

Using iPads in Speech Pathology

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1.0 Introduction

Apple technology or “iTechnology” is becoming a mainstream choice for speech pathologists in a clinical environment (Dunham, 2011). The iPad is considered the latest “therapy tool” for both paediatric and adult clients (Fernandes, 2011b). Apple products include the iPhone, iPad, iPod Touch and iPad Mini. The iPad is the most popular Apple product being utilised by clinicians, due to the larger screen providing users with better graphics, and accessibility features that optimise use for those with a disability (Fernandes, 2011b). Advances in the technologies have resulted in devices becoming smaller, increasingly powerful and considerably less costly (Gliddon, 2011). They are being utilised by speech pathologists to improve communication and speech for people who have previously been unable to afford such devices (Gliddon, 2011). It is important to note that this resource will not make mention of AAC apps specifically due to the range of comprehensive apps lists already available in this area.

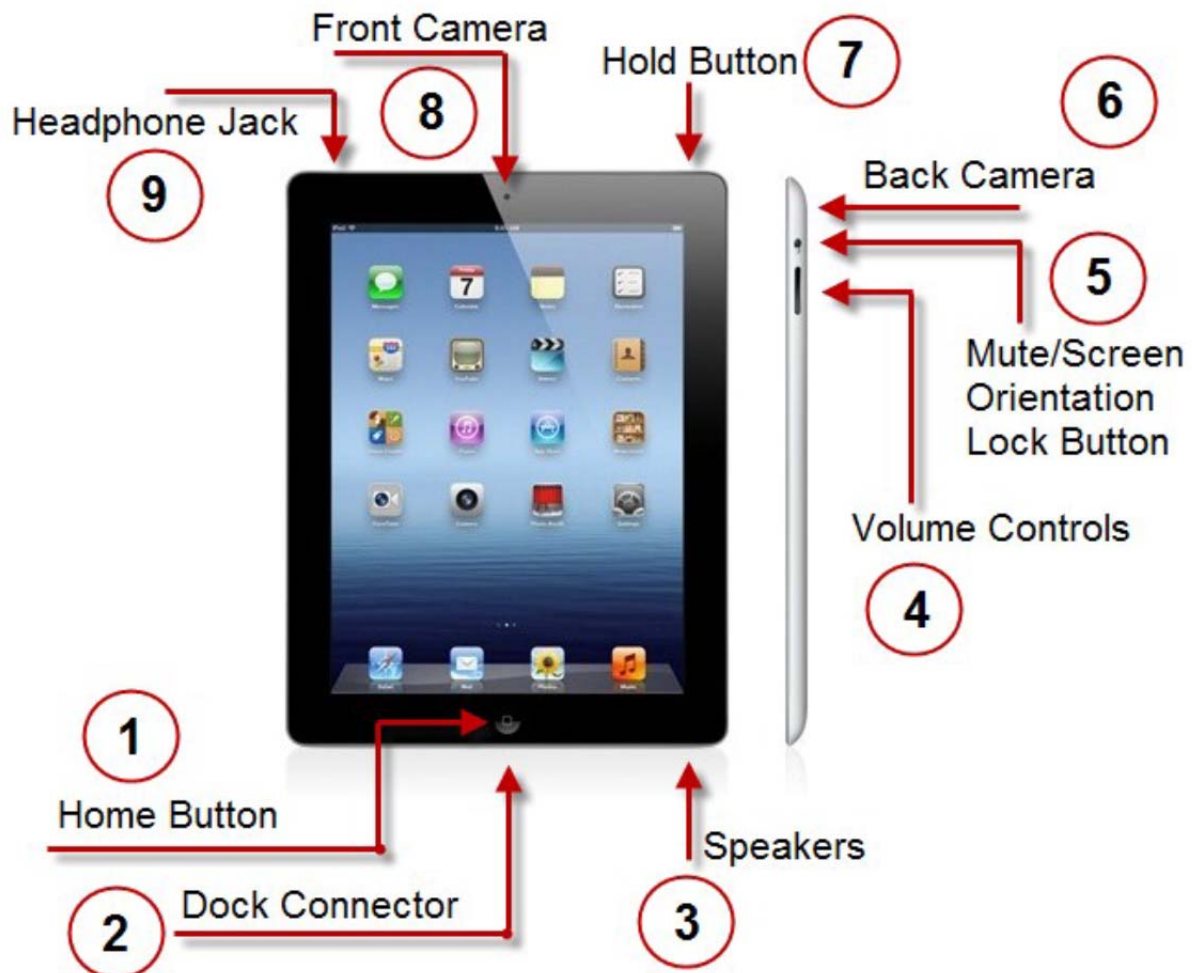
There are a vast range of iPad apps being developed by speech pathologists and educators for a wide range of speech and language areas (Gliddon, 2011). Due to the increasing number of apps available, it is essential that clinicians use their clinical judgement and expertise before purchasing an app to ensure that they are getting the best value from the therapy tool (Gliddon, 2011). Dunham (2011) states that due to the app technology constantly changing it is vital that speech pathologists know what applications are available to them, to ensure that their therapy tool is up-to-date.

This report aims to educate and inform clinicians, parents and educators how to use an iPad and the apps available to assist with speech and language intervention. This report provides guidelines on how to use the basics of an iPad, using the iPad for assessment and intervention, using an iPad in a clinical setting, the advantages and disadvantages of using an iPad, what to consider when purchasing an app and how to evaluate apps. We have provided a comprehensive list of evaluated speech and language apps currently available, with a detailed summary of the highest rated apps in specific speech and language learning areas according to a developed rubric.

2.0 Guidelines for Using an Apple iPad Device

2.1 The Anatomy of an iPad

(Adapted from Craig Mill and the CALL Team, 2012)



1. Home button. Press this button when you want to exit an App and return to the home screen. The home button is also used to close non-responsive apps.

2. Dock connector. This is where you plug in the USB cable to synchronise the iPad to and iTunes/computer. The Dock connector is also used for plugging-in the Camera and other external compatible devices such as Mp3 players with various devices.

3. Built-in Speakers.

4. Volume Controls. Use this button to increase or lower the volume of the audio played through the speakers at the bottom of the iPad.
5. Mute/Screen Orientation Lock Button.
6. Back Camera. This camera takes digital still photos and video. The Back Camera is located in the top left corner on the back of the iPad.
7. Hold button. This button locks the iPad screen and puts the device to sleep. It is also one of the buttons to restart a frozen iPad. Also used as an on/off button.
8. Front Camera. This camera can take photos and record video.
9. Headphone Jack. Plug in headphones or speakers.

2.2 To use an iPad you will need

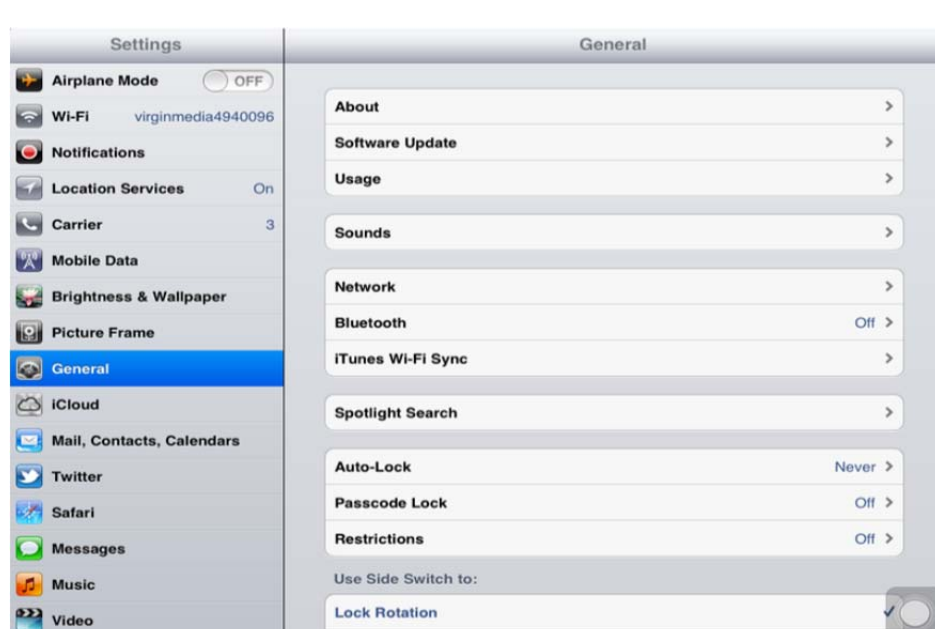
(Adapted from the iPad User guide, Apple, 2012).

To be able to use an iPad, you will need the following;

- An internet connection
- An Apple ID
- An iTunes account

2.3 The iPad settings

It is important to familiarise yourself with the inbuilt settings on the iPad. This section of the iPad allows you to customise and control your device. The setting can allow you to connect to the Wi-Fi system, restrict areas of the iPad and alter the settings to increase accessibility (magnify the iPad, text-to-speech, switch access).



2.4 Getting started with your iPad and iTunes

When you start your iPad for the first time you are automatically prompted to connect to iTunes. Firstly you must register your iPad with Apple and accept their terms and conditions, there will be prompts on the screen that will guide you through these stages.

Setting up an iTunes account

The second stage takes you through the process of setting up an account with the iTunes Store. This will allow you to access the iTunes store, where you will purchase your apps, be able to update your apps and back up the iPad.

You can watch this step-by-step video guide to get you started: bit.ly/itunes_account

Provide Apple ID Details Secure Connection

Email

Password Verify Password

Security Info
For your protection, these questions will help us verify your identity in the future.

Optional Rescue Email
If you forget your answers, we can use this optional email address to send you instructions on resetting your information.

Enter your date of birth.

Day Month Year










Would you like to receive the following via email?









☒ New releases and additions to the iTunes Store.

☒ News, special offers, and information about related products and services from Apple.

2.5 Apps in-built in the iPad

(Adapted from Department of Education and Training, 2012)


 Safari	Browse websites on the Internet by using safari. Rotate the iPad sideways for a widescreen viewing option, zooming is an option by double-taping. You have the ability to open multiple pages using the tabs option. Save images from websites to your Photo Library.
 Mail	Send and receive mail using most of the mail services. You can send attachments through the emails, including photos and files, which can then be saved onto the iPad.
 Photos	Organize your favourite photos and videos into albums. Watch a slideshow. Zoom in for a closer look.
 Music	Sync with your iTunes library and listen to your songs, audiobooks, and podcasts on iPad. Create and manage playlists, or use Genius to create playlists for you.
 Messages	Send messages over Wi-Fi to other iOS 6 users, and include photos, videos, and other information
 Calendar	Keep your calendar current on iPad, or sync it with your Mac OS X or Windows calendar.
 Notes	Take notes such as grocery lists. Send them in mail. Sync notes to Mail or Microsoft Outlook or Outlook Express.
 Reminders	Get organised with due dates and lists. Reminders works with iCloud, iCal, Microsoft Exchange, and Outlook so changes you make update automatically on all your devices and calendars
 Maps	See a standard, satellite, hybrid, or terrain view of locations around the world. Zoom in for a closer look, or check out Google Street View.

 Videos	Play movies, TV shows, podcasts, videos from your iTunes library or your movie collection. Buy or rent movies on iPad using the iTunes Store. Download video podcasts.
 Contacts	Organise your address book on iPad and keep it up to date on all of your iOS devices with iCloud
 iTunes	Search the iTunes Store for music, audiobooks, TV shows, music videos, and movies. Browse, preview, purchase, and download new releases, top items, and more. Buy or rent movies and buy TV shows to view on iPad.
 App Store	Search the App Store for apps you can purchase or download. Read reviews, or write your own reviews for your favourite apps. Download and install the apps on your Home screen.
 Newsstands	Keep all your app subscriptions in one place. Newsstand automatically downloads whatever's new for each of your app subscriptions.
 Facetime	Make video calls to other Face Time users over Wi-Fi. Use the front camera to talk face to face, or the back camera to share what you see.
 Camera	Take photos and record HD videos. View them on iPad, mail them, or upload them to your computer or the Internet. Tap to set the exposure.
 Settings	Personalize your iPad settings, mail, web, music, video, photos, and more. Set up Picture Frame, mail accounts, contacts, and calendars. Manage your cellular data account (iPad Wi-Fi + 3G). Set an auto-lock and a passcode for security. Allows the individual to set restrictions.

2.6 Buying Apps

Once you have registered for an iTunes account, you can access the apps store; from there you can purchase any app. To purchase an app, you must either register your credit card or purchase an iTunes gift voucher (available at many retail stores). At the bottom of the iTunes store page, there will be a redeem button, where you will enter your gift voucher number to access your credit. Once the credit is available to you, you will be able to purchase the apps. You will need to click on the purchase button for the app that you wish to purchase, and you will then be required enter your iTunes account name and password. Once this is done, the app will load and then be available for you to use.

Redeem Gift Card



Enter your gift card or download code.
This code will be applied to your Apple ID, ilctechmini@gmail.com.

2.7 What to consider when purchasing an App

There are many things to take into consideration when thinking about purchasing an app:

- If an app is expensive, it may not always be the most useful app for the client.
- If there is a free or lite version it can be used to ensure that the app is useful for the goals that you intend to use it for, before purchasing the full version.
- Consider whether the app can be used for multiple learning goals or clients.
- Ensure that the app has strong relevance to your client's personal needs and is specific to their speech and language goals.
- Flexibility of the app will ensure that the app is relevant for multiple clients; an app that can be customised will fit more client's needs.
- The app must provide clear and effective instructions, to allow the client to navigate through the app easily.
- Ensure negative feedback isn't more motivating than positive responses.
- The app must be engaging and motivating to ensure that the client is willing to engage with the app. This will be achieved if the app has bright and appealing visuals, the music is complimentary and not distracting, and the feedback is encouraging and positive.

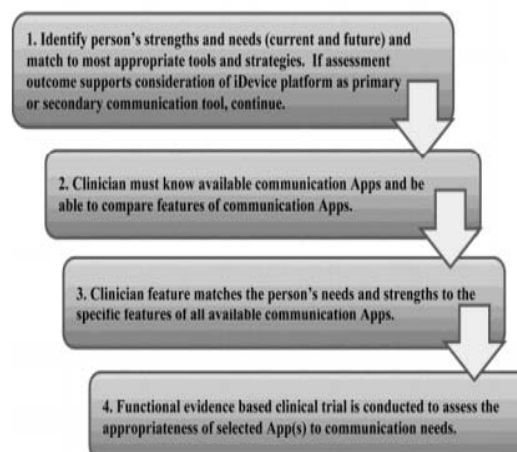
It is also essential to consider the clinical features of the app, to ensure that the app is the beneficial, reliable and effective for your clients. The below features should be considered: (Adapted from DeCurtis & Ferrer, 2011).

- Purpose of Use: was the app created for the purpose of expressive receptive/and or organisation
- Output: the type of speech produced when using the application
- Speech settings and customisation of speech settings these include: volume, pitch, rate, and options for when the device speaks out loud. E.g. speak after word vs speak after message selection
- Representation and customisation of display settings: icon symbol options, representation is the ability to import and modify icons
- Display and customisation of display settings these include: layouts, dynamic vs static features. Customisation options include changing sizes of symbols, the font, colours and borders.

- Feedback features and customisation of feedback features: feedback features add input when icon is presented or when an icon is selected.
- Rate enhancement and customisation of rate enhancement: rate enhancement features are strategies to increase the rate of communication output to increase efficiency e.g. word prediction, abbreviation, expansion, grammar prediction)
- Access and customisation of access: access is how the user interacts with the device. Assistance with access e.g. dwelling
- Required motor competencies. The user must possess certain fine motor abilities in order to interact with applications (touch, drag, pinch etc.)
- Support: resources that help users and support them whilst learning about the app and resolving technical issues

Gosnell, Costello and Shane (2011) established a flow chart detailing the clinical processes clinicians could consider when making an informed decision about purchasing an app.

Figure 1. Process to Making an Informed iDevice/App Purchase



(Adapted from Gosnell, Costello, & Shane, 2011)

2.8 Advantages and Disadvantages of the iPad

The American Speech-Language Association (2011a) highlighted both advantages and disadvantages of iPad use.

Advantages:

- Improved communication for therapists separated by long distances
- Portability
- The device is relatively inexpensive in comparison to other communication devices available
- Apps available on the iPad allow the clinician to track progress and they can also email the results to another device
- The iPad has accessibility features that will suit an individual with a disability such as a hearing or vision impairment
- The iPad can be more motivating than pen and paper
- iPad devices can link to Wifi/internet
- Funding has become more readily available for iPad devices

Disadvantages:

- The cost of setting up a device can be expensive. Apps are additional to the cost of the iPad.
- Internet connectivity is essential to download and set up an iPad.
- The Parenting Australia website recommends a certain amount of screen time for children of different ages, for example, children aged 2-5 years should have less than one hour screen time per day (Parenting Australia, 2009)

3.0 Use of iPad in a clinical setting

Speech therapists have been using iPad's for a range of speech and language areas such as articulation, assessment, fluency, language, and AAC and voice therapy (Legaspi, 2012). It can also be considered a reward/motivational tool (Fernandes, 2011b). Educational apps entertain and engage whilst teaching an important concept (Fernandes, 2011b). Creativity can make any app useful for promoting language, therefore the clinician will need to use their clinical expertise when using an app within an intervention session (Fernandes, 2011a). There are a wide range of apps available that allow for data collection and progression tracking, as well as voice recording options, which allow for self evaluation and the clinician to track progression through comparison (Legaspi, 2012). Legaspi (2012) suggests that a child is more motivated during intervention sessions when working with an electronic device in comparison to if they were working on a pen and paper activity. Apps that are skill focussed can make great tools for a quick or dynamic assessment of the child's skills (Legaspi, 2012). Apps that can be easily incorporated into play, reading, writing, spelling, grammar, songs and video, are considered invaluable therapy tools due to their versatility (Legaspi, 2012). It should be noted that limited research exists about iPad use for adults, majority of the available research focuses on paediatric use. The available research overall is limited and still emerging.

3.1 Strategies for using the iPad within a clinical setting

Clinicians can use a range of strategies when utilising an iPad in therapy with paediatric and adult clients:

- Small groups are essential so that children/adults get interaction with the clinician whilst using the iPad, this promotes social communication and also helps to consolidate learning (Fernandes, 2010)
- Use accessibility features to enhance learning, the iPad's volume, zoom and graphics can be adjusted to provide better vision and hearing if there is difficulty (Fernandes, 2010)
- The apps already provided on the iPad can serve helpful purposes such as a calendar which can act as a schedule, a voice memo which can collect a

speech/language sample, a video camera, which can help the client self-evaluate. These basic iPad functions are useful within a clinical setting (Fernandes, 2010).

- Before visually displaying the tablet gain the child's/adult's auditory and visual attention. (DeCurtis, & Ferrer, 2011)
- When demonstrating an App, ensure the child/adult is not touching the device so that they can truly focus on observing and processing the clinicians action's (DeCurtis & Ferrer, 2011).
- Look for ways to extend interactions by a variety of means (e.g. adding another direction from the app that it didn't offer, such as story retelling) (DeCurtis & Ferrer, 2011)

3.2 Benefits of using and not using an app

Sutton (2013) highlights the benefits of using and not using an iPad app within a clinical setting:

Benefits:

- Easy access for clinicians
- Can be a more efficient means of targeting a skill
- Apps can be engaging and motivating
- App may have built-In score or cueing
- Can updated as information changes or as technology improves
- Apps can be inexpensive
- Can be used as "homework"
- Apps don't require specific suppliers
- Trials or lite versions may be available before the purchase of an expensive app

Benefits of not using an app:

- Can be of high-quality as they have a filter of a publisher
- Can be shared with co-workers
- Can be used over a number of years
- Other resources have re-sale value

4.0 Guidelines for assessment

When using assessment apps with a client, it should be noted that these apps should be used in conjunction with standardised formal/informal assessments. These apps were developed to gain extra knowledge and information in regards to the client and their skills.

