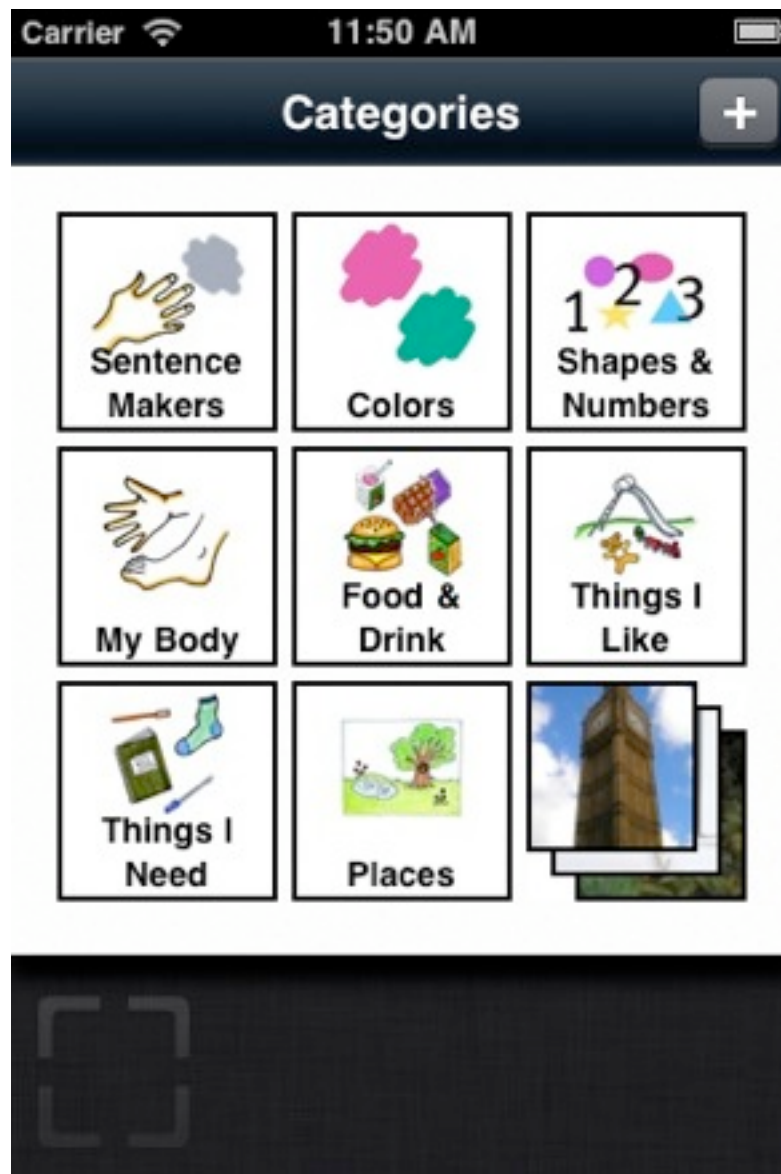# Grace App for Autism on iPhone, iPod Touch and iPad

www.graceapp.com

Six Steps to Success With Grace App ©

1. **Do a Reinforcer Inventory***

Do it Honestly, writing down whatever you know the Client is really interested in. Observe their interests and make a note of all the existing cards in their picture exchange repetoire that are obviously well used.

2, Find, Take, Save and Load on to the app the most preferred items on that List.

If the item is not in the existing picture vocabulary, take photos of actual items, google them on Safari and save them to the device's album. You can even photograph existing well used cards from their book.

3.Make a commitment contract:

Remove and Control access to EVERYTHING on your re-inforcer inventory that you can commit to handing over in response to a correct request, 99% of the time for the first 2 weeks.

Get everyone involved with the client's welfare to agree to support the implementation of Grace App to sign up to building their future potential.

4. Take instructional control, so the Client has to approach you in order to use it. Make sure you are competent in operating it and teach back up carers/tutors/parents.

5. Set up an opportunity to create demand for an item. Offer and then block access, prompting the request on Grace App using your hand to control the client's hand. Model and prompt the words as you point

6. Hand over the item immediately. Repeat. And Repeat and Repeat!

1. **Do a Reinforcer Inventory***

Do it Honestly, writing down whatever you know the Client is *really* interested in. **Take note of the first column only** when planning to introduce Grace App.

Simple Reinforcer Inventory For Setting up Grace App ©

Description of Items to consider:	DATE:	Obsessed with	Actively engages	Moderate interest	
Savoury Snacks					
a					
b					
c					
Sweets, Candy, Chocolate					
a					
b					
c					
Characters (TV/Movies)					
a					
b					
c					
Videos/Films/Dvds:					
a					
b					
c					
Websites/ YouTube					
a					
b					
c					
Music (Audio or Video)					
a					
b					
Interactions – Tickles, bubbles etc					
a					
b					
c					

2, Find, Take, Save and Load on to the app the most preferred items on that List.

If the item is not in the existing picture vocabulary, take photos of actual items, google them on Safari and save them to the device's album. You can even photograph **well used** cards from their book.

To do this you can create an album of images on your desktop and move it on to the device.
First, upload your pictures to your desktop computer using your usual photo software. You can upload photographs taken with another phone or digital camera. You can also just save photos and pictures that are already on your computer or a disc. Or an image chosen from the internet and saved.

