

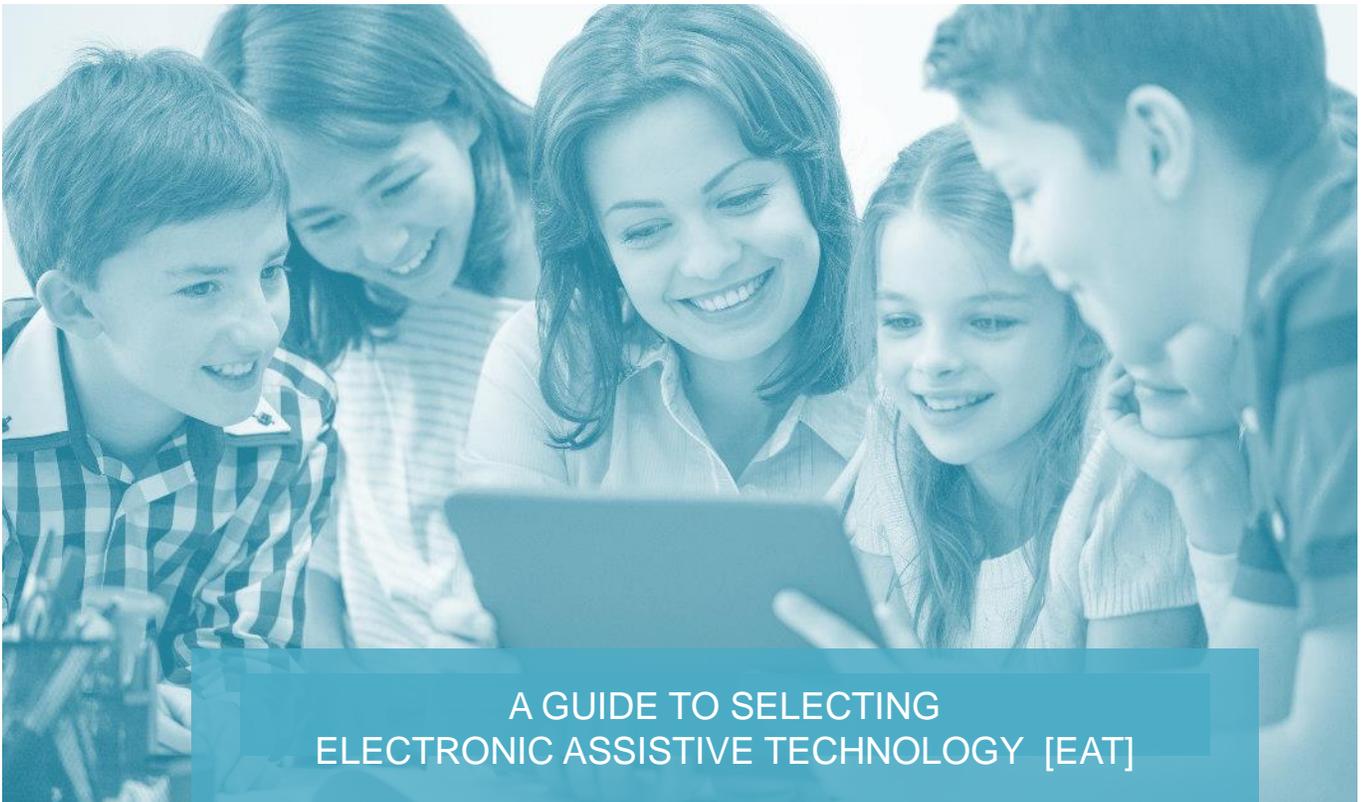
A Zyteq publication



How to Choose & Trial

the best

Electronic Assistive Technology



A GUIDE TO SELECTING
ELECTRONIC ASSISTIVE TECHNOLOGY [EAT]

Context

Zyteq is an Australian company specializing in Electronic Assistive Technology [EAT] solutions for people of all ages. Much of our work involves an evaluation process to assist people to find the best individual solution, so we employ Speech Pathologists and an Occupational Therapist with expertise in this area.

This e-book provides a guide to the evaluation approach we use. It also introduces a webinar we will be offering which will provide the “how to” details.



Do you have these questions?

I feel over-whelmed with the technology options. Where do we start?

How do I choose the right technology?

Which is the best device for me?

How can I start with eye gaze?

I'm not "techy" enough.

Where can I get help?

How do I know what's available?

I found this product and wondered if it would work for us?



A communication device or computer
with modified access can equip
individuals with disabilities to
empower, enhance & assist in life.