The apps are designed to provide qualitative assessment data of a child's speech and language skills, and they cannot be used as a standardised measure (GEEK SLP, 2013). GEEK SLP (2013) states that it takes years of research and development to create a standardised assessment tool, and this has not occurred in the speech and language area for iPad apps. The reasoning for lack of standardises iPad apps for assessment is due to the creators of the paper based assessment tools not knowing the reliability of their resource electronically (GEEK SLP, 2013). It is unknown if child's performance will be altered due to the assessment being administered in a paper based form or an app form (GEEK SLP, 2013).

When using an app for assessment you must consider;

- That the app is not necessarily a researched standardised assessment
- Using the results in conjunction with a paper based standardised assessment
- Using the provided guidelines and/or instructions that come with the app, to ensure that the reliability of the results are increased
- The results should be used as guidelines only
- A child may perform differently due to the task being electronic
- Make sure there are no other distractions when administering the test

“ While qualitative tools do not provide a standard score, they provide valuable information, have shown to be more engaging, analyzing the data obtained, and generating a report automatically which allows us to focus on what matters most: to help children improve their skills” (GEEK SLP, 2013, pg 1).

5.0 Guidelines for using iPads during intervention

Gosnell (2011) highlights children who have been able to use an iPad with ease, appear to be able to engage with the device for long periods of time. Gosnell (2011) states that a clinician should use this research to their advantage and use consider an iPad within a session to target the client's intervention goals (Gosnell, 2011).

When using an app for intervention consider (Adapted from Gosnell, 2011);

- If the app targets the client's specific goals effectively
- If the app can be used for a wide range of speech and language goals, and for a wide range of clients
- Being creative with apps, apps can be adapted to support different intervention goals. For example an app such as Pictello can be used for schedules, social communication, literacy and vocabulary development
- If the client's progress can be tracked
- If the information can be saved and transferred between devices
- What reinforcement is used throughout the app
- Apps that encourage the child/adult to improve on their speech and language skills

Gosnell (2011) highlights that apps should be used with caution, apps that are not appropriate could impact heavily on intervention and impact heavily on progress. Gosnell (2011) emphasises that speech production apps should not be chosen as an alternative for speech-language treatment with a certified speech pathologist. There is a great need for thorough assessment before selecting an iPad app, or any other therapy tool (Gosnell, 2011).

The apps may fall short in comparison to traditional intervention, for example the app may not provide appropriate feedback, freezing issues, volume may not be adequate for somebody with a hearing impairment, or access options for those with motor difficulties is limited, at the present time majority of apps don't take into consideration those with motor difficulties e.g. switch access apps (Gosnell, 2011).

App selection for clinical purposes should be considered carefully and therefore guidance is necessary (Gosnell, 2011). Clinical judgement is necessary to consider the efficacy of an app as a therapy tool (Gosnell, 2011).

Apps may be considered “user friendly” but at times can provide feedback that is incorrect or feedback that is not specific (Gosnell, 2011). For example downfalls of speech production apps are that they may accept an incorrect sound production as correct, data may be collected incorrectly or encourage “any sound” instead of the sound the clinician is targeting (Gosnell, 2011).

Clinicians should be aware that the iPad can be inundated with apps that are free or fairly priced that can be considered for intervention purposes (Gosnell, 2011). Apps can easily be included into intervention and at times may be an effective means for supporting learning goals, however evidence based methods should be used primarily for intervention, rather than apps that may not be appropriate for the learning goal (Gosnell, 2011).



6.0 Evaluating Apps and Evaluation rubric

It is essential that apps are evaluated for usefulness, reliability and effectiveness before they are considered and purchased for a client (Dunham, 2011). Gosnell, Costello and Shane (2011) stated that it would be difficult to conduct a comprehensive review of every app that exists within the field of Speech Pathology, therefore clinical frameworks should be used when evaluating an app. Speech pathologists need to consider the needs of their individual clients and their strengths and weaknesses (Gosnell, Costello & Shane, 2011).

Speech pathologists are being inundated with questions from parents about which applications they should be using with their children (Gosnell, Costello & Shane, 2011). It is essential that clinicians use their experience or clinical judgement/ knowledge when using apps for intervention and supporting others in using iPads (Gosnell, Costello & Shane, 2011). Wakefield & Schaber (2011) have identified four different types of apps:

- 1) Apps that are specifically designed for intervention skills
- 2) Apps that are adapted for intervention
- 3) Apps that are used as rewards or motivation
- 4) Apps that monitor and track progress of a client.

Below is the evaluation rubric that was developed and tested during this project to support the writers in evaluating the apps included in this resource. The evaluation rubric was adapted from Walker (2010) and Vincent (2011) to have specific considerations for speech pathologists. The rubric takes into account different considerations such as accessibility, the ability for the app to save and transfer data, the flexibility of the app, accessibility of the app, the engagement and motivation of the app and the presentation of the app. The rubric was developed so that the app feature can be rated on a 1-4 scale (4 - Excellent to 1 - Poor).

App Evaluation: A Guide for Speech Pathology

Name of App:

Developer:

Cost of app:

Itunes URL:

- ❖ **Client- Specific:** It is integral that clinicians choose an app that meets their client's needs/learning goals. The clinician must consider what area/s the app targets, strengths and weaknesses of the client, if it is age-appropriate, and if the app takes into account cultural considerations.
- ❖ **Flexibility:** Flexibility refers to the app's ability to change to meet client requirements e.g. a client with poor vision may need an app with larger text buttons, or a client may need an app that requires speech output similar to their own speech.
- ❖ **Instructions:** Clinicians should consider an app that gives the client adequate instructions to use the app independently.
- ❖ **Feedback:** Is feedback relevant and correct? Does it motivate the client to achieve their learning goals?
- ❖ **Accessibility:** Accessibility takes into consideration whether the app has accessibility items that are relevant to their client e.g. if a client has limited motor control the app may be able to be utilized using switch access.
- ❖ **Research –Based:** Research based corresponds to whether the app has been trialed and proven effective, or is the application based on evidence, or generally accepted theory/developmental principles?
- ❖ **Engagement/Motivation:** Is the app a motivating learning tool? Does it provide positive reinforcement to encourage improvement?
- ❖ **Presentation:** The clinician must consider the presentation of the application such as visuals, music etc.
- ❖ **Data Availability for clinician:** Can the app save client data? Or have the ability to transfer client data to another device?

Score Levels	Client-Specific	Flexibility	Instructions	Feedback	Accessibility
4	<ul style="list-style-type: none"> App has strong relevance to the client's own personal goal/area (e.g. specific to articulation) The app's content is appropriate to the client (e.g. cultural considerations/developmental level) The app allows the client to target areas/skills in a natural context so that skills can be generalized 	<ul style="list-style-type: none"> App features can be altered to meet individual client needs (e.g. larger text, upload own images) App can be used for multiple learning areas/goals (e.g. social skills and literacy) App has numerous stages of difficulty (e.g. more than three levels of difficulty) Tasks can be customised with different levels of scaffolding 	<ul style="list-style-type: none"> The app provides clear and effective instructions, to allow the user to navigate through the app easily. Instructions are provided during tasks throughout the app 	<ul style="list-style-type: none"> Feedback is specific and results in client improvement. Clients can open and use the app independently 	<ul style="list-style-type: none"> Works with numerous accessibility options Multiple modes of access e.g. switch devices for those with a physical disability The app considers visual impaired clients The app considers hearing impaired clients
3	<ul style="list-style-type: none"> App has relevance to the client's own personal requirements App is appropriate to the client The app allows the client to target areas/skills in a natural context. 	<ul style="list-style-type: none"> App can be used for individual's target area/goal App has multiple stages of difficulty (e.g. easy, medium & hard) 	<ul style="list-style-type: none"> Instructions are clear at the start of the tasks, allowing the client to use the app effectively 	<ul style="list-style-type: none"> Feedback is specific and results in improved client performance. Clients need to be cued by clinician to use the app 	<ul style="list-style-type: none"> Settings can be altered to assist visual impaired clients The volume on the app can be modified for hearing impaired clients
2	<ul style="list-style-type: none"> App has limited relevance to the client's own personal requirements App content is appropriate The app does not allow the client to target areas/skills in a natural context 	<ul style="list-style-type: none"> App can be used to assist learning area/goal combined with another therapy tool App has limited stages of difficulty (e.g. level 1 & 2) 	<ul style="list-style-type: none"> The instructions provided are confusing, resulting in the client navigating themselves around the app without direction 	<ul style="list-style-type: none"> Feedback is not relevant Client needs to have clinician reiterate how to use the app on more than one occasion 	<ul style="list-style-type: none"> Has few accessibility options
1	<ul style="list-style-type: none"> App has no relevance to the client's own personal requirements (e.g. app is not suitable for articulation difficulties) App's content is not appropriate The app does not allow the client to target skills/areas in a natural context 	<ul style="list-style-type: none"> App cannot be altered to meet individual client needs This app cannot be used for target learning area/goal App has one level of difficulty Tasks cannot be customised 	<ul style="list-style-type: none"> Little/ no instructions are provided 	<ul style="list-style-type: none"> Client is given inappropriate feedback /student is not given feedback. Clients need continual supervision in order to use the app 	<ul style="list-style-type: none"> No accessibility options

Score Levels	Data availability for clinician	Research –Based	Engagement/Motivation	Presentation
4	<ul style="list-style-type: none"> Content can be transferred between multiple devices 	<ul style="list-style-type: none"> The app comes from a trustworthy source e.g. a credentialed/ certified company or professional App has been trialed and researched and has demonstrated evidence of improvement 	<ul style="list-style-type: none"> Clients are highly motivated to use the app Clients are given positive reinforcement Negative feedback is not motivating (the client will prefer to get the answer incorrect because they like the response) 	<ul style="list-style-type: none"> App provides bright and appealing visuals App contains no advertising App has been recently updated e.g. within last six months App music is enjoyable rather than distracting
3	<ul style="list-style-type: none"> Content can be saved on the device Content can be emailed to the clinician 	<ul style="list-style-type: none"> The app comes from a certified/ credentialed source Application is based on previous literature of client's learning area 	<ul style="list-style-type: none"> Clients will use the app when instructed to by the clinician. Clients are given limited positive reinforcement 	<ul style="list-style-type: none"> App provides bright and appealing visuals App contains limited advertising App has been recently updated e.g. within the last six months
2	<ul style="list-style-type: none"> The data can be saved onto the device, but not transferred between devices 	<ul style="list-style-type: none"> App does come from a certified/credentialed company or professional App relies on the clinician to base their judgments on their own clinical knowledge 	<ul style="list-style-type: none"> Clients view the app as more work and are not engaged by the app when using it. Clients are given no positive reinforcement 	<ul style="list-style-type: none"> App provides basic visuals App contains numerous advertisements App has not been updated
1	<ul style="list-style-type: none"> No data is recorded/ saved on the device 	<ul style="list-style-type: none"> App does not come from a certified/credentialed company or professional Application is not based on previous literature of client's learning area. 	<ul style="list-style-type: none"> Clients avoid the use of the app or criticize the app when clinician instructs them to use the app Clients are given negative reinforcement, not allowing for improvement. 	<ul style="list-style-type: none"> App provides poor visuals App contains advertisements that distract from the purpose of the app App has not been updated since released (if over a year old) App music is distracting

6.1 Inter-rater reliability

Allan and Bennett (2010) define inter-rater reliability as the measure that is used to determine the extent to which two or more judges agree on a specific subject. In this research project, an informal inter-rater reliability assessment was undertaken to determine the effectiveness and reliability of the evaluation rubric. The rubric was sent to five members of the ILC tech team (three speech pathologists and two occupational therapists). They were required to rate six apps (Articulation Station, Clicky Sticky, Story patch, Smart Oral Motor, Rocket Speller and Pocket Phonics).

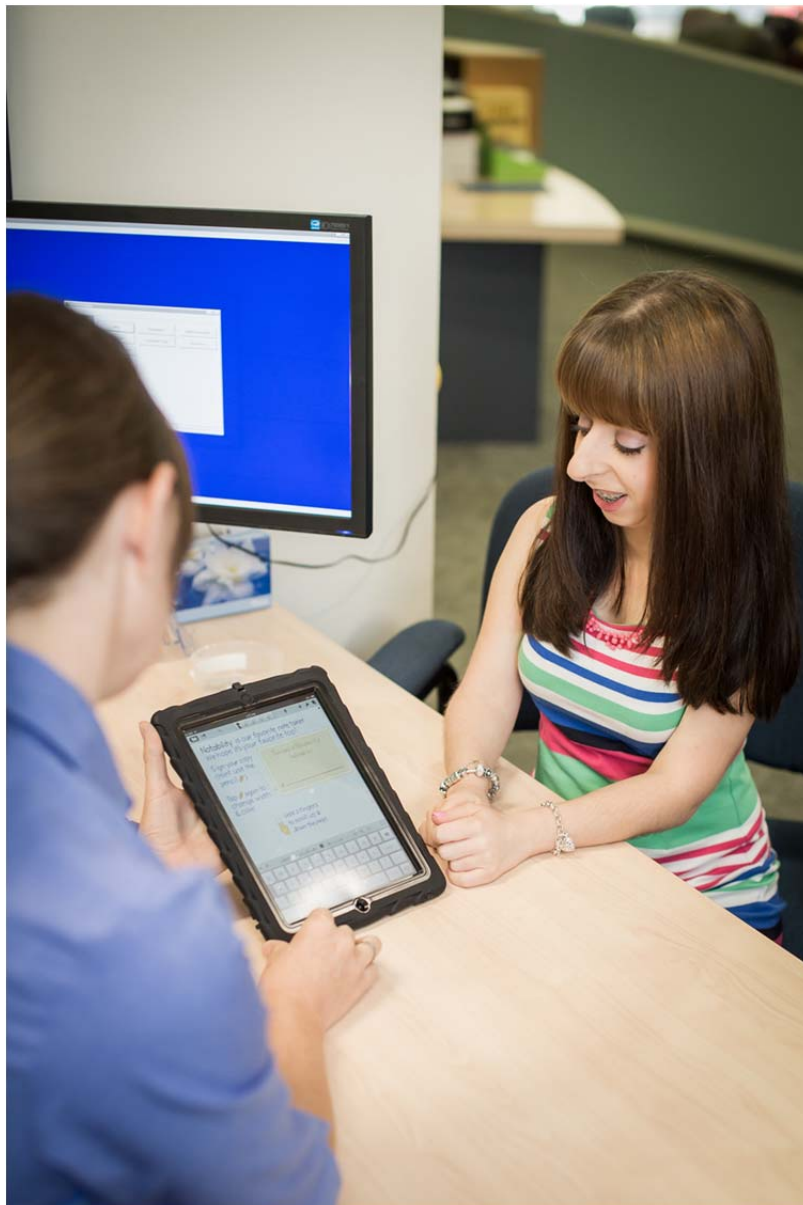
K_c	Interpretation
< 0	Poor agreement
0.01 – 0.20	Slight agreement
0.21 – 0.40	Fair agreement
0.41 – 0.60	Moderate agreement
0.61 – 0.80	Substantial agreement
0.81 – 1.00	Almost perfect agreement

(Allen & Bennett, 2010)

Fleiss' kappa for the six apps rated was 0.79, therefore indicating a substantial agreement between the five raters. Thus, highlighting the usefulness and reliability of using the evaluation rubric when selecting an app for a client.

7.0 Clinical Implications

It is important for health professionals to stay up to date on the rules and regulations for app downloads, uses and device settings and available research (Fernandes, 2011b). There is a need for continued research regarding iPad's and their place in a clinical setting (Sidock, 2011). Apps must be evaluated by a clinician so that children and adults are not being treated with inappropriate apps (Sidock, 2011). There is a need for evidence-based practice when treating clients; the iPad still lacks this research. Speech therapists should still use traditional goal selection methods, its necessary for the app to fit the child, not the child to the app (Sidock, 2011). It should be noted that the iPad does not guarantee motivation and achievement of learning goals (Sidock, 2011). More research must also be conducted regarding use of iPads with adult clients (ASHA, 2011b).



8.0 Grants and Education Programs

Apple has put into place a program called the Volume Purchase Program which allows education institutions to purchase multiple copies of the same app at once. Developers may also offer discounts for multiple purchases (Apple,2013). Grants are becoming more readily available for schools, therapists and individuals (Fernandes, 2011b). It is important to consider that the costs that are associated with the iPad beyond its purchase, especially as a therapy tool. The cost of each app is additional (Fernandes, 2011b).

There are a number of grants available for assistance in funding an iPad and apps in Western Australia.

ICT Grant: Offers assistance to services to purchase adaptive technology for consumers: this may include tablet technology, modems, personal computers and telecommunication options.

Equipment for Living Grants (EFL): The Government of Western Australia recently announced addition funding for eligible people with disabilities living in Western Australia to receive Equipment for Living Grants (EFL). Administration of these grants is going through the Independent Living Centre of Western Australia.

DEG - Grants for Equipment: The Disability Equipment Grants (DEG) program assists West Australian individuals with permanent disabilities with specific items of equipment. The program is income assessed and aims to help people with equipment they who would not otherwise be able to afford.

For AAC communication devices, Community Aids and Equipment Program (CAEP) funding is available for eligible individuals. More information about this funding is available from: www.disability.wa.gov.au.

For more information regarding grants visit the ILC's website: www.ilc.com.au or contact the Grants Team.

Children's charity Variety WA, local rotary clubs, and community programs may also consider funding an iPad depending on individual circumstances. Variety WA:

<http://www.variety.org.au/wa/>

9.0 Survey Results

For our project we sent speech pathologists throughout WA a survey asking which apps they have utilised for paediatric and adult clients. They were asked to give a list of apps they are using, then focus on one app they have found particularly useful. The returned surveys provided us with useful information regarding which apps are popular, whether clinicians are using apps based on research, and how clinicians are creatively adapting apps. Appendix 1 is a copy of the survey sent out to speech pathologists throughout WA.

Below is a table of popular apps used by WA speech pathologists.

