'challenging behaviour'. Rosters and timetables commonly use photos and graphics. However, depending upon the person's assessed skills and needs, they could also incorporate sound cues (e.g., music), smell cues or key words, etc.

d) Planning and Memory Aids

Planning and memory aids commonly utilise objects, photographs and graphics - depending upon the person's skills. They could take the form of a picture-based diary, that the person carries with them between venues (e.g., home, school, work or activity centre). Alternatively, they could be in the form of a symbol-based shopping list. For example, having available a range of symbols, such as plastic fruit, jar labels, photographs or line drawings, could assist the person to explain what they would like to buy and then provide them with a tool to use at the supermarket to enable them to more independently locate the items.

Planning and memory aids can also be used to support a person more independently undertake a series of activities or chores throughout the day. For example, the sequence of activities or chores could be represented by an ordered sequence of symbols placed on a board or in containers (e.g., a *Schedule box*). The person is prompted by the symbol as to what to do next and as the task is completed the symbol is removed from the schedule.

e) Chat Pages & Chat Books

Chat pages and chat books can be an important tool to assist to people have a conversation about aspects of their life that are of particular significance to them. They are designed to go beyond the communication of every day needs, which are usually facilitated by a communication board. However, they can be used in conjunction with a communication board, which might provide the person's basic vocabulary for the conversation.

Often communication does not go beyond a person's functional needs, simply because communication partners don't know what else to talk about. Chat pages and chat books can address this problem by presenting material to promote discussion concerning, for example, the person's personal history or life story, a particular holiday experience or just what has happened in their life over the past few weeks. They can be particularly useful for people with complex communication needs, when promoting relationships with family, friends and support staff.

Chat pages and chat books are generally comprised of souvenirs and mementos collected during an activity (e.g., tickets from a show, a score card from bowls, a coaster from the pub or the label from a food wrapper). They might include drawings, symbols and photographs. They will also include captions prepared by a communication partner that help explain what the items signify.

The preparation of a chat page or chat book needs to be a collaborative activity, between the person and a communication partner. It is not something that can be made for, and then given to the person. Also, when preparing captions, the general rule is that they are written in the first person, as if the person themselves was describing what happened: e.g., “*I went to the theatre and saw the play ‘Oliver’*”.

Care needs to be taken when preparing a chat page or chat book to ensure that souvenirs and mementos are preserved safely. However, the structure of the chat page or chat book needs to maximise the person’s access to individual items. Importantly, chat pages and chat books need to be regularly up-dated, or a new chat page or chat book developed following a significant life event (e.g., a holiday, a birthday party). A person could in fact build up a library of chat pages or chat books, covering different topics or events. Chat pages and chat books should be easily replaceable as they can be lost or fall apart through ‘wear and tear’.

High technology systems

High technology systems too can be built upon the use of photos, graphics and key words or phrases, etc. They include systems that use microcomputers and software packages. They can provide printed output, or take the form of a 'voice output communication aid' (VOCA). Such devices can be designed to communicate pre-programmed messages or activate a range of devices in response to a persons needs.

Examples of simple VOCAs are the Big Mack™, Step-by-Step™ or One Step™, all of which require only a single press to activate them. They can be programmed to store one or more messages. An example of a more complex high technology communication aid is the Dynovox™. These more complex aids can be activated in a variety of ways (e.g., direct touch, the use of scanning lights and switches operated by a single movement or infra-red devices). Many of the more sophisticated VOCAs can be adapted to a multitude of functions (e.g., environmental control, printed out-put, storing long messages or lectures, linked to a computer or to a telephone line).

The prescription of electronic devices as part of an AAC system is a highly specialised area, requiring professional assessment and input from those with specific technical expertise and experience (e.g., a Speech Pathologist working in a technology service; see Section 8: *Resources*).

Hi-tech systems can be used in conjunction with other strategies, including both low-tech (light-tech) aided systems (e.g., photos and graphics) and unaided systems (e.g., key words, gestures).

Having the opportunity to observe another person using a piece of equipment can be useful. However, it is not usually appropriate to ‘borrow’ someone else’s equipment for trial. For practical trials, suppliers will usually provide equipment on short-term loan (see Section 8: *Resources*).

Importantly, a piece of equipment should never be purchased until the person who will use it has been assessed as able to do so by an experienced team. Issues such as access, seating, placement of switches, as well as determining which of the many options available is the most suitable, are all part of such an assessment.