Children and adults needing communication and/or computer access solutions may use Zytec's EAT. We have assisted people with developmental and acquired conditions including Cerebral Palsy, Acquired Brain Injury, Autism, Motor Neurone Disease, Stroke, Parkinson' Disease, Multiple Sclerosis, Rett Syndrome, Down Syndrome, Progressive Supranuclear Palsy or Spinal Cord Injury to find solutions. Often the diagnosis is secondary to the functional outcomes & goals, as the approach is to address individual needs, preferences and goals.

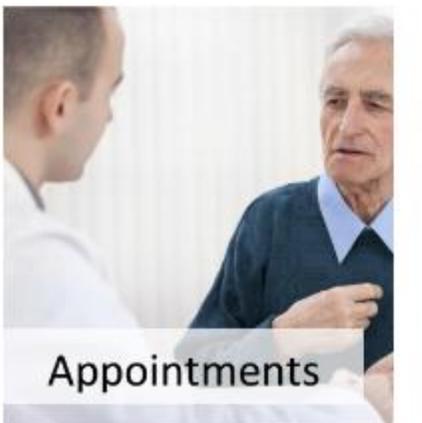
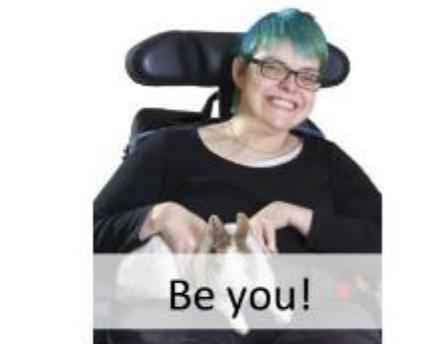
Where to start?

Start with the
person ...



not the solution.

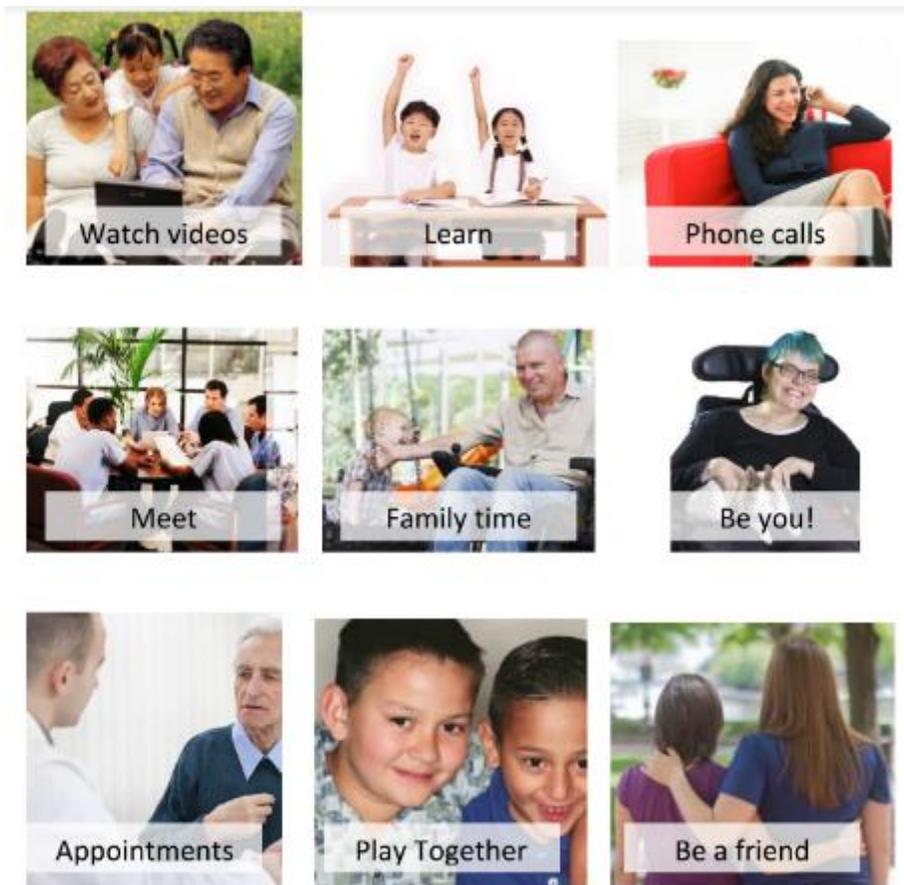
What do you want to do?



What do you want to do?

Did you choose one of these?

What *else* do you want to do?



These are your **goals**?

What next?

Now you have clarified
what you want to achieve
using the technology ...

What next?

We are still not quite ready to choose a device.

It is important to make an informed decision.

We need a procedure or framework for our evaluation.



