Allied Health Professions' Office of Queensland

Speech Pathology Learner Guide

Assist and support the use of augmentative and alternative communication systems

April 2017

Queensland Government

Speech Pathology Learner Guide – Assist and support the use of augmentative and alternative communication systems

Published by the State of Queensland (Queensland Health), April 2017

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Acknowledgement

The Allied Health Professions' Office of Queensland wishes to acknowledge the Queensland Health allied health clinicians who have contributed to the development of these learning support materials. In alphabetical order:

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Contents

Introduction 4
Learner Guide Structure 4
Learning requirements 4
Self-Completion Checklist 5
Recognition for Prior Learning 5
Symbols 6
Augmentative and alternative communication systems 7
Learning outcomes 8
Learning topics 10
Content ..... **Error! Bookmark not defined.**
1. Understanding Communication 10
1.1 Key Components of Communication 10
1.2 Complex Communication Needs 16
Key Points 21
2. Augmentative and Alternative Communication 22
2.1Augmentative and Alternative Communication 22
2.2 Available Systems and Strategies 25
2.3 Selecting and implementing an AAC System 41
Key Points 53
3. Risk Management 53
3.1 Roles and Responsibilities of an Allied Health Assistant 53
3.2 Policies and Procedures 55
3.3 Scope of Practice 57
Key Points 60
Self-completion checklist 61
Workplace observation checklist 67
Resources 69
Glossary 70
References 71

Introduction

Welcome to the Learning Guide for *Assist and support the use of augmentative and alternative communication systems.*

Learner Guide Structure

This Learner Guide has been developed specifically for allied health assistants to provide the necessary knowledge and foster the skills required to assist a speech pathologist in supporting the development of speech and communication skills.

The Learner Guide includes information on:

- Understanding Communication
- Augmentative and Alternative Communication
- Risk Management

The Learner Guide has six sections:

1. Introduction
2. Learning Topics
3. Workplace Observation Checklist
4. References
5. Resources and Websites
6. Appendix

Each topic includes sub-topics which cover the essential knowledge from the unit of competency. You will be asked to complete the activities in each topic to support your learning. These activities address the essential skills from the unit of competency and will be part of your assessment.

Throughout the guide, you will be given the opportunity to work through a number of activities, which will reinforce your learning and help you improve your communication and organisation skills, manual handling skills and ability to apply therapeutic exercise practices. Take time to reflect during the module on how you may be able to apply your new knowledge and skills in your role as an allied health assistant.

Learning requirements

It is important that you have an allied health workplace supervisor who has agreed to support in your study. Regular clinical supervision during the course of your study should also assist you to stay “on track”, provide opportunities for your supervisor to monitor your progress, provide encouragement, and to check that you understand the information in the learning materials. This will be particularly important if you are having any specific learning difficulties.

Activities and assessment tasks may require access to the internet. If you do not have internet access please talk with your supervisor about your options.

Self-Completion Checklist

The Self Completion Checklist outlines the underpinning knowledge and skills contained in each of the topics for the unit of competency you will be assessed against. You will be asked to review the list and place a tick in the box if you feel you have covered this information in each section and if you feel ready to undertake further assessment. If you have any questions about this checklist, ask your supervisor.

Recognition for Prior Learning

If you subsequently enrol in the Certificate IV in Allied Health Assistance you may be able to undertake recognition assessment for the study that you have done. To enable you to gain recognition for the learning you have undertaken in this Learner Guide, it will be necessary for you to complete the Assessment Guide associated with this unit of competency. The assessment activities in this Assessment Guide must be signed off by a **speech pathologist.** Copies (Word version) of the Assessment Guide can be obtained by contacting the AHPOQ team via e-mail: AH_CETU@health.qld.gov.au

Please Note

Due to the varied environments in which allied health assistance is carried out, the terms ‘patient’ and ‘client’ are used interchangeably throughout this resource. Please use your organisation’s preferred term when performing your duties.

Symbols

The following symbols are used throughout this Learner Guide.

Important Points – this will include information that is most relevant to you; statistics, specific information or examples applicable to the workplace.

Activities – these will require you to reflect on information and workplace requirements, talk with other learners, and participate in a role play or other simulated workplace task. You may use the space provided in the Learner Guide to write down a draft response. Record your final answer in the Assessment Guide.

Further Information – this will include information that may help you refer to other topics, complete activities, locate websites and resources or direct you to additional information located in the appendices.

Case Studies – these will include situations or problems for you to work through either on your own or as a group. They may be used as a framework for exploration of a particular topic.

Research – this refers to information that will assist you complete activities or assessment tasks, or additional research you may choose to undertake in your own time.

Augmentative and alternative communication systems

A communication impairment can have a devastating effect on a person's social and emotional wellbeing. It can also impact significantly on academic progress for those acquiring speech and language skills. In a healthcare situation, we need effective communication to facilitate understanding, treatment and clear explanations to our clients.

In this unit you will learn about assisting and supporting clients to use augmentative and alternative communication systems. The first section will discuss the key components of communication and complex communication needs. It looks at the communication needs of clients with congenital, developmental, acquired and progressive disabilities.

The next section will introduce you to the variety of augmentative and alternative communication (AAC) systems and strategies available. It will focus on the criteria used in the selection and application of AAC devices for people with complex communication needs.

The final section is a guide to the risk management and OHS policies and procedures that relate to your work as an allied health assistant within the context of supporting clients to use total communication systems. It is vital to understand these before assisting a speech pathologist in any program or therapy intervention.

Learning outcomes

As an allied health assistant assisting and supporting the use of augmentative and alternative communication systems, you will be required to perform the following tasks.

Prepare for the development of augmentative and alternative communication systems by:

- Obtaining information (which may include: care plans, exercise plans, client treatment plans and records etc.) about requirements from the speech pathologist.
- Confirming the communication goals (which may include: teaching specific skills needed to use the system or to generalise skills so that they system can be used in a wider context) with the speech pathologist.
- Determining the need for an interpreter where the client has English as a second language.
- Conferring with allied health professionals about any ambiguities or requirements outside the scope of role and responsibilities as defined by the organisation.

Assist in the development of augmentative and alternative communication systems by:

- Confirming the nature of the communication system and implications for resource requirements (which may include commercially available resources, resources prepared by the worker and resources required for speech and language therapy) with the speech pathologist.
- Confirming client's previous and current abilities with the speech pathologist to inform choice and presentation of resources.
- Selecting resources following the speech pathologist's directions.
- Consulting with the speech pathologist to ensure that resources are appropriate to the individual and their communication system, the type of therapy and the specified communication goals.
- Identifying existing resources, adapting them and using them in an imaginative and flexible manner within the directions of the speech pathologist.
- Making resources.
- Ensuring resources are not hazardous to the individual or others, and satisfy health and safety requirements.

Support the use of augmentative and alternative communication systems by:

- Identifying the type of communication system used by a client prior to making contact.
- Making appropriate power supply available.
- Preparing appropriate resources and equipment to facilitate communication via the communication system.
- Setting out equipment and furniture for client comfort and optimum access to the communication system, in line with health and safety procedures and guidelines and according to the directions of the speech pathologist.

- Liaising with the speech pathologist and other relevant health professionals to assist the client to access the system in regard to physical comfort and any specific positioning and mobility requirements.
- Using appropriate modes of communication in communicating with the client.

Clean and store equipment by:

- Cleaning any material and equipment according to manufacturer's requirements.
- Storing material and equipment according to manufacturer's requirements and organisation protocols.
- Reporting equipment faults to an appropriate person within the workplace.

Document client information by:

- Using accepted protocols to document information relating to the program to assist with the use of a communication system in line with organisation requirements.
- Using appropriate terminology in reporting.

Learning topics

The table below outlines the relationship between the topics presented in this Learner Guide and the essential knowledge required for completion of the unit of competency.

Topics	Essential Knowledge
Understanding Communication	• General level of understanding of communication needs of clients with congenital, developmental, acquired and progressive disabilities.
Augmentative and Alternative Communication	• General level of understanding of the variety of augmentative and alternative communication (AAC) systems and strategies that are available. • General level of understanding of criteria used in the selection and application of AAC devices for people with complex communication needs.
Risk Management	• OHS policies and procedures that relate to the allied health assistant's role in implementing speech pathology programs.

Content

1. Understanding Communication

This topic covers information about:

- Key Components of Communication
- Complex Communication Needs

Activities in this topic address the following essential skills:

- Communicate effectively with clients in a therapeutic or treatment relationship
- Work under direct and indirect supervision
- Communicate effectively with supervisors and co-workers.

1.1 Key Components of Communication

Communication is central to our lives.

We use communication to:

- express our needs
- explain our ideas
- exchange information

- establish relationships with one another
- express our feelings
- connect to our communities
- access technology

We need communication to:

- participate
- understand
- socialise
- make a contribution
- decrease frustration
- be in control of our world

Communication is the ability to share experiences, exchange ideas and transmit knowledge. We communicate in many ways, through sign language, writing, gestures, facial expressions and even smoke signals, but the most common way is through speech. A seemingly simple process when two people converse is really a complex series of processes that have speaker and listener roles.

Speaker

1. Deciding what you want to say.
2. Selecting the right words that are stored in the language centre of our brain.
3. Putting the right words in grammatical order according to the grammatical 'rules' of our language.
4. The brain sends 'instructions' along the motor nerves to the muscles to activate the 'Organs of Speech'.

(Denes and Pinson 1993)

Listener

1. The speech sound wave travels through the air to the listener's ear.
2. There are pressure changes in the air that trigger the listener's hearing mechanism.
3. This 'hearing mechanism' sends messages to the brain to recognise the spoken message.

