



# Supporting Children with Autism in Primary School



East Renfrewshire Psychological Services



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# Understanding Autism Spectrum Disorder

## What is ASD?

Autism is a lifelong neuro-developmental difference. This means it is a condition that affects the development of the brain. Autism affects the way a person communicates and interacts with others, how information is processed and how the person makes sense of the world.



## *Why Asperger's and not Autism?*

- Children and Adults who are diagnosed with Asperger's Syndrome are generally found to have followed the normal developmental pattern of language acquisition.
- However the American Psychiatric Association, is set to remove the term Asperger's as a formal diagnosis from 2013 and will refer simply to High Functioning Autism.

## *DSM 5 2013*

The current terms used in the DSM-4 are autistic disorder, Asperger's disorder, childhood disintegrative disorder and PDD-NOS (pervasive developmental disorder not otherwise specified).

The proposals mean that when people go for a diagnosis in the future, instead of receiving a diagnosis of one of these disorders, they would be given a diagnosis of 'autism spectrum disorder'.

The triad of impairments will be reduced to two main areas:

1. Social communication and interaction.

## 2. Restricted, repetitive patterns of behaviour, interests, or activities.

Sensory behaviours will be included in the criteria for the first time, under restricted, repetitive patterns of behaviours descriptors.’

*Autism often co-occurs with other neuro-developmental differences including;*

- Attention Deficit Hyperactivity Disorder (ADHD)
- Developmental Co-ordination Disorder (DCD) also referred to as Dyspraxia
- Developmental Language Disorder (DLD)
- Epilepsy
- Foetal Alcohol Spectrum Disorder
- Intellectual Disability
- Tourettes and Tic disorders
- Specific Learning Disorder/ Differences e.g Dyslexia, Dyscalculia

### **Identifying Autism - Common Traits and Challenges**

- Delayed speech development (age and stage)
- Lack of response to other’s speech (including own name)
- Stereotyped and repetitive use of language
- Pronoun reversal (saying ‘you’ for ‘I’)
- Idiosyncratic use of words - describing and not naming, own statements
- Literal interpretation of language
- Seldom initiates or sustains ‘normal’ conversation
- Dominates conversation and doesn’t ‘turn take’
- Differences in speech - pitch, stress, intonation and understanding of voice prosody
- Different use of and understanding of non-verbal communication - facial expression, gesture
- Developing and sustaining friendships can be a challenge
- Understanding the social elements of friendships
- Less motivated to interact - too tricky and unpredictable
- ‘Inappropriate’ comments and actions
- Low awareness of proximity to others (variable - hyper and hypo sensitive)

- ❑ Doesn't seem to recognise or respond to other people's feelings including the impact of their actions
- ❑ Expects other people to know their thoughts, experiences and feelings.
- ❑ Sensory sensitivities - hypo and hyper across the seven senses
- ❑ Point out errors of others as they have broken the rules
- ❑ Self perception as an adult (don't differentiate)
- ❑ Need / desire to do things my way - predictability
- ❑ Last to know and seek help if on the wrong track
- ❑ Interaction and story-telling often 'scripted' - based verbatim on observation of others / familiar tv programmes and films
- ❑ Requires direction to make choices in activities and manage unstructured time
- ❑ Special interests may become all encompassing (sometimes not age and stage appropriate - can lead to embarrassment / isolation)
- ❑ Hates rules to be broken
- ❑ Changes to routines / expectations causes anxiety
- ❑ Some difficulty with sequencing routines / procedures and organising belongings
- ❑ Difficulty seeing and /or respecting another person's point of view

### Visualizer

- Strong perceptual reasoning skills
- More classic ASD profile.
- Interest lies in a world with pictures / patterns and logic
- Language develops slowly - incompletely
- Verbal reasoning skills are weaker
- Weak auditory processing - words and meaning disappear
- Show me don't tell me
- Emotional vocabulary is limited

### Verbalizer

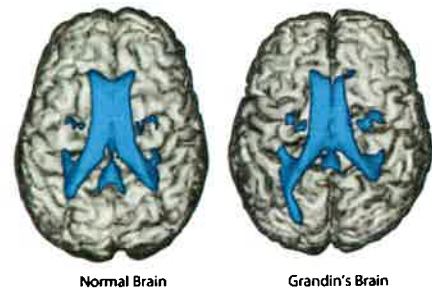
- Strong verbal reasoning skills
- Interest in the written word / vocabulary / information
- World of emotional literacy - thoughts and feelings
- Processing time needed for linguistic, cognitive and social activities

- 'If I wait, I'll forget' - ends up interrupting
- Yet - hates being interrupted!
- Ask three before me (friends / peers) - doesn't work
- Delay in response to an act, reaction might come hours or days later.
- Need time to identify internal emotions
- Be prepared for a delay in response! Don't ask again - that resets the process...

## Temple Grandin

"Fear is the main emotion in autism"

Temple Grandin is one of the first individuals on the autism spectrum to document the insights she gained from her personal experience of autism.



Highlights enhanced connections to the visual part of the brain.

*The result of being driven by anxiety...*

- The social world can become extremely difficult for the person to navigate
- Attempts to communicate are misinterpreted by others
- Attempts to understand the communication of others is undermined
- A system for navigating the social world is not effective / consistent enough
- The social world is a place where I am not safe - fear, anxiety, stress = cognitive rigidity
- Less options to choose from - most effective is to sabotage = I AM BACK IN CONTROL

**Anxiety increases cognitive rigidity, a way to help with this is for there to be 'closure':**

- Remember that people with ASD can find transitions tricky
- The idea of 'finished'
- Moving on between preferred and non preferred activities.
- When will this (activity / work) end?
- How will I know?
- I am being interrupted

- I need to complete this
- Having an end leads to a feeling of closure = reduced anxiety

### Cognitive Theories in Autism

#### Empathic v Systematic Brain

- The drive to identify emotions within our experiences vs the drive to identify patterns and a logic within our experiences
- Extreme male brain can become...a logically driven brain
- The ability to see and identify patterns
- The ability to be logical
- The ability to identify and create systems
- The ability to see how things connect

#### Context Blindness/Specificity

- Difficulty understanding how meaning relates to a given situation.
- Can become...context accuracy
- The ability to recognise that each situation is different - to see variance - to see that each specific context in isolation is unique

### Considering Sensory Needs

- Sensory needs are a part of a child's physiological makeup
- Assess what the child needs - what is the child seeking from that experience
- Consider safe and appropriate ways for the child to meet that need

#### *Examples:*

Remember to use visuals to cue/plan/transition.