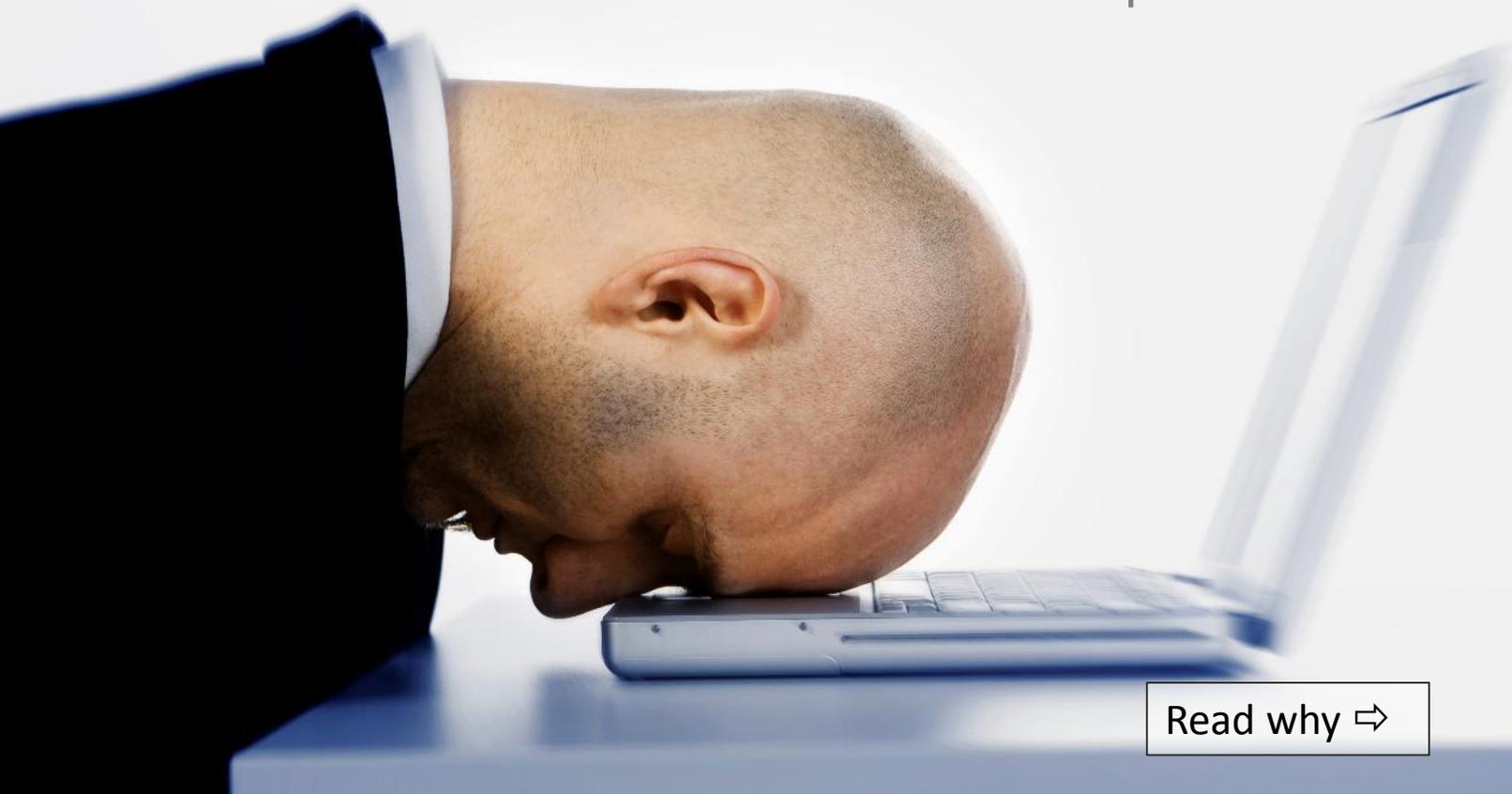
We need to know more about you and your contexts
to work out what **FEATURES** you need.

A quick decision is a good decision ... right? Not often...

We often speak to people who have already purchased a tablet or device, ahead of any evaluation process.

The task is then to match the PERSON to the technology.

This is the OPPOSITE of “best practice”.



Read why ⇨



Why an evaluation process to choose your EAT?



Choosing the right device or system (Electronic Assistive Technology, EAT) using an evaluation process is important because:

- The right device or system will enable you to meet your goals.
- The device that suits your friend may not be the right for you.
- The *best device for you* will accommodate your changes and developments
- An evaluation may reveal new options and possibilities; “opening doors”



Why an evaluation process to choose your EAT?