Interestingly there are actually two listeners, as the person who speaks also listens to what they have said too. We call this feedback and it helps us to monitor what we are saying.

In a healthcare situation we need effective communication to facilitate understanding, treatment and clear explanations to our client.

Language

To be a successful communicator we need to acquire the code of language.

A broad definition of language states that it is any set or system of symbols that are used in a more or less uniform fashion by a number of people, who are thus enabled to communicate intelligibly with one another. Language allows us to listen to and understand the communication of others and to convey our thoughts and feelings to those around us.

In our culture, this is most often achieved through a system of arbitrary signals, such as voice sounds, gestures or written symbols. Such a system also includes rules for combining its components, such as words, into meaningful phrases and sentences.

The official language of Australia, English, has the following components:

- A range of speech sounds that are combined to make words.
- A vast and rich vocabulary.
- Rules about how words can be sequenced in phrases and sentences to convey a limitless range of messages.

These basic components exist, but are different, in other languages. For example, French uses a different range of speech sounds and uses a different pattern of word order in sentences. Sign languages, such as the official sign language of Australia, Auslan, use a range of manual hand shapes instead of speech sounds, but also have an extensive vocabulary and rules about sequencing signs to convey meaning.

Our language learning starts at birth. The normal development of speech is usually completed by the age of seven or eight. Language is substantially developed by then but continues to develop until early adulthood, for example in complex comprehension.

The use of arbitrary signals — speech sounds that make up words or manual signs — is significant. If we did not have arbitrary signals, we would be forced to communicate using our bodies or the things in our environment, for example: we would ask for a drink by pointing to a cup, or indicate we have a headache by massaging our head. Arbitrary sounds, words or signs allow us to communicate in ‘concepts’, which means we are freed from ‘here and now’ and concrete ideas. We can talk about yesterday or the future; we can be specific in our description of things; we can communicate differently with different people and in different environments.

Language, therefore, is symbolic and, thus, provides us with limitless communication opportunities

For further reading:

Bowen, C (2015). Typical speech and language acquisition in infants and young children. http://www.speech-language-herapy.com/index.php?option=com_content&view=article&id=35:admin&catid=2:uncategorised&Itemid=117 Pinker, S (2000), The language instinct: how the mind creates language, Perennial Classics.

Activity 1: Understanding Language and Communication

You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Think about a two-year-old child. You are at the library to look at and choose some books. Now think about visiting the library with an adult friend.

1. What words would you expect a two-year-old to understand?

2. What would you expect a two-year-old to talk about in this situation? How long would their sentences be?

3. List some differences between the conversation you would have with the two-year-old and your adult friend.

Activity continues on the next page

Activity 1: Understanding Language and Communication

Imagine visiting a country where you only know a few words for ordering food and drinks and going shopping. Something unusual happens — you fall ill, lose your passport or got lost.

1. Why is it difficult to get your message across?

2. What aspects of the local language are you missing?

The person in the example above comes to you for help. They only know a few words of your language. They are very distressed and are trying to tell you something important. What could you do to help them get their message across?

1.2 Complex Communication Needs

Complex communication needs, or CCN, is a term used to describe communication difficulties, '…associated with a wide range of physical, sensory and environmental causes which restrict or limit their ability to participate independently in society. They and their communication partners may benefit from using Augmentative or Alternative Communication (AAC) methods either temporarily or permanently' (Balandin 2002).

Another definition of Complex Communication Needs states: 'those for whom gestural, speech, and/or written communication is temporarily or permanently inadequate to meet all of their communication needs. For those individuals, hearing impairment is not the primary cause for the communication impairment. Although some individuals may be able to produce a limited amount of speech, it is inadequate to meet their varied communication needs.' (Beukelman & Mirenda 1998).

According to Perry, Reilly, Bloomberg and Johnson (2002), approximately one in five hundred people have complex communication needs in Australia.

People with complex communication needs can have difficulties with the following:

- understanding others
- expressing what they want to say
- clarity of speech
- voice
- literacy

These communication difficulties can occur at any age and for many of the following reasons.

Congenital and Developmental Disabilities

Children may be identified at birth, or in the early weeks of life, as having the potential to develop communication difficulties. For example, a diagnosis of Down Syndrome will usually be made in the days or weeks following birth. Parents will be encouraged to carefully monitor the progress of their baby.

Other difficulties or syndromes may develop or become apparent in later months and years. Usually a parent or health professional will raise concerns if a baby fails to reach their milestones or if unusual behaviour is noticed, for example: Cerebral Palsy, hearing impairments, Autism Spectrum Disorder, delayed speech and language development, intellectual impairment etc.

Progressive Disabilities

Progressive disabilities can occur at any age and describe a range of conditions involving the gradual loss of skills, including communication skills. Diseases such as Parkinson's Disease and Motor Neurone Disease are well known and are usually

associated with adults, but there are some diseases that affect children, such as Rett Syndrome.

Acquired Disabilities

This term refers to a trauma, illness or condition that occurs after speech and language skills have been acquired. This includes communication impairments that occur as the result of a head injury and stroke.

Assessment

A speech pathology assessment might identify difficulties in the following areas:

- Speech
  - Imprecise or slurred speech (dysarthria); usually occurs due to muscle weakness and can occur following stroke or in Cerebral Palsy.
  - Difficulties coordinating the movements of speech (dyspraxia), which can occur as part of a developmental, acquired or progressive neurological condition, for example: childhood apraxia of speech, brain injury.
- Voice
  - Removal of larynx or voice box, usually as a result of laryngeal cancer.
  - Quiet voice; this can occur in diseases such as Parkinson's Disease.
- Language skills
  - Acquired language impairments (both understanding and expression); this can occur following stroke or brain injury.
- Literacy skills
  - Delayed literacy development; frequently co-occurs with delayed speech and language development.
  - Acquired literacy impairments; frequently co-occur with acquired language impairments.

However, because of the complexity of the syndromes, illnesses and injuries that produce these communication difficulties, a person's communication impairments need to be assessed within a holistic assessment that includes the following:

- Physical skills
  - Control of body movements, especially the organs of speech for verbal communication, but also movements of the head (to signal yes or no) and hands (to point, gesture or use manual signs).
- Cognitive skills
  - Ability to attend and process information, particularly spoken language.
  - Ability to learn and remember.
  - Ability to reason and solve problems.
- Sensory skills
  - Hearing
  - Vision
- Emotional Skills
  - Ability to engage with others

- Personal Factors and Environment
  - Home
  - Family
  - Lifestyle and daily activities

For further reading, go the factsheets page of the Speech Pathology Australia website:

- What is a Communication Disability? Communication Impairment in Australia
- Augmentative & Alternative Communication
- Communication and Swallowing Difficulties Following Stroke http://www.speechpathologyaustralia.org.au/SPAweb/General_Information/Fact_Sheets/SPAweb/General_Information/Fact_Sheets/Fact_Sheets.aspx?hkey=e0ad33fb-f640-45b1-8a06-11ed2b73f293
- Glossary Sheets about a range of speech and language impairments can be found at: http://www.afasicengland.org.uk/publications/glossary-sheets

Activity 2: Understanding Complex Communication Needs

You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide where appropriate.

Find a partner. One of you has to describe a story that you heard on the news recently, without speaking, writing or drawing.

1. Discuss the following and summarise your discussion in the space below:
   - For the person not speaking: What did it feel like?
   - What did you do to get your message across?
   - What did your partner do to help?
   - What did your partner do that did not help?

2. Find a partner. One of you has to tell a funny story using made up (non-English) words. If you know how to speak in a language that your partner does not know, use this.

   Discuss the following and summarise your discussion in the space below:
   - For the person listening: What was it like to not understand?
   - How would you feel if this happened every day?
   - How might this problem change your behaviour towards other people?

Activity continues on next page.

Activity 2: Understanding Complex Communication Needs (continued)

3. What might be the effect of a progressive physical disability on a person's communication skills?

4. What might be the effect of an intellectual impairment on a person's communication skills?

Key Points

Communication is essential in our world and it is a basic human right to be able to communicate.

It is one of the most complex processes performed in life and involves a range of highly developed skills.

As a consequence of congenital/developmental difficulties, accident, illness or injury people can either have difficulty acquiring effective communication or lose communication skills and abilities later in life.

The effect of a communication impairment can be devastating on a person's social and emotional wellbeing. It can also impact significantly on their academic progress acquiring speech and language skills.

2. Augmentative and Alternative Communication

This topic covers information about:

- Augmentative and alternative communication (AAC)
- Available systems and strategies
- Selecting AAC systems

Activities in this topic cover the following essential skills:

2.1 Augmentative and Alternative Communication

The term **augmentative and alternative communication (AAC)** refers to methods of communication that either support spoken communication (*augment*) or replace spoken communication (as an *alternative* to speech) that is not sufficient to meet a person's needs, for example: a person whose speech is difficult to understand by those not familiar with the person. AAC can also support receptive language (understanding) by providing visual prompts or cues.

People who have the potential to benefit from AAC may include those whose developmental disability impairs their capacity to develop intelligible speech, those who have difficulty developing language and people who lose their capacity to speak due to trauma or the onset of disability through illness (Moore 2008). AAC can be used to assist the development of verbal communication, particularly with young children (Sevcik & Romski n.d.). "AAC users should not stop using speech if they are able to do so. The AAC aids and devices are used to enhance their communication" (ASHA n.d., 'What is AAC?', para. 3).