- I need to shut out noise or other senses - ear defenders; black out tent; planned time away from the group; sensory room
- I need to make a mess with water/sand/slime - define an area for messy play
- I need to touch - make a sensory box with different materials

- I need to taste/bite - provide alternative food items to taste or chewable items
- I need deep touch - provide tight cuddles (set time limits); fill a rucksack with items for the child to carry; keep a supply of heavy blankets

### Intensive Interaction:

#### *Learning through Social Connection*

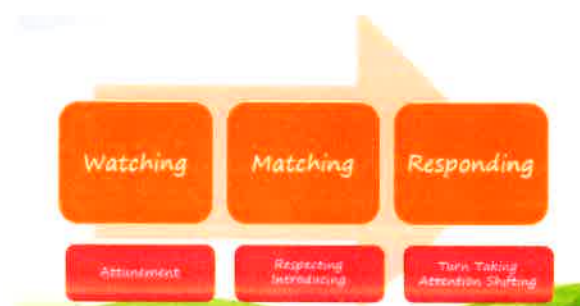
By learning their language we can start to talk to them.



#### What Does this Mean in Practice?

- **Place yourself** where you can be seen but not directly in front of the child
- **Observe** the child's repetitive, purposeful behaviours - if he is:
  - Banging his head - bang with your fist & copy the rhythm
  - Biting his hand - put your hand in your mouth (biting is not necessary!)
  - Rocking back and forth - rock back and forth matching the rhythm
  - Clicking fingers - click your fingers
  - Making a noise with his mouth or other part of his body - try to recreate the sound with the same tempo, volume, rhythm
- **Match** your child's rhythm - slow and steady or fast and energetic - this may give you information on the child's mood
- **Persevere** - you may not get it right 1<sup>st</sup> time!

#### Progression of Interaction





## Social Communication Assessment and Planning: THE SELF

### Social Interaction

- Social conversations
- Social conventions
- Social play
- Friendships
- learning

### Emotional Literacy

- Self awareness
- Awareness of others
- Self management

### Language and Communication

- Listening
- Talking
- Understanding

### Flexibility

- Accepting another's point of view
- Coping with change
- Obsessions vs interests

**Task: Apply appropriate strategies to your SMART targets**

Date	Short term target	Strategies	Evaluation
Aug– Dec	I can take turns with another child on <b>some</b> occasions with <b>full</b> adult support	Staff will create opportunities to practice turn taking such as having one toy with 2 children KW will model turn taking Use a timer	
Jan– April	I can take turns during play with another child on <b>most</b> occasions with <b>some</b> adult support	Staff will use a timer to indicate turns during play where necessary and work towards providing only a verbal prompt Staff will try to notice turn taking during free play and provide positive feedback "good sharing" Staff will use a sharing visual	

# Including Children with ASD in Mainstream Schools

## What can be done?



Creating an environment which reduces anxiety:

- Make it consistent
  - Make it visual
  - Make it explicit
  - Make it predictable
- Make it easy to process

## Making it Visual

- Knowing what to expect reduces anxiety
- Language processing difficulties affects the ability to understand verbal instructions
  - Idiomatic language refers to words or phrases that are a familiar and everyday feature of our language. Idioms are a part of the comfortable, conversational style of language we use daily however they are difficult to understand because their meaning is very different from the literal meaning of the words that make them up.
    - “Pull your socks up!”
    - “I’m feeling under the weather”
    - “These two are getting on like a house on fire”
- Words ‘disappear’ - symbols / pictures can be held on to
- Nature of the visual can be flexible to fit the need:
  - Real objects
  - Tactile symbols / object of reference, for example swimming trunks, packaging, food labels
  - Photographs
  - Miniatures of real objects
  - Coloured pictures

## *Stages and Purpose of Visuals*

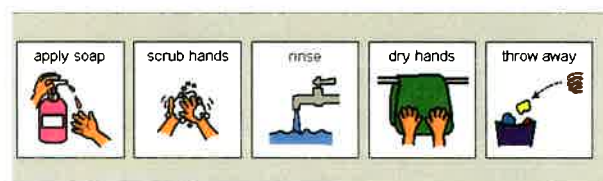
1. Symbolise the environment
2. Visualise routines e.g. snacktime, handwashing
3. Song or story choice
4. Objects of Reference
5. Personalised 'Now' boards
6. Personalised 'Now and Next' boards
7. Visual timetables
8. Develop language
9. Emotional Regulation
10. Social Stories
11. Restoring Relationships

## *Visual Timetables*

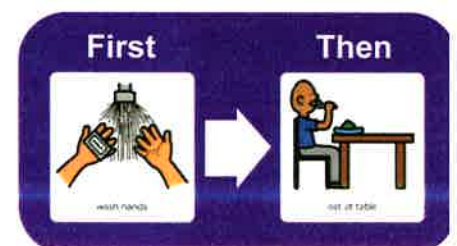
- Using a visual timetable to provide a structure- a clear beginning middle and end point
- The child knows what to expect
- Helps with transitions - remove each activity as its completed (finished box?)
- Can use at school and home



## *Making it Predictable*



- Start with Now and build up to now/next
- Helps understanding of a 2 step sequence
- Reduces uncertainty of what is coming next and what is expected
- Use as a motivator for less preferred activities



- Encourages the child to move between activities
- Personalised photographs or google images?

### Making it Easy to Process

#### Developing language

- Use simple consistent language
- Use the child's name at the beginning of the instruction
- Allow processing time
- Model their language rather than ask questions
- Check for understanding
- Positive correction - reflect back the correct word or phrase

### Making it Explicit - Social Stories

- Visually teaches the rules of a situation
- Can be modified to suit the child's interests, developmental stage and communication needs
- Read regularly and during times when the child is relaxed
- Can be linked to a reward system

## Writing Social Stories

Social Stories were developed by Carol Gray. They are also used effectively with children who struggle to understand certain social situations. Many parents, family members and teachers describe the use of social stories as being effective

### Social Stories Overview

- Provide personal scenarios for difficult situations
- Create a script for appropriate behaviour
- Use areas of strength:
  - Reading skills
  - Interest in repeatedly hearing/reading story, and interest in routines
  - Gives concrete, detailed explanations
    - Assists in learning the perspectives of others
    - Designed to encourage appropriate behaviour

### Social Story Guidelines

- Write a social story from the perspective of the child (e.g. using the word 'I').  
Create a word picture - what they would see and experience
- Use a combination of different types of sentences, following the recommended ratio: **Descriptive, Perspective, Directive**
- May be supplemented with additional, optional types of sentences: Affirmative, Control, Cooperative

### What are Descriptive sentences?

Descriptive sentences provide information about specific social settings or situations, i.e. give cues to what the person sees, who is involved, and what happens. For example:

- *At school, most people go to the cafeteria for lunch.*
- *When it is lunchtime, most pupils eat lunch.*
- *I go to the cafeteria for lunch.*

### What are Perspective sentences?

Perspective sentences describe the internal states of other people. These type sentences provide information about thoughts, feelings, and/or mood of other people. Describing the internal stuff some children do not know about. For example:

- *Many pupils like to eat their lunch with others.*
- *Everyone likes it best when each pupil only touches their own food.*

### What are Directive sentences?

Directive sentences provide information about what the pupil should do to be successful in the target situation. For example:

- *When I eat, I will touch my own food.*
- *I drink my own drink.*

### Recommended formula for writing social stories

The recommended formula for writing social stories based on Carol Gray's opinion is **two to five Descriptive** sentences for each **Directive** sentence, which may include **Perspective** sentences. Research shows that many stories which follow the ratio do work.