Choosing the right device or system (Electronic Assistive Technology, EAT) using an evaluation process is important because:

- The evaluation process can form the basis of an application for funding or a plan.
- You may need to provide evidence and the results of clinical reasoning to apply for funding.
- You can feel confident that the final choice has taken into account the factors towards successful implementation.



What is an Evaluation Process?



An evaluation process may include informal assessments, observation, formal assessments and checklists. Many evaluations are **DYNAMIC** and **CONTINUOUS** so the process is ongoing.

Evaluations may follow an established model such as the Medical Model, Social Model and International Classification of Functioning, Disability and Health (ICF) for example.

What is an Evaluation Process?

Your Allied Health Professionals or Educators may carry out preliminary assessments of movement, speech, language, comprehension, literacy, vision and so on which can provide valuable detailed background information.

Our EAT Evaluation will focus on finding the technology to achieve the goals, preferences and needs of the individual. This involves a functional and practical evaluation approach. The evaluation is usually a collaborative process with the individual at the centre. There may or may not be a team of people involved.

How to Arrange an Evaluation

An evaluation or assessment to Match the Person and Technology may be carried out in a number of ways.



Your Speech Pathologist and/or Occupational Therapists may feel comfortable offering this service. AT centres around Australia also offer these services and generally have a range of equipment available to try in the session/s. Zyteq also offers [evaluation services](#) and [remote assisted evaluations](#) with our clinicians. Zyteq also hires out [EAT Assessment Kits](#) for clinicians who need to access the equipment in order to provide an assessment service.

Which Evaluation Approach?

We use a combination of frameworks and principles in our evaluation process.

Matching Person and Technology

by Marcia J. Scherer from 1986

MATCH-ACES

MATCHING ASSISTIVE TECHNOLOGY TO CHILD – AUGMENTATIVE COMMUNICATION EVALUATION SIMPLIFIED

By Susan A. Zapf, Debby McBride & Marcia Scherer

The Participation Model For

Augmentative & Alternative Communication

by Beukelman & Mirenda (2013)

The SETT Framework by Joy Zabala

[Student, Environments, Tasks & Tools]

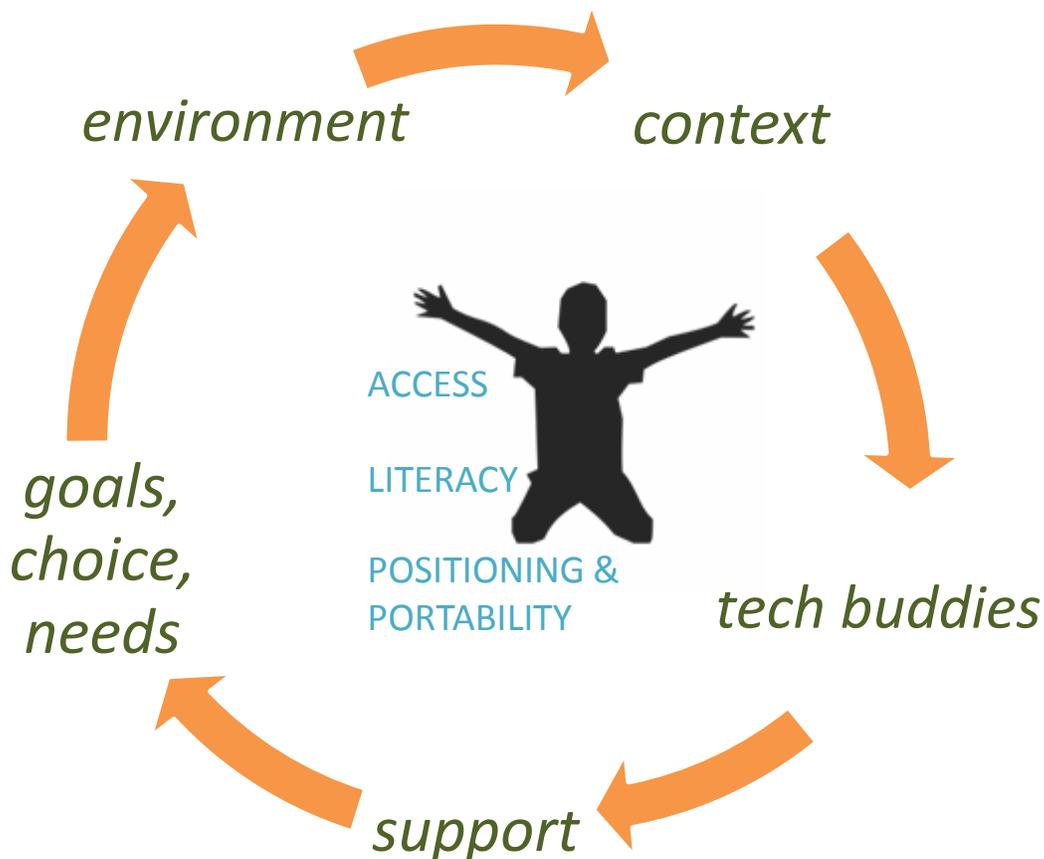
Our Evaluation Process?