Children and adults with communication problems associated with a range of physical, neurological or sensory disorders also have the potential to benefit from AAC. These impairments, in addition to environmental barriers, often hinder client participation. The barriers may be temporary or permanent and result in an inability to use functional speech to meet all communication needs. People who can benefit from AAC are deemed to have complex communication needs. Candidacy for AAC is based on a person's unmet communication needs across all communicative contexts (Buekelman & Mirenda 1998).

'Augmentative and Alternative Communication ranges from use of gestures, sign languages, and facial expressions, to the use of alphabet or picture symbol boards, and even sophisticated computer systems with synthesised speech' (Glennen, & DeCoste 1997).

'An Augmentative and Alternative Communication system is an integrated group of components, including the symbols, aids, strategies, and techniques used by individuals to enhance communication' (American Speech-Language-Hearing Association 1991).

The Goal of AAC

The aim of AAC is to provide a person with complex communication needs with the most efficient and effective communication system possible. The two most important values expressed by people who rely on AAC are:

- saying exactly what they want to say, and
- saying it as fast as they can.

Ideally, AAC should incorporate or have the potential to provide **Spontaneous Novel Utterance Generation (SNUG)**. This means that the AAC system provides the same benefits as typical spoken language:

- Use of a language code that is understood by others (alphabet or written text, hand signs, picture symbols).
- Written text and picture symbols might operate with or without voice output.

For sign language and symbol systems:

- A large and comprehensive vocabulary.
- The ability to sequence signs or symbols in unique ways to convey multiple message types.
- To be quick and efficient.

It is important to remember that we all use multiple means of communication in our daily lives. Although we tend to think of speech as our main means of communication, we actually use a great deal of unaided communication as well. For example, we nod our heads to agree or accept something; we accompany our speech with facial expression etc.

Just as typical communicators use multiple means to convey messages, people using AAC are encouraged to make use of as many different methods as possible too. This approach means that the person has a range of methods available to them to meet their needs in different environments and, often, acknowledges and supports residual skills and abilities (Loncke, Campbell, England & Haley 2006).

Activity 3: Explaining AAC to Clients

Imagine you are working with a speech pathologist who has asked you to explain some information to a new AAC client while he or she attends to an emergency. How would you answer the following questions while remaining within the parameters of your work role?

You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

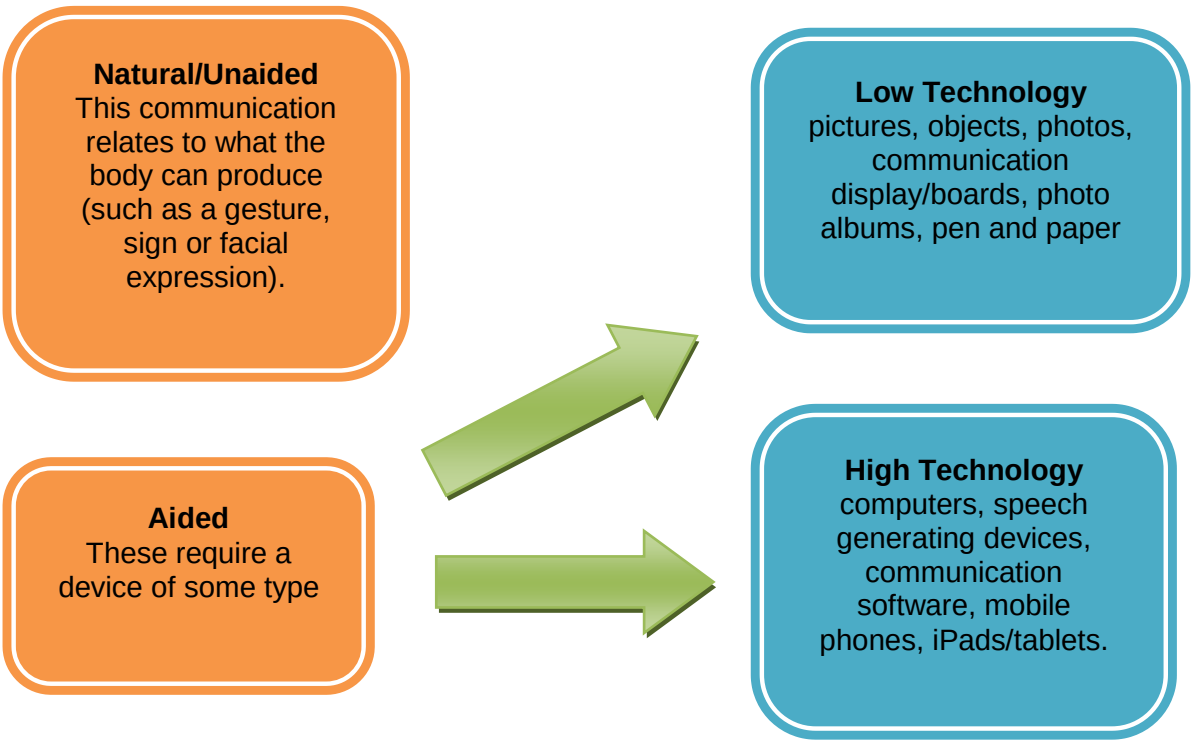
1. What is AAC?

2. How will it help?

2.2 Available Systems and Strategies

AAC systems are either unaided or aided systems. Communication messages produced with unaided systems are achieved with the use of the body alone. Within the aided system group, there are two subgroups: low technology and high technology. In all cases, aided systems of communication require some kind of material or equipment to transmit the communication message.

Types of AAC



Unaided systems

Unaided systems include:

- Informal AAC
- Signing

Informal AAC

Informal AAC refers to methods of communication such as natural gesture, facial expression, eye gazing and body postures. These methods are not a language system and cannot communicate very complex concepts. They are referred to as non-symbolic. As a consequence, they almost always rely on the interpretive abilities of the communication partner for success. These methods of communication can work effectively in certain situations or with familiar people, however they usually do not allow the person to be specific about the intent of their communication message compared to methods that use some kind of symbol system for example, signs, picture symbols etc.

Signing

Many people with complex communication needs learn to understand language and express themselves through the use of hand signs. Signing systems have their origins in the Deaf communities of the world, who have developed their own unique language systems just as the speaking communities have developed spoken English, Japanese, French etc. The signing language of the Australian Deaf community is Auslan and some people with complex communication needs learn this system. Auslan also meets the principles of Spontaneous Novel Utterance Generation (SNUG), because it is as rich and comprehensive as spoken English.

Not all AAC users who use signing learn the full Auslan sign language. Other AAC approaches use hand signs drawn from Auslan but select key words or signs to develop comprehension and expressive language. This approach is known as Key Word Sign (formerly known as “Makaton”). “Key word signing uses a core vocabulary of specially selected words that comprise concepts and ideas considered to be the most appropriate for children and adults with communication and language difficulties.” (Scope Victoria n.d., ‘Key Word Sign Australia’, para. 1).

In Key Word Sign, the person uses both speech and signs simultaneously. While Key Word Sign borrows signs from Auslan it uses signs in the usual spoken English word order (not the word order of Auslan, which has its own grammatical rules). Key word signing can also include the use of non-verbal communication strategies (facial expression, body language, & direction of movement), symbols and some finger spelling of words (Scope Victoria n.d.).

In order for signing to be effective, the AAC user needs the cognitive and physical skills to learn and form a large number of recognisable hand shapes. And, importantly, they also need communication partners and environments that understand and support signing; otherwise the principle of a shared language code is not met. In many cases, people who use signing have other communication strategies for times when they are with people who do not understand sign language.

Further reading about the Key Word Sign Australia vocabulary visit: http://www.scopevic.org.au/key-word-sign-australia/

Aided systems

Words and letters:

Some people with complex communication needs have literacy skills that allow them to use either whole words or the letters of the alphabet to spell messages. Words or letters might be displayed on boards or in books (low technology) or they might be displayed on a speech generating device or tablet (high technology). The ability to use the 26 letters of the alphabet to spell messages allows a person to be spontaneous and precise in the communication messages they send, that is, this method meets the principle of Spontaneous Novel Utterance Generation (SNUG). If the alphabet is displayed on a high technology speech generating device, it will usually offer synthesised (computer based) voice output.

Examples of word/letter systems:

.

Low technology spelling keyboard

Eg. Frenchay Alphabet Board (e2L products) (http://www.spectronicsinoz.com/product/fab-frenchay-alphabet-board)

High technology speech generating device

Eg. Lightwriter SL40(Toby Churchill)

(http://www.zyteq.com.au/products/communication_systems/lightwriter_sl40)

Tablet apps

Eg. Predictable

https://www.spectronics.com.au/iphoneipad-apps-for-aac

Remembering the principles of sharing a *code of language,* this method of communication using a low technology alphabet board (no voice output) can only be successful with people who can follow and remember the sequence of letters selected by the user and be able to process the sequence into words. If this method involves a device with voice output, it has the potential to be understood by everyone – not just those who also have good literacy skills

Use of objects, pictures, photos or symbols

Some people with complex communication needs use objects, pictures, photos or symbols to understand and express themselves, in much the same way as key signs represent ideas and concepts. The choices between these different communication materials will depend on the skills of the person in terms of their cognition and visual skills, mainly, along with their ability to physically point to and manipulate the materials.

These materials can be offered on boards or in books (low technology) or on speech generating devices or tablets (high technology). The latter option usually offers the person voice output features.

The range of communication opportunities afforded to people using the materials in this group (objects, pictures, photos, symbols) is vast. Using objects to represent language concepts might have a place for developmentally young children or adults, but are limited in their scope. They are effective for requesting food or toys or some activities, however, they cannot effectively represent the more abstract concepts of language. Typically developing children acquire a large number of abstract concepts early in life, so it is important not to restrict AAC users to these materials if they have the potential for language learning.