### Other guidelines for writing social stories

- Social Story usually written in the first-person ('I'..)
- Social Story usually written in present-tense
- Provide more information about the social situation than you think the pupil needs

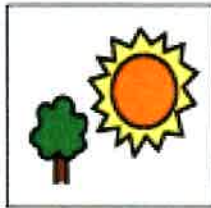




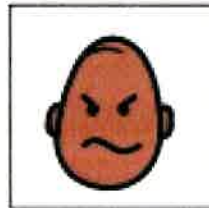
# Loud Noises

by: Sasha Hallagan

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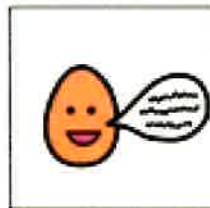
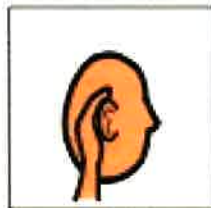
I hate to hear loud noises. It hurts my ears and my head.



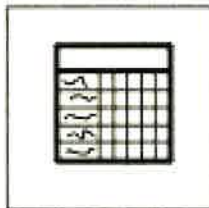
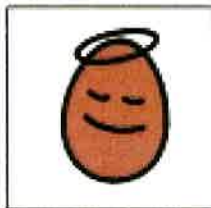
When people are loud, I get mad at them.



I want to hit them and yell at them to get them to stop.



Instead, I need to use my words. I can ask them, "Can you please be quiet?" I can tell an adult to ask them to be quiet.



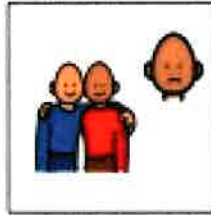
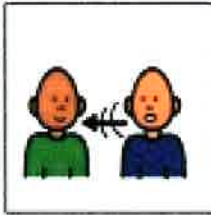
Sometimes loud noises happen. I will not have bad behavior. I will be respectful and ask nicely.



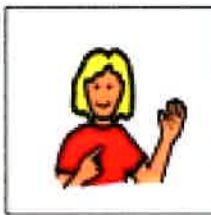
# I Don't Interrupt

by: Sasha Hallogan

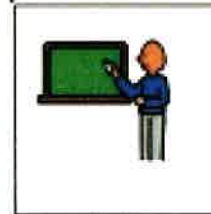
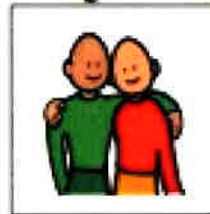
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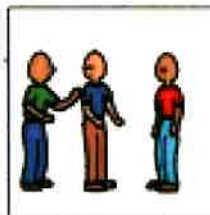
I see people I want to talk to who are talking to someone else.



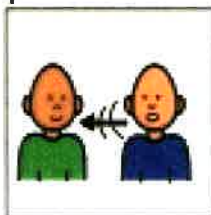
I want to start talking to them right away, I don't want to wait.



But it is rude to interrupt. I don't interrupt if my mom or dad are talking to someone, my friends are talking, or my teacher is busy.



Instead of just starting to talk and interrupt, I wait my turn. I can stand nearby. I wait until they are done. Then I say, "excuse me."



When I act respectfully, people will want to talk to me.



# Change

## A Kid's Guide To Understanding, and Handling Change



Created by: Jill D. Kuzma, Jan 2012 <http://jillkuzma.wordpress.com>

CHANGE means that  
something different happens

Sometimes the different thing is good,



Sometimes the different thing is bad.



Created by: Jill D. Kuzma, Jan 2012 <http://jillkuzma.wordpress.com>

Some changes we know are coming. These are called expected changes.

These might be changes that always happen, or a person has told us the change was coming.

**Example:**



Move from wearing shorts to pants in the fall



Long break from school



Seasons change (winter to spring)

What are some expected changes in your life?

Created by: Jill D. Kuzma, Jan 2012 <http://jillkuzma.wordpress.com>

Expected changes are easier because we know they are coming. We can get ready for the change.

Sometimes we like the expected changes, and sometimes we do not like the expected changes.

**Example:**



LIKE



DONT LIKE

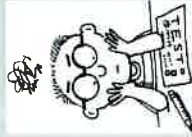
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Some changes we do *not* know about. They are surprises. These are called UNexpected changes.

**Example:**



Your teacher is gone



Surprise test



Change in the schedule

What are some UNexpected changes in your life?



An UNexpected change that we LIKE is called a "welcome" change.



What was the last welcome change that came for you?

An UNexpected change that we do not like is called an "unwelcome" change.



Created by: Jill D. Kurma, Jan 2012 <http://jillkurma.wordpress.com>

**UNexpected** changes are harder because we did not know they were coming. We are not ready

but... sometimes it turns out that we like the unexpected changes, but sometimes we do not like the unexpected changes

**Example:**



LIKE



DON'T LIKE

People might get crabby, confused, or worried



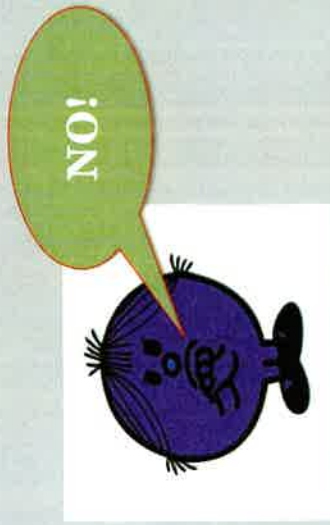
UNexpected and Unwelcome changes often mean a person has to do something they do not want to do.



Any unwelcome changes in your life?

Created by: Jill D. Kurma, Jan 2012 <http://jillkurma.wordpress.com>

Sometimes people get very upset with the change. A person might **REFUSE** the change.



Created by: Jill D. Kuzma, Jun 2012 <http://jillkuzma.wordpress.com>

Refusing the change makes **more** trouble. Many times, you do **not** have a choice.



Created by: Jill D. Kuzma, Jun 2012 <http://jillkuzma.wordpress.com>

Everyone has to handle unexpected, unwelcome changes.



No one likes it. No one wants to change, but you have to.

There will always be changes in life.

Part of growing up is learning how to stay calm and be flexible. This will help you handle unexpected, unwelcome changes.