<p>Narrative</p> <ul style="list-style-type: none"> • Toontatsic • Strip Design • Pictello • Bamboo Paper <p>Literacy</p> <ul style="list-style-type: none"> • Word Wizard • Egggy Words Reading • Letter School • Hairy Letters • Rhyming • Little Nursery Rhymes • Splingo <p>Eliciting language</p> <ul style="list-style-type: none"> • Puppet Pals HD • Music Ball • Drum Kit • Talking Ben • Doodle Buddy • Bright Ninja Tells Time • Toca Tea Party • Toca Hair Salon • Farmyard • Cookie Doodle • Beatwave • Where's Wally • Bugs and Buttons • Video Touch • Sound Touch • Faces I Make <p>Aphasia</p> <ul style="list-style-type: none"> • Tactus apps • Popplet 	<p>Semantics</p> <ul style="list-style-type: none"> • Popplet <p>Comprehension/following directions</p> <ul style="list-style-type: none"> • Sparklefish <p>Grammar</p> <ul style="list-style-type: none"> • Super Duper Irregular Verb • Super Duper Regular Past Tense <p>Vocabulary</p> <ul style="list-style-type: none"> • Fun and Functional • Bag Game • Play Home <p>Fine Motor skills</p> <ul style="list-style-type: none"> • Dexteria <p>AAC</p> <ul style="list-style-type: none"> • Predictable • Proloquo2Go • Choice Board Creator • AAC Genie • Verbally <p>Stuttering</p> <ul style="list-style-type: none"> • Fleuncy Rater <p>Dysphagia</p> <ul style="list-style-type: none"> • Dysphagia • URVL • DrawMD ENT <p>Dysathria</p> <ul style="list-style-type: none"> • Just Say It • Vocablite • Scrambler • Bla Bla Bla • Decibel 10 • Speech Sounds On Cue
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iPad Apps in Speech Pathology









10.0 Articulation Evaluated apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Articulation Station	3	3	3	2	3	3	2	2
Artik Pix	3	3	2	2	3	2	2	2
Photo Artic	2	3	2	2	2	3	2	2
SLP Minimal Pairs Lite	3	2	1	2	2	2	2	2
Speech Sounds on Cue for iPad	1	2	1	2	2	2	3	2
Articulation flip book	2	2	1	2	3	3	2	1
All about Sounds (Lite)	2	3	2	2	3	3	2	1
Smart Oral Motor	2	2	2	2	3	2	2	1

10.1 Articulation Apps

The App		Cost	Developer and Itunes URL
 <p>Articulation Station</p>	<p>Articulation Station is full featured articulation app to help children learn to speak and pronounce their sounds more clearly, at the word, sentence and story level.</p>	<p>Free (only one sound available though)</p> <p>Pro Version: \$51.99</p>	<p>Developer: Little Bee Speech</p> <p>http://itunes.apple.com/au/articulation-station/id467415882</p>
 <p>Artik Pix</p>	<p>ArtikPix contains 24 decks for a variety of sounds and blends. The decks can be combined, selected for sound group, then practiced in full-featured flashcard and matching activities. Features include recorded audio, voice recording, and scoring.</p>	<p>\$31.99</p>	<p>Developer: Expressive Solutions LLC</p> <p>https://itunes.apple.com/au/app/artikpix-full/id356720379?mt=8</p>
 <p>Smart Oral Motor</p>	<p>Oral motor skills refer to the skills needed for basic functions such as eating and speaking. The muscles in the mouth, jaw, lips and tongue are responsible for smiling, facial expressions, and even swallowing</p>	<p>\$6.49</p>	<p>Developer: Smarty Ears</p> <p>https://itunes.apple.com/au/app/smart-oral-motor/id418949476?mt=8</p>

 <p>Photo Artic</p>	<p>3,000 words with 24 phonemes for students to practice their articulation skills at the word, phrase, and sentence level</p>	<p>Free Pro Version:\$41.99</p>	<p>Developer: Super Duper Publications https://itunes.apple.com/au/app/webber-photo-artic-castle/id555982949?mt=8</p>
 <p>SLP minimal pairs</p>	<p>The app includes fun and engaging pictures of 367 words to facilitate discrimination and accurate production of speech sounds. It covers 8 commonly used phonological processes: Final Consonant Deletion, Fronting, Cluster Reduction, Prevocalic Voicing Gliding, Stopping, Depalatalization, Deaffrication and Gliding.</p>	<p>Free Pro Version\$31.99</p>	<p>Developer: SLP techtools https://itunes.apple.com/au/app/slp-minimal-pairs-lite/id421894700?mt=8</p>
 <p>Speech Sounds on Cue</p>	<p>This iPad app contains 39 videos, sound clips and colour photos designed to help adults and children to produce the sound in isolation, in words and in sentences. Includes recording, playback, rhyming words and randomisation.</p>	<p>Free Pro Version:\$21.99</p>	<p>Developer: Multimedia Speech Pathology https://itunes.apple.com/au/app/speech-sounds-on-cue-for-ipad/id478653473?</p>
	<p>The App is used for expressive and receptive language. Use the app to practice: Verb Tenses, Pronouns, Prepositional Phrases,</p>	<p>Free</p>	<p>Developer: DynaVox Mayer-Johnson</p>

 <p>Articulation Flipbook</p>	<p>Syntax, Sentence Formulation and Word Retrieval, Why/How Prediction, WH-Questions and Vocabulary Development</p>		<p>https://itunes.apple.com/au/app/articulation-flip-books/id476647631?mt=8</p>
 <p>All About Sounds</p>	<p>All about sounds is an engaging app that makes it fun to learn and practice saying sounds in the initial position of words while playing a picture matching game.</p>	<p>Free</p>	<p>Developer: Advance Games https://itunes.apple.com/au/app/all-about-sounds-initial-position/id410642457?mt=8</p>
 <p>Match 2 say</p>	<p>Match2Say is the matching game for children that have difficulties producing some sounds. While they play they say the words and improve their articulation skills at the same time. Children will learn their sounds while playing!</p>	<p>\$20.99</p>	<p>Developer: Smarty Ears https://itunes.apple.com/au/app/match2say/id400097634?mt=8</p>

10.2 Articulation Apps

Articulation Station

Developer: Little Bee Speech

Cost: Free, have to purchase each sound or Pro Version for \$51.99

URL: <https://itunes.apple.com/au/app/articulation-station/id467415882?mt=8>



Articulation Station was developed by certified Speech Pathologist, designed to assist children with pronouncing their sounds and words more accurate. Articulation Station offers the child to practice the sound in the word, sentence and story level. There are 22 sound programs, targeting the individual sound in the initial, medial and final work position, each with 60 different target words.

Use in a clinical setting: Articulation Station is a useful app for speech pathologists, parents and educators due to the target word being available in the initial, medial and final word position. The app stores data, which is beneficial for the clinician to monitor the client's progression.

Features;

- Quick tips for teaching each sounds
- 20 target words per sound position (initial, medial, final)
- High quality images
- Create custom word lists
- Shuffle multiple sounds
- Flashcard activity
- Matching activity
- Unique Sentences
- Level 1 stories with picture prompts and comprehension questions
- Level 2 stories with comprehension questions
- In depth Scoring and data tracking for each child/student
- Student profiles
- Group sessions (Up to 6 students at one time!)
- Voice recording and playback feature for monitoring responses
- Save audio recordings
- Backup and restore your data



SLP Minimal Pairs

Developer: SLP TechTools

Cost: \$31.99, Free version available



URL: <https://itunes.apple.com/au/app/slp-minimal-pairs-lite/id421894700?mt=8>

SLP TechTools Minimal Pairs is a speech therapy app developed by speech-language pathologists to target phonological disorders in children, pre-Kindergarten through 6th grade. The app includes fun and engaging pictures of 367 words to facilitate discrimination and accurate production of speech sounds. It covers 8 commonly used phonological processes: Final Consonant Deletion, Fronting, Cluster Reduction, Prevocalic Voicing Gliding, Stopping, Depalatalization, Deaffrication and Gliding.

Use in a clinical setting: SLP Minimal Pairs is a good app for tackling phonological delays in school-aged children, its features allow it to be useful for a wide-range of clients with varying severity.

Features;

- Session results can be emailed
- Voice recordings and playback during sessions
- Large student limits
- 367 pictures and words used



Artikpix

Developer: Expressive Solutions LLC

Cost: \$31.99

URL: <https://itunes.apple.com/au/app/artikpix-full/id356720379?mt=8>



Artikpix focuses on articulation by using flash cards and matching activities. The app has all 24 decks with 40 cards each (113 cards in r deck, 1,033 total cards) for the following sounds: th, w, y, h, f, v, ch, sh, k, g, s, z, l, r, s-blends, r-blends, l-blends, p, b, m, n, t, d, j. The decks can be combined, selected for sound group (e.g., beginning th, er), then practiced in full-featured flashcard and matching activities. Features include recorded audio, voice recording, and scoring.

Use in a clinical setting: Artikpix allows client self-evaluation as the client can record their own speech output and re-play it. This app can be specifically used for articulation. It has good settings for the speech pathologist to adapt to individual clients e.g. flashcards or matching.

Features;





- Group scoring in flashcards to collect data on up to 4 students at a time
- Choose sounds groups (e.g., beginning th, er) to practice
- Auto-play of audio recordings
- Record your voice and play the recording
- Collect data by tallying for specified sound groups (e.g., beginning th, er)
- Tallied data is automatically converted to percentage based data
- Save data in the app organized by student names and timestamps
- Copy data to clipboard, email, and Google Spreadsheet
- Configurable options for app sounds and visuals






11.0 Evaluated comprehension apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Monkey Preschool Lunchbox	3	3	2	2	4	3	3	2
Fun With Directions HD	3	3	2	2	3	3	3	3
Bugs and Bubbles	2	2	2	2	3	3	2	1
Clicky Sticky	2	1	1	2	2	3	1	1
Following Directions Fun Deck	2	1	2	2	3	3	1	2
Splingo	3	3	1	2	3	3	3	2
Lets Talk	2	3	1	2	3	2	3	2

11.1 Comprehension apps

The App		Cost	Developer and Itunes URL
 Monkey Pre-school	7 different games that teach kids about colours, letters, counting, shapes, sizes, matching, and differences.	\$0.99	Developer: Thup Games https://itunes.apple.com/au/app/monkey-preschool-lunchbox/id328205875?mt=8
 Fun with Directions	Designed to provide a fun and engaging way to practice listening, following directions, colours, spatial concepts, auditory memory and auditory processing	\$16.99	Developer: Hamaguchi https://itunes.apple.com/au/app/fun-with-directions-hd/id475972703?mt=8
 Bugs and Bubbles	Bugs and Bubbles is designed to engage, entertain, and educate children on balance, colours, counting, letters, patterns pinching, shapes, sorting tracking	\$2.99	Developer: Little Bit studio https://itunes.apple.com/au/app/bugs-and-bubbles/id500195730?mt=8
 Clicky Sticky	Clicky Sticky is with this fun animated sticker book. The app allows kids to interact with fun characters while learning about fish, airplanes and many animals	\$1.99	Developer: Invovore https://itunes.apple.com/au/app/clickysticky/id365850969?mt=8

 <p>Following Directions Fun Deck</p>	<p>Each student looks at an illustration, and either reads the prompt or touches the screen to listen to the prompt. The student then gives a verbal response.</p>	<p>\$2.99</p>	<p>Developer: Super Duper Publications</p> <p>https://itunes.apple.com/au/app/fun-deck-following-directions/id451456253?mt=8</p>
 <p>Splingo</p>	<p>Your child will practice their listening and language skills by interacting with the images and animations on the screen to follow Splingo the alien's spoken instructions.</p>	<p>\$2.99</p>	<p>Developer: The Speech and Language store</p> <p>https://itunes.apple.com/au/app/splingos-language-universe/id457526530?mt=8</p>
 <p>Let's Talk</p>	<p>Lets Talk Following Instructions is a motivating interactive game designed to develop your child's language skills, including attention and listening skills, understanding and vocabulary. Your child will learn to wait, listen and respond to simple instruction</p>	<p>\$1.99</p>	<p>Developer: Let's Talk Apps</p> <p>https://itunes.apple.com/au/app/lets-talk-following-instructions/id541678474?mt=8</p>

11.2 Comprehension Apps

Splingo

Developer: The Speech and Language Store LLP

Cost: \$2.99

URL: <https://itunes.apple.com/au/app/splingos-language-universe/id457526530?mt=8>

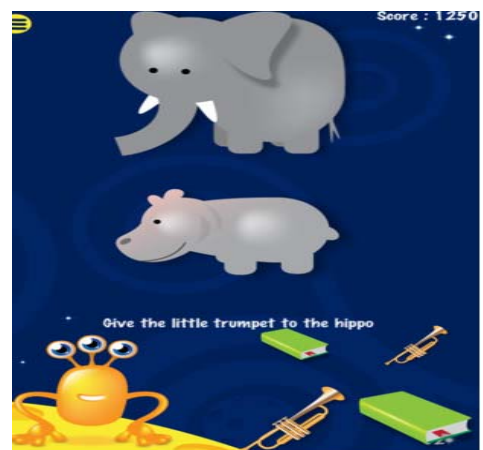


Splingo is designed by speech and language pathologists to help children learn listening and language skills. The client must follow the instructions given by splingo, which range from basic single word commands and increasing to instructions combining several aspects of language at once.

Use in a clinical setting: This app assists a child with following directions. The app progresses with the child's comprehension development, allowing for multiple level commands to be completed. The app is designed specifically for following directions, with little variation of learning areas available, but it does target comprehension effectively and promotes progress within the child.

Features:

- Children's interactive game for listening and language skills (iphone, ipad and ipod touch)
- Developed by Speech and Language Pathologists/Therapists and a teacher with collective experience of over 25 years
- Completely customisable so you can create a combination of levels and word types to suit your child's developmental level.
- High quality images and animations
- Interactive drag and drop gameplay
- Motivating progressive reward system
- Thousands of word and sentence possibilities
- Option for on-screen written instructions for use as a literacy aid



Fun with Directions

Developer: Hamaguchi Apps for Speech, Language and Auditory Development

Cost: \$15.99

URL: <https://itunes.apple.com/ca/app/fun-with-directions-hd/id475972703?mt=8>



This app is designed for the client to practice listening, following directions, colours, spatial concepts, auditory processing and auditory memory. The app includes ten concepts: Give, touch, open, close, top, middle, bottom, push, colour, erase. There are different levels of difficulties ranging from simple one word instructions ("Touch the cat") to the more complex ("With your orange crayon, colour the large one that is a furry pet and likes to chase mice").

Use in a clinical setting: Although following directions is a comprehension app, it integrates the learning of colours and spatial concepts, as well as targeting memory and auditory learning. The app allows the child's comprehension knowledge to grow due to the multiple levels of difficulties. With clinician assistance and modification the app can also assist in articulation intervention due to the recorded output.

Features:

- Settings for data collection
- Individual (up to 75 users) vs. group play
- Automatic advance or manual advance to next direction
- Touch/drag OR touch/tap option
- Text on/off, (to practice reading vs. listening) selecting specific concepts
- The desired level of play: easy, intermediate, and advanced
- Additional practice for remembering
- Child's expressive responses can be recorded



Lets talk

Developer: Let's Talk Apps LTD

Cost: \$1.99

URL: <http://itunes.apple.com/au/app/lets-talk-followinginstructions/id541678474?mt=8>



Let's Talk was developed by speech pathologists to focus on developing the client's language skills, including attention and listening skills, understanding and vocabulary. The app uses 100's of differing combinations of simple instructions containing 'early nouns' which your child will be asked to identify, by touch, through the use of flashcards.

Use in a clinical setting: Let's talk is designed for the child to improve their ability to follow instructions. The app can also be modified to target language areas such as vocabulary, due to the child be exposed to the spoken word and its associated image.

Features:




- 50 colour, child friendly photographs of 'early nouns'
- Ability to configure the app for individual needs
- Develops speech and language skills in a variety of ways
- Progress monitoring




12.0 Evaluated eliciting language apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Lets Name Things	2	3	3	2	3	3	2	1
I Can Write 2	2	3	2	2	3	3	3	1
QuestionIt Lite	2	3	2	2	1	3	3	1
Lil' Kitten Shopping Cart Game	3	3	3	2	3	3	2	1
Make An Animal	2	2	2	2	2	3	3	1
Farmyard	2	3	2	2	3	3	3	1
Dress Mermaid	2	2	1	2	3	3	3	1
Pet Salon	2	2	1	2	3	3	3	1
Question Sleuth	3	3	1	2	3	3	3	1

12.1 Eliciting Language Apps

The App		Cost	Developer and Itunes URL
 <p>Lets Name Things Fun Deck</p>	<p>Colourful eliciting language app that also improve vocabulary. Tracks correct and incorrect responses.</p>	<p>Free</p>	<p>Developer: Super Duper Publications</p> <p>https://itunes.apple.com/au/app/lets-name-things-fun-deck/id454450994?mt=8</p>
 <p>I Can Write 2</p>	<p>Designed to help children become independent writers. It is easy and offers an interactive and fun environment to elicit language.</p>	<p>Free</p>	<p>Developer: Innovative Net Learning Limited</p> <p>https://itunes.apple.com/au/app/i-can-write-2/id500152476?mt=8</p>
 <p>QuestionIt Lite</p>	<p>Educational app for those with autism or a language disorder, it provides instructions over multiple opportunities to answer a type of WH question.</p>	<p>Free</p> <p>Pro Version \$21.99</p>	<p>Developer: LanguageLearning Apps, LLC</p> <p>https://itunes.apple.com/au/app/questionit-lite/id468512245?mt=8</p>

 <p>Lil' Kitten Shopping Cart Game</p>	<p>Pick up groceries from the supermarket racks and later buy cute toys with all the savings!</p>	<p>\$2.99</p>	<p>Developer: PODD Corp</p> <p>https://itunes.apple.com/au/app/lil-kitten-shopping-cart-game/id431032179?mt=8</p>
 <p>Make An Animal</p>	<p>Choose from various animal body parts and create your own animal! So many possibilities...</p>	<p>Free</p>	<p>Developer: Skunk Brothers GmbH</p> <p>https://itunes.apple.com/au/app/make-an-animal/id438750281?mt=8</p>
 <p>Farmyard!</p>	<p>Go down to the farm and see what all the animals are doing. Lots of sounds and little surprises to create your own farm!</p>	<p>\$1.99</p>	<p>Developer: Ubstar</p> <p>https://itunes.apple.com/au/app/farmyard!/id476634438?mt=8</p>
 <p>Dress-Up Mermaid</p>	<p>Create your very own mermaid. So many different dresses and jewels to try on and test.</p>	<p>Free</p>	<p>Developer: Ninjafish Studios</p> <p>https://itunes.apple.com/au/app/dress-up-mermaid/id563941328?mt=8</p>

12.2 Eliciting Language apps- Paediatric

Let's name things

Developer: Super Duper Publications

Cost: Free



URL: <https://itunes.apple.com/us/app/lets-name-things-fun-deck/id454450994?mt=8>

The client looks at an illustration, and either reads the prompt or touches the screen to listen to the prompt. The student then gives a verbal response. After each answer, tap the green (correct) or red (incorrect) button to score the student's verbal response. There are 52 images in the fun deck, allowing for a large range of vocabulary to be practiced.

Use in a clinical setting: Let's name things increases the child's vocabulary by being exposed to a wide range of words, it assists in articulation due to the recorded voice option and works on both receptive and expressive language.

Features:

- Use the app in portrait or landscape orientation.
- Select all 52 cards or just the ones you want students to see.
- Track correct and incorrect responses for an unlimited number of players.
- Advance players and cards manually or automatically.
- Receive feedback for incorrect and/or correct responses
- Discontinue game play and continue at any time.
- View results in a graph and see which questions a player missed during a session.
- Print, E-mail and share your results.



Farm Yard

Developer: Ubstar

Cost: \$1.99



URL: <https://itunes.apple.com/AU/app/farmyard!/id476634438?mt=8>

This app is an interactive farm designed for children by them designing their own farm, with each of the different elements responding differently. This app will be most beneficial when the child is accompanied by an adult, so they can prompt and model language.




Use in a clinical setting: Is an interactive scene game, and with the assistance of a clinician can aid language development. The child will be exposed to a wide range of different farm yard objects such as people, animals, tractors and building. This will therefore support vocabulary learning and semantic learning. It could also be used in narrative development.