These frameworks all start with **THE PERSON**.

A process of systematic problem-solving is used to find the individual Electronic Assistive Technology Solution, which also includes support, implementation and ongoing evaluation.

The goals, tasks and participation patterns are considered along with the environment (which includes support available) to find the suitable technology.

Our simplified framework is represented in this diagram.

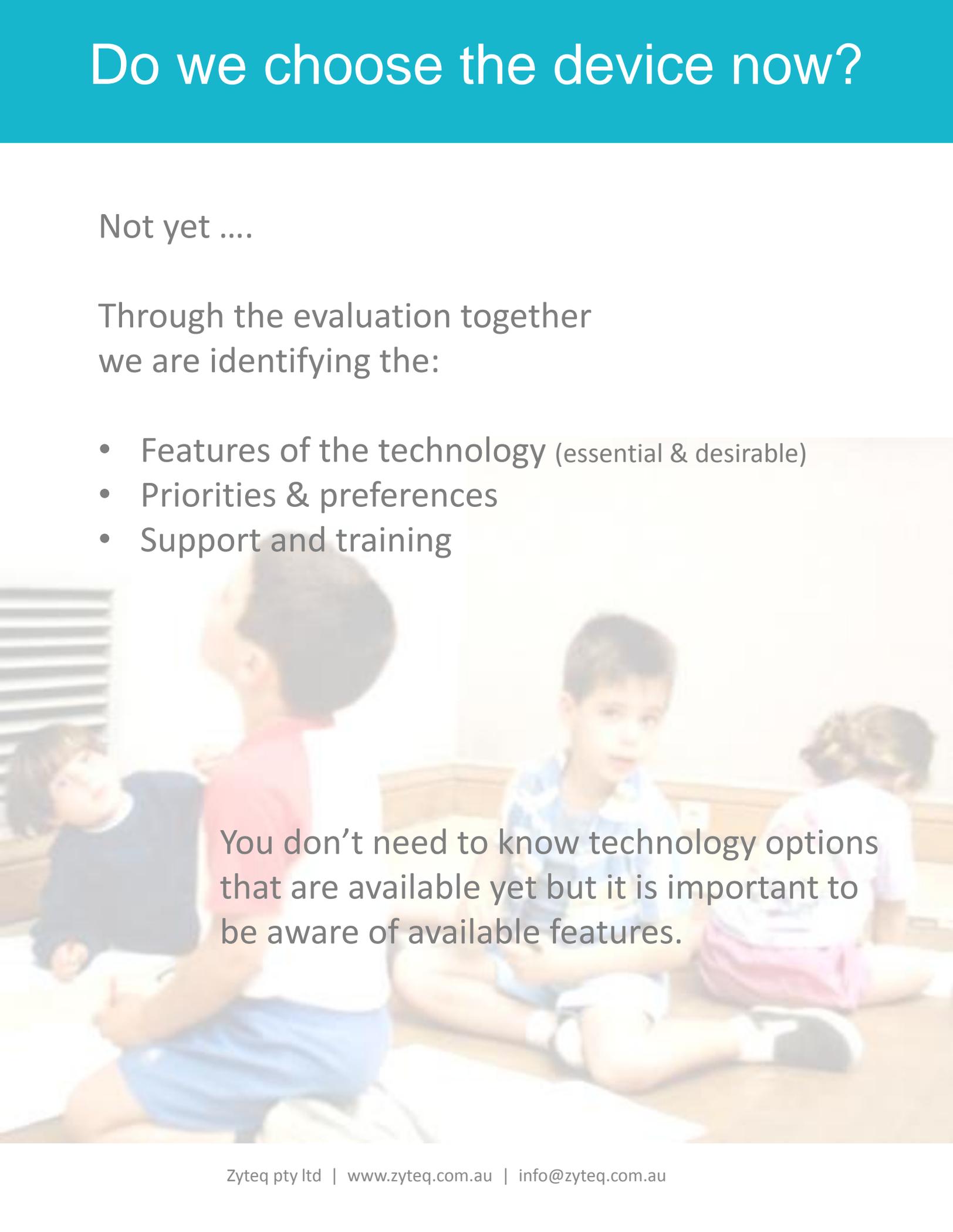


Do we choose the device now?