Facilitated Communication (not recommended)

Facilitated Communication (FC) involves a communication partner providing physical support to a person to (actively) guide their arm and hand in the use of a symbol board or electronic keyboard. FC remains controversial, as it is often unclear whether the message can be rightly attributed to the person with disability, or if it is significantly influenced by the facilitator. Research has not yet established its validity as an acceptable AAC technique

Peer reviewed studies have found no conclusive evidence that facilitated messages can be readily attributed to the person with complex communication needs. Rather, most messages appear to originate with the facilitator (Jacobson, Mulick & Schwartz, 1995). However, there are some reports of people (with Autism Spectrum Disorders) moving from the use of FC to being independent communicators (Biklen, 1990).

Information obtained through or based on FC should not form the sole basis for making any diagnostic, treatment or lifestyle decisions (American Speech-Language Association, 1995; Speech Pathology Australia, 1997).

6 Training in the Use of Communication Systems

6.1 Training processes

A common comment, when reviewing an AAC system, can be “*we don't bother using it, because no one really understands it*”. For this reason, training and support for communication partners is an essential part of establishing and maintaining an effective AAC system.

Educating and training the primary user and their communication partners is most effective when it includes collaborative work and real-life contexts. Training people and their communication partners separately, or conducting training in isolation from the every-day situations in which communication strategies are to be used is of minimal value. This is because both people with complex communication needs and their communication partners frequently experience difficulty generalising and applying skills taught in 'formal sessions' to real life situations.

Education and training needs to be tailored to meet the needs of both the primary user and their communication partners, taking into account varying skills and experiences in the use of AAC systems. The expertise of a Speech Pathologist or other professional experienced in AAC and the provision of education for persons with complex communication needs is integral.

For many people with an intellectual disability and complex communication needs, concentration and fatigue are important to consider when attempting to teach a new task. These factors all need to be addressed when, for example, introducing the person to a new strategy or piece of equipment, or making a significant modification to an existing strategy or device.

To maximise success, the communication system should increase in complexity on a gradual basis, with the achievement of each successive goal providing the foundation for subsequent goals. A communication system can easily fail, not because it was inappropriately prescribed, but because the implementation process was not appropriately designed, or it was not implemented in a manner in keeping with the person's needs and those of their communication partners.

Writing the procedure out as a *task analysis* can enhance learning for communication partners. It can also generate a useful tool with which to induct new communication partners. The task analysis should include guidelines of when and how to provide prompts, and how to fade those prompts as people gains competence and confidence in the use of their communication system.

On-going education and training will often help to identify necessary refinements, adaptations or alterations to AAC systems, which were not apparent during the initial assessment. Video-recording of training can be useful when providing feed-back to participants, when evaluating progress with the use of key strategies and when later inducting new communication partners.

The time between consultations can provide an important opportunity for the person and their key communication partners to practice and trial adaptations in a variety of real-life situations. During these times, contact between sessions (often initiated by the clinician) can prove both an important source of encouragement and support to communication partners, especially those inexperienced in the use of AAC strategies or procedures.

In addition to individual training for people with an intellectual disability and their communication partners, the provision of more general communication training can be an important part of the induction and in-service training for all support staff. For example, training in Makaton Key Concept Signing. Also, refer to three model workshops outlined in Buterfield, Arthur and Sigafos, 1995; and training material in Murphy and Scott, 2002.

6.2 Training content

The core communication skills that the person might need to learn include, being able to:

- Orientate and respond to a communication partner
- Secure a communication partner's attention
- Make a request or signal rejection
- Make a comment
- Establish a topic of conversation
- Sustain a topic of conversation
- Participate in a two-way exchange of information, including active listening
- Repairing a breakdown in the communication process

The aims of training could encompass developing the person's ability to use the identified communication strategies to:

- Be in the company of others and socialise with those people
- Protest
- Initiate and respond to greetings
- Express preferences and make choices
- Request assistance or information
- Answer yes / no questions
- Answer open ended questions (e.g., what, when, how, why, who?)
- Make comments
- Provide direction to others
- Convey feelings and attitudes

Importantly, education and training of the person and their communication partners should ultimately be designed to enable both parties effectively communicate the things that are important to them, and better enable them to live and work together (Quill, 2001).