Choose the photographs and pictures that you want the user to access and save them all to a new album on the computer.
Plug the white usb cord into your iDevice and your computer - wait for the iTunes account to open and check that your device is registered. It should have a name – such as the name of the user, like "Gracie's iPhone" Click on that and it will open to a main Summary Screen.

At the top of the page, from left to right you will see a number of tabs: Summary, Apps, Movies, Music etc and on the far right you will see "Photos" - select that.
When you are in Photos - you will have the option to syncronise to an Album - check that.

Then choose which album, by clicking on that box and going through your albums to find the one Album you saved - "Grace's Pics A"
Check "All photos" to ensure the whole album comes across when you save.

Click Sync - in the bottom right corner and look at the iPod touch screen to see it synchronising - it will have a green image.
Wait for "sync complete" and then disconnect the iPod Touch.

Next go into the iPod Touch and check the Photo Album - the button with a flower on it. Open it and see if your pictures loaded correctly. If not try again. Sometimes it takes two tries.

You are now ready to start storing and sorting the Grace App!

Unplug your device and open up Grace App.

See the Plus sign in the top right? That opens the folder to get your saved pictures.

You can then choose which folder you want to add EACH picture to, one at a time. Just click on that folder, click on the + sign in the top right and then
Choose Existing - this opens the Photo Album.

Then click on the photograph you want to save to the App. It will go to the top left of the folder – displacing the existing pictures.
Repeat as many times as you need to load all the pictures you will
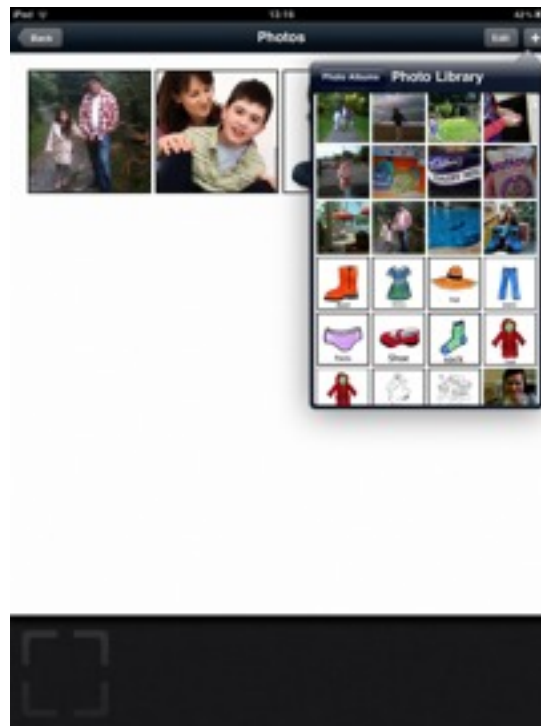
need to start.
If the pictures do not fit into a particular description– just click + from the main Grace App Screen. Then after you have saved one it will appear as the Folder Category which we have named "Photos." Then open that folder and save the remaining photos one by one. Great for photos of family and other significant carers.

Further Customisation:

Some of you may be setting up Grace App as a first means of augmentative communication. In that case I would advise stripping away all unnecessary vocabulary and keeping the folders as clean and simple as possible.

To do that you open the folder you want to clean, and press edit and all the pictures will go jiggly, then choose a picture to delete. The screen will ask you if you really want to delete, press delete and it will vanish in a puff of smoke.

When you are finished just click the back button to exit that folder and then start again.
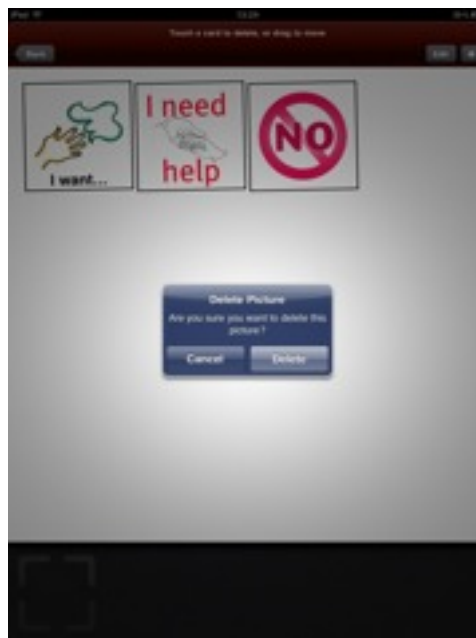
This is where you can rearrange the pictures too - to make the preferred ones first in the row

And when you are finished, go into Settings on your device, scroll all the way down to the Grace App icon and then open it and set the edit function to "Lock" to - ensure small fingers don't delete anything, or stim on the jiggly pictures.

When you want the deleted pictures back, just select **Restore** in the settings menu. This puts back ALL of the default cards you got with the app, but still saves your personal ones.

Practical Stuff:

Grace App Version 2:0 was added to the App Store recently. It is a free upgrade, you just have to check your Apps folder in the Available Updates, and if there is a little red number there - it means you have apps ready to be updated.