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Tools to Handle Unexpected, Unwelcome Changes



• **ASK!** "Are there any changes I should know about today?"

Are there any changes today that I should know about?



You can help yourself by asking teachers and parents if there are any changes. You do not have to **WAIT** and **WONDER** if something unexpected happens.

Created by: Jill D. Kuzma, Jun 2012 <http://jillkuzma.wordpress.com>

## Tools to Handle Unexpected, Unwelcome Changes



### • Make a REMINDER NOTE



You can help yourself by making a reminder picture or note to carry with you. When you are nervous or confused about the change, look at your note to help you feel better.

Created by: Jill D. Kuzma, Jan 2012 <http://jillkuzma.wordpress.com>

## Tools to Handle Unexpected, Unwelcome Changes



### • Talk to a grown-up if you are nervous or worried.



You can help yourself feel better by telling a parent or teacher how you feel about the change. You might be feeling very nervous or worried about the change. It can help to talk about it.

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## Tools to Handle Unexpected, Unwelcome Changes



### • Self-Talk: Say something in your brain to help you feel better about the change.



It's fine...I can do this change!

Usually I do \_\_\_ but now I am doing \_\_\_

I can deal with it!

It might even help to say the words out loud, or write them down and read them over and over until you feel better.

Created by: Jill D. Kuzma, Jan 2012 <http://jillkuzma.wordpress.com>

## Tools to Handle Unexpected, Unwelcome Changes



### • Take a Break -



If you are *really* having a hard time handling change – ask if you can take a break away from the situation. Going to a calm place, and having some quiet time to draw, look at a book, or even exercise can help your brain feel calmer about the change.

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## Tool Choices to Handle Change



ASK!



Talk to a Grown-Up



Reminder Note



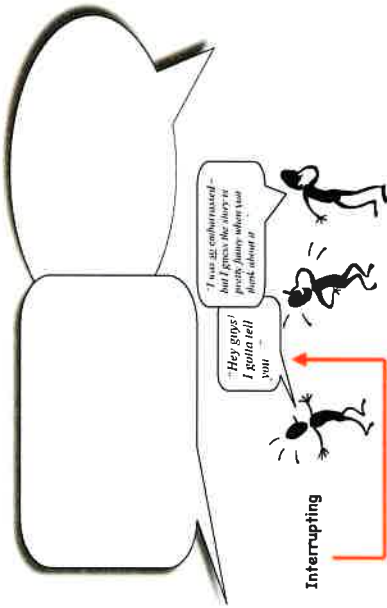
Take a Break



Self-Talk



# Interrupting



Activities to accompany the book: *My Mouth is a Volcano* by Julia Cook, (2005), CTC Publishing  
Visuals created by: Jill D. Kuzma, (2008)

## Interrupting or "blurring out":

Interrupting is like a volcano erupting! Your mouth is "erupting" WORDS! An idea slides down from your brain into your mouth. The words push against your teeth and the words fall out in a talking bubble. This is called interrupting or "blurring out".

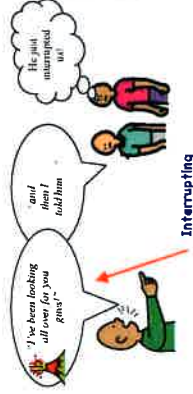


Activities to accompany the book: *My Mouth is a Volcano* by Julia Cook, (2005), CTC Publishing  
Visuals created by: Jill D. Kuzma, (2008)

## Interrupting and Blurring out are a little bit different.

### INTERRUPTING

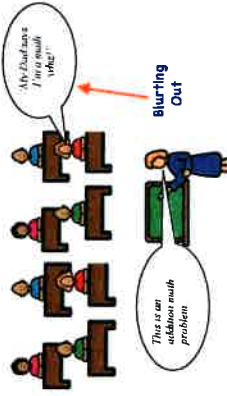
Talking when other people are already talking.  
Happens in a small group conversation.  
A person talks at the same time as others are talking in a group.



### BLURTING OUT

Talking without raising your hand in a large group or class

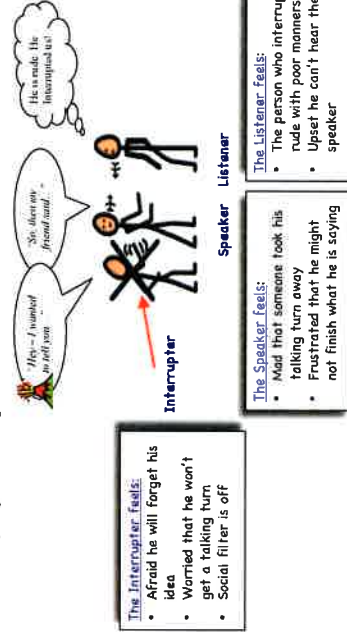
In a large group, one person talks most of the time. This person controls who gets a turn to talk. You have to signal if you want a turn, by raising your hand. If you just speak without raising your hand, this is called, "blurring out."



Activities to accompany the book: *My Mouth is a Volcano* by Julia Cook, (2005), CTC Publishing  
Visuals created by: Jill D. Kuzma, (2008)






## People do not like it when a person blurts out or interrupts.

An important rule for talking is that people take turns. Only one person should be talking at a time. If too many people are talking, it is hard for people to understand the conversation. In a classroom, there is another rule. The teacher talks most of the time. The teacher decides when students talk and when students listen. If this rule breaks, it is called interrupting or blurring out.



Activities to accompany the book: *My Mouth is a Volcano* by Julia Cook, (2005), CTC Publishing  
Visuals created by: Jill D. Kuzma, (2008)

Here is one idea to control interrupting or blurring out:

1. Stop 
2. Take a deep breath and pretend to breathe out your words into the air. 
3. Wait for your talking turn. Imagine your words hanging around in a little cloud outside of your mouth. 
4. Take a deep breath – imagine breathing your words back in your mouth. 
5. Talk. 

Activities to accompany the book: *My Mouth is a Volcano* by Julia Cook, (2005), CTC Publishing  
Visuals created by: Jill D. Kuzma, (2006)

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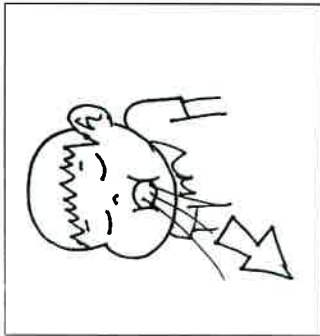


I am feeling upset.

What do I do?



The angry monster has jumped into my body.