6.3 Strategies to foster the growth of adaptive two-way communication

- Ensure the person has a chance (time) to get their message across. Put them in the 'driver's seat'. Allow them to take the lead. Wait for them to show you what they need or what they are feeling.
- Observe closely and listen carefully.
- Respond positively to all attempts at communication
- Avoid the tendency to jump to conclusions and take control. More often than not, you run the risk of misinterpretation. Assume nothing and expect everything.
- Minimise distractions or anything that might interfere with the person's attempts to communicate, or your attempts to listen or observe (e.g., other people or noisy music).
- Develop and maintain consistent routines.

- Maximise the person's participation in every day activities.
- Help the person to use whatever is available in their environment to communicate:
 - Support them to use objects in their environment to show you what they want to say or what they want you to do.
 - Teach them the name of the object (e.g., 'cup') or label its function for them as they use it (e.g., 'drink').
 - Make sure they have access to any formal communication tool they would normally use (e.g., a communication book or voice output communication system).
 - Ensure people with limited mobility are always appropriately positioned to engage with others, participate in activities and access their communication systems.
- Consistently make use of the person's preferred communication strategies: objects, pictures, sign, key words, etc. Family members and professionals have a responsibility to be proficient in the preferred communication strategies of those they support, or to ensure ready access to an interpreter.
- Consistently demonstrate / model the use of communication strategies / systems in every-day situations.
- Provide prompts and cues to foster the appropriate use of communication strategies, fading these over time as the person gains confidence and competence.
- Provide training and support to communication partners in the use of the person's communication strategies / system (e.g., key concept signing).

7 Monitoring & Evaluating Communication Systems

People with complex communication needs using a communication system, together with their communication partners are responsible for monitoring and evaluating the communication system that has been established, within the scope of their experience, skills and expertise. In addition, people with complex communication needs and their communication partners should be encouraged to seek advice and assistance as required, initiating referrals, for example, to a Community Support Team.

For clients of DADHC, Disability Services the monitoring and evaluation of communication systems needs to be conducted in accord with the *Community Support Team Individual Planning Policy*. This policy requires that Case Workers regularly review progress of an Individual Plan (IP) with their supervisor, and regularly seek feed-back from the client, family members, guardian or carers involved in supporting the person in the implementation of their IP.

Due to the dynamic nature of the issues frequently associated with people with complex communication needs, follow-up needs to focus on specific communication goals. Here though, the form and frequency of support to clients of DADHC, Disability Services will be provided according to the *DADHC Disability Services Prioritisation and Allocation Policy* (August 2002).

Evaluation Models:

'The Communication Needs Model' (Beukelman & Mirenda, 1998) proposes that the effectiveness of any AAC system can be measured by the application of a simple equation:

$$\begin{aligned} & \text{No. of individual communication needs identified at the time of the initial assessment} \\ & - \text{No. of individual communication needs that are met / satisfied by the current system} \\ & = \text{No. of residual, unmet communication needs.} \end{aligned}$$

'The Five Accomplishments' (O'Brien, 1992) provide a useful framework for assessing the overall effectiveness of a communication system. Consider if the communication strategies / system better enables the person to:

1. Be present in their community, rather than being isolated or segregated;
2. Actively participate in mainstream services, not be restricted to specialist settings;
3. Experience choice and autonomy in their daily life;
4. Develop competence and to have opportunities to demonstrate that competence; &
5. Have their rights and dignity respected as citizens of the wider community.

Questions to ask when monitoring and evaluating communication systems:

- *Does the communication system convey information that is valid; i.e., is the message that is communicated in keeping with the intent of the communicator?*

Validity can be established by acting on the message and seeking confirmation from the communicator that the response was appropriate (e.g., asking them or observing their response to see if they were satisfied). Validation might also involve seeking confirmation from at least one other person (ideally more) who knows the communicator well.

- *Is the communication system reliable; i.e., do the procedures or symbols used to convey a message have a consistent meaning or interpretation across time and in a variety of settings or situations?*

Reliability can be established by acting on the message in a variety of situations and seeking confirmation from the communicator that the response was appropriate (e.g., asking them or

observing their response to see if they were satisfied). Seeking additional confirmation from a person who knows them well (e.g., a family member or a person who has worked with them for a long time) is also an important strategy. However, it should be noted that for some people with an intellectual disability and complex communication needs, communication strategies can be very specific (i.e., idiosyncratic) to certain settings or for use with particular communication partners. These details should be documented (e.g., described, drawn, photographed) in the person's personal communication dictionary, in order to inform and assist different communication partners. Also, audio and video recording of some strategies can prove useful when training new communication partners.