This update gave us the much requested "Category Sorting" which I have explained. I also deleted some extraneous cards but if you want those back you can email me and I will send them so you can add them back yourself.

iPad now has a landscape view which is much prettier - and we added a double tap to REMOVE cards from the sentence strip, because kids were deleting cards as they pointed to them when reading the sentence. Now the card just highlights when they point to it - and you have to teach them to double tap to remove their cards when they are finished - because the sentence now stays there even when you exit the app.

We are always going to be about Pointing and Prompting the user to imitate speech, modeling each word for them. So no-vocal! There are some fabulous apps out there that do have an electronic voice tag or a record your voice feature and if you email me I will direct you to their websites.

Lock and Load!

Another important update was the ability to lock the app so that small people cannot delete all the photographs you have carefully added.

Go into Settings, then scroll all the way down until you see the Grace App Logo; open it and select ON or OFF to allow editing.

The other button allows you to restore any of the default images that the app came with - if they have been deleted. Restore will maintain any photos that you have added - you will just get the old pictures back too.

Another important Setting Change that came with an Apple iOS update is the ability to restrict usage of the device.

Settings > General > Restrictions > Set a pin code >and then lock your choice of Safari, Youtube, iTunes and installing Apps, but most particularly; lock DELETING Apps!

3. The Commitment Contract ©

We, the undersigned hereby commit to respond to _____ every time they make the following **minimum** steps to a request:
(Tick which is applicable to the individual)

Sentence Starter	Adjective (color/ shape/qty)	Item

If they do not, I will **hand over hand** prompt them through the above minimum steps using the Grace App © before handing over the desired item which will be kept out of reach until then.

I will do this **every time** they make the request and will **control access*** to those items, 99% of the time, for the next _____days.

Items:_____
_____
_____

(then we will introduce the concept of No and Wait!)

I will endeavor to create **natural** opportunities to request the following items as much as possible in that time, and in doing so build the power of appropriate communication for

_____

And, we will **not** respond to the following inappropriate forms of communication:
_____

(e.g.: dragging, leading, self harm, aggression, screaming, grabbing or single words or single picture exchanges when we know they can use a sentence)

Because we are committed to helping _____to develop their independent communication in a way that is generally understood to ensure their ability to interact on their terms with their community.

Signed: _____   Signed: _____

Name: _____   Name: _____

4. Take <u>instructional control of the device at all times</u>, during the first few weeks, so the Client has to approach you in order to use it. Make sure you are competent in operating it and teach back up carers/tutors/parents.

Why take Instructional Control?

- People with Autism need to be encouraged to make the social connection with a listener that defines Verbal Behaviour.

- The iPhone, iPad, and iPod Touch are entertaining and easy to use so there is a chance that they may become toys or reinforcers, rather than a communication device. (you can lock Youtube, Games Apps and internet access via the settings button before you start)

- The device of choice is worth a lot more money and is likely to be more fragile than the average communication book. For this reason you will want to supervise its use to begin with.
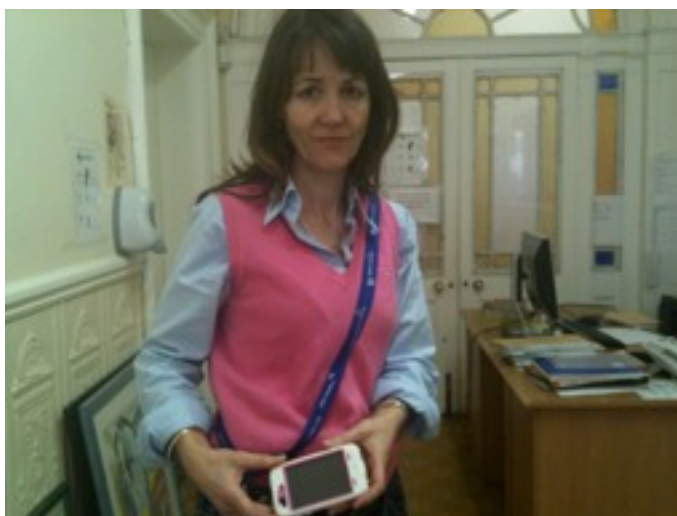
I suggest you get a strong cover that will support a lanyard clip and then attach a lanyard or strap long enough to go over one shoulder. You need to wear this all the time and make it accessible. For information on covers see the website: www.graceapp.com

5. Set up an opportunity to create demand for an item.

The Grace App is intended to replace their existing picture communication book that they take out with them AWAY from the desk top.
So set up structured opportunities to prompt the use of Grace App to request favourite items in a natural setting, like a shop, vending machine or in the school canteen, where they can see but not reach a desired item.

When the child reaches for an item, block and prompt -*Hand over Hand* the opening of the app, and selection of the picture, and present the "sentence". Read it together with a finger on each picture and **then immediately deliver the reward**. Allow them to enjoy it.

6. Repeat Step 5. And Repeat and Repeat!

Once the device is established as a means of communication:
You can begin allowing them to "wear" the device themselves. Make sure they are using it every time they make a request - and prompt them to bring it everywhere.

Don't forget to charge it each night!

How to use Grace App for Communication
Point, Pause, Prompt & Reward

Once you have taught the user to open the App and select each picture they need in sequence, you tilt the device to make it big (in the case of iPod and iPhone) and hand over hand point at each separate picture, sliding them along.

In the case of iPad you do the same but point just below each one, and there is no need to tilt as the picture is big enough anyway.