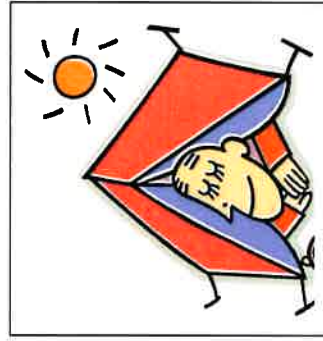
I can do tummy breathing



I can listen to a relaxation CD



I can talk to my mum or a teacher



I can go to a safe place



## What Should I Do When I Feel Angry?

My mum or my gran , my papa or Elaine at nursery often tell me what to do.



This is because it is their job to keep me safe.



Sometimes I feel angry when an adult tells me what to



do or when I do not get what I want.

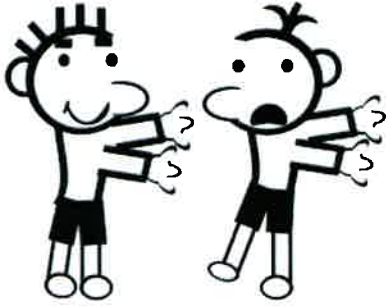
I may want to play 5 more minutes.



I may want something else to eat.

I may want to do something

When I get angry, I sometimes kick or hit my mum,



It is okay to be angry . Everybody gets angry sometimes.



But it is not okay to hurt my mum when I am angry



Hitting makes my mum feel sad and upset

When other children get angry, they keep their hands away from adults.

When I feel angry, there are things that can help me to feel calm



If I am home I can go to my room.



I can go lay down in my tent and hide.



I can hit my soft pillow.



I can ask my mum or my gran or Elaine for a cuddle



I can take a big breath let it out slowly.

When I do these things, my mum and gran and papa, and Elaine will



be happy.

I will feel happy too and I will feel calm.



## Going to the Toilet to do a Poo

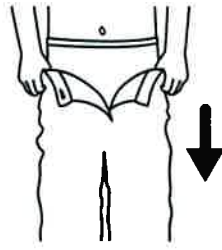
Sometimes, my dad or gran or a teacher asks me if I need a poo.  
They say: '...., do you need the toilet?'



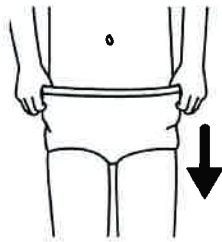
If I need a poo, I go to the toilet.



I pull down my trousers.



I pull down my pants.



I sit down on the toilet seat.  
Sometimes I have to lift the lid first.

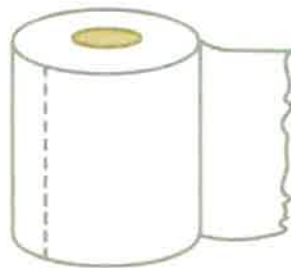


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Now I do a poo in the toilet. Other children do this too. They sit and wait until they have finished and all the poo has come out. .

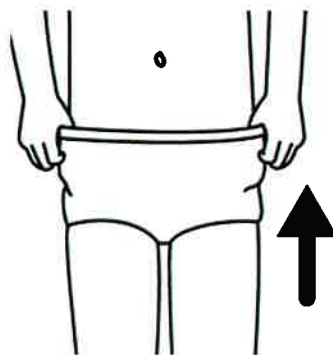
Sometimes I sit and wait until all the poo comes out.

Now I get some toilet paper and wipe my bottom.

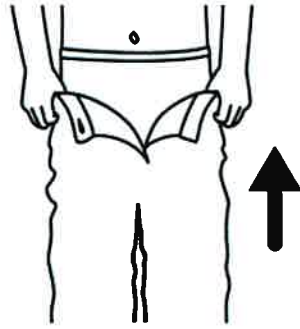


Then I get off the toilet.

I pull up my pants



I pull up my trousers.



I flush the toilet one time.



I wash my hands.



Now I am ready to go and play.

I am happy because I have finished on the toilet and all the poo has come out. My dad, gran and my teacher are all happy too.





## Walking to Nursery

Children who are 3 years old go to nursery.



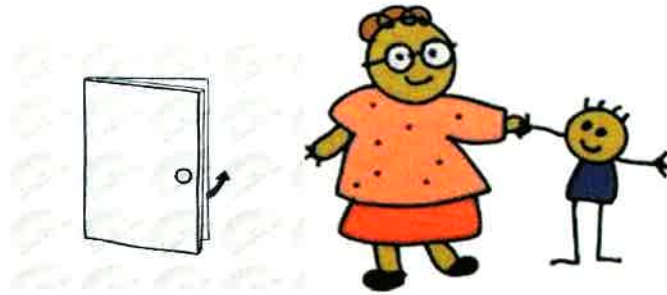
Usually children walk to nursery with their mum.



They put on their jackets.



Then, they shut the door and hold their mum's hand.



Next, they walk all the way to nursery.



When I go to nursery, I will hold my mum's hand all the way.

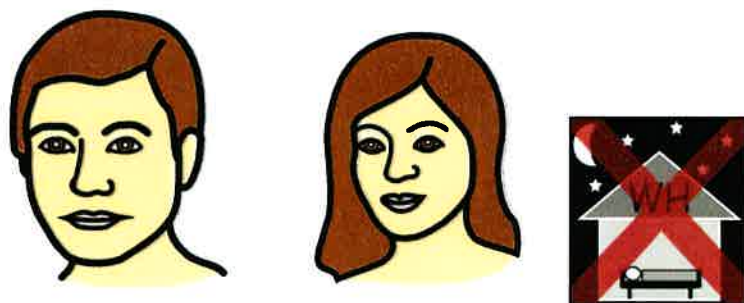


This will make my mum happy.

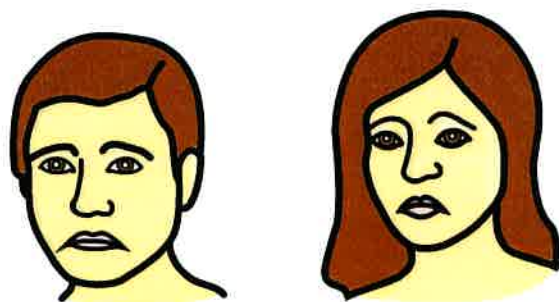


## Separation: A Social Story

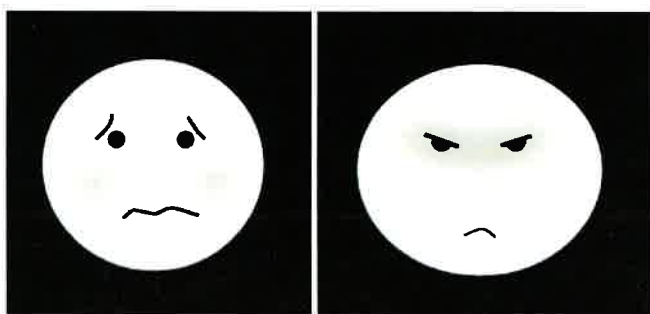
Sometimes Mum and Dads separate. This means that they don't live together anymore.



Mums and Dads separate if they cannot be happy together.