- *Is the communication system easy to use, not complex or daunting for either the person or their communication partners?*

Systems should meet the person's needs in the simplest and quickest way possible. They need to be built upon communication goals that focus on achievable, short-term successes. However, they also need to be *comprehensive*, providing practical solutions to every day problems.

- *Is the communication system intrinsically motivating and rewarding for both the primary user and their communication partners?*

All those who are using the communication system need to be able to see that they can get their message across and that they can understand what others are trying to say to them. For example, if a person points to a symbol on a communication board or uses a sign / gesture, those providing support should endeavour to respond as quickly as possible. If people are not motivated to use the communication system or do not find its use rewarding, this could be an indicator that it requires revision or replacement, or that the communication partners need further training.

- *Is the communication system used regularly?*

The consistent use of a system needs to be built into the person's daily routines, using the Individual Planning (IP) process. The IP process provides a formal mechanism to regularly monitor the communication strategies / system in the context of the person's every day life. Where the use of communication systems are infrequent, the skills of both the person and their communication partners could decline. Infrequent use could be an indication that the system or procedure is inadequate, too complex, or inappropriate to address the person's current every-day needs, or the person and / or their communication partners require additional training in its use. In situations where the person chooses not to use their communication system (e.g., for reasons stemming from poor health or their prevailing emotional state), they still should be provided with ready access to the communication system; it should not be 'put away' until someone else decides that 'they might be ready to use it'. At critical times (e.g., where the person is physically or mentally unwell), alternative strategies might need to be developed as an interim measure.

- *Is the communication system used ubiquitously; in a variety of settings and with a variety of communication partners?*

Proficiency by both the person and their communication partners is promoted by regular use of the system in a variety of settings. Where the settings in which they are used appear limited (e.g., only at home), this could be an indicator that the system requires revision or the equipment requires modification (e.g., to make it more transportable or easier to use at a different table or on a different chair). Alternatively, it might be that further training is required by either the person and / or their communication partners, specific to other environments. However, some communication systems can be specific to particular environments (e.g., making a choice at the meal table).

8 Resources

AAC Research Team (University of Stirling, Scotland)

WWW.aacscotland.com

Department of Psychology, University of Stirling, STIRLING, FK9 4LA, UK

Ph: 44 (0)17 8646 7645; Fax: 44 (0)17 8646 7641; E-mail: joan.murphy@stir.ac.uk

Australian Group on Complex Communication Needs (AGOCCN)

(formally Australian Group on Severe Communication Impairment - AGOSCI)

WWW.members.iinet.net.au/~sharono/AGOSCI/index.html

NSW contact: c/- Northcott Society

2 Grose Street, North Parramatta NSW 2151

P.O. Box: 4055 Parramatta NSW 2151

Ph: (02) 9890 0100; Fax: (02) 9683 2827; E-mail: cats@northcott.com.au

Australian Hearing

(Incorporating the Commonwealth National Acoustic Laboratories)

WWW.hearing.com.au

126 Greville St, CHATSWOOD, NSW, 2067

Ph: (02) 9412 6800.

Australian Society for the Study of Intellectual Disability (ASSID)

WWW.rmit.edu.au/departments/ps/assid/

NSW contact person: Linda Goddard

PO Box 1179, ALBURY, NSW, 2640

Ph: (02) 6051 6875; Fax: (02) ; E-mail: lgoddard@csu.edu.au

American Speech-Language-Hearing Association (ASHA)

WWW.asha.org

10801 Rockville Pike, Rockville, MD 20852

E-mail: actioncenter@asha.org

Centre for Developmental Disability Studies (University of Sydney, Faculty of Medicine)

WWW.cdds.med.usyd.edu.au

PO Box 6, RYDE, NSW, 1680

Ph: 02 8878 0500; Fax: 02 9807 7053; E-mail: trevorp@med.usyd.edu.au

Communication Aid User's Society

WWW.users.bigpond.com/causinc

269 Centre Road, Bentleigh, Vic, Australia, 3204

PO Box 292, Bentleigh, Vic, 3204

Ph: (03) 9553 8390; Fax: (03) 9553 8391; E-mail: causinc@bigpond.com.au

Communications Resource Centre, Victoria (part of SCOPE, Victoria)

(formally *Severe Communications Impairment Outreach Programme* [SCIOP])