13.0 Evaluated Grammar apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Language Builder Deluxe	2	2	2	2	2	2	3	2
Story Builder Deluxe	2	2	2	2	2	2	3	2
Conversation Builder	2	2	2	2	2	2	3	2
Sentence Builder	2	2	2	2	2	2	3	2
Ocean Adventures	3	2	3	2	3	3	3	3
Grammar Games	2	2	1	2	2	3	2	1

13.1 Grammar Apps

The App		Cost	Developer and Itunes URL
 <p>Language Builder Deluxe</p>	<p>LanguageBuilder Deluxe is designed to help children accomplish the following educational goals: 1) Improve sentence ideation ; 2) Improve sentence formation; and 3) Improve receptive and expressive language</p>	<p>\$10.49</p>	<p>Developer: Mobile Education Store</p> <p>https://itunes.apple.com/au/app/languagebuilderdeluxe/id467904537?mt=8</p>
 <p>Story Builder</p>	<p>Story Builder is designed to help children accomplish the following educational goals: 1) Improve paragraph formation; 2) Improve integration of ideas; and 3) Improve higher level abstractions by inference.</p>	<p>\$8.49</p>	<p>Developer: Mobile Education Store</p> <p>https://itunes.apple.com/au/app/storybuilder-for-ipad/id377631532?mt=8</p>
 <p>Conversation Builder</p>	<p>ConversationBuilder is designed to help elementary aged children learn how to have multi-exchange conversations with their peers in a variety of social settings.</p>	<p>\$20.99</p>	<p>Developer: Mobile Education Store</p> <p>http://itunes.apple.com/au/app/conversationbuilder/id413939366?mt=8</p>

 <p>Sentence Builder</p>	<p>A sentence building app that teaches words, sentences, pronunciation, grammar, and punctuation. The App can be fully customised.</p>	<p>\$5.49</p>	<p>Developer: Abitalk Incorporation</p> <p>https://itunes.apple.com/au/app/sentence-builder-app/id512507120?mt=8</p>
 <p>Ocean Adventures</p>	<p>The app teaches key language skills such as vocabulary, listening comprehension and sentence formation.</p>	<p>Free</p>	<p>Developer: Tribal Nova</p> <p>https://itunes.apple.com/au/app/i-learn-boing-ocean-adventures/id554622105?ls=1&mt=8</p>
 <p>Grammar Games</p>	<p>This app is a simple way to learn English grammar. The app can improve usage of English grammar, word selection and vocabulary.</p>	<p>\$0.99</p>	<p>Developer: Tap to learn software</p> <p>https://itunes.apple.com/au/app/grammar-games-by-tap-to-learn/id434660444?mt=8</p>

13.2 Grammar Apps

Boing Ocean Adventures

Developer: Tribal Nova

Cost: Free

URL: <https://itunes.apple.com/app/i-learn-boing-ocean-adventures/id554622105?ls=1&mt=8>



This app focuses on vocabulary, listening comprehension and sentence formation. There are differing levels of difficulties throughout the app, targeting these three language areas.

Use in a clinical setting: This app is also useful for progress tracking for a client and rewards. It can also be used as an interactive app for eliciting language.

Features:

- Cross curricular game-based learning program in math, science, literacy, language and more
- Self-adjusting levels of difficulty
- Unique progress tracker for parents
- Detailed success stats for your child that can be compared with children the same age
- Recommended learning path personalized for your child
- 27 fun rewards and medals to motivate your child to learn
- Designed with educational and child development experts



Sentence Builder

Developer: Abitalk Incorporated

Cost: \$5.49

URL: <https://itunes.apple.com/au/app/sentence-builder-app/id512507120?mt=8>

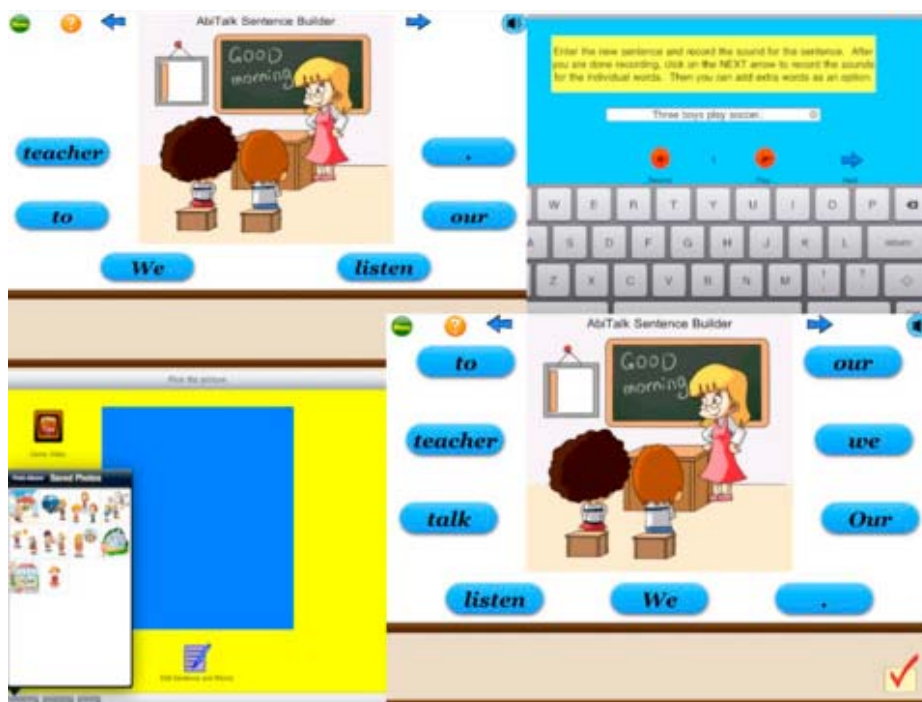


Sentence builder aims at assisting clients in learning how to construct grammatically correct sentences. The app is also designed to work on increase knowledge of words, sentences, punctuation, grammar and pronunciation. This app gives students multiple levels of practices using various sentence structures. With over 225 built in sentences and this app can be fully customised.

Use in a clinical setting: This app is designed to assist with the learning of grammatically correct sentence formations. The app targets multiple different grammar areas including sentence structure and punctuation. This app can also target articulation and word formation learning goals.

Features:





- Differing levels of difficulty
- Fully customisable
- Voice recording options
- Voice output to assist with pronunciation and letter knowledge
- Includes knowledge of numbers, colours and dialogue
- Focuses on grammar, sentence structure and developing listening skills.











14.0 Evaluated Literacy apps





Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Little Speller	3	3	2	2	3	2	2	1
SeeTouch Learn	3	3	1	1	4	4	3	2
Magnetic Alphabet	1	1	1	2	1	2	1	1
Word Wall	2	3	2	2	3	3	3	2
Rocket Speller	2	3	1	2	4	3	2	2
Photo Touch Sight Words	3	3	2	2	3	3	2	1
Eggy Words	3	3	3	2	3	3	3	1
Little Writer	3	3	3	2	3	3	2	1
Hairy Letters	2	3	2	2	3	3	2	1
Letter school	2	3	2	2	3	4	3	2
Pirate treasure hunt	2	3	2	2	3	3	3	1
Word Wagon	3	3	2	2	3	3	2	1
Word Mania	2	3	2	2	3	4	2	1
Tools 4 Students	2	1	2	2	1	2	1	2
Shake A Phrase	3	3	3	2	3	3	2	2
Bitsboard	3	3	3	2	3	3	2	1
Word Wizard	2	2	2	2	2	2	2	1
Starfall ABCs	2	3	2	2	3	3	2	1



14.1 Literacy Apps

The App		Cost	Developer and Itunes URL
 Sight Words by Little Speller	220 dolch list words to learn to read and spell. You can turn sound on or off and add your own photographs. There are a range of apps by Little Speller.	Free	Developer: Grasshopper Apps https://itunes.apple.com/au/app/sight-words-by-little-speller/id420828421?mt=8
 See Touch Learn	See touch learn is a picture learning system designed by professionals for those with special needs and autism.	Free	Developer: Brain Parade https://itunes.apple.com/au/app/see.touch.learn./id406826506?mt=8
 ABC Magnetic Alphabet	A tool for aiding preschoolers in learning their alphabet and numbers.	\$1.99	Developer: Dot Next https://itunes.apple.com/au/app/abc-magnetic-alphabet-hd-learn/id379404787?mt=8
 Word Wall	Develops early reading and writing schools through a range of fun activities.	\$1.99	Developer: Emantras Inc https://itunes.apple.com/au/app/word-wall-hd/id430272237?mt=8

 <p>Rocket Speller</p>	<p>This app aims to promote literacy and language skills, but also tackle fine motor and visual spatial skills.</p>	<p>Free</p>	<p>Developer: Little Big Thinkers</p> <p>https://itunes.apple.com/au/app/id492504689</p>
 <p>Sight Words by Photo Touch</p>	<p>Educational game that helps children recognize and read words by sight, sound and touch.</p>	<p>Free</p>	<p>Developer: Grasshopper Apps</p> <p>https://itunes.apple.com/au/app/sight-words-by-photo-touch/id421341850?mt=8</p>
 <p>Eggy 100 HD</p>	<p>Helps children target sight words e.g. he, the, was and where.</p>	<p>Free</p>	<p>Developer: Blake eLearning</p> <p>https://itunes.apple.com/au/app/eggy-100-hd/id533640641?mt=8</p>
 <p>Little Writer</p>	<p>A tracing app that is engaging and motivating.</p>	<p>Free</p>	<p>Developer: Innovative Mobile Apps</p> <p>https://itunes.apple.com/au/app/little-writer-tracing-app/id515890480?mt=8</p>

 <p>Hairy Letters</p>	<p>Interact with fun animations and be able to trace the letter shape with your finger to help develop fine motor skills</p>	<p>\$2.99</p>	<p>Developer: Nussy Apps</p> <p>https://itunes.apple.com/au/app/hairy-letters/id410276288?mt=8</p>
 <p>LetterSchool</p>	<p>Intuitive game to learn all about letters, numbers, writing, counting phonics and more...</p>	<p>\$2.99</p>	<p>Developer: Boreaal</p> <p>https://itunes.apple.com/au/app/letterschool/id435476174?mt=8&ign-mpt=uo%3D4</p>
 <p>Pirate Treasure Hunt</p>	<p>Need to apply maths and literacy skills to problem solve and find the hidden treasure.</p>	<p>Free</p>	<p>Developer: Education Service Australia</p> <p>https://itunes.apple.com/au/app/pirate-treasure-hunt-eight/id392208108?mt=8</p>
 <p>Word Wagon</p>	<p>Engaging illustrations, animations, and sounds for learning phonics and spelling.</p>	<p>\$1.99</p>	<p>Developer: Duck Duck Moose</p> <p>https://itunes.apple.com/au/app/word-wagon-by-duck-duck-moose/id423629048?mt=8&utm_source=Email+signup&utm_campaign=769058a6ac-word_wagon&utm_medium=email</p>

 <p>Word Mania</p>	<p>Word building activities, fun and engaging start and end screens for kids.</p>	<p>Free</p>	<p>Developer: Intrepica</p> <p>https://itunes.apple.com/au/app/word-mania-challenge/id559660809?mt=8</p>
 <p>Tools 4 Students</p>	<p>Chapter notes, document analysis, writing organisers and drawing conclusions with various organisers.</p>	<p>\$0.99</p>	<p>Developer: Mobile Learning Services</p> <p>https://itunes.apple.com/au/app/tools-4-students/id472911218?mt=8</p>
 <p>Shake A Phrase</p>	<p>Language app for creative writing prompts and vocabulary.</p>	<p>\$1.99</p>	<p>Developer: Artgig Studio</p> <p>https://itunes.apple.com/au/app/shake-phrase-fun-words-sentences/id436414534?mt=8</p>
 <p>Bitsboard</p>	<p>Ideal for learning languages, mastering vocabulary, spelling, learning to read and speak.</p>	<p>Free</p>	<p>Developer: Grasshopper Apps</p> <p>https://itunes.apple.com/au/app/bitsboard-education.-games/id516842210?mt=8</p>

 <p>Word Wizard</p>	<p>Word pronunciation customisation, easy word list sharing and an Australian voice!</p>	<p>\$2.99</p>	<p>Developer: L'Escapadou</p> <p>https://itunes.apple.com/au/app/word-wizard-talking-movable/id447312716?l=es&mt=8</p>
 <p>Starfall ABC</p>	<p>Children can hear, see and interact with letters and sounds in words, sentences and games.</p>	<p>\$2.99</p>	<p>Developer: Starfall Education</p> <p>https://itunes.apple.com/au/app/starfall-abcs/id395623983?mt=8</p>

14.2 Literacy Apps

Rocket Speller

Developer: Little Big Thinker

Cost: Free

URL: <https://itunes.apple.com/au/app/id492504689>



Rocket Speller assists in promoting literacy and spelling skills in children. The app offers 140 simple or complex words, ranging across 5 different levels. This app was developed to further develop a client's letter sound knowledge, word knowledge and increase vocabulary.

Features:

- Kid-friendly interface
- Balances skill development with play, making learning fun
- 5 levels of difficulty engage children at different stages of development
- 140 simple and complex words to enhance vocabulary
- Words are different every time you play
- Choose upper or lower-case letters
- Develop awareness of how letters combine to form words
- Develop awareness of left to right order
- Promote letter recognition
- Reinforce knowledge of letter names
- Enhance vocabulary
- High quality production standards



Word Wagon

Developer: Duck Duck Moose

Cost: \$1.99



URL: <https://itunes.apple.com/au/app/word-wagon-hd-by-duck-duck/id436716368?mt=8>

Word Wagon was developed to increase the client's knowledge of letters, words and phonics. The app includes 100 different words, from seven different categories (animals, food, vehicles, Numbers, colours, around the house and all words). There are four levels of difficulties, so the child can build and increase their skills.

Features:

- 100 different words, including dolch words
- Seven different categories
- Fun and engaging visuals
- 4 different levels
- Focuses on letter knowledge, words and phonics
- Reward games through out the app



Little Speller

Developer: Grasshopper Apps

Cost: Free



URL: <https://itunes.apple.com/au/app/sight-words-by-little-speller/id420828421?mt=8>

Little speller is a fully customisable spelling app. The app focuses on developing a client's letter sound knowledge and word recognition. The app uses 220 different common high frequency English words. The app allows for you to enter your own words, pictures and voice.

Features:

- Add your own voice
- Add your own items
- Learn by sight, sound, and touch
- Clear and engaging stimuli
- Fun & engaging voice artist keeps kids engaged
- Multi-sensory learning tool - combining seeing, hearing, and tactile feedback
- Delete words you don't need
- Multi-language support



Hairy Letters

Developer: Nessy

Cost: \$2.99

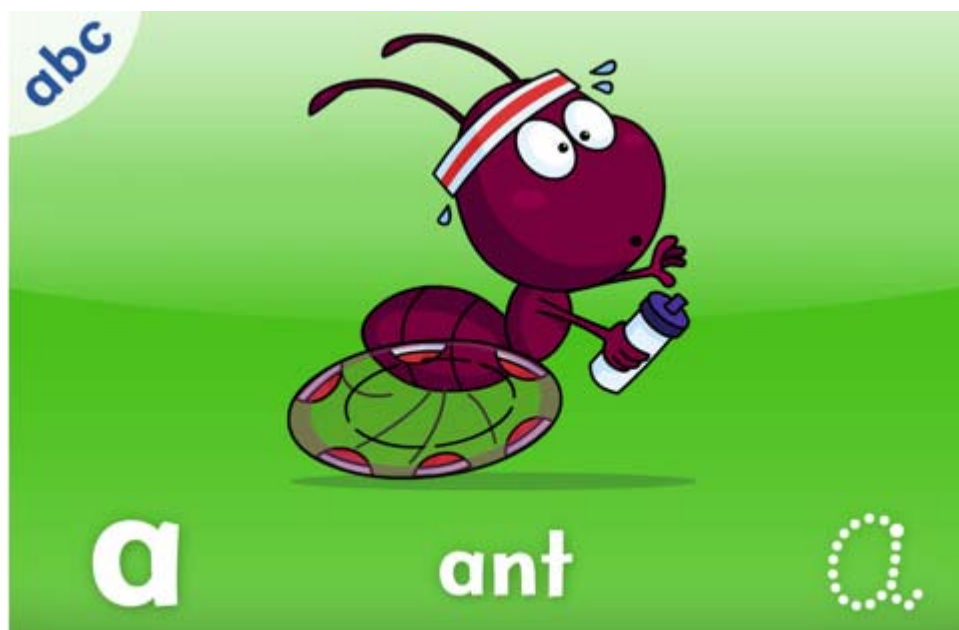


URL: <https://itunes.apple.com/au/app/hairy-letters/id410276288?mt=8>

Hairy Letters is a literacy app that aims to develop letter sound knowledge, phonics and word knowledge. The app allows the child to work on their fine motor skill by tracing the letters, it will then incorporate that letter into a word. The app is engaging for children.

Features:

- Interact with animations and trace the letter shape onscreen with your finger
- Play games to reinforce learning and build letters into simple words
- Letter sounds come to life with animated characters
- Learn to form each letter shape with your finger
- Play games to blend letter sounds into first words
- Includes upper case letter names
- Letters are introduced in six colour-coded stages



letter School

Developer: Boreaal

Cost: \$2.99

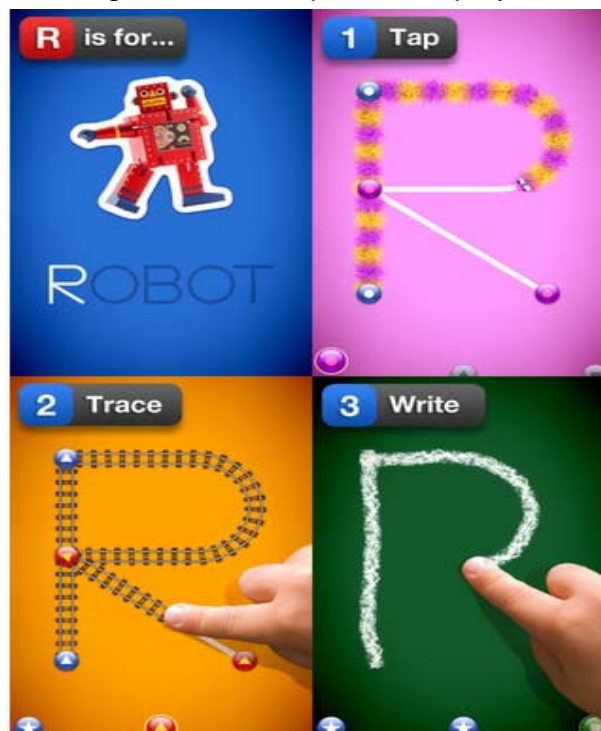
URL: <https://itunes.apple.com/au/app/letterschool/id435476174?mt=8>



Letter School focuses on developing writing skills, letter name and sound knowledge, counting skills, literacy skills and fine motor skills. The app has two difficult levels, the app allows for scorekeeping throughout the activities.