Not yet

Through the evaluation together we are identifying the:

- Features of the technology (essential & desirable)
- Priorities & preferences
- Support and training

A group of four children are sitting on a wooden floor in a classroom. One child in the foreground is wearing a red shirt and blue shorts, looking towards the camera. Another child in a blue shirt is sitting next to them, also looking towards the camera. Two other children are sitting further back, one in a white shirt and one in a pink shirt. The background shows a classroom setting with a window and a wooden bench.

You don't need to know technology options that are available yet but it is important to be aware of available features.

Examples: which features?

NOAH is 7 years old and has various diagnoses.

GOALS: his family would like technology to help him communicate.

If he could express himself they feel he would be more involved at school, make friends and develop in other areas.



FUNCTION < > CONTEXT	FEATURES NEEDED
Speech output for communication:	Australian child's voice
Difficulty using hands: good head control	Alternative access: head switch / head tracking / eye-gaze
Some vision issues	High contrast, well spaced, large symbols / auditory prompts
Mother has a back problem	Light-weight system / easy to lift and carry
System needs to be with Noah and positioned for use on his wheelchair	Wheelchair mountable / mounting plate

Examples: which features?

ELLA is 4 years old and has a diagnosis of Rett Syndrome

GOALS: her family would like technology to help her communicate, play and learn. They have heard how eye gaze has been successful with others with Rett Syndrome and they are keen for her to try it.



FUNCTION < > CONTEXT	FEATURES NEEDED
Speech output for communication:	Australian child's voice
Difficulty using hands: good eye pointing/tracking	Alternative access: eye-gaze
Ella currently has a stroller, standing frame and a specialised chair	Device should be available for use in her various positions
Ella is developing and learning every day.	System should "grow" with her.

Examples: which features?

FRANK is 55 years old and has a diagnosis of Motor Neurone Disease (MND)

GOALS: He would like to maintain his communication in face-to-face conversation, phone use, email, SMS, Skype and social media. If possible he would like to continue freelance writing. He also wants to be as independent as possible at home.



FUNCTION < > CONTEXT	FEATURES NEEDED
Speech is becoming difficult to understand outside the family and close friends.	Speech output for communication: Australian adults voice / voice banking?
Starting to have difficulty using hands.	Alternative access for communication and computer control and environment control: various options as needs change e.g. switch access / head-tracking/ eye gaze
System/s need to be available in his home office, and portable around the home and outside the home.	More than one system? Positioning to suit access method Portable/wheelchair mountable with mounting plate.
System needs to offer wider communication functions for written work, and phone and electronic communication.	Internet and phone features. Accessible word processing.
Independence in the home – turning lights ON and OFF, changing TV channels, adjusting air conditioning.	Environment Control Unit (ECU) may be in-built to Frank's system and/or he may have a stand-alone module.

Examples: which features?

BOB is 74 years old and had a stroke two years ago.

GOALS: Bob would like strategies to assist his communication. As his speech has not recovered he can only answer 'yes' and 'no' questions and his writing is spidery and illegible. He would also like to send SMS messages to his wife and family.



FUNCTION < > CONTEXT	FEATURES NEEDED
Speech output for communication	Australian adult voice
Can use left hand to type and for fine-motor but less controlled as non-dominant.	Direct access to keyboard or touch screen. Consider keyguard and settings to adjust for fine-motor issues.
Frank can spell what he wants to say.	Alpha-numeric/keyboard Speech-enhancement techniques such as prediction and stored phrases.
Frank walks with a 4-point stick. He goes to the shopping centre, to visit family, and would like to continue to “guide” at the local museum.	Carry bag and shoulder strap to safely carry device with him. Device should not be too heavy.

Feature Matching

Here we will investigate the devices and systems which offer the required features.

We are **MATCHING** the **PERSON's** needs, preferences and goals to the **TECHNOLOGY**.

The **PERSON** will need to try the options and compare to decide which is best suited.

Please see our Information Sheet for some examples of Feature Matching Resources developed by others.



Example of Device Features

There are many more features for each device which can be found on our website. This table is intended as some examples which start to focus on the device or system selection.