Point

Do this gently with your hand holding their pointing finger at first, building interaction.

When they are able to point nicely you can fade out your hand support and just hold the device with them. The device should always be presented to the person who is going to grant the request.

Pause

Give the user the chance to look at each picture with you and wait for them to make eye contact or attempt each word. The level is different for each user and should be agreed with all carers prior to starting using the Communication Contract. Language processing can take a little bit longer for some people, especially with regard to autism. So give them a chance to beat your prompt..

Prompt (or Model)

When you have waited a beat and given them a chance to look at you and/or attempt the word, say the word clearly. If they beat your prompt with an approximation, model the correct word - enthusiastically with a huge smile of encouragement.

For Example: The User says: "I Wah" - you smile and say "I WANT" then point to the next word.

(Praise) and Reward!

Always hand over an agreed item if it is requested using the App. The more power you can give to using the Grace App the less power the inappropriate alternatives like self harm, aggression and tantrums will have.

If they beat your prompt and attempt the word independently, give them double what they have asked for.

If they can say the word clearly without you pointing at all then give them even more!

Requesting using adjectives (discrimination) and then adding a photograph.

Augmentative and Alternative Communication is actually a SECOND language for our kids. The first language they learned naturally by Cause and Effect is a lot of inappropriate behaviour such as:

If I cry, if I scream, if I bite you, if I pull your hair, you seem to pay attention to what I want.
Passively, they may learn to lead you by the hand to the cupboard or climb and take things, or perhaps just wait until the right thing is offered.
Sadly many autistic adults are in settings where they do just that, without ever exercising a choice.

So when it comes to introducing an appropriate means of getting needs met by interacting with you – we are actually teaching their **SECOND language.**

Once again we need to observe and record what **they like** and then create the means to request it, And then we can begin to offer alternative choices while teaching how to discriminate those choices.

Picture Exchange is an excellent way to teach language with meaning. Rather than wasting time and effort learning to name flashcards, the user learns vocabulary because it means something to themselves.

So once you have identified and taught how to request preferred items. Begin offering non-preferred and then teaching how to discriminate by adjective.

And the great thing about Autistic Kids is that they are VERY discriminating!

For example: If they like salt and vinegar crisps of a particular brand – get a couple of different brands that come in different colors.
When they reach for the preferred brand, show them how to request by color. When they use the wrong color, give them the wrong color.

The same applies to shapes: seek out chocolate buttons and triangular corn chips, circular pitta bread. Make sure the alternatives offered include an item they love, and one they don't like much.

Numbers can be taught using quantities of items that they like. My Gracie likes her toast cut into 8 triangles. She won't eat 4 triangles or 8 squares.

Asking for Help

As discussed, Kids with Autism will often learn to lead a carer to what they want, or tantrum or inflict inappropriate behaviour in order to have specific needs met – particularly when something is broken or causing them a problem in some way.

So you need a quick and appropriate way to replace the tantrum, like showing how to request help.

First **set up** a situation where the user will have to request help. Make sure it is a situation you can control & grant the request.
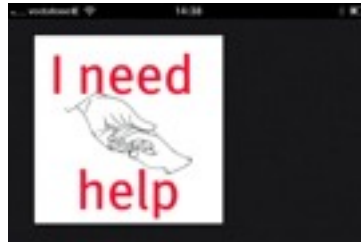
Suggestions:

☒ change the A/V channel so the video won't work.
☒ Lock their Favourite cable channel with a password.
☒ Hide the mouse for the computer.
☒ take the batteries out of the remote,
☒ Unplug the scart lead on the television

You can see that I have put the priority on technology when because it is the most likely "HELP ME" situation that will occur in the natural environment. Kids don't tantrum for a missing straw or marker. They tantrum when Barney dissolves into static on their TV.

Whatever it is, make sure it is something YOU can fix, and they cannot. Our kids are good problem solvers so you need to be tricky.

Be careful about sabotaging the wireless internet or shutting down the computer – because they have a habit of not coming back on!!

When they are trying to use the item you have sabotaged, show them the Grace App and HAND over HAND show them how to select "I need Help" from the Sentence Starters Folder

Then IMMEDIATELY fix the item. The fixing will be its own reward.

When they are fluent at that, start adding on a picture. If they want help with the Video – choose "I want help – video" etc.

They will generalise eventually to choosing the specific need themselves. Try to break the pattern of running around madly trying to fix things in response to a tantrum by rewarding the request for help quickly. This will help you to reduce tantrums and build better communication of needs.

It can be really distressing to be involved with a tantrum - my own daughter is capable of 3 hour tantrums.
So it is not the time to be looking for extra communication skills.
Teach outside of the tantrum, set up rewarding opportunities for the learner to express what they need, and it can save you a lot of grief.

In the chapter on Adding Vocabulary - I'll suggest a few other ways to work out exactly what your Learner is looking for, to help avoid frustration.

Tell me where it hurts

Firstly: Autistic people are flesh and blood and they feel pain to the same or lesser or greater degree as anyone else.

But they can be quite <u>stoic</u>, and need to be taught to demonstrate when they are in pain.