FEATURES:




- Multiple games with different learning approaches
- Two challenging levels for twice the fun and twice the practice
- Free-form writing in advanced level
- Highly effective visual and auditory feedback
- Engaging graphics
- Characters at maximum scale regardless of device orientation
- Choice out of three most popular typefaces in handwriting education
- Scorekeeping: star-tokens and self-written characters in menu
- Progress and settings stored for up to three players







15.0 Evaluated Narrative Apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Story Maker HD	2	1	1	2	3	3	1	2
Scribble Press	3	2	3	2	3	4	2	2
Strip Designer	2	2	2	2	3	3	2	3
Clicker Sentences	3	2	2	2	3	3	3	2
Puppet Pals HD	3	2	2	2	3	3	2	2
Pictello	3	4	3	2	3	4	3	4
MeeGenius	2	2	2	2	3	3	2	3
Story Time	1	2	2	2	3	3	2	1
Book Creator	3	3	3	2	3	3	3	3

15.1 Narrative Apps

The App		Cost	Developer and Itunes URL
 <p>Story Maker HD</p>	<p>Develop your own story using characters, backgrounds and other accessories.</p>	<p>Free In app purchases</p>	<p>Developer: Blue Finger</p> <p>https://itunes.apple.com/au/app/story-maker-hd/id428879894?mt=8</p>
 <p>Scribble Press</p>	<p>Scribble Press for iPad is a book creation platform that allows kids to create and share their own stories with hundreds of great drawing and writing tools.</p>	<p>\$4.49</p>	<p>Developer: Scribble Press</p> <p>https://itunes.apple.com/au/app/scribble-press/id487300076?mt=8</p>
 <p>Strip Designer</p>	<p>Import maps, images from iPhoto or images from a mobile device directly into a comic strip template. Selection from a range of fonts, colours, text, balloons, stickers, paper backgrounds, frames and filters.</p>	<p>\$2.99</p>	<p>Developer: Vivid Apps</p> <p>https://itunes.apple.com/au/app/strip-designer/id314780738?mt=8</p>

 <p>Clicker Sentences</p>	<p>Create sentence building activities with varying levels of support. Embed and edit picture support, direct from the iPad camera or camera roll. Access freely available Sentence Sets from Learning Grids from directly within the app.</p>	<p>\$21.99</p>	<p>Developer: Crick Software</p> <p>https://itunes.apple.com/au/app/id575603433</p>
 <p>Puppet Pals</p>	<p>Pick some actors and background, drag them onto the stage and record audio. Movements and audio are recorded in real time for playback later.</p>	<p>Free in app purchases</p>	<p>Developer: Polished play</p> <p>http://itunes.apple.com/au/app/puppet-pals-hd/id342076546?mt=8</p>
 <p>Toontastic</p>	<p>Make cartoons on screen. Press record, move your characters around on screen and tell your stories through play. Choose some music and title your cartoon.</p>	<p>Free</p>	<p>Developer:</p> <p>http://itunes.apple.com/au/app/toontastic/id404693282?mt=8</p>
 <p>MeeGenius Books</p>	<p>Interactive children's stories. Build common background knowledge of literature starting at a young age.</p>	<p>Free</p>	<p>Developer: MeeGenius</p> <p>https://itunes.apple.com/au/app/super-duper-storymaker-free/id560494137?mt=8</p>

 <p>Pictello</p>	<p>Create talking books, social stories and visual sequences using your own photos. Able to use own voice or text to speech.</p>	<p>\$19.99</p>	<p>Developer: Assistiveware</p> <p>http://itunes.apple.com/au/app/pictello/id397858008?mt=8</p>
 <p>Story Time</p>	<p>Story Time is an interactive story telling app that is bundled with beautifully illustrated story books for children. Each story is bundled with original colourful illustrations, narrations and sound effects.</p>	<p>Free</p>	<p>Developer: Teknowledge</p> <p>https://itunes.apple.com/au/app/story-time-for-kids/id410788584?mt=8</p>
 <p>Story Patch</p>	<p>Make a story. Comes with 800 pictures. Import photos from iPad library send a PDF version with friends or a younger child can select a theme and the app build a story based on the answers given.</p>	<p>\$2.99</p>	<p>Developer: Haywoodsoft LLC</p> <p>http://itunes.apple.com/au/app/story-patch/id388613157?mt=8</p>
 <p>Book Creator</p>	<p>Personalised stories, can be stored into Ebook. Send your books to friends over email, to iTunes, or Dropbox.</p>	<p>\$5.49</p>	<p>Developer: Red Jumper Studio</p> <p>https://itunes.apple.com/au/app/book-creator-for-ipad/id442378070?mt=8</p>

15.2 Narrative Apps

Pictello

Developer: AssistiveWare

Cost: \$18.99



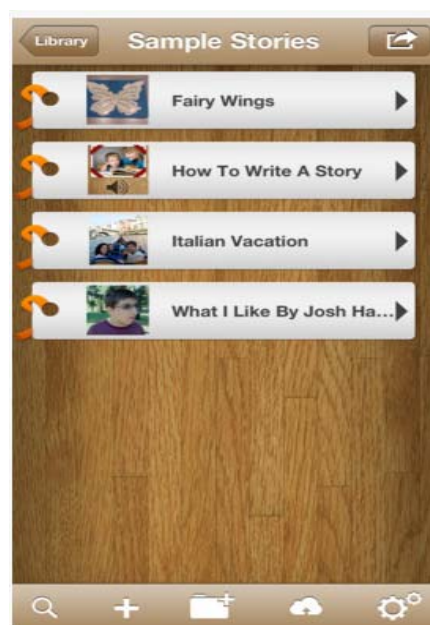
URL: <https://itunes.apple.com/app/au/pictello/id397858008?mt=8>

Pictello is a great tool for social communication. It allows the user to create talking photo albums and books. Each page can contain a picture, a recorded sound or text to speech.

Use in a clinical setting: Pictello is a very versatile app, which targets many learning areas such as vocabulary, literacy, articulation, narrative and social communication. Due to the ability to customise this app, the client can use Pictello to communicate an event that has occurred in their life, tell someone about themselves or what they have been up to. This app is very similar to a low-tech communication passport or remnant book.

Features;

- Works on literacy goals with word-by-word text highlighting for text to speech
- More options for sharing your creations: save your stories to Dropbox as Pictello stories or PDFs
- Wizard for creating stories
- Support for larger screens of iPhone 5 and new iPod touch



Scribble Press

Developer: Scribble Press

Cost: \$4.49



URL: <https://itunes.apple.com/au/app/scribble-press/id487300076?mt=8>

Scribble Press allows the client to create a book and share stories whilst using drawing and writing skills. The app allows book downloads to the iBook library. There are many different story templates to choose from. It is a great tool for targeting narrative, literacy and social communication skills.

Use in a clinical setting: This app assists in the development of a client's narrative. Scribble press also can target literacy and grammar skills, by increasing their exposure to grammatically correct sentences. The App also can be used to increase vocabulary due to the introduction of new words. Once a book is created, it can be used as a social and communication tool for a client.

Features;

- 50 story templates
- over 500 drawing tools, including markers and stamps in a vast array of colours
- a unique sticker collection
- your own photo library
- an easy and fun to use book layout tool
- shopping cart so you can order printed copies of your book and other cool stuff
- sharing tools that make it easy to show the world



Clicker Sentences

Developer: Crick Software

Cost: \$21.99

URL: <https://itunes.apple.com/au/app/id575603433>



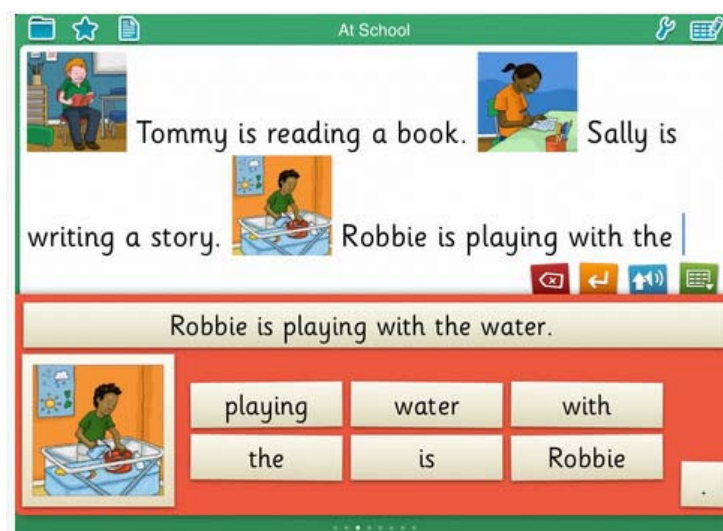
Clicker Sentences is an app that is targeted at children. It helps the child write creatively, and allows them to import their own images to use throughout the story. The app is a great way to utilise a child's grammar and literacy skills. The app is highly motivating and engaging.

Use in a clinical setting: Clicker sentences is targeted at prompting narrative development of a client, by breaking up a sentence into single words, and then reconstructing that sentence. This app also targets skills such as vocabulary, literacy and grammar.

Features;

Numerous support options ensure that children of all abilities are given the right level of challenge to experience success:

- For pupils just getting started with writing, show the completed sentence as a model on the grid, so they can copy it word-for-word.
- A model sentence in a popup enables the pupils to see the sentence, but not copy it the popup must be closed before they write.
- A spoken model means the pupil can listen to the sentence, but not see it.
- Automatically randomise the words on the grid, or provide additional support by showing them in the correct sentence order



Book Creator

Developer: Red Jumper Studios

Cost: \$5.49

URL:

<https://itunes.apple.com/au/app/book-creator-for-ipad/id442378070?mt=8>

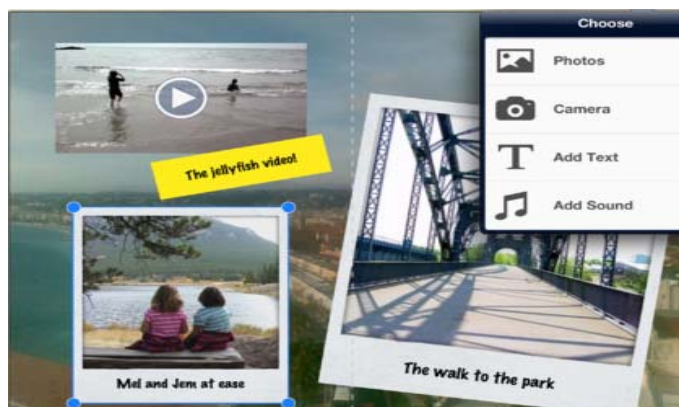


Book Creator is a simple way to create an iBook. Great for children who want to share their exciting stories. Ideal for picture books, photo books, art books, cook books, manuals, text books. Can also be shared through email and iTunes, or stored in a Dropbox. This app allows for personalised stories that allow you to insert your own images, and record your own voice.

Use in clinical setting: Book Creator is a very versatile app, which targets many learning areas such as vocabulary, literacy, articulation, narrative and social communication. Due to the ability to customise this app, the client can use Book Creator to communicate an event that has occurred in their life, tell someone about themselves or what they have been up to. This app is very similar to a low-tech communication passports and remnant books

Features;




- Numerous support options ensure that children of all abilities are given the right level of challenge to experience success:
- Choose from portrait, landscape or square book sizes.
- Quickly add pictures from the Photos app, or grab them from the web, then move, resize and rotate them with your fingers.
- Edit text using the onscreen keyboard, and apply rich formatting to make it look great.
- Import video and music, and record speech within the app.






16.0 Evaluated phonics apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Pocket Phonics	3	3	3	4	3	4	3	1
Phonics hero	2	3	1	2	3	3	2	1
Phonics studio	3	2	1	2	2	3	2	3
Alphabytes	1	2	1	2	2	2	2	1
Phonics Genius	2	2	1	2	3	3	2	1
PBPphonics	2	2	1	2	3	3	2	1
Ice Land Adventures HD	2	2	2	2	3	3	2	3
Build A Word- Express	2	2	2	2	3	2	2	2

16.1 Phonics Apps

The App		Cost	Developer and Itunes URL
 <p>ABC pocket phonics</p>	<p>Letter sounds, letter writing and 170 first words included in this app.</p>	<p>\$2.99</p>	<p>Developer: Next Step</p> <p>https://itunes.apple.com/au/app/abc-pocketphonics-lite/id302689971?mt=8</p>
 <p>Phonics Studio</p>	<p>Phonics studio teaches children how to pronounce their sounds, as well as increase their vocabulary. Errors are evident in the app. Eg. Using sausage as a final /g/ sound.</p>	<p>Free</p>	<p>Developer: Grasshopper Apps</p> <p>https://itunes.apple.com/au/app/phonics-studio/id547795266?mt=8</p>
 <p>Phonic Genius</p>	<p>This app is specifically designed to help students recognize and distinguish words by sounds.</p>	<p>Free</p>	<p>Developer: Innovative mobile app</p> <p>https://itunes.apple.com/au/app/phonics-genius/id461659980?mt=8</p>

 <p>PBPhonics</p>	<p>PBPhonics 1 to 3 contains 18 phonemes in 3 sets. It shows how to build 294 words out of these phonemes, by sounding out the component phonemes and the complete word. The vocabulary offered increases as the client progresses</p>	<p>Free</p>	<p>Developer: Cowirrie</p> <p>https://itunes.apple.com/au/app/pbphonics-1-to-3/id448032923?mt=8</p>
 <p>Ice Land adventures</p>	<p>The app words on spelling, letter recognition, phonics, syllables</p>	<p>Free</p>	<p>Developer: Tribal Nova</p> <p>https://itunes.apple.com/au/app/i-learn-boing-ice-land-adventures!/id502026679?mt=8</p>
 <p>Build A Word Express</p>	<p>Build a word express assists children in their spelling abilities</p>	<p>Free</p>	<p>Developer: Reks</p> <p>https://itunes.apple.com/au/app/build-word-express-practice/id445774924?mt=8</p>

16.2 Phonics Apps

ABC Pocket Phonics

Developer: Apps in My Pocket Ltd

Cost: \$2.99

URL: <https://itunes.apple.com/au/app/abc-pocketphonics-letter-sounds/id299342927?mt=8>

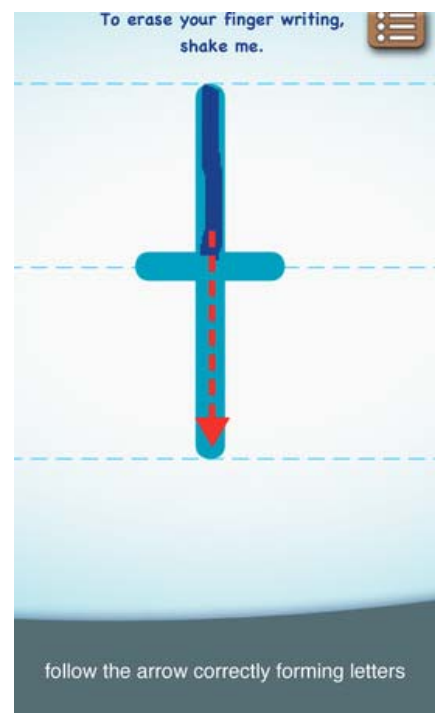
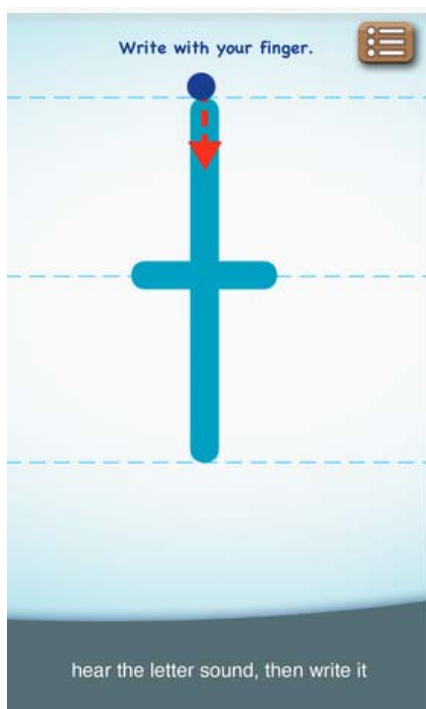


Pocket Phonics aims to improve literacy skills in children. It is a basic application that allows the child to trace and identify letters. The app provides feedback and guidance.

Use in a clinical setting: Pocket phonics assists in the learning of phonics. Due to the tracing element of the app, fine motor skills are also targeted throughout. Articulation can also be targeted in this app due to the repetition of the letters and the letter being incorporated into words.

Features;

- 170 First Words
- Letter Writing
- Customisation depending on the child's needs e.g. lower case, uppercase or cursive writing
- Provides help or feedback
- Ability to order a free guide to teach children to read



17.0 Evaluated phonological awareness apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Phonological Processes	3	3	3	3	3	3	3	3
Language Empires	3	3	2	3	3	3	3	3
Syllable Awareness	2	3	2	2	2	2	2	3
Word Magic	2	3	2	2	2	2	2	2

17.1 Phonological awareness Apps

The App	Cost	Developer and Itunes URL
 <p>Phonological awareness</p>	<p>This research-based app implements a linguistic approach for treatment of phonological disorders by engaging users in minimal pair contrast therapy.</p>	<p>\$18.99</p> <p>Developer: Virtual Speech Center</p> <p>https://itunes.apple.com/au/app/phonological-processes/id609362183?mt=8&ign-mpt=uo%3D2</p>
 <p>Language Empire</p>	<p>This application designed for elementary age students targets 8 goals: Answering how, why, and which questions, inferencing, vocabulary, predicting and figurative language, and sequencing.</p>	<p>\$25.99</p> <p>Developer: Smarty Ears</p> <p>https://itunes.apple.com/au/app/language-empires/id562910097?mt=8&ign-mpt=uo%3D2</p>
 <p>Syllable awareness</p>	<p>Syllable awareness is typically the easiest and first phonological awareness skill that children can learn. This syllable awareness Tap-App is a fun way for children to increase this vital pre-literacy skill.</p>	<p>\$2.99</p> <p>Developer: App-licable</p> <p>https://itunes.apple.com/au/app/syllable-awareness-animal/id464148923?mt=8</p>
 <p>Word Magic</p>	<p>This app is designed for the child to increase their spelling abilities and letter knowledge</p>	<p>\$0.99</p> <p>Developer: Anusen Inc</p> <p>https://itunes.apple.com/au/app/word-magic/id293630633?mt=8</p>

17.2 Phonological Awareness Apps

Phonological Processes

Developer: Virtual Speech Center Inc.

Cost: \$17.99

URL:

<https://itunes.apple.com/au/app/phonological-processes/id609362183?mt=8&ign-mpt=uo%3D2>



Phonological Processes was created by a certified Speech Pathologist for children with phonological disorders/delays. This app in comparison to other apps is researched based and looks at the use of minimal pairs.

Features:

The Phonological Processes app is easy to navigate and allows users to employ several tools to perform the following tasks:

- Enter multiple students
- Change settings and use randomization
- Select auto-scoring
- Select alternate counts for multiple students
- Track correct and incorrect responses
- E-mail results at the end of the session



Language Empires

Developer: Smarty Ears

Cost: \$25.99

URL:

<https://itunes.apple.com/au/app/language-empires/id562910097?mt=8&ign-mpt=uo%3D2>



Language Empires was developed by two Speech Pathologists. The game is split into empires and each empire teaches an integral element of communication. It aims at tackling wh questions, inferencing, vocabulary, predicting, figurative language and sequencing. It has great animations!