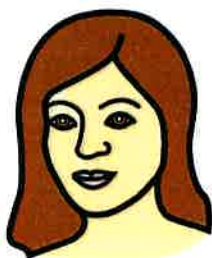
When parents separate everyone feels sad for a while. Sometimes I might feel scared or angry.



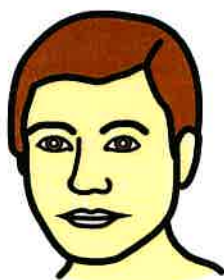
I can talk to my Mum, my Dad or an adult that I like about how I am feeling.



I will see my Mum in one house.



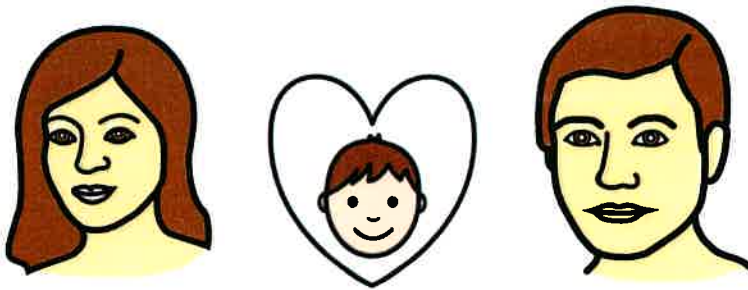
And my Dad in another house.



I will see them on different days,



My Mum and my Dad both love me very much.



Everything will be ok and I will be ok.



# TEACCH

Structured Teaching Approach for Pupils with ASD

Matches teaching approaches with ways that pupils with ASD understand, think and learn...

- Receptive Language difficulties
- Expressive communication
- Attention and memory
- Organisational difficulties and poor sequential memory
- Stronger visual skills than auditory skills
- Sensory Stimulation

Aims of TEACCH

- Increase independence
- Manage behaviour by considering cognitive skills, needs and interests of pupils with ASD
- Adjust environment

Physical Structure

- Makes the classroom interesting, clear and manageable
- Planned according to individual need - more structure needed for pupils with more need
- Visual information reduces anxiety and increases independence
- Minimised distraction
- Work schedules

Work systems

- Organises each activity
- Helps increase pupil's independence
- What work they are supposed to do/
- How much work will be required?
- How they know they have finished
- What happened when work is completed?



## Resources

Website and apps can be used to access resources that could be useful in the classroom, many of these are free and easy to obtain.

### Websites:

The Autism Toolbox

<http://www.autismtoolbox.co.uk/what-autism>

Additional support needs

<https://www.aacscotland.org.uk/Home/>

Autism Network Scotland

<https://www.autismnetworkscotland.org.uk/pages/home>

Inspiring Scotland

<https://www.inspiringscotland.org.uk/results/?type=charities&fund=autism>

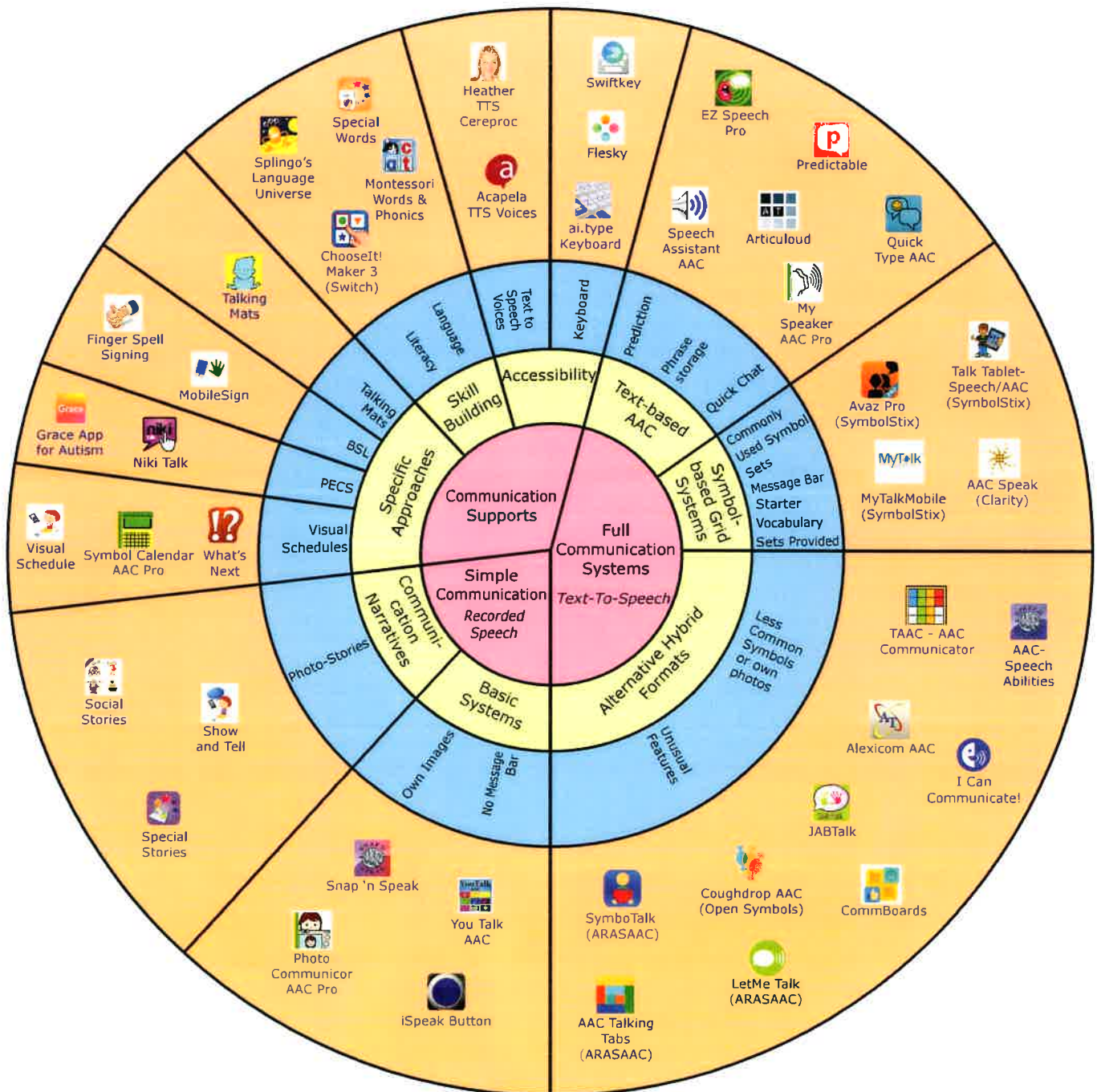
Scottish Sensory Centre

<http://www.ssc.education.ed.ac.uk/>

Free Social Story Templates

<https://www.andnextcomesl.com/p/printable-social-stories.html>

# Android Apps for Complex Communication Support Needs: Augmentative and Alternative Communication (AAC)



**iPad vs Android**

The iPad is well established as a communication tool, but Android tablets (and smartphones) are being used more often, especially in the home situation, therefore useful to consider:

- Android tablets are generally less expensive than iPads
- The Android Operating System is less tightly controlled than the Apple iOS, so some apps, eg. text-to-speech voices, can work across most apps in an Android device, unlike the iPad where voices have to be downloaded separately for each app.
- There are many more AAC apps available for the iPad.
- There is a wide variation of Android tablet types, some with individualised Android Operating Systems and some with their own bespoke App store. Therefore, there is no guarantee that every AAC app for Android will work on all tablets/Operating Systems.
- Some Android devices cannot be upgraded to the latest version of the Operating System, so some apps won't work on them.