Pictures and photos are able to represent more language concepts, but are often most effective with concrete concepts. Symbols systems are the most effective in representing language. Some communication books (low technology) and speech generating devices (high technology) can provide AAC users with the essential components of a language system, thereby meeting the principles of Spontaneous Novel Utterance Generation (SNUG).

Examples of low-tech symbol systems:

Object being used to represent language concepts
Portable Object Communication Unit (http://www.spectronics.com.au/product/portable-object-communication-unit)

Symbols being used to represent language concepts
Bifold communication choice board
(http://www.spectronics.com.au/product/bi-fold-communication-choice-board)

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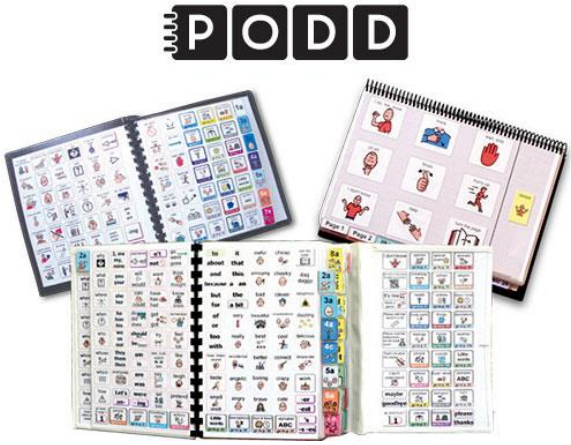
Photo cards that can be used to represent language
Language builder picture cards
(http://www.stageslearning.com/products/language-builder-picture-noun-cards)

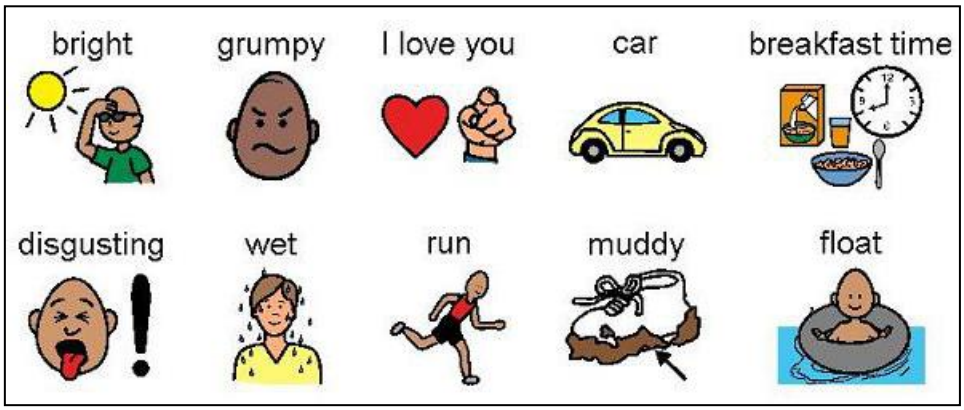


Communication Book using picture symbols
to represent language:
Pragmatic Organisation Dynamic Display (PODD)
http://www.spectronics.com.au/product/pragmatic-organisation-dynamic-display-podd-communication-books-direct-access-templates

Symbol sets

There are a number of commercially available symbol sets that are used frequently in the development of communication materials and equipment, as follows:

- PCS or Picture Communication Symbols (Mayer Johnson) (may also be referred to as “Boardmaker”) —these can be purchased on CD or as part of an online subscription to create communication displays, books and overlays for some speech generating devices. These symbols are also frequently available on speech generating devices that store symbol vocabularies in their programming software.
- Compic – simple line drawings, available on CD or USB in colour and black & white.
- Dynasyms
- SymbolStix – online vocabulary of picture symbols.



PCS Symbols (Mayer Johnson: www.mayerjohnson.com)

Symbolstix (News to You:
http://www.cricksoft.com/us/products/symbols/symbolstix.aspx

Picture Communication Symbols (PCS) are © Mayer-Johnson Inc.
SymbolStix © 2009, N2Y Inc.

Further Reading: Fact sheet regarding the use of symbols:
Communication Matters http://www.communicationmatters.org.uk/page/symbols

Vocabulary choice, size and organisation

Regardless of the method used to represent language (objects, pictures, photos or symbols), the other crucial factor in the development of an AAC system is the choice, size and organisation of the vocabulary. This applies for both low technology communication boards and books and high technology device options.

Books and boards are often produced by the people involved with the AAC user — family members, therapists, teachers, aids, assistants, support workers etc. Commercially available software programs have revolutionised the task of producing colourful and attractive communication resources. However, a glossy and eye catching communication book or fancy communication device is worthless unless careful thought has gone into the selection and organisation of the vocabulary.

Ideally all team members, especially the AAC user, should be involved in selecting the language concepts needed, choosing symbols that represent those concepts, and organising those symbols in a way that the AAC user can access effectively. This is not a 'one-off' task, but will require constant review as a person's language needs change over time. It is a constant challenge to find ways of providing a sufficiently extensive but efficient vocabulary of symbols that serves an AAC user in a range of different environments.

Symbols and speech generating devices

Symbols can also be displayed on speech generating devices. Devices fall into two main categories:

- Static display
- Dynamic display

Static display devices have a grid of cells on the face of the device, for displaying symbols. Usually the symbols are produced on a sheet of paper (overlay) that is inserted onto the device. When the cell is pressed, the device will speak out the word or phrase or sentence represented by the symbol.

Static display devices range in the number of cells and messages they can offer from 1 to 128. Most static display devices store more than one set of messages. For example, a device might display 32 messages at a time (on one overlay), but it can store the voice recordings for 12 overlays giving a total capacity of 384 words or messages.

Examples of static display devices:

Go Talk (Attainment)

(http://www.spectronicsinoz.com/catalogue/gotalk-communication-device-series)

Tech Speak (Amdi)

(http://www.amdi.net/tech-speak-12-levels)

Dynamic display devices use touch-screen technology to display symbols. Like static display devices, screens are usually laid out in a grid pattern. These devices usually offer more flexibility in the number of symbols that can be displayed at a time. For example, a number of grid layouts will be available in the programming software. They also have the benefit of being able to offer programming links between screens or pages. This allows the user to 'navigate' between displays of symbols, rather than manually changing a paper overlay.

Although these devices have the benefit of voice output over systems that use books and boards, the issue of vocabulary choice, size and organisation is just as relevant. Some high technology devices provide page sets or systems that have been well designed in terms of their language content and would meet the principles of SNUG.

Examples of dynamic display devices

Mobi 2

(http://www.zyteq.com.au/products/communication_systems/mobi_2)

Tobii Dynavox T-Series (Tobii-Dynavox)

Comes in 7-, 10- & 15-inch screens, depending on needs of client. (http://www.tobiidynavox.com/t-series/)

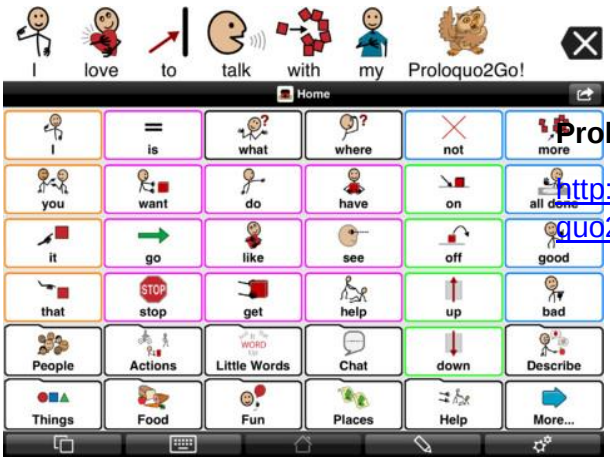
NOVA chat 5 (Saltillo Corporation)

(https://saltillo.com/products/nova-chat-5)

Tablets and Apps

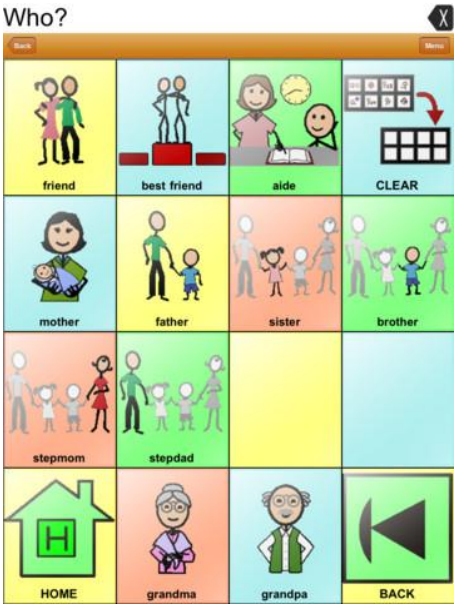
In addition to the dedicated dynamic display devices listed above, tablets are increasingly being used for AAC. "Recent developments in mobile technology, including the introduction of the iPad and other smartphone and tablet devices, have provided important new tools for communication" (McNaughton & Light 2013, p. 107). Tablets and mobile phones provide a cheaper alternative to the historically expensive high-tech AAC devices (McNaughton & Light 2013). McNaughton and Light suggest that these technologies have also made AAC more socially acceptable for people with complex communication needs. These devices can also be used for multiple functions and not just as a communication device, hence their appeal.