You start small, with something that is obviously and visibly painful; like a stubbed toe, or a grazed knee. (*for ethical reasons you cannot trip them over*)

Stop and sit them down while you rub the knee or toe and kiss it or apply savlon and comfort them verbally, repeating "Sore Knee, OUCH!, Sore Knee".

Grab the device and using Grace App; select **My Body**

Then prompt them to choose "Sore knee"
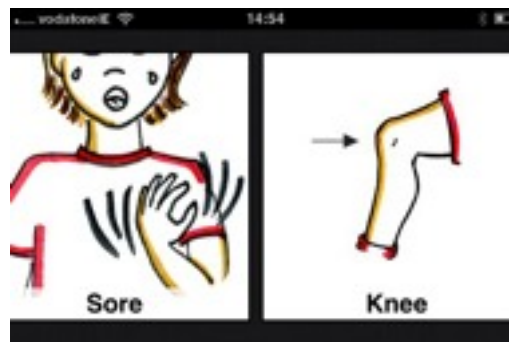
Give them a lot of care and attention around that poor sore knee, repeatedly point at the two pictures and comfort the hurt, saying each word.

Put a dab of antiseptic cream on the spot to soothe it and teach that you CAN do something if they are in pain.
In a separate exercise; (when they are no longer in pain) you teach all the other body parts using Grace App to make requests.

Ideas to teach body awareness with Grace App:

Use a toy like "Mr Potato Head.®" Keep control of the body part pieces and place a large mirror at the desk.

Prompt the child to request "I want nose" or "I want hand" using the Grace App "Sentence Maker" for "I Want" and "My Body" for the hand:

Hand over the little hand requested and at the same time say "**show me your hand**" and prompt them to point to their hand.
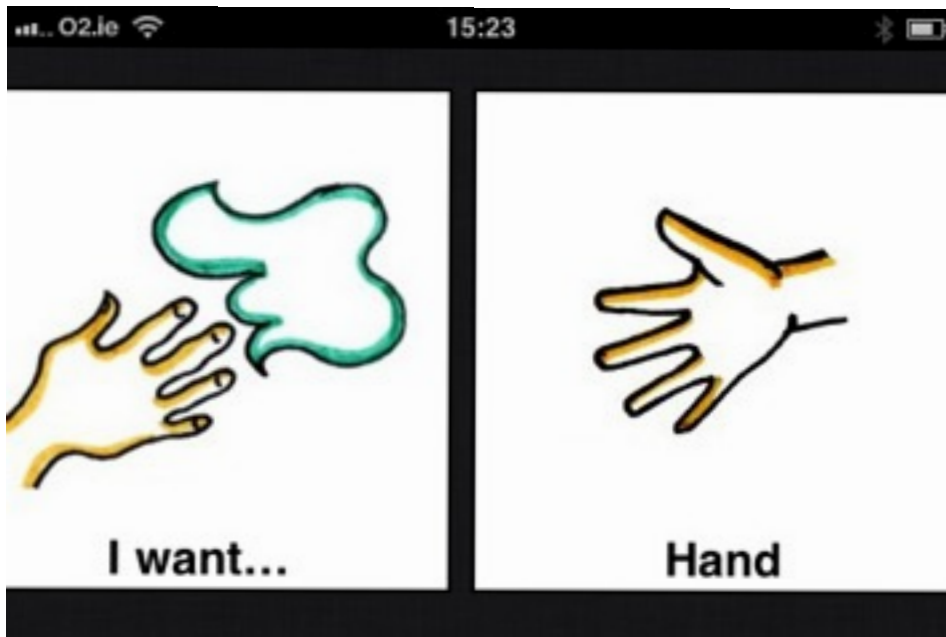
Make it real, not abstract. This helps them to associate the picture of "hand" on the phone with *their hand.*

You can make your own customised body puzzle with a picture of their favourite tv or movie character. Find and print an A4 sized version of the chosen character and then cut it up. Laminate each body part and attach velcro. Then make a puzzle board with the prickly velcro in each place.

Again prompt your pupil to request the character's nose, eyes etc using the Grace App. Keep pointing to their own body and getting them to name the body parts as you do it - keep it real rather than abstract.

You can also do this exercise with a blank piece of paper and some coloured markers, or if you have an iPad – a drawing program.