Grid Pad Go 8



- 8.3" display ● 890 grams ● 6.5 hours battery
- Tough case for durability
- Separate Bluetooth speaker for VOLUME!
- Windows 10
- Carry straps for "on the go"
- Touch screen access; keyguards available

Grid Pad Pro 11



- 11.6" display ● 1.5 kg ● 6.3 hours battery
- Tough case for durability
- Integrated high quality speakers for VOLUME!
- Windows 10
- Mount plate integrated, and table stand
- Touch screen access; keyguards available; also in-built switch ports; in-built radio receiver for wireless switches, extra USB ports to add head tracking or other access devices. ● ECU: GEWA IR

Grid Pad Eye 13



- 13.3" display ● 3 kg ● up to 10 hours battery*
- Hot swappable batteries or power from wheelchair battery
- Integrated high quality speakers for VOLUME!
- Windows 10 ● ECU: GEWA IR
- Mount plate integrated, and table stand
- Eye Gaze access with IntelliGaze, also touch screen access; keyguards available; in-built switch ports; in-built radio receiver for wireless switches, extra USB ports to add head tracking or other access devices.

More Example of Device Features

There are many more features for each device which can be found on our website. This table is intended as some examples which start to focus on the device or system selection.

Tellus 5 IntelliGaze



- 13.3" display ● 3.5 kgs
- In-built loud speakers, switch ports, Windows 10
- Turn on with an external switch
- Eye gaze access with IntelliGaze, also switch, touch screen and USB ports to add other access devices
- Most powerful Zyteq AAC device

Bobcat



- 10.1" display ● 1.09 kg ● up to 8 hours battery
- Rugged build for durability. IP65
- Water-proof
- Windows 10
- Touch screen access. Optional keyboard
- Carry straps and table stand
- Designed to withstand tough treatment.

Allora 2



- 1.02 kg ● all day battery life
- Keyboard access, keyguard available, switch access
- Detachable second display/speaker
- Type and talk, send SMS, write
- Mountable
- Carry bag with straps included
- In-built ECU GEWA IR

More Example of Access Devices

If you can't use the standard keyboard & mouse, or touchscreen there are many options for alternative computer access. These can also be used with communication software or systems.

QUHA Zono gyroscopic mouse



- Mouse alternative
- Wireless computer control
- Can be worn on head, hand or foot.
- Does not require line of sight, therefore allows flexible positioning e.g. lying in bed.

Switch Access



- A switch may be used in conjunction with a mouse alternative for mouse click.
- Switch choice will depend on the individual's most reliable movement.
- Switches are available in a wide range of shapes and sizes.
- Most devices offer switch ports as an option if required.

Eye Gaze



- A computer or communication device can be controlled with eye gaze.
- It replaces a mouse and keyboard
- It requires a Windows computer