Examples of Apps for AAC:



Proloquo2Go (AssistiveWare)

http://www.assistiveware.com/product/proloquo2go



TouchChat

http://touchchatapp.com/

Verbally

http://verballyapp.com/

Further Reading: Spectronics “Apps for AAC”
https://www.spectronics.com.au/iphoneipad-apps-for-aac

Other communication aids

People with voice difficulties alone are not usually described as having complex communication needs, however communication aids are available to assist them and have been included here.

For people who have very quiet voices and are unable to communicate effectively in noisy environments, there are devices available called voice amplification devices. As the name suggests, these simply provide extra volume and are similar to the equipment used by public speakers. The device usually consists of a headset and microphone connected to a portable amplifier worn at waist level. This equipment will not improve the clarity of speech, only the volume, and is not suitable for someone with unclear speech.

Some diseases or injuries require the removal of the larynx (voice box). For those who are unable to regain voice through other techniques, an artificial larynx can be an option. This device is a hand held unit that is usually operated by pressing it against the soft tissue of the neck. The device vibrates this tissue, which simulates the base sound or note of speech. The person articulates the sounds of speech along with the use of the device, thus producing intelligible speech.

Resource development

As an allied health assistant, you might learn how to create communication resources using symbol sets to make individual symbol cards, boards, books or overlays for static display speech generating devices under the guidance of a speech pathologist. This will require you to learn to use particular software programs to design the required resource and print it for use.

You may also learn to program vocabulary on a dynamic display speech generating device or within apps on a tablet. Each of these devices/apps has its own programming system with manuals and tutorials to guide you through the process. Under the direction of a speech pathologist, you may be asked to learn these skills, which will probably require some independent self-study.

Selection techniques or access techniques

Access is a term used to describe the way an AAC user physically operates their system. It can be divided into direct and indirect techniques. Because people with complex communication needs frequently have other physical or sensory disabilities, access to their AAC system needs to be carefully assessed and considered to ensure the system is efficient for them. Occupational therapists have the necessary skills and abilities to assist in this area. They can determine the best method of access.

Direct selection or access can be achieved through independent movement such as pointing to pictures, handing over symbol cards, pressing buttons on a device etc. This technique requires good strength and coordination of hands and fingers. Some people with physical impairments may still be able to access their system directly, but with the aid of another piece of equipment. It is still called direct access because the equipment makes direct contact with the objects, pictures, symbols etc. Examples include:

- stylus
- hand held pointer
- simple head pointer or head stick

Another strategy for direct selection is achieved through a technique called **facilitated communication**. Facilitated communication is 'a strategy for teaching individuals with severe communication impairments to use communication aids with their hands. In FCT (Facilitated Communication Training) a communication partner (facilitator) helps the communication aid user overcome neuro-motor problems and develop functional movement patterns. The immediate aim in FCT is to allow the aid user to make choices and to communicate in a way that has been impossible previously.' (Crossley1993).

In practise, this often means that physical support is provided by the facilitator to the hand, elbow or shoulder of the AAC user. The aim should be to reduce the amount of support needed over time. Facilitated communication is a specialised form of AAC and requires formal training that is outside of the scope of this module.

Where there is no direct contact with the AAC system, and another piece of technology is required, the person is said to be using an indirect selection or access method. These options are offered on high technology devices, as follows:

- **Switch and scanning**
  - This method involves the device visually highlighting either letters, words or symbols in a regulated sequence.
  - Attached to the device is another piece of equipment called a switch.
  - Switches come in a range of shapes and sizes and can be positioned to suit whatever controlled movement/s the person is able to make for example, a small, weak movement of the head or a large, swiping movement of the hand.
  - When the highlight reaches the letter, word or symbol required by the user, the switch is activated and the item is selected.
  - Devices usually offer a range of settings that control, for example, the scanning pattern and speed.
  - All switch and scanning systems have a visual highlight (for example, LED light in each cell of the grid) and some also offer an auditory prompt.
- **Joystick**
  - Some devices can be controlled by a specialised joystick.
  - The movement of the joystick causes a light or curser to move around the display. An item is usually selected either by pressing another button or by hovering on the cell required.
- **Mouse pointer**
  - This access option works in the same way as a computer mouse, it is a cursor and can be moved across the screen of the device by the movement of a mouse.
  - Cells are selected by hovering the mouse over the desired item.

- **Headpointing**
  - This is the high technology version of the headstick referred to above.
  - This option involves the incorporation of a specialised camera on the device, which can follow the movement of a reflective dot placed on the AAC user. It is usually placed on the forehead or the bridge of a pair of glasses.
- **Eye gaze**

– This option involves the incorporation of a specialised camera on the device that can follow the movements of the eyes.

The choice of AAC system can be significantly influenced by considering the most efficient and effective access method required by those individuals with complex communication, physical and sensory disabilities. The choice of system can also be influenced by the cost of the device/software and the client's financial situation.

Positioning

The term positioning can refer to the person, furniture or AAC equipment.

People need to be in an appropriate and supported sitting position to remain healthy, safe and comfortable, and to be able to access their AAC systems efficiently and effectively. This may involve relatively simple strategies such as ensuring people are sitting with their feet flat on the floor and upright in a regular chair, through to customised wheelchairs with specialised straps and supportive cushions. Occupational Therapists and Physiotherapists have the skills and abilities to assist in this area and will be part of the multidisciplinary team involved with the implementation of an AAC system.

The choice and position of furniture can have a major impact on the use of an AAC system. Children need appropriately sized furniture; people in wheelchairs need tables that are high enough for comfortable clearance.

Positioning can also refer to the placement of equipment. Some people need to have their device flat on the table whereas others need it to be propped on a wedge or stand. Some people need their book or device placed in the mid-line of their body, whereas others need it to be placed nearer their dominant hand. If people are using a switch and scanning, the switch will need to be placed correctly and consistently in order for them to learn to use it effectively.

As an allied health assistant, you will need to follow or seek guidance from a speech pathologist, occupational therapist or physiotherapist to ensure that the AAC user, the room furniture and their AAC equipment is positioned correctly. Failure to consider these issues can impact significantly on a person's comfort and health and safety.

Activity 4: Understanding Alternative Systems and Strategies

Please answer the following questions. You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Think back to the earlier activity where you were asked to retell a story without speech.

1. What type of communication did you use?
   - ☐ Unaided or aided?
   - ☐ Informal?
   - ☐ Sign language?

2. What are the difficulties using informal or unaided communication?

3. Which AAC methods meet the principles of SNUG (Spontaneous Novel Utterance Generation)?

Compare the advantages and disadvantages of using a symbol communication book versus a high technology speech generating device that also displays symbols. Both have an extensive vocabulary of language concepts.

Activity continues on the next page

Activity 4: Understanding Alternative Systems and Strategies (continued)

4. What access options might be recommended for someone who does not have the physical ability to point to or press keys and buttons?

2.3 Selecting and implementing an AAC System

'Everyone has the need to communicate. The challenge is to figure out a way of providing all individuals with appropriate ways to meet this need, regardless of their age, diagnoses, or level of disability' (Sigafoos & O'Reilly 2004).

Beukelman and Mirenda (2005, cited in Speech Pathology Australia 2012, p. 23) state that assessment for an AAC system for a person with complex communication abilities must consider their:

- cognitive, communicative, motor and sensory abilities;
- current and future communication needs; and
- experiences of participation barriers within the environments in which he/she participates or desires to participate.

Speech Pathology Australia recommends use of the Participation Model. This is a Model of Assessment and Intervention used by speech pathologists to determine the communication needs and requirements of clients with communication impairment who are candidates for AAC. It was originally developed by Rosenberg and Beukelman (1987) and further developed by Beukelman and Mirenda (1998 & 2005).

Although it is useful to know about the Participation Model, the role of the allied health assistant only requires that you are able to help out at different stages. For example, the allied health assistant would not develop intervention strategies but may assist with tasks under the direction and guidance of the speech pathologist. This may include helping a client practice using a device or helping them to set up an environment to make it easier for the client to use aided communication.

The key elements of the Participation Model are as follows:

1. Meet the person's needs—In order to meet the person's needs, the speech pathologist and members of the team will need to gather current assessment information that includes details of the person's physical, cognitive, sensory, emotional, personal and environmental status.

   This assessment information will provide essential details about:

   - What communication methods are already established and successful?
     - These should be retained and supported.
     - For example, it may be much quicker to point to an object in the room, than find a symbol in a communication book.
   - What strengths can be used to develop new, effective communication strategies?
     - For example, a five-year-old child with Cerebral Palsy has good understanding of language and age-appropriate literacy skills (but not yet functional for a spelling based system), good vision and good hand function. The team might consider a signing or symbol system.
   - What are the personal preferences of the AAC user or their family?
     - For example, an adult may prefer black and white line drawings in a communication book, rather than brightly coloured PCS symbols; a family

may not want their child to learn to sign because they feel it will restrict the environments within which they can communicate.

2. Include current and future communication needs — it is essential to think ahead to ensure the AAC system can adapt to change over time. In most cases, this means considering the capacity of the system to grow with the AAC user, for example: accommodating a bigger vocabulary or offering the opportunity to generate more complex communication messages.

   Unfortunately, for some AAC users, this can mean thinking about the gradual loss of skills, usually the physical ability to use the communication system. For example, a literate adult with Motor Neurone Disease using a speech generating device with a keyboard to spell out their messages may lose the strength to move their hands and fingers for typing. A good assessment that takes into account the diagnosis, will have flagged the likelihood of this event, so a device is chosen that offers alternative ways of selecting keys when typing is no longer possible, that is the AAC user will be able to select the letter they want using a different process, piece of equipment or body movement.