Get the child to request you draw each body part according to the character they like. You can also prompt them to choose by colour:
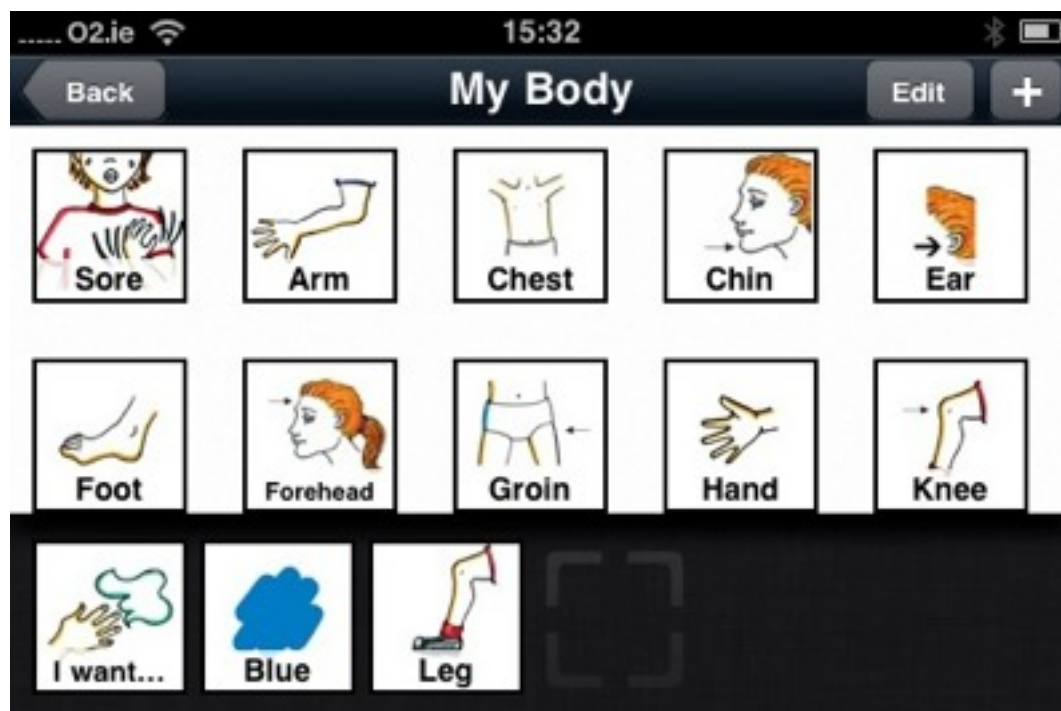
From that you will hopefully create good body awareness, and recognition that they can then generalise into understanding. And when they have a hurt you don't know about - tell you.

Shared Attention, or
"LOOK! I have something to show you.."

As you may know my "research" was largely based on observing my own daughter's interactions and since using Grace App she started spontaneously demanding my attention to share things she likes.
I don't know why, but I suspect it is because of the instant sharing of photographs with the App.
My other research is based on what my friends told me their TYPICAL kids say spontaneously to share something that they like.

To teach it - get down from the desk and put on a video or DVD of their favourite show. Watch what characters seem to excite your child and take a note of these using the Reinforcer Inventory. Download and save these images on to the device, then add them to the app by using the + button, and "choose existing."

Put on the favourite show and pause it when the hero appears.
Say "What/Who's that?" and point at the character, then prompt them with the "Look!" and the photo of the character.
So if you are watching Sesame Street and the little girl monster comes on (Grace loves her) you pause and say "Who's that?"
Prompt them to open Sentence Makers, then "Look" and "Zoe"
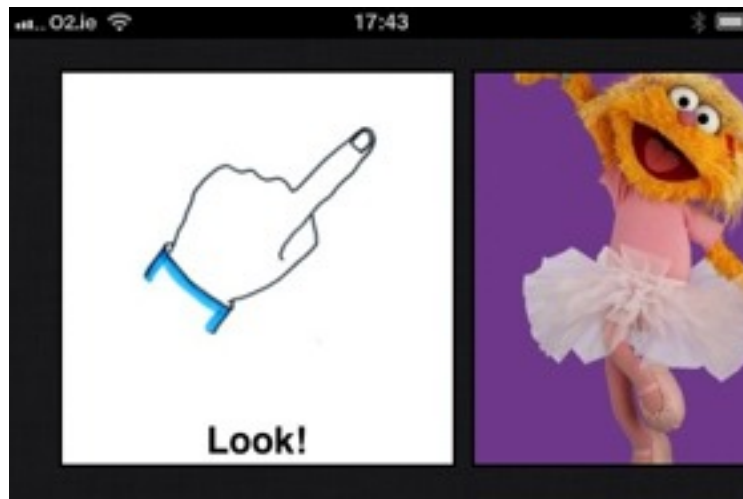
The sharing of the favourite should be rewarding enough, but offer a tangible reinforcer if you need to make it more engaging. Tickles, smiles and cuddles are great for this.

You can try this somewhere like a Zoo, Aquarium or Open Farm – keeping in mind that the animals might wander off during the exercise. Choose a slow one like a tortoise in that case!

Differential Reinforcement

Using Grace App, standard Picture Exchange or Sign Language is a great way to give someone with *developing or delayed vocalisations* the means to communicate without frustration.

Remember to Point, Pause, Prompt and Reward **every time**.

Gracie did not say a recognisable word until she was 6 ½.
No meaningful babble, no echoalia, just highly sophisticated picture exchange.
However as a result of direct teaching using Verbal Behaviour techniques developed by Vincent Carbone, Gracie eventually began imitating sounds. - We were playing a game with an animal pop up book and she said: "Lion"
(It was actually a picture of a tiger but we didn't care!!!)

From there she began to attempt to say what she *wanted*, when using pecs, so we needed to keep encouraging her verbals while ensuring her picture requests were always honoured.

Please don't ever give up on attempted pronunciations, and don't be bullied into it. There is always a chance that a supposedly non-verbal or unintelligible speaker will begin to enunciate their needs independently, **whatever their age or disability.**
Every time I hear my daughter's voice on the telephone saying "Mummy". And I thank my stars that nobody convinced me to give up on developing her own voice.

The key is to **Differentially Reinforce** each exchange.

If the sentence is "I Want Cake" and they point while you prompt by saying the word for them. Give them a *spoonful* of cake.