An electronic version (with clickable links) can be downloaded from <http://www.callscotland.org.uk/downloads/posters-and-leaflets>

**Identifying Suitable Apps**

This is not a comprehensive list, but an attempt to identify relevant apps for supporting AAC and to categorise them according to the function of the communication system. All Apps are available from the Google Play Store. A few have been tested, but most information is based on independent reviews and App developer descriptions. Unlike the iPad, there is little consensus on the 'best' Android apps for AAC. We'd be happy to receive suggestions for inclusion in future versions: [call.scotland@ed.ac.uk](mailto:call.scotland@ed.ac.uk).

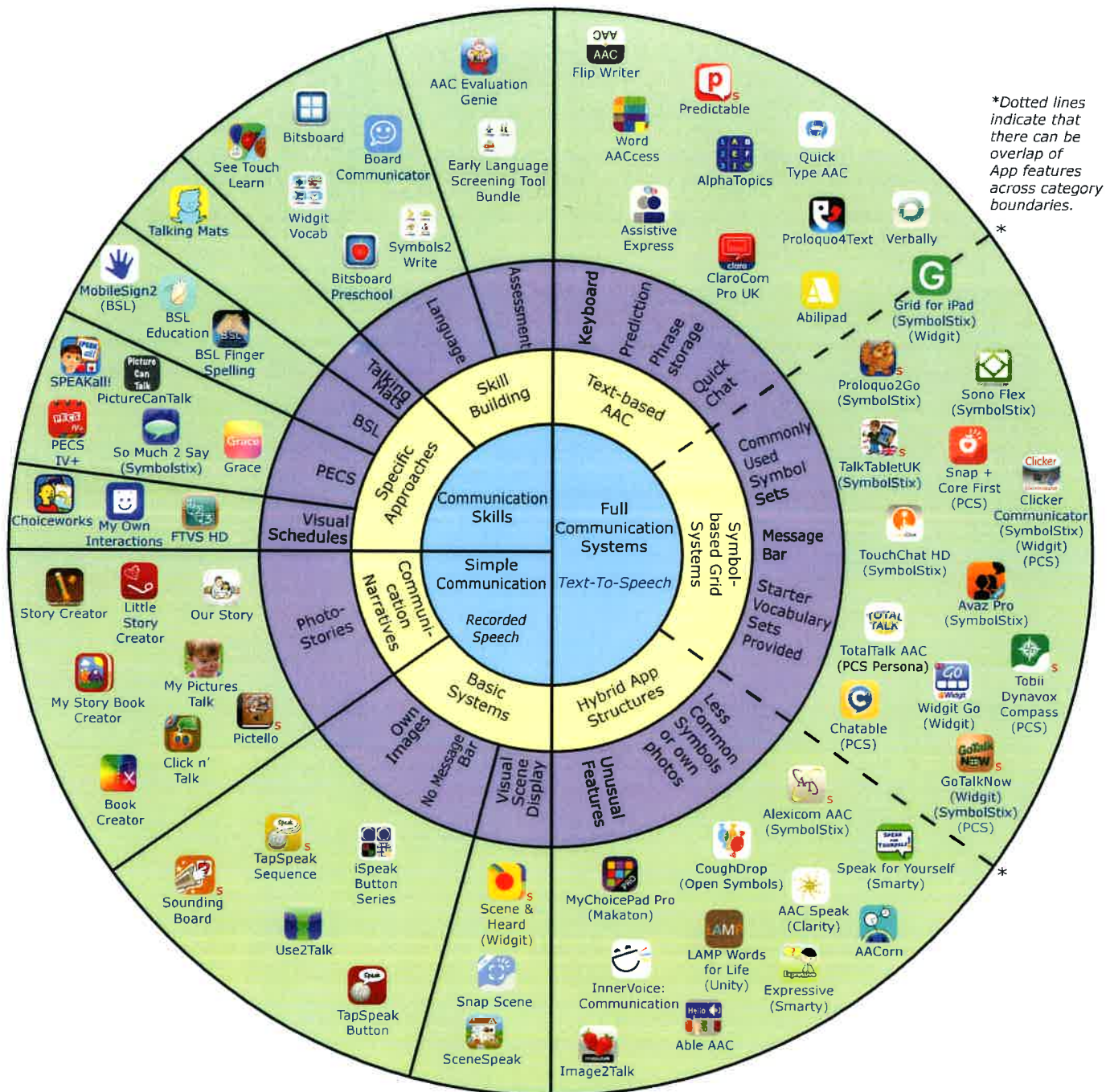
**Switch Access**

Switch access may be necessary for some users, requiring a USB or Bluetooth switch interface and switch(es) tailored to the user. There are very few Apps in the wheel that are designed specifically for switch access, but from Android Operating System 5 and above there are Accessibility settings built-in, allowing operation by one or two external switches (or by using the screen, as a switch, or head movements). But always check first if the App selected can be accessed via these access methods and via the Switch Access Settings on your tablet. Further information from Android help: <http://bit.ly/1OMearQ>





# iPad Apps for Complex Communication Support Needs: Augmentative and Alternative Communication (AAC)




**Identifying Suitable Apps**

This wheel does not include every App available in each category. There are hundreds of AAC Apps and many hundreds of combinations of features. This wheel includes Apps that CALL Scotland broadly finds reliable and useful and/or that stand out in their category.

For a useful, comprehensive and regularly updated listing of AAC Apps, see [www.janefarrall.com](http://www.janefarrall.com)

**Printing Visual Supports - Tools 2 Talk+**

Printing of communication pages is possible from any AAC App through the screen capture option (Home + Sleep/Wake button) then print or email to PC. Tools 2 Talk+ however, is a simple to use App for producing picture/symbol communication resources for printing out (they can also be used on the iPad with voice output). Templates are provided and Boardmaker PCS, COMPIC symbols or photos/images can be used.