3. Include assessment of communication needs within environments — communication does not occur in a vacuum, so it is essential to consider the environments within which an AAC user operates.

   This assessment includes both:

   - The likely people and interactions that the AAC user will engage with, for example:
   - Who do they communicate with?
   - What do they need to say?
   - What are the skills of the communication partners?

   The actual physical environment, for example:

   - Is the environment noisy, such as a busy classroom?
   - Is the volume of the voice output sufficient?
   - Is it wet? (such as a swimming pool — it is not advisable to use a speech generating device near water)
   - Is the system sufficiently portable within the environment?
   - Can the system be used in every situation? For example, a child might successfully use a voice output device from the back seat of a car, but could not communicate the same message with a communication book (no voice output).

Selecting an AAC system

Once the assessment is completed, the person with complex communication needs, their family and care team will be in a position to consider the range of available systems and strategies. Best practice in the field of AAC recommends a multidisciplinary approach to ensure that all aspects of the person’s communication, sensory and physical access needs are considered. In your role as an allied health assistant, you may be involved with occupational therapists and physiotherapists as well as speech pathologists, as systems are considered and put in place.

The following are questions and discussion points that might come up:

- What are the language needs of the person with complex communication needs and what system of language representation will suit them best? Letters, words, signs or symbols? Remember that people will need more than one system, just as we use a range of communication methods.
- For people using a picture or symbol system, how many can they look at and choose between at any one time? This will have an impact on the arrangement of symbols in a book, on a board or on a speech generating device. Some people can scan through a large number, whereas some people will only manage a few at a time.
- How will the person find or get to new vocabulary that is stored within their system? Can they turn a page; press a link button on a touch-screen?
- How will they physically generate a communication message? If they are considering using a keyboard system to spell their message, is their typing accurate and efficient? If they are considering symbols, can they carry a board or book, turn pages, and press the keys on a device? If they are considering signing, do they have the physical skills to form a range of accurate hand shapes? An Occupational Therapist has specific skills to assist in this area.
- If a person's physical skills are significantly compromised, they may need a high technology solution to meet their needs. For example, someone with weak and uncoordinated movements as a result of Cerebral Palsy may not be able to hold, press or point to symbols with their hands and need a speech generating device that offers a range of access options. One method is called 'switch and scanning' where the device highlights each communication item in a sequence and the person presses another button or switch to select the item they want. Other options are head pointing, eye gaze, use of a mouse etc.
- How well can the person see the materials? What sizes do the letters, objects or symbols need to be? This has a huge impact on the overall size of the system which could be a book or speech generating device. An Occupational Therapist has specific skills to assist in this area.
- How will the person carry or transport the communication system? Is it light and portable? Does the equipment need to be mounted on a wheelchair? Can the equipment be mounted effectively? An Occupational Therapist has specific skills to assist in this area.
- Does the person need voice output? If so, they will need a high technology solution.
- Will the people in the person's environment be able to support the system? Do they know or will they learn how to sign? Do they understand the use of symbols? Do they know how to use the device/app?
- Is the equipment durable? Will it be safe in different environments? For example, a speech generating device cannot be used near water without a protective cover. Can the person adequately care for the equipment? For example, can a young child with uncoordinated movements safely care for a small and fragile speech generating device?
- Does the person need to integrate a communication system with other technology options, for example computer access or equipment, to control their environment?

Role of the communication partner in the implementation of an AAC system

There is increasing acceptance that the role of the communication partner is crucial in the success of any AAC intervention. While families often bear the majority of the responsibility in this area, it is up to everyone to support the AAC user as they learn to use their AAC system.

When individuals have impairments that affect their language comprehension or ability to express language in typical ways, the role of the more able communication partner becomes critical (Bray 2003).

As an allied health assistant you may work with people using a range of AAC methods. How can you help?

Work with the AAC user:

- Promote a positive mind-set about the use of AAC. This will encourage the AAC user, their family and all those in contact with the person. There are numerous myths about introducing AAC — most commonly an unfounded fear that an AAC system will prevent the person developing or regaining speech. However, this is not supported by research. In fact, the introduction of AAC has been shown to positively encourage verbal communication.
- Get to know the AAC user and find out about their communication skills, as well as the impact of additional physical, sensory, cognitive, emotional, personal and environmental factors.
- Become familiar with their AAC system. Spend time learning signs, exploring their symbol books or speech generating device/app. Be prepared to attend courses to learn some AAC approaches such as Key Word Signing.
- Ask the client to show you how they use their AAC system.
- If possible, talk to the AAC user about what helps or hinders their communication. Some AAC users object strongly to a partner finishing a sentence or guessing what they want to say, whereas some AAC users find this helpful to speed up a communication exchange.
- Be sensitive to the AAC user's emotional needs. Some people have had a lifetime of communication difficulty and avoid interactions based on their past experiences, or communicate using inappropriate behaviour. Some adults, who suddenly lose their speech as the result of an accident or illness, can take a while to adjust to their situation and accept new methods of communication.

Be prepared:

- Help to ensure the AAC equipment is accessible and ready to use. For example, this may simply mean ensuring a speech generating device is placed within reach and switched on. Some clients have more than one piece of equipment that needs careful positioning and placement.
- Seek guidance from the speech pathologist, occupational therapist or physiotherapist about the positioning the AAC user and their equipment.

Help the client learn to use their system:

- Remember that people need to be shown how to use their AAC system. For people developing language, they need to see partners modelling language using their AAC systems. For example, it is not just the person with communication needs who

should be using sign language, but the partner as well; a communication partner can use a person's communication book or device to point to symbols as they speak their message.

- All AAC users sometimes need help finding vocabulary, clearing screens, adjusting volume etc. Be alert to these needs so that communication breakdowns are avoided and the person can be taught how to deal with this situation in the future.

Interact with the client:

- Always speak directly to the AAC user and not the person accompanying them.
- Always make eye contact with the AAC user at the start and between communication messages. It is easy to fall into the trap of focusing your attention on a book, board or speech generating device and missing other vital communication signals like facial expression, eye contact etc.
- Remember that AAC is multi-modal and that the person may not always use their book, board or device to communicate. Many AAC users have very expressive facial expressions and use gesture and body language effectively.
- Relax and speak in a normal tone and volume. You may be advised to simplify your speech with some AAC users who have difficulty understanding language, but this does not mean using 'baby talk'.
- If an AAC user does not respond to a question, it is important to determine the reason. There are many possible reasons for a lack of response:
  - lack of understanding of the question
  - confusion
  - fear
  - reluctance to communicate about the topic
  - need for time to formulate a response using the restricted vocabulary available
  - lack of the necessary words
- Learn to create opportunities for communication. For an adult AAC user, this may simply mean asking open ended questions or providing an interesting topic for discussion. For children, this may mean encouraging them to ask for things as part of a game (hide some of the essential items); telling a story with a repeated line that they communicate using their AAC system; letting them give the instructions in a game or activity.
- Give your clients time to communicate. Most AAC systems are slower with speech and for some AAC users the time required to construct a message is significant. It can feel awkward to begin with, so be respectful.

Further Information:

How to be a good listener. Having a conversation with someone who uses AAC:
http://www.communicationmatters.org.uk/page/having-conversation
Tutorial for supporting people who use AAC (delivered by AAC users):
http://www.aacelearning.org.uk/quiz/lesson-4-how-support-people-using-communication-aids

Case Study: Mr Jones

Mr Jones has an AAC device that requires him to type in his requests. During his trial and in one-to-one therapy sessions, Mr Jones manages his device extremely well but states that he does not use the device at other times.

On investigation the speech pathologist realises that Mr Jones cannot access his device while involved in a busy environment such as a shopping centre because he uses a four-wheel walker. An adjustment is made to the positioning of the device so that it can be attached easily to the walker and is accessible at all times, even when he sits for a meal. Mr Jones' use of the device increases dramatically as does his social outings.

Case Study: Emily

Emily is three years old and has been diagnosed with childhood apraxia of speech. She is falling behind her peers in her speech development, but has normal language skills. She is beginning to express her frustration with frequent tantrums. Although her family are keen for intervention, they are concerned about introducing an AAC system because they fear it will hold back her speech development.

You and the speech pathologist present AAC in a positive light and reinforce the benefits to the family, that is, it will be a means to support and not replace her developing speech skills. During therapy sessions, you assist Emily to communicate effectively using a speech generating device with a symbol display. Emily responds enthusiastically and is noted to try more verbal communication. The fears of the family are put to rest and intervention continues with the full support of the family.

Resistance and lack of use of AAC

Despite their best of efforts, some people with complex communication needs do not use their AAC systems to their full potential or reject them entirely (Lund & Light 2007; Hodge 2007). In your role as an allied health assistant, you might meet a client for whom this applies. It is essential for the speech pathologist to investigate the reason for their resistance as there may be a solution.

Here are some examples:

- The device may not be the right for the person because their skills or needs have changed since it was introduced. Examples include, a child's language abilities may have developed significantly and the vocabulary set is too small, the person's physical skills have changed and they can no longer use it efficiently.
- There may be limited support, for example: the person has not been given the help they need to learn to use the system effectively, people in their environment may not

have the time and patience to wait, a carer may find it easier to use a yes or no question method instead.

- The person may be grieving over their diagnosis and not be in the right frame of mind to use AAC.
- There may be access problems with the device, for example: it is not positioned correctly or the client is not positioned correctly.