Features:




- Targets 8 different goals;
- Multiplayer: Play with up to 5 students at the same time
- Data tracking capabilities – they can be emailed or saved on iBooks
- Professional audio for each question
- Settings can adjust app to meet student's needs
- Allows game play and data tracking on an unlimited number of students
- Visual and auditory feedback for all questions






18.0 Evaluated pragmatics apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
First Then Visual Schedule	3	2	3	3	3	3	3	4
My Life Skills Box	2	2	2	2	2	3	2	1
Social Skills HD	2	3	2	2	2	3	3	1
Fruit Memory	2	3	2	2	3	3	2	1
Quick Cues	3	3	3	3	2	3	2	2
Between The Lines Advanced L	3	3	3	2	2	2	3	2
That's How I Feel	1	2	2	2	2	2	2	1
Practicing Pragmatics Fun Deck	2	2	2	2	2	3	2	2
Social Skills Builder Lite	2	3	2	2	3	3	2	1

18.1 Pragmatics and social skills Apps

The App		Cost	Developer and Itunes URL
 <p>First Then Schedule</p>	Visual schedules provide support through the use of images that show daily events or steps needed to complete a specific activity. This app is full customisable and flexible.	\$10.49	Developer: Good Karma Applications https://itunes.apple.com/au/app/first-then-visual-schedule/id355527801?mt=8
 <p>My Life Skill Box</p>	My Life Skills Box allows a child to learn about life. The app focuses on three typical life components, everyday activities. Social skills and playing with functional objects.	Free	Developer: My life Skills box https://itunes.apple.com/au/app/mylifeskillsbox/id534918056?mt=8
 <p>Social Skills HD</p>	This app includes 62 of the most common topics in the Functional Social Skills System. Included in the program are the topics of meeting/greeting people, taking responsibility, being polite and courteous, joining others in groups, apologizing/excusing self, following directions and handling criticism.	Free	Developer: The Conover Company https://itunes.apple.com/au/app/social-skills-sampler-hd/id415723517?mt=8

 <p>Fruit Memory</p>	<p>Test and improve your memory with this fun and educational puzzle game. This app can be used for social skills such as turn-taking.</p>	<p>Free</p>	<p>Developer: MingMobileDev</p> <p>https://itunes.apple.com/au/app/fruits-memory-game-lite/id462196746?mt=8</p>
 <p>Quick Cues</p>	<p>QuickCues is a social script app that helps teens and young adults to handle new situations and learn new skills.</p>	<p>\$5.49</p>	<p>Developer: Frasers</p> <p>https://itunes.apple.com/au/app/quickcues/id360381130?mt=8</p>
 <p>Between the lines Advanced lite</p>	<p>This iPad app is designed for adolescents-adults who would benefit from practice interpreting vocal intonation, facial expressions, body language, and idiomatic or slang expressions. Using real photographs, voices and short mini-video clips of a variety of social situation.</p>	<p>\$0.99</p>	<p>Developer: Hamaguchi Apps</p> <p>https://itunes.apple.com/au/app/between-lines-advanced-lite/id574726595?mt=8&ign-mpt=uo%3D2</p>

 <p>That's how I feel</p>	<p>That's how I feel is an app designed to help non-verbal children and adults express their feelings using Smarty Symbols. The feelings are organised into three groups:</p> <ol style="list-style-type: none"> 1. Positive feelings; 2. Neutral feelings; 3. Negative feelings; 	<p>\$2.99</p>	<p>Developer: Smarty Ears</p> <p>https://itunes.apple.com/au/app/thats-how-i-feel/id444500170?mt=8</p>
 <p>Practicing Pragmatics fun deck</p>	<p>This app is designed so the client looks at an illustration, and either reads the prompt or touches the screen to listen to the prompt. The student then gives a verbal response.</p>	<p>\$2.99</p>	<p>Developer: Super Duper</p> <p>https://itunes.apple.com/au/app/practicing-pragmatics/id446375561</p>
 <p>Social Skills builder lite</p>	<p>This app demonstrates common social interactions with their peers and other adults. These video scenarios are of real interactions of a preschool (Preschool Playtime), a elementary school (My School Day), a middle/high school (School Rules) and a community setting (My Community).</p>	<p>\$2.99</p>	<p>Developer: Social Skills Builder inc</p> <p>https://itunes.apple.com/au/app/social-skill-builder/id486116417?mt=8</p>

18.2 Pragmatic & Social Skills Apps

Between the Lines Level 1 HD

Developer: Hamaguchi Apps for Speech, Language and Auditory Development

Cost: \$16.99

URL: <https://itunes.apple.com/au/app/between-the-lines-level-1-hd/id574405272?mt=8>



This app is designed for older children who need practice interpreting facial expressions, vocal intonation, body language, idiomatic and slang expressions. This app can be optimised by adult supervision to provide some input and interaction. It should be highlighted that this is an American app, therefore American expressions are used.

Features;

- 204 tasks
- Progress can be tracked
- Reward animations are provided
- No in-app purchases
- Data can be saved, stored printed and emailed
- Tasks can be automatically advances





First Then Visual Schedule

Developer: Good Karma Applications, Inc

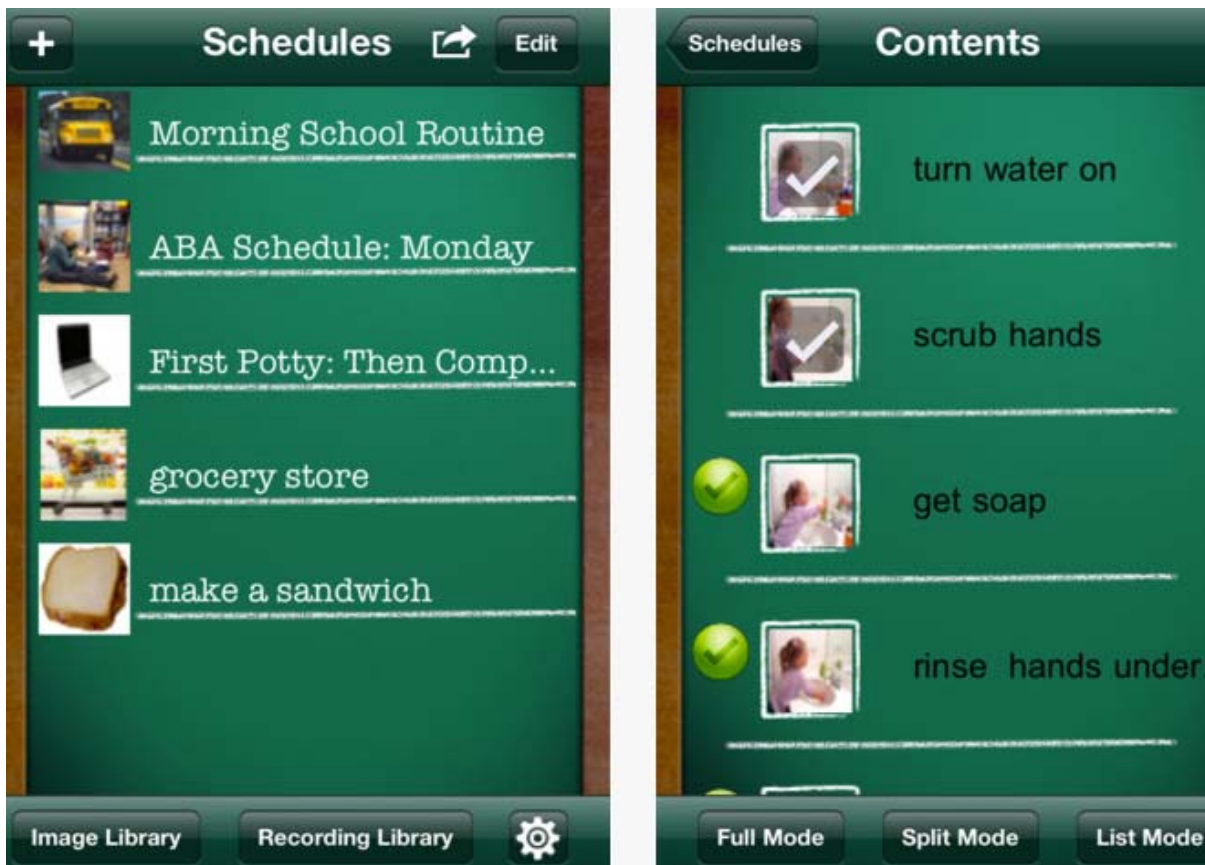
Cost: \$10.49

URL: <https://itunes.apple.com/au/app/first-then-visual-schedule/id355527801?mt=8>

First Then Visual Schedule is designed to help enforce positive behaviour. For individuals with communication needs, developmental delays and Autism, this app helps to encourage a structured environment to decrease anxiety and ease activity transitions.

Features:

- Use your own photos or add photos from the built in Internet image search feature.
- Record your own voice to the images.
- Create as many schedules as you need.
- Change the order of a schedule, anytime!
- Checklist feature
- *Save and Share" schedules via "File Sharing" on iTunes.
- Backup schedules via iCloud.
- Email a PDF copy of a schedule to print off at home.



Quick Cues

Developer: Fraser

Cost: \$4.99

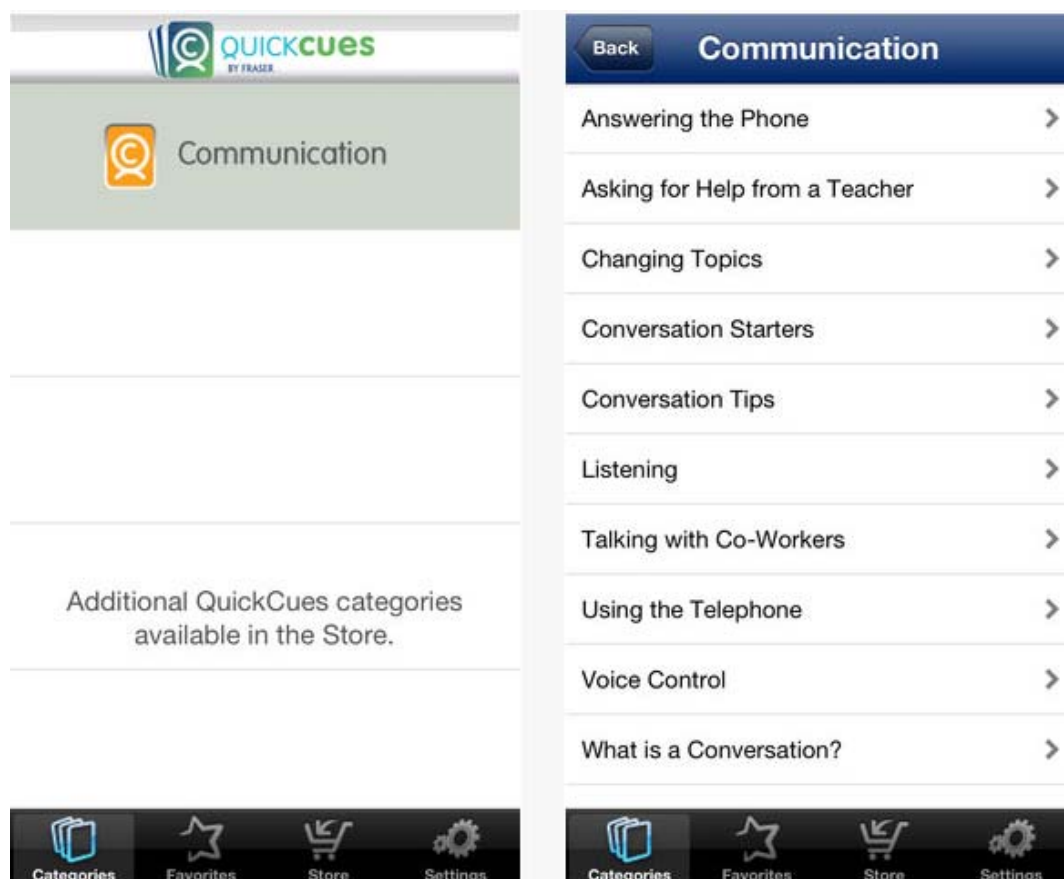


URL: <https://itunes.apple.com/AU/app/quickcues/id360381130?mt=8>

Quick Cues is a social script that helps adolescents with autism tackle new social situations and learn new skills. These scripts are easy to use for everyday activities. Different modules available include communication, life skills, socialisation, coping and on the job.

Features:




- Promotes good habits
- Provides structure for users that feel stressed and need to meet their goals
- Helps users create and maintain good relationships
- Modules can suggest appropriate behaviour e.g. turn taking
- Provides users with strategies for good mental health
- Developed by autism experts to make social scripts more practical through mobile technology.





19.0 Evaluated semantics apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Things That Go Together	3	3	2	2	3	3	2	1
Categorization HD	2	3	2	2	2	2	2	2
Find The Odd One	2	2	2	2	3	3	2	1
Category Carousel	2	3	1	2	3	3	1	2
Name that Category	2	3	1	2	3	3	2	2

19.1 Semantics Apps

The App		Cost	Developer and Itunes URL
 <p>Things That Go Together</p>	<p>A problem solving and matching game for children.</p>	<p>\$0.99</p>	<p>Developer: Grasshopper Apps</p> <p>https://itunes.apple.com/au/app/things-that-go-together/id490647359?mt=8</p>
 <p>Categorization HD</p>	<p>A fun way to match the picture to the actual word. Great for vocabulary as well as semantics.</p>	<p>\$4.49</p>	<p>Developer: App-licable</p> <p>https://itunes.apple.com/au/app/categorization-hd/id546192216?mt=8</p>
 <p>Find The Odd One</p>	<p>A matching game: guess which picture does not belong. Multiple levels of difficulty. Classic or timed mode.</p>	<p>Free</p>	<p>Developer: Perception System</p> <p>https://itunes.apple.com/AU/app/find-the-odd-one/id537126962?mt=8</p>

 <p>Category Carousel</p>	<p>A fun way to test categorising and sub-categorising words and concepts. Leads to better comprehension and expressive language skills</p>	<p>\$4.49</p>	<p>Developer: Synapse Apps</p> <p>https://itunes.apple.com/us/app/category-carousel/id516878389?mt=8</p>
 <p>Name That Category Fun Deck</p>	<p>App is simple to use, includes prompts, choice of 56 different cards and allows tracking of correct and incorrect responses.</p>	<p>\$2.99</p>	<p>Developer: Super Duper Publications</p> <p>https://itunes.apple.com/AU/app/name-that-category-fun-deck/id453817829?mt=8</p>

19.2 Semantics Apps

Things That Go Together

Developer: Grasshopper Apps

Cost: \$16.99



URL: <https://itunes.apple.com/au/app/things-that-go-together/id490647359?mt=8>

Things That Go Together helps children problem solve, and is particularly handy for children with language delays. The goal of this application is to develop integral language skills, but in a motivating and engaging way. It uses interesting pictures and provides reinforcements or feedback when a child answers a question.

Use in a clinical setting: This app assists in developing a child's semantic categorisation skills. It also targets language areas such as vocabulary due to the exposure of a variety of different words

Features;

- Multi-sensory learning tool - combining seeing, hearing, and tactile feedback
- Multi-language support - since you can edit all existing items and sounds so you can record everything in your native tongue
- Record your own voice - you can record everything in your own voice
- Min. number of items - You decide the min. number of items to show per page
- Max. number of items - You decide the max. number of items to show per page
- Create your own matching games
- Customize items - every item is fully customizable (text, audio, and image). You can also add your own matching pairs
- Customize game sounds - can even customize the game and success sounds so that your little one hears your words of appreciation



Category Carousel

Developer: Synapse Apps, LLC

Cost: \$4.99

URL: <https://itunes.apple.com/us/app/category-carousel/id516878389?mt=8>



Category Carousel is a fun way to enhance a child's vocabulary. It gives a child the ability to categorise and sub-categorise words and concepts.

Using in a clinical setting: This app can be used to assist in language eliciting, by increasing the client's vocabulary, encourages building, storing and retrieving words leading to better comprehension and expressive language skills.

Features:

- Categories and subcategories
- Animals (birds, bugs, farm, water, jungle, forest)
- Transportation (land, water, sky)
- Clothing (body, head, feet)
- Food (breakfast, deserts, drinks, meat, fruit, vegetables)
- Household (cleaning, furniture, toys, tools, bathroom, kitchen)






20.0 Stuttering Apps





The App		Cost	Developer and Itunes URL
 <p>Speech4Good</p>	Helps stuttering students with stuttering, fluency, articulation, aphasia and other speech impediments.	\$15.99	Developer: Balbus Speech https://itunes.apple.com/au/app/speech4good/id467558411?mt=8
 <p>Fluency Tracker</p>	Designed for individuals who stutter and parents. Complements the services of speech therapists and make progress towards positive feelings	\$9.49	Developer: Smarty Ears https://itunes.apple.com/au/app/fluency-tracker/id352274124?mt=8
 <p>Speech Pacer Plus</p>	Employs the pacing technique to reduce the stutter, promoting fluency and intelligibility.	\$5.49	Developer: App-licable https://itunes.apple.com/au/app/speech-pacer-plus/id555195932?mt=8
 <p>MPiStutter</p>	App that uses Modifying Phonation Intervals. Analyses users vocal fold activity to eliminate too-rapid speech elements.	\$1,049.99	Developer: Casa Futura Technologies https://itunes.apple.com/au/app/mpistutter/id463621025?mt=8

21.0 Evaluated vocabulary apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Rainbow sentences	2	3	1	1	3	3	3	2
Fun and functional	2	3	2	2	2	2	3	2
The bag game	2	2	3	2	3	3	2	1
Beck and Bo	2	3	2	2	3	3	2	1
Describe it	2	2	2	2	3	3	2	1
Vocabulary Hd	1	2	2	2	1	2	2	1
First Words (Deluxe)	2	2	2	2	2	2	2	1

21.1 Vocabulary Apps

The App		Cost	Developer and Itunes URL
 <p>Rainbow Sentences</p>	<p>Rainbow Sentences is designed to help students improve their ability to construct grammatically correct sentences by using colour coded visual cues.</p>	<p>\$8.49</p>	<p>Developer: Mobile Education Store</p> <p>https://itunes.apple.com/au/app/rainbow-sentences/id427578209?mt=8</p>
 <p>Fun and Functional</p>	<p>This app is designed to improve language comprehension and expression in individuals of all age groups. The ability to identify and describe the function or use of real-world objects is a key language and life skill.</p>	<p>\$10.49</p>	<p>Developer: Smarty Ears</p> <p>https://itunes.apple.com/au/app/fun-functional/id498640017?mt=8</p>
 <p>The Bag Game</p>	<p>This is a very versatile app, with focuses on turn taking, vocabulary building, receptive language, descriptive language and short term memory skills.</p>	<p>\$1.99</p>	<p>Developer: All4mychild</p> <p>https://itunes.apple.com/au/app/bag-game/id499757601?mt=8</p>

 <p>Beck and Bo</p>	<p>This app is an educational app which focuses on building vocabulary, whilst building animated scenes.</p>	<p>\$1.99</p>	<p>Developer: React-in</p> <p>https://itunes.apple.com/au/app/beck-and-bo/id557624393?mt=8</p>
 <p>Describe it</p>	<p>This app is designed to provide clients with the frame work to describing vocabulary. This app focuses on increasing a clients vocabulary</p>	<p>\$5.49</p>	<p>Developer: Synapse Apps</p> <p>https://itunes.apple.com/au/app/describe-it-slp/id584370609?mt=8</p>
 <p>First Words Deluxe</p>	<p>This app focuses on fine motor skills, recognising and matching letters, letter sound knowledge and teachers the client how to spell.</p>	<p>Free</p>	<p>Developer: Joy preschool game</p> <p>https://itunes.apple.com/au/app/first-words-deluxe-spelling/id489433821?mt=8</p>
 <p>Vocabulary HD</p>	<p>This app focuses on boosting the client's vocabulary.</p>	<p>Free</p>	<p>Developer: iDocodi</p> <p>https://itunes.apple.com/au/app/vocabulary-hd-free/id487463795?mt=8</p>

21.2 Vocabulary Apps

Rainbow Sentences

Developer: Mobile Education Store, LLC

Cost: \$10.99

URL: <https://itunes.apple.com/au/app/rainbow-sentences/id427578209?mt=8>

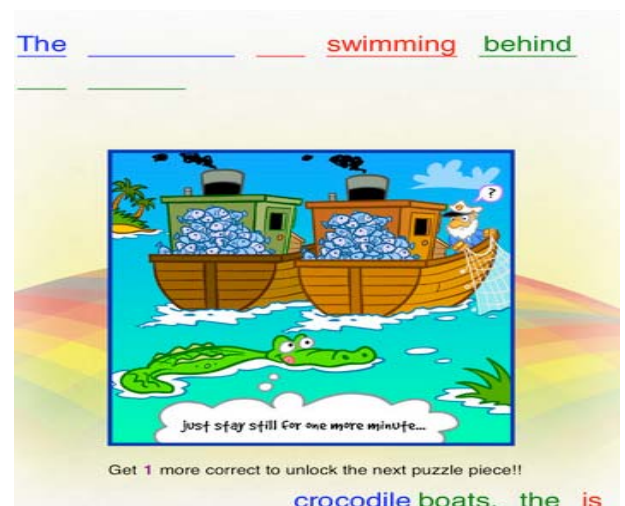


This app was designed to help develop grammar using colour coded visual cues. Whom what, where, and why are coded to help students understand the sentence structure using these elements. Parts of sentences such as nouns, verbs and prepositions are also taught.