If the sentence is "I Want Cake" and they attempt to vocalise each word as you prompt, give them a slice, with a bit of the icing.

If they present you with "I want cake" and beat your prompts by **vocalising independently**; give them a huge slice with icing and filling.

If they are sitting in the back seat of the car and they say:
"I Want Cake!"
Buy the biggest cake you can find and give them ALL of it!

But next time, if you *just* get the picture exchange without any words, you still should give them *some* cake.

Saying No, Or Wait! - Taking Control.

For the first few weeks of introducing Grace App, you will need to make sure that every independent request is granted, in order to teach the value of appropriate communication over their previous behaviours. However, there comes a point where everyone has to learn:

"**You Can't Always Get What You Want"**

Do a new **reinforcer inventory** and check their hierarchy of needs with No 1 being most desired. In Gracie's case **Number 1** would be a Caramel or Honeycomb based chocolate snack which I never let her have. Number 2 or 3 would be crisps and milk chocolate snacks with a biscuit base that she is allowed because they don't stick in the teeth and cause cavities.
You can use activities like video/computer**– but nothing that involves *sharing with another child:***
Don't put anyone else in the firing line of your refusal!!

Choose the second and third favourites to set up the trial. It's less stressful than offering and refusing their favourite thing. This is not an exercise in cruelty, just a way to teach understanding of the word **no** in controlled circumstances.

Gather up a few of these and put them in a transparent tub – where the user can see but not grab them.
These pictures should be saved already on Grace App, where the client has been requesting them regularly. For example, I know that Gracie likes the Salt and Vinegar Crisps that come in a green packet. So I would offer her a choice of flavours and wait for Gracie to request- "I Want – Green – Crisps"

And to this we would take the app, choose "Sentence Makers" and add on the picture card that says "NO".

Keep a hold of the device to prevent "accidents"

**Then Offer what they *can* have again. Repeat as Necessary!
The next lesson is a little easier – Teaching Wait.**

This time you can use an activity, but again work *in context.* Don't make it something that would not occur naturally in that environment or you are giving them a skill that they won't be able to apply. In our case it would be:

"I Want - My favourite Youtube clip– Computer"

There are many clips to choose from but only 2 computers in the classroom, each child must *naturally* take turns so they must get
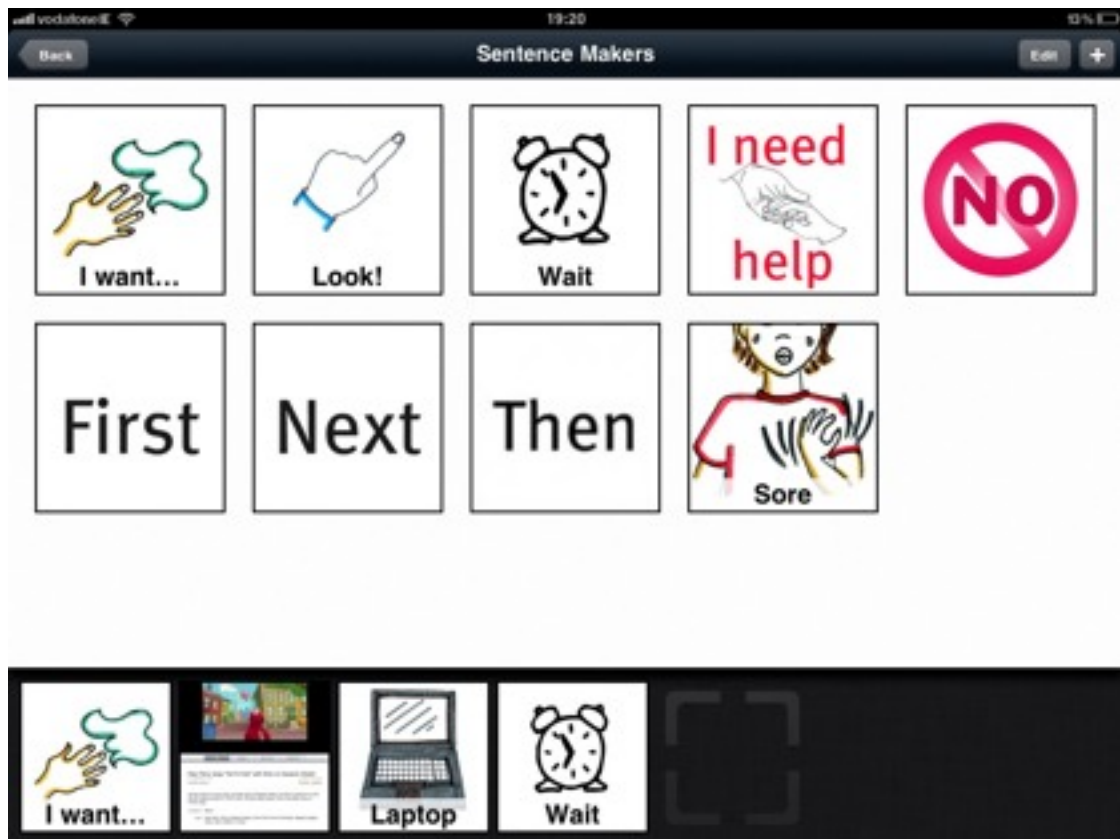
used to waiting.