Further Reading
The Participation Model: A Model for Assessment and Intervention on Augmentative Communication:
http://www.novita.org.au/library/Factsheet-Participation_model.pdf

Activity 5: Selecting and Implementing an AAC system

Read the three Case Studies below and answer the questions that follow. You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Case Study 1: Mrs Smith

Mrs Smith had a stroke in 2005. Her language has been assessed by the speech pathologist and she is able to understand well in a quiet environment but she has severe apraxia of both speech and limbs; her brain does not allow her motor system to perform movements well. The speech pathologist wishes to work out a simple communication system for Mrs Smith by using pictures. Your job is to help investigate Mrs Smith's vocabulary needs.

1. Who should you speak to about Mrs Smith's language needs?

2. You notice that Mrs Smith has difficulty holding and manipulating photos, books and magazines. What impact might this have on the choice of an AAC system?

Activity continues on the next page.

Activity 5: Selecting and Implementing an AAC system (continued)

Case Study 2: Jonah

Jonah has difficulty with his movement, which is jerky and uncoordinated. Until recently he has been able to communicate verbally, but now the volume of his voice has decreased and he has started slurring his words. Jonah was aware that this might occur but he wishes to attend university next year and will need to be able to 'talk' clearly. Jonah uses an electric wheelchair and can type and use a computer effectively. It is likely that Jonah's movement difficulties will get worse over time.

1. Think of all the situations Jonah will be required to talk in? What does that mean in terms of choosing an AAC system?

2. Jonah trials a speech generating device with a keyboard and a tablet style computer that offers an on-screen keyboard and speech output. Describe the features of both options that would meet his language needs. What are the main differences between these systems?

3. What might happen to Jonah's typing skills over time? What options need to be available in his AAC system?

Activity continues on the next page.

Activity 5: Selecting and Implementing an AAC system (continued)

4. Why would you need to consider Jonah's wheelchair?

5. Consider Jonah's and Mrs Smith's acceptance of an AAC system. Do you think they will have any resistance? What can be done to help them adjust to their new means of communication?

Case Study 3: Andy

Andy is 13 years old. He has a very large vocabulary of key-word signs, which he uses at his primary school and at home. He also has a communication book of symbols, which was made several years ago and is not frequently used. Since the symbol book was made, he has developed literacy typical of his same aged peers.

He is due to transition to a large mainstream high school. At this stage, no-one is quite sure whether the new school will be able to support his signing skills. He has come to the Speech Pathology Clinic for a review of his communication systems

Activity continues on the next page.

Activity 5: Selecting and Implementing an AAC system (continued)

1. Who will need to be included in discussions about Andy's communication systems?

2. What important factors will need to be discussed?

3. What assessments might the speech pathologist undertake with Andy?

Activity continues on the next page.

Activity 5: Selecting and Implementing an AAC system (continued)

4. What information is missing from the case study that might have an impact on a decision about AAC systems for Andy?

Key Points

- People with complex communication needs have the same needs to communicate as all people.
- There is a growing body of research evidence supporting the use of Alternative and Augmentative Communication (AAC) for people with complex communication needs.
- Choosing an AAC system is complex and must include a thorough assessment of the client and their needs within their environment.
- There are many different types of AAC system that can be customised to suit a wide range of needs.
- There must be support for the person using their AAC system within their own environments, including:
  - Positive attitudes towards AAC.
  - Assistance to learn to use their AAC system, including modelling of communication by the communication partner.
  - Practical assistance with availability, positioning, charging of equipment etc.
  - Opportunity to communicate.
  - Regular monitoring and review of needs over time.

3. Risk Management

This topic covers information about:

- Roles and Responsibilities
- Policies and Procedures
- Scope of Practice
- Supervision

Activities in this topic cover the following essential skills:

- Working under direct and indirect supervision,
- Demonstrating time management, personal organisation skills and establishing priorities, and
- Identifying issues beyond the scope of role and responsibilities and seeking assistance as appropriate.

3.1 Roles and Responsibilities of an Allied Health Assistant

The role of the allied health assistant is to support and assist the speech pathologist in providing patient care. Speech Pathology Australia defines speech pathology assistants as individuals who are “delegated tasks by speech pathologists to facilitate the delivery of speech pathology services” (Speech Pathology Australia, 2014).

The speech pathologist is always directly accountable for a client's treatment but will delegate tasks to the allied health assistant as appropriate. It is the responsibility of the assistant to complete the tasks and liaise with the speech pathologist regarding the client's progress.

Roles and responsibilities of the allied health assistant include, but are not limited to:

- having an understanding of the role of speech pathologists, allied health assistants and aides,
- understanding the limits of your scope of practice,
- being aware of and following all relevant safety precautions,
- only undertaking the tasks for which you have appropriate competence, and
- being aware of and complying with relevant aspects of the ethical principles and code of conduct of the speech pathology profession (Speech Pathology, 2010) and the employer.

It is recommended that you research further information regarding the role and responsibilities of the speech pathology assistant. The following websites are a good place to start.

Speech Pathology Australia (SPA)

Parameters of Practice: Guidelines for delegation, collaboration and teamwork in Speech Pathology practice
http://www.speechpathologyaustralia.org.au/SPAweb/About_us/SPA_Documents/SPAweb/About_Us/SPA_Documents/SPA_Documents.aspx?hkey=9baff7ac-e3ad-4d6b-83e4-4f9e7c7af3fe

Speech Pathology Australia: Code of Ethics
http://www.speechpathologyaustralia.org.au/SPAweb/Document_Management/Public/Ethics.aspx

ASHA AHA Scope of Practice document

http://www.asha.org/policy/SP2013-00337/#d4e665

Allied Health Professions' Office of Queensland: Allied Health Assistants

http://qheps.health.qld.gov.au/alliedhealth/html/strategies/allied-health-assistants.htm

Working Relationships

As an allied health assistant, you may be working with a range of people, including speech pathologists, clients and their families, doctors, nurses, client support staff, maintenance and administrative Staff. It is important to form an effective and joint working relationship with other members of the team. Ways to facilitate this include:

- Participating in helpful and regular communication,
- demonstrating reliability - following through on tasks and being consistent,
- actively listening to other team members' ideas and points of view,
- being an active participant, showing initiative and contributing to the workplace,
- being flexible and adapting to changing circumstances, and
- treating others in a respectful and supportive manner.

Code of Conduct

The Code of Conduct for the Queensland Public Service reflects the principles of integrity and impartiality, promoting the public good, commitment to the system of government, accountability and transparency. As an allied health assistant, you need to be aware of this code and abide by it when working in a Queensland Health facility.

The Code of Conduct for the Queensland Public Service was developed in line with the government's commitment and in consultation with agencies, employees and industrial representatives. The Code was designed to be relevant for all public sector agencies and their employees and reflects the amended ethics principles and values contained in the Public Sector Ethics Act 1994. (Public Service Commission, 2010)

Further information regarding the Code of Conduct can be found at: http://qheps.health.qld.gov.au/hr/codeofconduct/home.htm

3.2 Policies and Procedures

Policies and procedures are formal documents developed for the workplace to ensure work practices are performed to a required standard.

A policy is a statement of intent to achieve a particular outcome, and how that outcome will be achieved. Queensland Health policies should always be aligned with Queensland Health's 'strategic direction'. They should be in line with the state and federal legislation and easily accessible to those required to implement the policies (Queensland Health, 2009). On an employee level, we must apply Queensland Health policies and procedures to our work to ensure we are providing client care that is of a high standard, safe and accessible.

You do not need to be aware of all of Queensland Health's policies. However, you should have an awareness and understanding of specific Queensland Health policies that apply to your role as an allied health assistant.

The following policies include some that you should review and be familiar with when assisting or delivering a client-specific therapy program. Please note, this is not a full list; there will be additional policies relevant to your particular workplace.

- Workplace Health and Safety Policy (2014)

- Anti-discrimination and Vilification HR Policy E2 (2014)
- Orientation, Induction and Mandatory Training HR Policy G6 (2014)
- Workplace Equity and Harassment Officers (WEHO's) HR Policy E8 (2010)

You should discuss with your supervisor or line manager any additional Queensland Health Policies that are relevant to your particular workplace and your particular role.

A procedure is an agreed set of practices or actions designed to ensure consistency and quality of an activity or service. They may be mandatory practices or allow for some flexibility, but all mandatory components must be clearly identified and compliance auditable' (Queensland Health, 2009).

A procedure might be applicable to multiple Queensland Health settings, or may be service and location specific. For example, Princess Alexandra Hospital has its own emergency procedures document specific to its site, which exists to ensure the safety of all human and physical resources on campus.

Clinical Task Instructions

The Allied Health Professions' Office of Queensland has validated a number of Clinical Task Instructions (CTIs) for allied health assistants. One very important example is the "When to Stop" CTI which provides important information for AHAs on when to cease therapy activities and report to their supervisor. The validated CTIs can be found by clicking this link: https://www.health.qld.gov.au/ahwac/html/clintaskinstructions.asp

Additional, unvalidated CTIs can be found here, but please check with your supervisor before using them:
http://qheps.health.qld.gov.au/alliedhealth/html/strategies/Calderdale-Framework.htm

Occupational Health and Safety (OHS)

At the start of employment, it is common practice that your employer will provide an orientation to the work area. This will include a broad introduction to local policies and procedures, and topics related to Occupational Health and Safety (OHS) including infection control and manual handling. As an Allied Health Assistant you need to be aware of these local policies and procedures and how they relate to your role in assisting the speech pathologist to deliver client care.

You will be expected to comply with all of Queensland Health's Work Health & Safety policies to ensure a safe and healthy work environment and reduce the risk of work related injury and illness.