WWW.scopevic.org.au

PO Box 381, ST KILDA, Victoria, 3182

Ph: (03) 9536 4256 or 9537 2611; Fax: (03) 9525 3274; E-mail: crc@scopevic.org.au

COMPIC

(a business unit of SCOPE, Victoria)

WWW.compPic.com

10 Roper St, Moorabbin, Victoria, 3189

Ph.: (03) 9553 6182; Fac.: (03) 9553 6183; E-mail: compPic@bigpond.com

Computer Assistive Technology Service (Northcott Society)

WWW.northcott.com.au

2 Grose Street, North Parramatta NSW 2151

P.O. Box: 4055 Parramatta NSW 2151

Ph: (02) 9890 0100; Fax: (02) 9683 2827; E-mail: cats@northcott.com.au

DADHC Communication and Rights Project Resource Library (Metropolitan North Area)

Ryde Community Services Centre: Level 3, 16-18 Bridge Street, EPPING, 2121

PO Box 974, EPPING, 1710

Ph: (02) 9202 5300; Fax: (02) 9202 5348; E-mail:

DADHC, Disability Services - Learning & Development Unit

357 Glebe Point Road, GLEBE, NSW 2037

Ph: (02) 9692 7111; E-mail: tracy.martin-nixon@community.nsw.gov.au

Hanen Centre, Canada

WWW.hanen.org

Suite 403 - 1075 Bay Street, Toronto, ON M5S 2B1, CANADA

Ph: (416) 921-1073; fax: (416) 921-1225; E-mail: info@hanen.org

Innovative Programming

(Softpics, Skill Builder & Lets Talk Together Manual)

WWW.innovativeprogramming.net.au

Contact: Yalana Bloom

9 Oaklands Ave BEECROFT, NSW, 2119

Ph: (02) 9876 3568; Fac.: (02) 9876 3568; E-mail:

International Association for the Scientific Study of Intellectual Disability (IASSID)

WWW.iassid.org

31 Nottingham Way South, Clifton Park, New York 12065-1713, USA

E-mail: njross@compuserve.com

International Society of Augmentative and Alternative Communication (ISAAC)

WWW.isaac-online.org

Suite 308, 49 The Donway West, Toronto, ON, M3C 3M9, Canada

Ph: (416) 385-0351; Fax: (416) 385-0352; E-mail Addresses: secretariat@isaac-online.org

Australian Contact:

Bronwyn Hemsley, President - ISAAC Australia Inc.

PO Box 184 BROOKVALE, NSW, 2100

Ph: (02) 9972 8125; Fax: (02) 9451 9215; E-mail Addresses: bhemsley@tscnsw.org.au

Makaton Australia

<http://seds.sturt.flinders.edu.au/matthews/makaton/default.htm>

NSW Contact: Andy Smidt

Ph.: 0414 301 855; Email: andy@dartglobal.com.au:

Resources (e.g., *Makaton Dictionary* and *Makaton Symbols*) available from:

Special Education Centre, University of Newcastle, NSW, 2308

Contact: Barbara-Lee Crickmore

Ph.: (02) 4921 6293; Fac.: (02) 4921 6939; EMAIL: Makaton@newcastle.edu.au

Regency Park Rehabilitation Engineering, South Australia

WWW.regencyrehab.cca.org.au

PO Box 2438 Regency Park, SA, 5942

Ph: (08) 82438348; Fax: (08) 8243 8337; E-mail: assistivetech@cca.org.au

School of Communication Sciences & Disorders (University of Sydney, Faculty of Health Science)

<http://casino.cchs.usyd.edu.au/csd/>

The University of Sydney (Cumberland Campus), PO Box 170, Lidcombe, NSW 1825

Ph: (02) 9351 9450; Fax: (02) 9351 9173; E-mail: CSD.HOS.secretary@cchs.usyd.edu.au

Spectronics

WWW.spectronicsinoz.com

PO Box ROCHEDALE, Qld., 4123

Ph: (07) 38086833 or 1800 999718; Fax: (07) 38086108; E-mail: mail@spectronicsinoz.com

Speech Pathology Australia

WWW.speechpathologyaustralia.org.au

PO Box 150, Concord, NSW, 2137.

Ph: (02) 9743 0013; Fax: (02) 9743 0014; E-mail: sppathnsw@email.cs.nsw.gov.au

TASC & Technability (The Spastic Centre)

WWW.thespasticcentre.org.au

187-189 Allambie Road, Allambie Heights, NSW, 2100.