**Switch Access**

Relatively few Apps are designed specifically for switch access. They tend to be the ones that offer the widest range of scan options and may be the 'safest' choice for switch users. These are marked in this wheel with a small red 's' (beside the App icon).

From iOS7 and above, Accessibility settings built-in to the iPad mean that almost any App (and the iPad itself, desktop, and functions) can be operated by external switches (or by using the screen as a switch). But be careful! A few do not work at all - or not well - with iOS switch control. Always check before buying - perhaps via a specialist centre such as CALL Scotland - whether it actually works or not!

**Downloadable Version**

An electronic version of this chart can be downloaded from <http://www.callscotland.org.uk/downloads/posters-and-leaflets>

In the electronic version, App names are 'clickable' links, taking you to information about the individual App on the iTunes site for the UK.



# MyStudyBar



A suite of free applications assembled into one package to support literacy difficulties.

To download MyStudyBar go to: [www.callscotland.org.uk/mystudybar](http://www.callscotland.org.uk/mystudybar)

## MyStudyBar can help learners to:

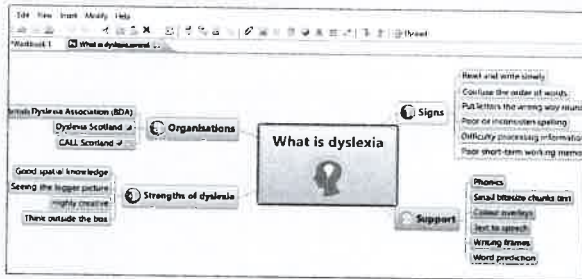
- organise and plan their thoughts
- customise background and font colours
- listen to information read aloud
- convert text to audio
- improve typing skills and more!



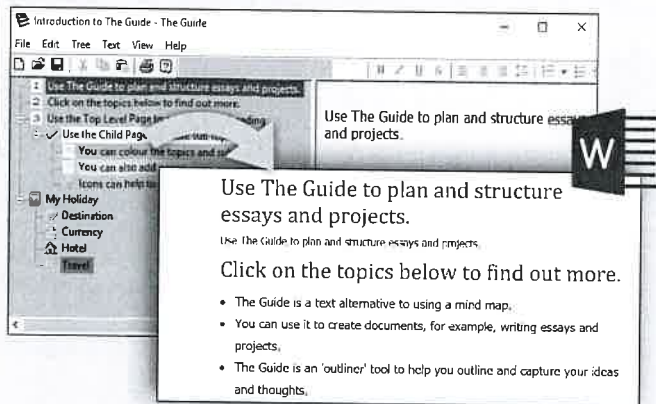
You can run MyStudyBar from a USB pendrive or the desktop!

## Support with planning and organisation

**XMind** - can help to map out ideas, communicate thoughts, understand relationships between topics, add images and icons - great for visual learning!



**The Guide** - plan and structure your ideas then convert them to a word processor such as Microsoft Word to extend writing.



Use The Guide to plan and structure essays and projects.  
Use The Guide to plan and structure essays and projects.  
Click on the topics below to find out more.

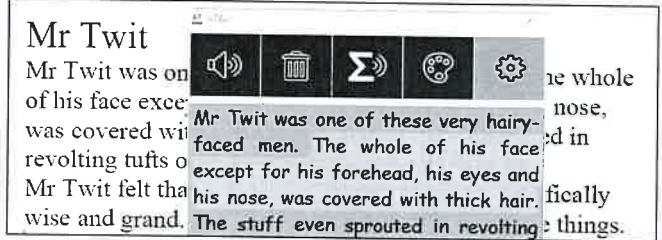
- The Guide is a text alternative to using a mind map.
- You can use it to create documents, for example, writing essays and projects.
- The Guide is an 'outliner' tool to help you outline and capture your ideas and thoughts.

## Support with reading

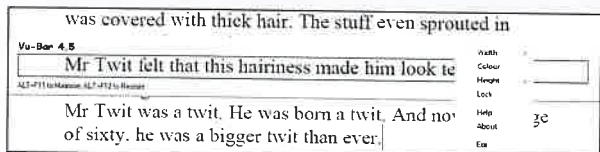
**TBar** - is an easy-to-use screen masking tool. You can choose from a range of colours, create a reading ruler and adjust the size and transparency of the tint.



**ATBar** - reads text aloud with options to change the font style, colour background and synchronised colour highlighting.

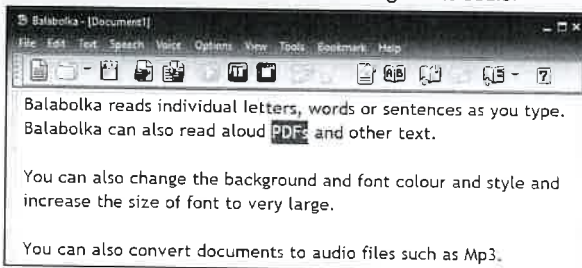


**VuBar** - is a floating ruler which can be set to read one or two lines of text at a time, to aid concentration.



## Support with writing

**Balabolka** - reads individual characters, words and sentences as you type. It has many other useful features such as converting text to audio.

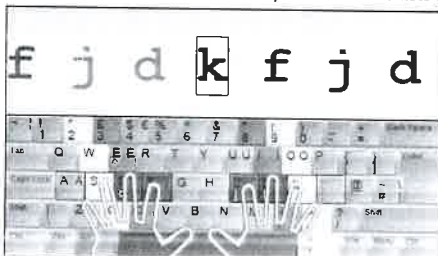


Balabolka reads individual letters, words or sentences as you type. Balabolka can also read aloud PDFs and other text.

You can also change the background and font colour and style and increase the size of font to very large.

You can also convert documents to audio files such as Mp3.

**RapidTyping** - is a colourful and fun touch typing program with a variety of lessons to choose from. You can also create your own word lists to practice with.



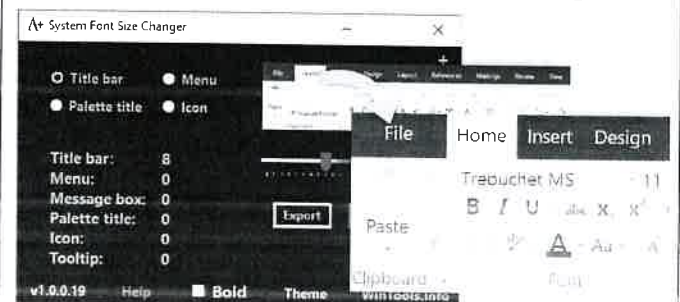
## Voice - Speech Recognition




With **Voice** you can dictate text. Voice uses the Windows built-in **Speech Recognition** which requires training. For best results take time to work through the tutorial.



## Vision - Magnifier

Magnify and customise your desktop with **System Font Size Changer**.



<b>First</b> 	<b>Next</b> 	<b>Then</b> 
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