You can find more information on Occupational Health and Safety on the following link:
http://qheps.health.qld.gov.au/safety/

It is also essential that you understand your workplace's guidelines for manual handling and how this relates to your role.

3.3 Scope of Practice

Speech Pathology Australia (2007) has outlined the parameters of practice and supervision pathways for allied health assistants in speech pathology.

Speech pathology support staff should be aware of the importance of the following:

- respect for the rights and dignity of clients
- need for liaison and open communication with the treating therapist
- confidentiality
- standards of personal conduct
- responsibility in only undertaking tasks within limits of competence
- standards of care appropriate for the facility
- penalties for using the title 'speech pathologist' when not registered as such

Your supervising speech pathologist is responsible for and ultimately accountable for the client care provided by staff under their supervision.

The Association asserts the following tasks are NOT suitable for delegation to AHAs

- Assessment
- Differential diagnosis
- Clinical problem solving and
- Therapy planning.

In addition, a support worker may not:

- select clients for assessment or intervention,
- perform definitive assessment procedures,
- change any treatment,
- independently plan or alter a plan of care or treatment goals,
- independently draft reports, or
- discharge clients from treatment.

(Speech Pathology Association of Australia 2016)

Clinical Supervision

As an allied health assistant it is important that you access regular clinical supervision from an experienced, qualified allied health professional. "Speech pathologists or health professionals performing activities delegated to them by a speech pathologist must participate in formal supervision processes as one means of maintaining quality and safety of care to clients." (Speech Pathology Association of Australia 2007, p.12).

The following document contains important information on supervision and governance of AHAs, including the minimum requirements for clinical supervision: http://qheps.health.qld.gov.au/alliedhealth/docs/aha/ahagovguide.pdf

You must:

- ask if you do not understand what is required of you
- request assistance from the supervising speech pathologist if the treatment plan is not working
- request assistance or further training if asked to perform a task which is outside your current skills, knowledge or competency
- work to the treatment plan given, do not adjust this plan without consulting the supervising speech pathologist
- consult with the speech pathologist before and after treatment
- not go outside the parameters of your job description
- know when to stop treatment, see Clinical Task Instruction on "When to Stop": https://www.health.qld.gov.au/ahwac/docs/cti/wts01.pdf
- engage in regular supervision with a speech pathologist according to your organisation/workplace's policies.

Activity 6: Risk Management

Please answer the following questions. You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

A child is coming to the clinic tomorrow to trial a range of speech generating devices. Three speech generating devices have arrived from the supplier. You are responsible for ensuring the equipment is ready to use.

1. How would you go about preparing for the appointment?

2. You observe an adult using a low technology spelling board and notice that they have difficulty pointing accurately to the small letters. What would you do?

3. You are asked to work with a teenager who dislikes using their AAC system. What could you do to encourage a more positive attitude?

Activity continues on the next page.

Activity 6: Risk Management (continued)

Now reflect on your experience with time management, personal organisation and establishing priorities. Answer the following question.

4. You have looked at your workload for the day and realise that you will not have enough time to complete all your scheduled appointments. Explain how you would prioritise your workload.

Key Points

- Always work under the guidance of a speech pathologist.
- Be observant with regards to client comfort, health and safety.
- Occupational Health and Safety policies exist to protect and assist you, your colleagues and the client.
- Take good care of equipment and always follow the advice provided in manufacturer's manuals.
- Specific guidelines exist to ensure speech pathologists and allied health assistants act within their scope of practice and with appropriate support and responsibilities.

Self-completion checklist

Congratulations you have completed the topics for Speech Pathology Learning Guide: Assist and support the use of augmentative and alternative communication systems.

Please review the following list of knowledge and skills for the unit of competency you have just completed. Indicate by ticking the box if you believe that you have covered this information and that you are ready to undertake further assessment.

HLTAHA014 Assist and support the use of augmentative and alternative communication systems

Essential Knowledge	Covered in topic
General level of understanding of communication needs of clients with congenital, developmental, acquired and progressive disabilities.	☐ **Yes**
General level of understanding of the variety of augmentative and alternative communication (AAC) systems and strategies available.	☐ **Yes**
General level of understanding of criteria used in the selection and application of AAC devices for people with complex communication needs.	☐ **Yes**
OHS policies and procedures that relate to the allied health assistant's role in implementing speech pathology programs.	☐ **Yes**

*FER – Further Evidence Required

Activity 7: Questions

For this task you are required to answer questions that relate to your work as an allied health assistant assisting and supporting the use of augmentative and alternative communication systems.

You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Questions

1.

a. What areas of communication may be affected with clients with complex communication needs?

b. Provide some examples of the types of clients who may have complex communication needs.

2. Describe some of the augmentative and alternative communication (AAC) systems and strategies you may use as an AHA.

Activity continues on the next page.

Activity 7: Questions (continued)

3. How are AAC devices selected for clients?

Activity 8: Scenario

For this task you are required to read and respond to the scenario provided.

You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Scenario

Mrs Forman is 68 years old and was diagnosed with primary progressive multiple sclerosis (MS) in her early 40s. Mrs Forman is right handed and cannot write due to limb ataxia, but she is still able to type using one hand to stabilise the other. Mrs Forman's voice is affected; she has very low volume and experiences articulation problems.

1. Describe some of the strategies that may be used to assist Mrs Forman. Include examples of AAC systems that may assist Mrs Forman.

2. How would you manage the environment for optimum use of an AAC system, given Mrs Forman's condition?

3. Mrs Forman has been provided with an alphabet speech generating device by the speech pathologist but she is not regularly using it. How would you work with her for the best possible outcome?

Activity continues on the next page

Activity 8: Scenario (continued)

Activity 9: Workplace Observation Checklist

You will be observed providing support in assisting and supporting clients in the use of augmentative and alternative communication systems.

You will need to provide support to clients on at least two occasions to demonstrate competence.

Workplace observation checklist

Essential Skills and Knowledge The learner demonstrates the following skills and knowledge	1st observation date & initial	2nd observation date & initial	Comments	*FER
Demonstrates understanding of communication needs of clients with congenital, developmental, acquired, and progressive disabilities.				
Demonstrates understanding of variety of augmentative and alternative communication (AAC) systems and strategies available.				
Demonstrates understanding of the criteria used in the selection and application of AAC devices by the speech pathologist for people with complex communication needs.				
Provides therapeutic guidance in the use of communication systems under the direction of a speech pathologist.				
Positions the client and manages the environment for optimum use of a communication system in the context of client comfort and health and safety requirements under the direction of a speech pathologist.				
Designs, makes and adapts communication systems to meet individual needs under the supervision of a speech pathologist.				
Works under direct and indirect supervision.				
Communicates effectively with supervisors and co-workers.				
Communicates effectively with clients in a				

Essential Skills and Knowledge The learner demonstrates the following skills and knowledge	1st observation date & initial	2nd observation date & initial	Comments	*FER
therapeutic/treatment relationship.				
Works effectively with non-compliant clients.				
Reports back to supervisor regarding client's ability to use AAC &/or complete therapy activities.				
Demonstrates time management, personal organisation, and establishes priorities.				
Follows OHS policies and procedures that relate to AHA's role in implementing speech pathology programs.				

*FER – Further Evidence Required

Resources

- Guidelines for allied health assistant s documenting in health records: http://qheps.health.qld.gov.au/alliedhealth/docs/aha/ahadocguide.pdf
- AAC Rehabilitation Engineering Research Centre: https://rerc-aac.psu.edu/
- International Society for Augmentative and Alternative Communication: www.isaac-online.org
- The Australian Group on Severe Communication Impairments: www.agosci.org.au
- Speech Pathology Australia: www.speechpathologyaustralia.org.au
- Novita Children's Services: www.novita.org.au
- Communication Matters (UK website): www.communicationmatters.org.uk

Major Australian suppliers of Speech Generating Devices

- Liberator: http://liberator.net.au/
- Spectronics: www.spectronicsinoz.com/
- Technical Solutions: www.tecsol.com.au
- Zyteq: http://www.zyteq.com.au/

Glossary

Word	Definition
AUSLAN	The official sign language of Australia that uses a range of manual hand shapes instead of speech sounds, but also has an extensive vocabulary and rules about sequencing signs to convey meaning.
Arbitrary Signals	Speech sounds that make up words or manual signs. Arbitrary sounds, words or signs allow us to communicate in 'concepts'.
Complex Communication Needs	Communication difficulties associated with a wide range of physical, sensory and environmental causes that restrict or limit the ability to participate independently in society.
Congenital and Developmental Disabilities	Congenital disabilities exist or occur at or around birth; congenital illnesses or disorders are acquired during the development of the foetus or acquired during the birthing process or shortly afterwards.
Augmentative and Alternative Communication (AAC	Methods of communication that either support speech (*augment* speech) or replace speech (*alternative* to speech) that is not sufficient to meet a person's needs.
Acquired Disabilities	Trauma, illness or a condition that occurs after speech and language skills have been acquired (for example, communication impairments that occur as the result of head injury and stroke).
Feedback	The process of returning part of the input back to the sender to aid evaluation.
Facilitated communication	A strategy for teaching individuals with severe communication impairments to use communication aids with their hands.
Participation Model	This is a Model of Assessment and Intervention used by speech pathologists to determine the communication needs and requirements of clients with communication impairment who are candidates for AAC.
Progressive Disabilities	Describe a range of conditions involving the gradual loss of skills, including communication skills; can occur at any age. (Parkinson's disease, Motor Neurone Disease, Retts Syndrome).
Spontaneous Novel Utterance Generation (SNUG)	The AAC system that provides the same benefits as typical spoken language.

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