Use in a clinical setting: This app was designed to increase a child's vocabulary skills by increasing their exposure to a variety of different words in different concepts. A voice output occurs when a child presses on each word. This app also targets grammatical knowledge of a child. Different level of scaffolding assists the child with the grammatical learning of sentence structure.

Features;

- 168 images to create sentence from
- Intuitive drag and drop to create sentences
- Words are spoken as they are being dragged for non readers
- Words can be color coded for added visual support
- Word groups can be selected to simplify sentence construction
- 6 levels of sentence complexity
- Pictograph lessons to help students learn proper sentence construction
- Record feature allows students to record sentences in their own voice
- Save and email recorded sentences
- Students earn puzzle pieces during play to encourage continued play
- Puzzles come to life once level is complete



Describe It (SLP)

Developer: Synapse Apps, LLC

Cost: \$4.99



URL: <https://itunes.apple.com/au/app/describe-it-slp/id584370609?mt=8>

Created by certified Speech Pathologists to make learning to describe things fun and simple. This app provides children with a framework by giving them auditory hints. It tests generalisation of learning through two games “Pass it” and “Guess it”.

Use in a clinical setting: this app assists in increasing a child’s vocabulary skills by exploring the use of more advanced language such as adjectives. This app also can be used in semantic development by assisting in categorising objects.

Features:

- Good graphics that allow children to learn in a fun environment
- Mail results
- Good instructions
- “Study” session
- Teaches touch, taste, function, sight, hear, smell



Fun and Functional

Developer: Smarty Ears

Cost: \$10.49



URL: <https://itunes.apple.com/au/app/fun-functional/id498640017?mt=8>

Fun and Functional is an app developed by a Speech Pathologist. It aims to improve language comprehension and expression. It tries to teach the child to identify and describe the function of real objects. Develops categorisation and descriptive skills with fun pictures and audio.





Use in a clinical setting: This app focuses on vocabulary development by introducing the child to descriptive language. This app works on expressive and receptive language.

Features:

- Ability to customize Receptive Activity according to number of choices presented (2, 3, or 4) to modify level of difficulty. Receptive Activity can also be customized according to level of similarity within “incorrect” items.
 - Choice of application responses when child selects incorrect item (move to next question, incorrect item disappears from screen, or “Try Again!” message)
 - Selection of specific or all categories to target.
 - Expressive Activity in which students verbally describe the function of items (e.g. “What do you do with a broom?”), so that SLPs, parents or others can score their response as “Missed it!” “Almost” or “Got it!” within the application.
 - Quick Play and Receptive-Expressive combination activities.
- Report presented at conclusion of activity; can be emailed to parent or for record keeping.






22.0 Switch Accessible Apps



The App	Cost	Developer and Itunes URL
 Inclusive Smarty Pants	Designed to help children understand a selection of communication symbols e.g. showing and emotions and feelings	\$2.99 Developer: Inclusive Technology Ltd https://itunes.apple.com/au/app/inclusive-smarty-pants/id490126715?mt=8
 Catch The Cow	Helps children and adults with physical disabilities, to learn to select pictures using a scanning device.	\$1.99 Developer: Computerade Products https://itunes.apple.com/au/app/catch-the-cow/id478002459?mt=8
 Bumper Cars	A simple game which encourages targeting or the development of two switch skills. Has clear and bright graphics. Good for children and adults.	\$2.99 Developer: Inclusive Technology Ltd https://itunes.apple.com/au/app/bumper-cars/id557891986?mt=8
 Five Little Aliens	Learning numbers from one to five. Provides the child with auditory feedback.	\$2.99 Developer: Inclusive Technology Ltd https://itunes.apple.com/au/app/five-little-aliens/id557893815?mt=8&ign-mpt=uo%3D2

23.0 Evaluated Aphasia apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Small Talk Aphasia	1	1	1	2	2	2	1	1
Small Talk Letters, Numbers, Colours	1	1	1	1	2	2	1	1
Speech Sounds on Cue (Lite)	2	2	2	2	2	2	4	2
Conversation Cards	1	1	1	2	1	2	1	1
Comprehension Therapy (Lite)	3	3	3	3	2	3	2	3
Naming Therapy (Lite)	3	3	3	3	3	3	2	3
Reading Therapy (Lite)	3	3	3	3	2	3	2	3
Writing Therapy (Lite)	3	3	3	3	2	3	2	3

23.1 Aphasia Apps

The App	Cost	Developer and iTunes URL	
 Small Talk Aphasia	Designed for people with aphasia, an impairment in the ability to use language, SmallTalk Aphasia provides a vocabulary of pictures and videos that talk in a natural human voice.	Free	Developer: Lingraphica https://itunes.apple.com/au/app/smalltalk-aphasia-female/id310102858?mt=8
 Small Talk letters, numbers, colours	The Letters, Numbers, Colours app provides a series of speech-exercise videos, each illustrating the tongue and lip movements necessary to produce the 26 letters of the English alphabet, numbers 1–20, and primary colors.	Free	Developer: Lingraphica https://itunes.apple.com/au/app/smalltalk-letters-numbers/id384168006?mt=8
 Speech Sounds on Cue (lite)	This app is designed to focus on articulation difficulties caused by aphasia (and other disorders). This app contains 39 videos, sound clips and instructions to assist with articulation.	Free	Developer: Multimedia Speech Pathology https://itunes.apple.com/au/app/speech-sounds-on-cue-for-ipad/id478653473?mt=8

 <p>Language TherAppy</p>	<p>4 apps in 1! Comprehension, Naming, Writing, & Reading TherAppy are now together in one comprehensive speech therapy toolkit. The same core functional vocabulary organized by category runs across these 2 receptive and 2 expressive apps. Built-in cues, hierarchies, languages, and customization options make these apps versatile for assessment, therapy, home practice, and telepractice.</p>	<p>Lite versions of all four apps available</p>	<p>Developer: Tactus Therapy solutions</p> <p>https://itunes.apple.com/au/app/language-therapy-lite/id527100035?mt=8</p>
 <p>Conversation cards</p>	<p>Conversation cards have conversation cards, to help elicit language.</p>	<p>\$1.99</p>	<p>Developer: Wee Black Sheep entertainment</p> <p>https://itunes.apple.com/au/app/conversation-cards/id42440233?mt=8</p>

23.2 Aphasia Apps

Language therAppy

Developer: Tactus therapy solutions

Cost: Free




URL: <https://itunes.apple.com/au/app/language-therappy-lite/id527100035?mt=8>





4 apps in 1! Comprehension, Naming, Writing, & Reading TherAppy are now together in one comprehensive speech therapy toolkit. The same core functional vocabulary organized by category runs across these 2 receptive and 2 expressive apps. Built-in cues, hierarchies, languages, and customization options make these apps versatile for assessment, therapy, home practice, and telepractice.



24.0 Apraxia of Speech Apps



The App		Cost	Developer and Itunes URL
 <p>Apraxia Picture Sound Cards</p>	<p>Designed by an expert in Apraxia of Speech, this app provides practice at the word level using 775 real photographs. This application includes words organized by syllable structures such as CV, VC, CVC, CVCV as well as words by syllable numbers. A data tracking system is present and it allows the data to be saved over time.</p>	<p>\$189.99</p>	<p>Developer: Foundations Developmental House</p> <p>https://itunes.apple.com/au/app/apraxia-picture-sound-cards/id445165465?mt=8</p>
 <p>Apraxia Ville</p>	<p>This app targets both vowel and consonant targets, and the ability to create custom words. Apraxia Ville provides video modeling of consonants and vowels, word targets by syllable structure (CV, VC & CVC), customization of targets, and progress monitoring.</p>	<p>\$22.99</p>	<p>Developer: SmartyEars</p> <p>https://itunes.apple.com/au/app/apraxia-ville/id611587011?mt=8&ign-mpt=uo%3D2</p>
 <p>Linguistics Apraxia Cards</p>	<p>240 pictured items move from basic syllable sequences to multisyllabic word production in sentences, or you can select specific combinations within the hierarchy for assessment and customized practice. The five sections of stimuli are carefully arranged to give a precise progression of demand on the child's motor planning skills.</p>	<p>\$25.99</p>	<p>Developer: Linguistics.</p> <p>https://itunes.apple.com/au/app/linguistics-apraxia-cards/id551329568?mt=8&ign-mpt=uo%3D2</p>

 <p>Speech Therapy for Apraxia</p>	<p>This app practices articulation at the word level and is a logical follow-up to the original syllable-based app. Choices of different patterns of articulation within words and moves through a progression of levels that challenge motor planning for speech.</p>	<p>\$4.99</p>	<p>Developer: Blue Whale</p> <p>https://itunes.apple.com/app/au/speech-therapy-for-apraxia/id586636734</p>
 <p>Sly Apraxia</p>	<p>This app allows for practice in a hierarchical manner in a systematic approach. The student will receive multiple opportunities with repetitive practice on motor speech activities. These activities include CV/VC, CVC, CVCV, CVCVC, and multisyllabic word selections and prompts.</p>	<p>\$5.99</p>	<p>Developer: Sly Speech Apps</p> <p>https://itunes.apple.com/app/au/sly-apraxia/id536554002?ign-mpt=uo%3D5</p>

25.0 Evaluated Dysarthria apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Bla Bla Bla	2	2	2	2	3	3	1	1
Tongue Twisters	2	2	2	2	3	2	1	1



25.1 Dysarthria Apps

The App		Cost	Developer and Itunes URL
 <p>Bla Bla Bla</p>	<p>This App is a sound reactive applications. The image on the screen reacts to the pitch and duration of the voice.</p>	Free	<p>Developer: Lorenzo Bravi</p> <p>https://itunes.apple.com/au/app/bla-bla-bla/id430815432?mt=8</p>
 <p>Tongue Twisters</p>	<p>Weird & Funny Tongue Twisters.</p>	Free	<p>Developer: Micheal Quach</p> <p>https://itunes.apple.com/au/app/a-z-tongue-twisters/id427342569?mt=8</p>

26.0 Evaluated Dysphagia apps

Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Draw MD- ENT	2	3	3	2	3	3	1	2
Small Talk Dysphagia	2	2	2	2	2	2	1	1




26.1 Dysphagia Apps

The App		Cost	Developer and Itunes URL
 <p>Draw MD- ENT</p>	<p>drawMD enhances doctor-patient communication by offering a new paradigm for explaining complex issues and their possible medical and surgical solutions</p>	<p>Free</p>	<p>Developer: Urology Match LLC</p> <p>https://itunes.apple.com/au/app/drawmd-ent/id516463638?mt=8</p>
 <p>Small Talk Dysphagia</p>	<p>SmallTalk Dysphagia provides a vocabulary of pictures and icons that talk in a natural human voice.</p>	<p>Free</p>	<p>Developer: Lingraphica</p> <p>https://itunes.apple.com/au/app/smalltalk-dysphagia/id337184701</p>




27.0 Evaluated TBI apps



Score out of 4								
Name of App:	Flexibility	Feedback	Accessibility	Research Based	Engagement	Presentation	Instructions	Data Accessibility
Brain School	1	2	2	2	2	2	2	2
IQ test	1	2	2	2	1	2	2	2
Visual Attention Therapy Lite	3	3	3	3	3	3	3	3

27.1 Apps for Traumatic Brain injury




The App		Cost	Developer and Itunes URL
 Brain School	Twenty completely different brain games and over 100 levels of puzzle mayhem.	Free	Developer: Mastersoft Mobile Solutions https://itunes.apple.com/au/app/brain-school-training-games/id525176256?mt=8
 IQ test	This IQ test stimulates classification, series, statements, patten recognition, mathmatics, coding and decoding. Logical reasoning, literacy and comprehension learning	Free	Developer: Eknath Kadam https://itunes.apple.com/au/app/the-iq-test-free-edition/id293165776?mt=8
 Visual Attention Therapy Lite	This therapy app is designed to improve reading, scanning, concentration, memory, attention to detail, and speed of processing.	Free	Developer: Tactus Therapy Solutions https://itunes.apple.com/au/app/visual-attention-therapy/id554546572?mt=8



28.0 Quality of Life Apps

The App		Cost	Developer and Itunes URL
 Woolworths	Allows customers to check and compare local fuel prices, and know which fresh foods are at their best each season. Allows shopping from phone with grocery delivery,	Free	Developer: Woolworths Limited https://itunes.apple.com/au/app/woolworths/id448267836?mt=8
 Time Timers	App that features a visual display of counting down.	\$1.99	Developer: Time Timer LLC https://itunes.apple.com/au/app/time-timer-ipad-edition/id434081367?alreadyRedirected=1&mt=8
 Scan2 List	Allows barcode use to create a list to take on a shopping trip.	Free	Developer: MidCentury Media Inc https://itunes.apple.com/au/app/id399770116?mt=8

 <p>Dial Safe Pro</p>	<p>Teaches proper phone use and safety that allows practice. Uses animated lessons, and realistic examples.</p>	<p>\$0.99</p>	<p>Developer: Little Bit Studio LLC</p> <p>https://itunes.apple.com/au/app/dialsafe-pro/id438306615?mt=8</p>
 <p>Jumbo Calculator</p>	<p>Large buttoned calculator, its main purposes being adding, subtracting, multiplying and dividing.</p>	<p>\$0.99</p>	<p>Developer: Christopher Weems</p> <p>https://itunes.apple.com/au/app/jumbo-calculator/id361121377?mt=8</p>

29.0 Eliciting Language Apps- Adults

The App		Cost	Developer and Itunes URL
 <p>Hangman</p>	Hangman is a classic word puzzle game.	Free	Developer: VirtuesSoft.com https://itunes.apple.com/au/app/id316620941
 <p>Word Domino</p>	This app works in increasing the client's vocabulary and reading skills, as well as mental organisation, scanning and mental organisation.	Free	Developer: Nicolas Lehovetzki https://itunes.apple.com/au/app/word-domino-free-letters-game/id445940455?mt=8
 <p>PCS Bingo</p>	This app focuses on practicing vocabulary, articulation, language and rhyming.	Free	Developer: DynaVox Mayer-Johnson https://itunes.apple.com/au/app/pcs-bingo/id453920859?mt=8

 <p>Spaced Retrieval</p>	<p>Spaced retrieval is a scientifically proven method of improving memory of names, facts, and routines.</p>	<p>\$4.49</p>	<p>Developer: Tactus therapy solutions</p> <p>https://itunes.apple.com/au/app/spaced-retrieval-therapy/id498787795?mt=8</p>
 <p>Flash cards by me</p>	<p>Choose from over 100 pre-made cards or make your own using your own pictures, voice recording, and typed words</p>	<p>\$4.49</p>	<p>Developer: Laughing Fairy</p> <p>https://itunes.apple.com/au/app/flashcards-by-me/id530942481?mt=8&ign-mpt=uo%3D2</p>

30.0 Functional use of the iPad for adult therapy

The therapy goals when working with an adult should be functional, using contextual activities to improve skills and assist generalisation. The iPad can be used to generate functional activities, by using purchased and in-built apps.

Photo Album: The photo album can be used for functional naming tasks. Photos that are contextually relevant to the client, including personal photos or saved images of their interests, can be used.

Getty Images: This app provides 24 million images, sorted by topics.

News-stand and E-Books: The news-stand app is an in-built app which stores purchase magazines or newspapers. These can be used throughout therapy to aid the functional goals established for that client, eg. Increasing vocabulary.

Storing PDF files: Through the drop box app or an email account, saved PDF files from a desk top computer can be transferred onto the iPad. This allows for flashcards, communication boards and picture naming cards, to be saved electronically and used during therapy.

Pictello (or other photobooks): This allows for the client to import personalised photos and add messages, which then have the option to generate speech. These allow for the client to still communicate effectively about a desired topic.

Link: <https://itunes.apple.com/au/app/pictello/id397858008?mt=8>


Spaced retrieval therAppy: Spaced retrieval is an app which is designed to improve memory of names, facts, and routines.



Link: <https://itunes.apple.com/au/app/spaced-retrieval-therappy/id498787795?mt=8>

Quality of Life apps: There is vast range of quality of life apps available from the iTunes store, such as shopping list apps, apps to remember to take medication, simplified cook books, jumbo calculators, and calendars.



31.0 Assessment Apps

The App		Cost	Developer and Itunes URL
 <p>The Profile of Phonological Awareness</p>	The aim of this app is to evaluate and describe the phonological awareness skills in children.	\$29.99	Developer: Smarty Ears http://smartyearsapps.com/service/profile-phonological-awareness/
 <p>The Sunny Articulation and Phonology Testing</p>	The aim of this app is to assist in identifying, diagnosing and evaluating articulation errors in children.	\$64.99	Developer: Smarty Ears https://itunes.apple.com/au/app/sunny-articulation-phonology/id371280343?mt=8
 <p>Common Core Early Language Screener</p>	The aim of this app is to identify weaknesses in early language skills.	\$24.99	Developer: Smarty Ears https://itunes.apple.com/au/app/common-core-early-language/id541400223?mt=8

 <p>Peter and The Cat Narrative Assessment</p>	<p>Peter and the Cat' is a narrative re-telling task that yields a descriptive profile of a child's development of key narrative competencies.</p>	<p>\$39.99</p>	<p>Developer: Black Sheep Press</p> <p>https://itunes.apple.com/au/app/peter-cat-narrative-assessment/id550429734?mt=8</p>
 <p>The Receptive Language Assessment</p>	<p>The aim of this app is to assess language comprehension skills, testing a variety of difficulties levels.</p>	<p>\$25.99</p>	<p>Developer: The Speech and Language Store LLP</p> <p>https://itunes.apple.com/au/app/receptive-language-assessment/id530545123?mt=8</p>

31.1 Assessment apps

When using assessment apps with a client, it should be noted that these apps should be used in conjunction with standardised and/or formal assessments. These tools were developed to gain extra knowledge and information in regards to the client and their skills.