PO Box 184, Brookvale NSW, 2100

Ph: (02) 9975 8240; Fax: (02) 9451 9215; E-mail: technability@tscnsw.org.au

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10 Acknowledgments

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Appendix 1.

The Communication Bill of Rights

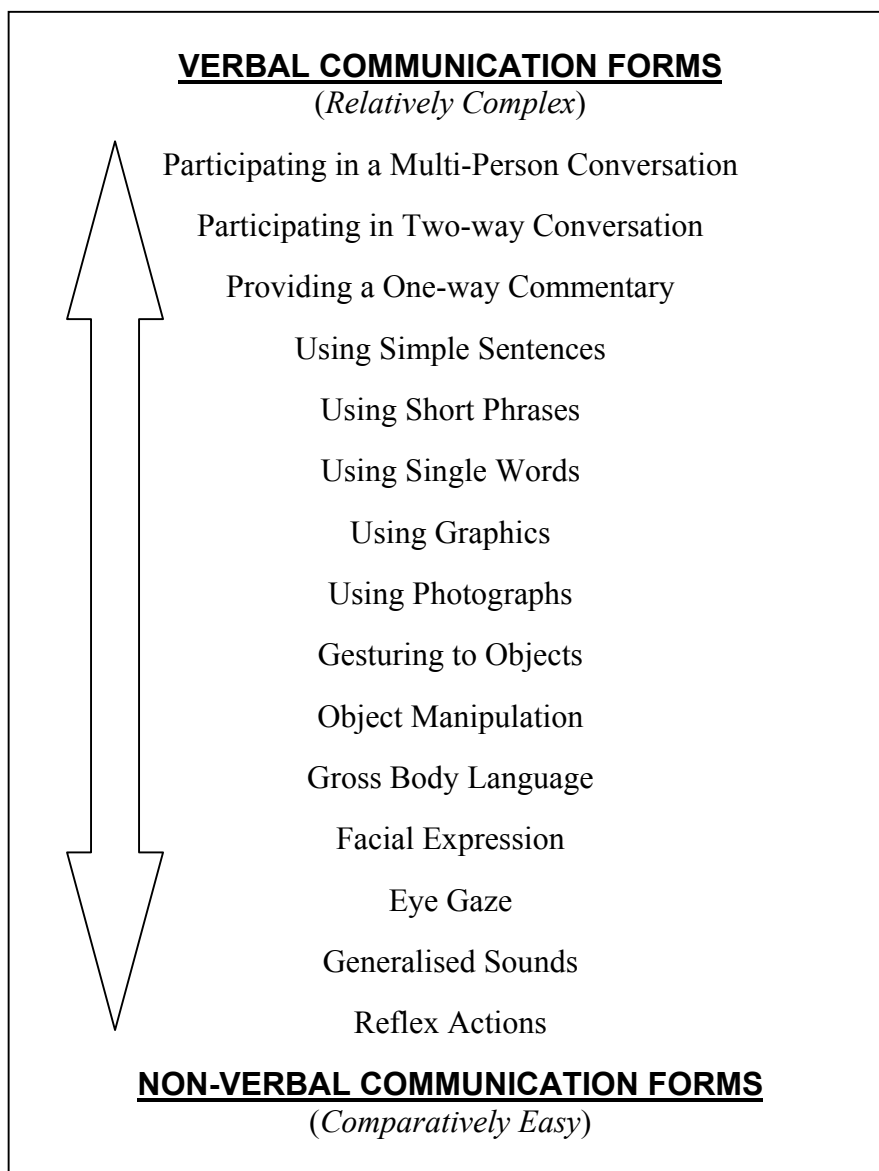
National Joint Committee for the Communication Needs of Persons with Severe Disabilities (1992). *ASHA, Vol. 34 (Supplement 7)*, pp. 2-3.

All people, including those with a disability of any extent or severity have a basic right to affect, through communication, the conditions of their existence. All people have the right to:

1. Request desired objects, actions, events and people
2. Refuse undesired objects, actions, events or people
3. Express personal preferences and feelings
4. Be offered choices and alternative
5. Reject offered choices
6. Request and receive another person's attention and interaction
7. Ask for and receive information about changes in routines and environment
8. Receive intervention to improve communication skills
9. Receive a response to any communication, whether or not the responder can fulfil the request
10. Have access to AAC and other assistive technology services and devices at all times
11. Have AAC and assistive technology that function properly at all times
12. Be in environments that promote one's communication as a full partner with other people, including peers
13. Be spoke to with respect and courtesy
14. Be spoken to directly and not be spoken for or talked about in the third person while present
15. Have clear, meaningful and culturally and linguistically appropriate communications

Appendix 2.