When you are presented with the request, select "Sentence Makers" add on the "Wait Clock" symbol.

Then direct them to the timer on the device, which is a picture of a clock and show them how long they are going to wait!

Often watching the timer is as reinforcing as the activity they are waiting for!

When they get access to the activity, such as watching YouTube, you can use the timer again to tell them exactly how long they have to enjoy it.
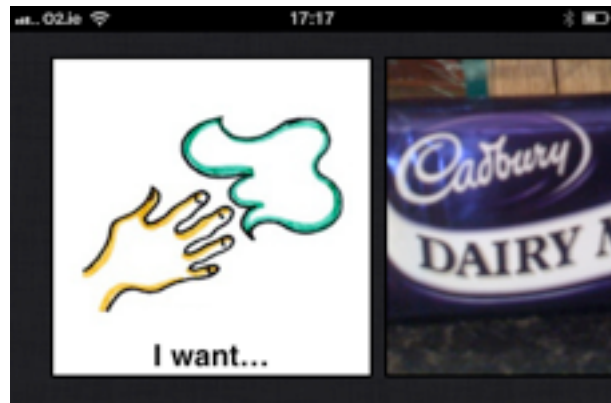
Saying NO and Wait:

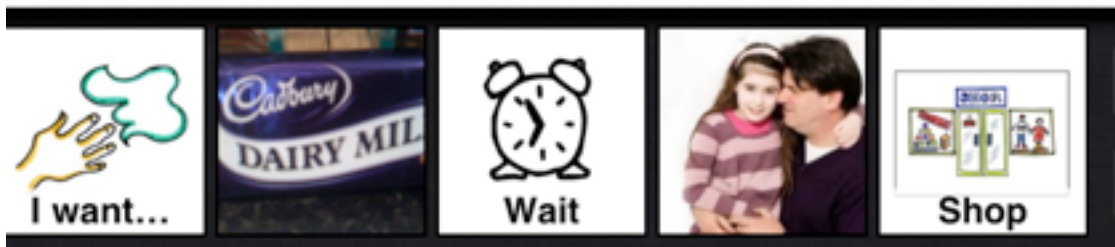Sometimes the item the user requests will be available – but with a proviso.

For example: A regular request in our house is for a preferred food item that may have run out. In the bad old days I would put both my autistic kids in the car, drive to a store and run in to stock up.

This is not a good way to live.

So now, when Gracie says:

I can say:

Then I send a sms text to Daddy and tell him not to come home without chocolate!
Gracie will meet her Daddy at the front door and repeat the request, and if he has forgotten, he has to turn around and go back out to get it.

The difference in a tantrum for something that they know they will eventually get, and the frustration that they think you don't understand what they want is quite considerable. Teach Wait, honour the agreement and make sure they get what they want, and it will help a lot with reducing that frustration.

Trouble Shooting:

When you are introducing Grace App on an iPhone or iPod Touch, I suggest you work on natural environment teaching to imprint the usefulness of the device and app on the user – and show them exactly how powerful it is going to be for them to be understood.

However, as I said in Chapter 1 – you should still continue to recognise and reward any communication attempt, be it sign, speech or traditional hard copy picture exchange.

The Grace App and device should replace their *portable* book, giving them the same vocabulary that is universally understood where ever they go, with the ability to add to it themselves independently as their skills develop.

So, Why Are they Still Dragging that Book Around???

To work out why you think they still need to carry the big pecs book, start by writing down all the pictures which you think are missing from Grace App. Use my reinforcer inventory template from page --

Description of Item	Slight interest	Moderate interest	Actively engages with	*You Only* think they need them.

Then ask yourself: Do **they** *need* this card? Are they *really* going to use it **independently** and **spontaneously** in order to be understood?

For example, does a pre-verbal child really need to add the "EAT" card to sentence requesting popcorn. Have they ever asked to "Sit" on Popcorn, or "Watch" Popcorn???

Would **"I Want Popcorn"** suffice as an independent spontaneous request that could be consistently rewarded by anyone who reads it?? - And be easier to imitate when they do start to develop speech

Putting in unnecessary verbs slows the sentences down and makes it less likely to be repeated or imitated. It may be an aspiration on your part, but has **no value** to the user. (sorry but I have to stress this)

So, if you really <u>need</u> to include the pics.

A) If they are part of an existing picture exchange vocabulary, you can save them as a photograph on your desk top computer, and then transfer them to the users personal folder, and add them to the app.
(Press + and "Choose Existing" from the App.)

If you bought the licenced cdrom to create and print these pictures then you are allowed to use them on your own device as much as you like.
Obviously I am not so you won't see an example here.

If they are copyrighted and licensed and you can't copy and save it to a picture folder you have three choices:

1. Choose a similar version from Open Access Software like:
www.pictoselector.eu

2. take a photograph of the card and save it

3. If the user can read, make a word card version using your computers word processing software or go to picnik.com.

Save it to a picture folder and press + then >choose existing to add to the app in the appropriate folder.

If there was a picture on Version 1.0 of Grace App that you are missing please don't hesitate to email me and I will send you a jpeg to download.

Other Resources:

www.dotolearn.com
www.freeprintablebehaviorcharts.com
www.visualaidsforlearning.com/products/index.htm
www.abaresources.com/free.htm