Profile of phonological awareness

Developer: Smarty Ears

Cost: \$29.99

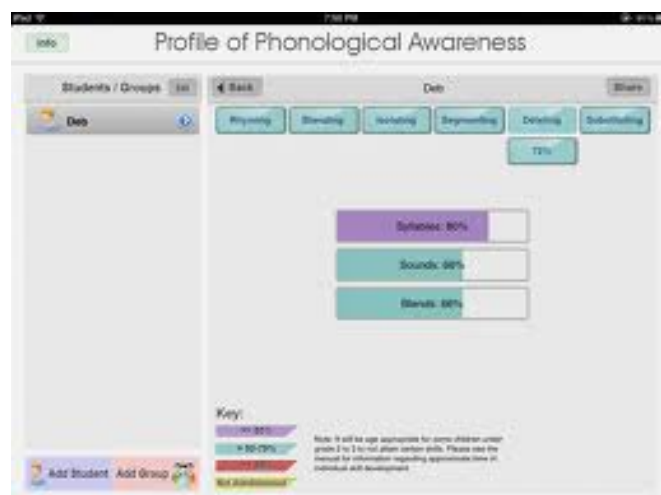


URL: <http://smartyearsapps.com/service/profile-phonological-awareness/>

The aim of this app is to evaluate and describe the phonological awareness skills in children. This app was developed by speech and language pathologists at Smarty Ears, in order to help establish goals and assist in measuring progress.

Features:

- Ability to enter students' information and track their progress overtime
- Tests most areas of phonological awareness development with separate information about consonant clusters
- Offers ability to choose which sections to administer and ability to skip sections without compromising totals
- Ability to see students' skill levels at a glance with colour coded scores
- Ability to see a group of students' average skill levels at a glance with colour coded scores
- E-mail and/or print test results immediately after its administration
- Colour changing counter included to help students visualize segmenting and provide support to students when attempting segmenting



Sunny articulation and phonology testing

Developer: Smarty Ears

Cost: \$64.99



URL: <https://itunes.apple.com/au/app/sunny-articulation-phonology/id371280343?mt=8>

The aim of this app is to assist in identifying, diagnosing and evaluating articulation errors in children. The app was developed by speech and language pathologists at Smarty Ears, to provide additional information to supplement data received from a standardised assessment.

Features:

- Ability to enter student's name and track progress over time;
- Tests all phonemes of the English language including clusters;
- Offers two options: Screening & Full Assessment
- Ability to record student's production with the same tool you are using to administer test
- Complements information of standardized measures
- E-mail test results immediately after administration

The screenshot shows the app's interface on a mobile device. At the top, the status bar displays 'AT&T 3G' and '6:28 PM'. The app has a yellow background with a sun icon in the top left. A navigation bar at the top contains five tabs: 'Position', 'Manner', 'Voicing', 'Words', and 'Error'. Below the tabs, the user's initials 'bf' and 'DOB: 02/08/2008' are displayed. The 'Date of Testing' is '08/17/2010' and the 'Type' is 'Assessment'. A summary line shows 'Fricatives: 93.3% accuracy'. Below this is a table with four rows of phoneme data. To the right of the table are three icons: a red 'X', a document with a pencil, and a musical note.

	Initial	Medial	Final
/s/ -	2/2	1/1	2/2
/f/ -	4/4	1/1	1/1
/v/ -	1/1	1/1	2/2
/z/ -	1/1	1/1	2/3

Common core early language screener

Developer: Smarty Ears

Cost: \$24.99



URL: <https://itunes.apple.com/au/app/common-core-early-language/id541400223?mt=8>

The aim of this app is to identify weaknesses in early language skills. The app was established, by Smarty Ears, to be used in conjunction with a standardised language test to screen a child's early language skills and determine where the level of difficulties may occur.

Features:

- Ability to watch a video tutorial of how to effectively use the app
- School and evaluator information only has to be entered one time, then it is automatically added to each new screening and report
- Ability to enter a student's name and track progress over time
- Review past screenings
- Generate report analysing performance in each subtest
- Ability to print evaluator form and/or child form



Receptive Language Assessment

Developer: The Speech and Language Store LLP

Cost: \$25.99

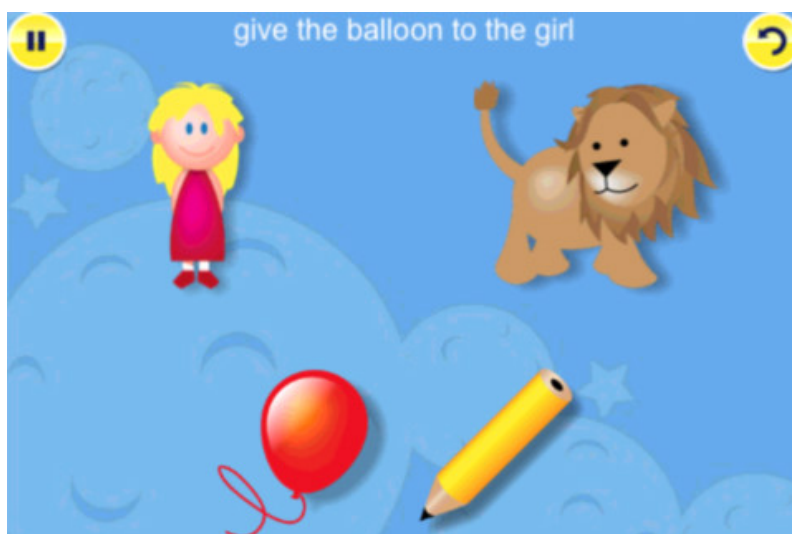


URL: <https://itunes.apple.com/au/app/receptive-language-assessment/id530545123?mt=8>

The aim of this app is to assess language comprehension skills, testing a variety of difficulties levels. The app was developed by speech and language pathologists providing details of the sentence complexity and the sentence type that the client is having most difficulties with. The app doesn't include any norm referenced data or suggested age references for each skill. Used to generate baseline data to generate treatment objectives.

Features:

- The Receptive Language Assessment tests a variety of word and sentence types at four different levels of complexity
- Demos are provided within the app to give the students the ability to practice
- Ability to abandon the test mid-way though and return at a later time
- The data results provide percentages of correct answers as well as copies of each probe, identifying individual errors. The clear and professional report can be saved, emailed and printed your records





Peter and the Cat Narrative Assessment

Developer: Black Sheep Press

Cost: \$49.99

URL: <https://itunes.apple.com/au/app/peter-cat-narrative-assessment/id550429734?mt=8>

'Peter and the Cat' is a narrative re-telling task that yields a descriptive profile of a child's development of key narrative competencies. It was designed by speech and language pathologists, Leanne Allan and Suze Leitão in collaboration with the teachers and principal of a Language Development Centre in Western Australia following more than seven years of development and testing. This app was originally a paper based assessment that has been developed into an iPad app, therefore it is standardised and provides appropriate norms.

Carrier 1:28 PM 100%
 Story Content Profile: Tim Vocabulary Profile: Tim Help Next

Tick the words that are in the transcript.

Vocabulary (scroll)

ADJECTIVE:

tall ✓
 high ✓
 long
 frightened ✓
 little ✓
 kind

MENTAL/COGNITIVE VERBS:

love ✓
 know ✓
 decided
 thought ✓
 wondered
 heard
 saw
 explained ✓

MODALS:

couldn't
 wouldn't

INTRODUCTION (traditional opening, introduction of characters, time & place - setting)

Peter was walking home from school when he heard a cat meow. He looked around for the cat but couldn't see where it was.

PROBLEM & EVENT SEQUENCE (establishment of the problem, plan, complication, second plan)

Peter soon realised that the cat was stuck up a tree. Being a kind boy Peter decided to climb the tree and help the cat get down. Once Peter reached the cat he realised he was high up and became frightened.

RESOLUTION (resolution, closing event + coda/moral)

Peter yelled for help. Soon a man watering his garden heard Peter yelling and came to help him and the cat down. Peter thanked the man and went home. When he got home he had to explain to his mother why he was so late.

Tap number to show profiling criteria

0 1 2 3

Vocabulary Score 2.2

32.0 Things to watch

A good way to keep informed about the many apps available from the iTunes store is to do your research. There are many teachers, parents and speech pathologists writing blogs about apps they have trialled with clients and have found successful. It should also be noted that if you find an app that is valuable to your caseload, the developer of that app usually creates other apps, so it is beneficial to keep up-to-date with what the developer is working on or what they have previously released. Below is a list of developers, blogs and websites to assist you in keeping informed.

32.1 Developers to watch

Smarty Ears- Founded in 2009 by Barbra Fernandes, a Speech Pathologist based in the United States. Smarty Ears has created numerous applications for articulation, language disorders, speech and language delays and assessments.

<http://smartyearsapps.com/>



Tactus Therapy Solutions: Tactus Therapy Solutions was founded in 2011, its aim is to bring technology and proven methods of therapy to therapists, those with Aphasia and other communication disorders. <http://tactustherapy.com/>



Super Duper Publications: Super Duper Publications was founded in 1986. They make practical materials and apps for, autism, articulation, auditory processing and speech and language delays. <http://www.superduperinc.com/>



Mobile Education Store: The Mobile Education Store (MES) is based in the United States. MES develop apps for school-aged children and have developed apps such as SentenceBuilder and StoryBuilder. <http://mobile-educationstore.com/>



Inclusive Technology: Inclusive Technology create motivational apps specifically for children. These apps are carefully designed to meet a variety of needs. These apps include switch access for those with physical disabilities. <http://www.inclusive.co.uk/>



AssistiveWare: Was founded in 1996 by David Niemeijer. AssistiveWare since it started creating apps has developed Proloquo2go and Pictello, both popular apps among Speech Pathologists. <http://www.assistiveware.com/>



Virtual Speech Center: The Virtual Speech Centre offers a range of apps for speech therapy for the iPad and iPhone. Some of the apps are free for speech pathologists. www.virtualspeechcenter.com



For more information on these app developers visit their websites:

32.2 Top App Websites

Tactus Therapy Solutions:

This website offers blogs, webinars, articles and recommendations of apps. These resources are updated, and new documents are added. This website will be a helpful resource for speech pathologists/parents/educators trying to stay up to date with research and latest apps.

URL: <http://tactustherapy.com/resources/>



Geek SLP:

Geek SLP offers information on apps, accessories, gadgets, news, resources and handouts and documents. For speech pathologists the website offers a list of facebook groups that are relevant to speech pathology that allows SLP's to share information and questions.

URL: <http://www.geekslp.com>



Spectronics:

Spectronics provides information on current accessories that are available for the iPad, and offers a range of blogs such as iPads in Special Education, iPads for Literacy Support and iPads for AAC. Speech Pathologists can make use of the events page, it details information about conferences and tours that are coming up.

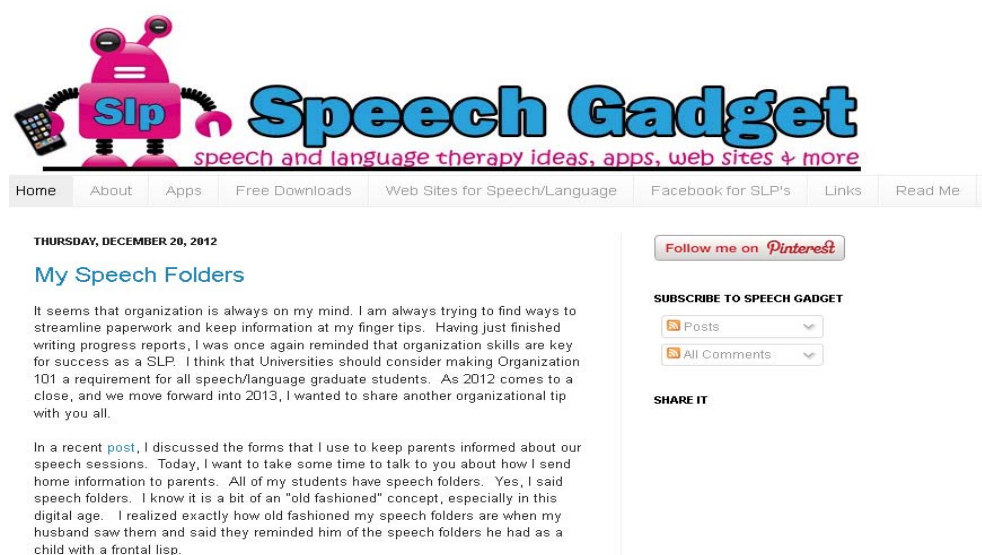
URL: <http://www.spectronicsinoz.com/>



Speech Gadget:

Speech Gadget is another handy site that offers free downloads, information about suitable apps, websites for Speech Pathology, facebook links and offers a blog for people to comment on. Speech Gadget was developed by speech pathologist Deb Tomarakos. The site also offers app reviews.

URL: <http://www.speechgadget.com/>



32.3 Blogs to watch

Mommy Speech Therapy:

Mommy Speech Therapy is a blog created by speech pathologist Heidi Hanks. Mommy Speech Therapy aims to help parents educate their children and improve language development. It highlights that parents have the greatest influence on their children. The aim of the blog is to share tips, techniques and apps that Hanks has used with clients and with her own children. This blog is very user friendly and offers great resources and tips.

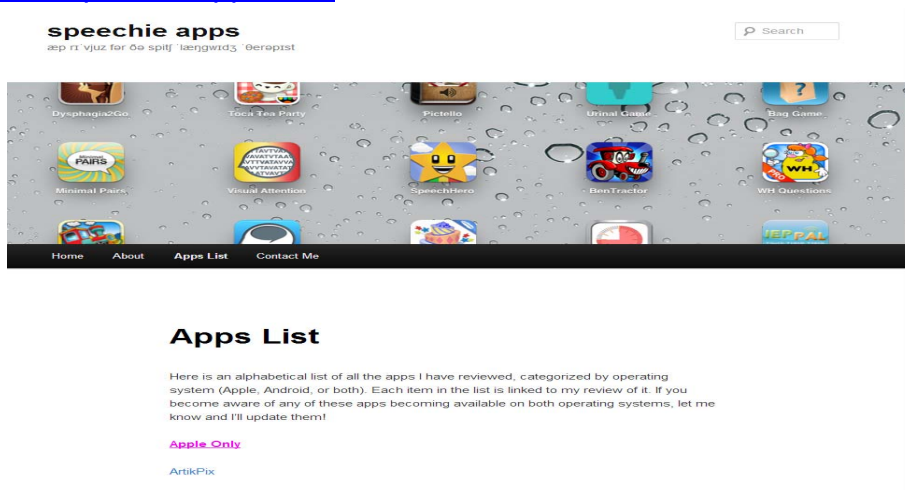
URL: <http://mommyspeechtherapy.com/>



Speechie Apps

Speechie Apps is a blog that offers speech pathologists reviews on apps, and helpful advice for apps that are high quality and can be used in a clinical setting. This blog reviews apps for school-aged children. The blog highlights that apps are simply tools and can only be as effective as the clinician uses them. The app reviews reflect own clinical experiences within a paediatric population.

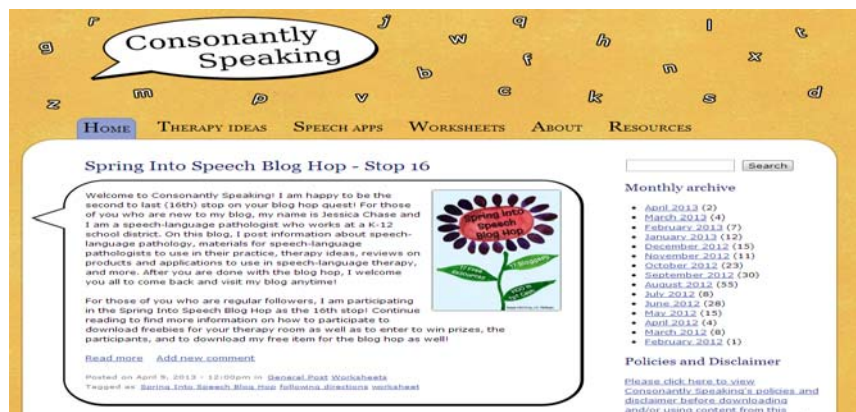
URL: www.speechieapps.com



Constantly Speaking

This blog was created to share advice and resources. The blog gives speech pathologists useful app recommendations and therapy resources and ideas. The ideas and recommendations from this blog are also based on clinical experiences of a speech pathologist. This blog will be a useful resource for SLP's.

URL: <http://consonantlyspeaking.com/about>



33.0 Acknowledgements

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35.0 Appendices

35.1 Survey



Jessica Snape; Brittany Maiolo; Amy Litton
Independent Living Centre WA
93810611
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To whom it may concern,

My name is Jessica Snape, I am working together with Brittany Maiolo. We are fourth year Speech Pathology students studying at Curtin University in Bentley. Currently, we are completing a research project for our placement at the Independent Living Centre of Western Australia regarding the use of iPads in Speech Pathology. We are contacting you, as we require your assistance if possible. We are compiling a comprehensive resource of current applications and research regarding using iPads in therapy.

We are gathering information about to which apps clinics have found to be most beneficial for treatment of both paediatric and adult clients. It would be appreciated if you could please answer the below questions and email them back to us as soon as possible.

Our project will be completed by the 18th of April 2013, if you wish to participate in this survey we would be more than willing to send you a final copy of our research and resources, just state so when you are returning the survey and provide a name and email address. This resource would include useful information of evaluated applications available to both paediatric and adult clients for specific issues. We are currently uploading any useful app sites on our Pinterest account: <http://pinterest.com/ilctech/>

Please feel free to have a look.

Kindest Regards,

Jessica Snape
IV Year Speech Pathology Student

Brittany Maiolo
IV Year Speech Pathology Student

Amy Litton
Supervising Speech Pathologist



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Survey: iPad Apps

1. What iPad apps are currently used as a therapy tool within your sessions?

Choose one app that you find the useful in therapy and answer:

2. How would you use this app during these sessions, what treatment goals and tasks would you use them for?

3. Does this app allow for personalisation?

☐

Yes

☐

No

4. Does it allow the client to add in pictures or photos/voice overs that are personalised to the client?

☐

Yes

☐

No

5. Does this app offer flexibility (e.g. application can be used for multiple learning areas)?

☐

Yes

☐

No

6. Does the app provide appropriate feedback during the treatment sessions?

☐

Yes

☐

No



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7. Is the app easy for the client to use independently?

8. ☐ Yes ☐ No

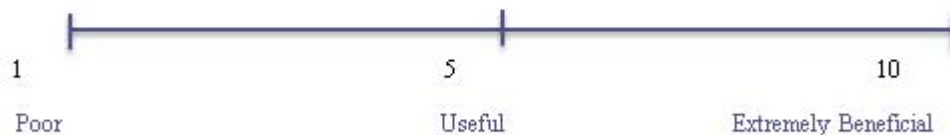
9. What features of the app make it beneficial?

10. Is there any evidence or research behind this app?

☐ Yes ☐ No

If yes, what is it?

11. Rate your app out of 10;



Please Indicate:

☐ Yes, I would like a copy of your research. ☐ No Thank you, I would not like a copy.

If Yes:

Name:

Email Address:



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