A hierarchy of communication forms (McVilly, 2002)



Note -

Within some of the broad Communication Forms noted above, there exists a hierarchy of complexity. For example, within the category "*Photograph*", there are coloured photographs and black & white photographs. Furthermore, a photograph could be taken of the whole object or a remanent / part of the object it is intended to represent. Similarly, "*Graphics*" can take the form of 2 dimensional (2D) or 3 dimensional (3D) images. Graphics could be coloured or black & white. They could take the form of line drawings or graphemes (i.e., letters of the alphabet). They could be *pictographic* (e.g., a picture of a house = 'house'), *ideographic* (e.g., a picture of a heart = 'love') or *arbitrary* (e.g., a string of letters, d-o-g = "an animal known as a dog") in their construction.

Also, some people might be able to gradually increase the complexity of their communication strategies and systems over time, given appropriate education and experience. Others however, due the nature of their disability, will remain static in their form of communication, though possibly becoming more proficient in the use of their preferred system.

Appendix 3.

Examples of assessment tools used within DADHC.

Tool	Author	Publication	Domains Assessed
Pre-verbal Communication Schedule (PvCS)	Kiernan, C., & Reid, B.	1987 NFER – Nelson, Berkshire, UK	attention seeking, needs satisfaction, simple negation, positive interaction, negative interaction, shared interaction, motor initiation, vocal imitation, understanding of non-verbal communication, understanding of vocalisation & speech
Communication Assessment Profile for Adults with Learning Difficulties (CASP)	van der Gaag, A.	1988 Speech Profiles Ltd., UK	event knowledge, gross discrimination, fine discrimination, comprehension, functional use of every-day items, sentence comprehension, expression of sentences, communicative functions <i>* Requires modification for use in Australia.</i>
Functional Communication Profile (FCP)	Kleiman, L.	1994 Lingui Systems, USA	sensory motor, attentiveness, receptive language, expressive language, pragmatic / social language, speech, voice, oral, fluency
Clinical Evaluation of Language Fundamentals (CELF)	Semel, E., Wiig, E., & Secord, W.	1995 Psychological Corporation, Australia	<i>Expressive</i> : word structure; sentence formulation; sentence assembly / grammar; sentence recall. <i>Receptive</i> : sentence structure; concepts & directions; semantic relationships; word classes. Observation scales also available.
Reynell Developmental Language Scales: Comprehension & Expressive Scales	Edwards, S., Fletcher, P., Garman, M., Hughes, A., Letts, C., & Sinka, I.	1997 NFER – Nelson, Berkshire, UK	comprehension of spoken language; use of spoken language
Checklist of Communication Competencies (Triple C)	Bloomberg, K., & West, D.	1997 SCIOP, Melbourne	pre-intentional reflexive; pre-intentional reactive; pre-intentional pro-active; intentional informal; intentional formal; intentional referential <i>* For use by Support Staff with specific training.</i>
Functional Assessment of Comprehension Skills (FACS)	Ulliana, L., & Mitchell, R.	1998 Autism Association, NSW	Assesses communication interactions in every day contexts and in situations involving challenging behaviour.

Note - Formal assessment can only be conducted by professionals (e.g., Speech Pathologists) with specific training in the use and interpretation of specialised the instruments, such as those listed above. Often these instruments will have to be adapted, according to the needs and circumstances of the person being assessed. Formal assessment always needs to be complemented by observation of the person in every-day settings and their practical use of various communication strategies. Also, file reviews, interviews with communication partners (e.g., family, friends, support staff) and consultation with other professionals who know the person, are all vital components of the assessment process. DADHC Speech Pathologists have a list of *recommended tools*, in addition to those above.

Appendix 4.

DADHC Tracking Form for Visual Communication Resources.

Tracking Form for Visual Communication Resources

NAME: _____ D.O.B.: _____
SERVICE: _____

Please complete a separate form for each resource.

Visual Resource

Title of resource: _____

Date implemented: _____ Therapist/teacher: _____

Description: _____

Setting used: _____

Photographic/photocopied record:

Changes/Modifications/Updates

Date: _____ Details: _____

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