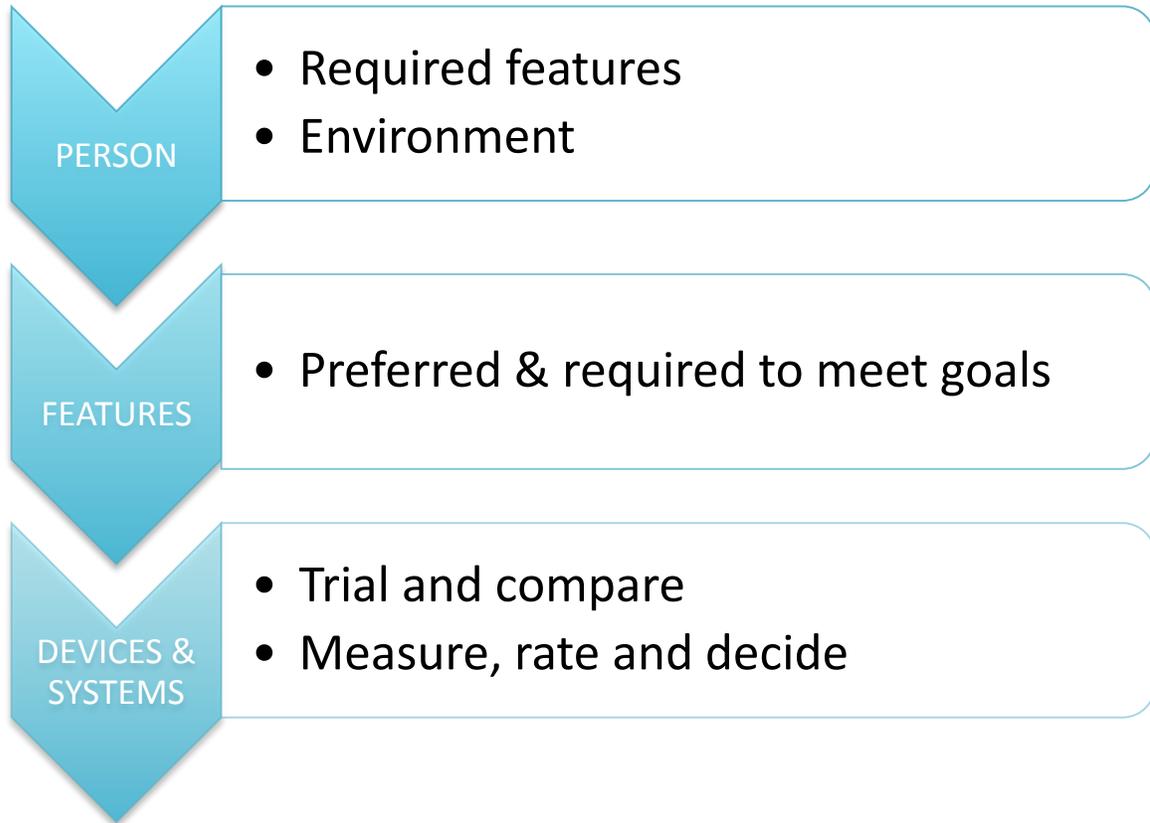
Equipment Trial

Once we have identified the devices or systems to be trialled, next the comparison and further decision-making takes place.

When trialling a device/system or set-up to compare with other options it is important to ask:

How do I know if the trial was successful?

Equipment Trial



Equipment for Trial

How to access equipment for trial:

There are various avenues to obtain devices for your trial. The suppliers such as Zyteq generally make equipment available for trial or hire.

AT Assessment services, some funding agencies and AT clinics around Australia may have loan or hire devices available.

Here are the links to further information about Zyteq's options for accessing trial equipment:



[EAT Hire – Guided Evaluation](#)

[EAT Trial – Guided Evaluation](#)

[Purchase or Return](#)

From our experience we would advise that it is important to try the same model of device that you are considering. During the trial consider the use and also support aspects of each system.

10 Steps : EAT TRIAL

Devices & systems

Trial, compare

Measure, rate and choose

1. Identified features > devices

2. Define Purpose of Trial

3. Goals of Trial

4. Plan Trial

5. Preparation

6. Device Familiarisation

7. Trial Introduction

8. Trial Implementation

9. Results, outcomes, report

10. Post-trial. What next?



3: Goals of trial

Goals for the trial may differ from overall goals. These references may provide useful perspectives for goal-setting.

Janice Light's Communication Competence Ref: AAC 1989

Linguistic Competence	Operational Competence
Social Competence	Strategic Competence

3: Goals of trial

Lasker & Garrett

AAC Aphasia Categories of Communication

PARTNER DEPENDENT COMMUNICATORS	Emerging Communicators
	Conversational Choice Communicators
	Transitional Communicators
INDEPENDENT COMMUNICATORS	Stored Message Communicators
	Generative Communicators
	Specific Need Communicators

Aphasia Communicator Categories (Garrett + Lasker, 2005, revised 2007)

3: Goals of trial

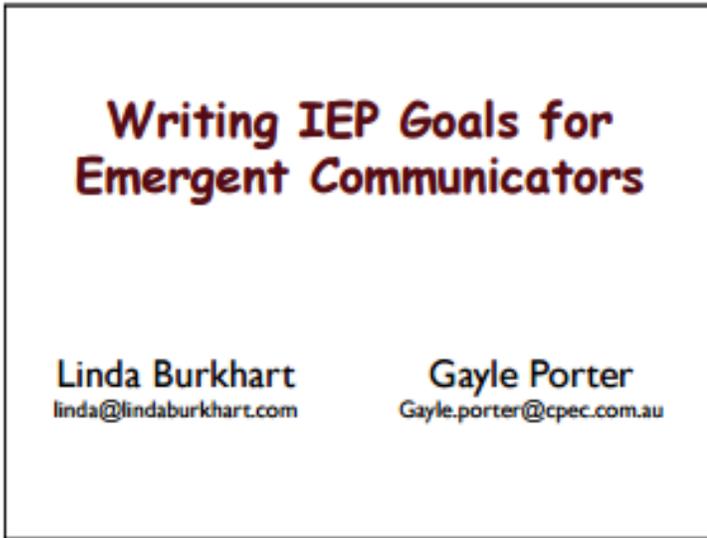
Linda Burkhart's and Gayle Porter's guide is very practical.
Download from www.lburkhart.com

Writing IEP Goals for Emergent Communicators

Linda Burkhart
linda@lindaburkhart.com

Gayle Porter
Gayle.porter@cpec.com.au

3: Goals of trial



Goals for an emergent communicator must:

- Incorporate natural language and communication
- Enable child to say what they want to say
- Reflect a range of functions
- Be measurable

Goals must NOT:

- Mix content and communication/ or mix goals
- Be too narrow or prescriptive > leads to unnatural language use
- Be about TESTING

✓ Language Sampling

After the trial

After the trial a report may be required to apply for funding, or to have the device included in a NDIS plan.

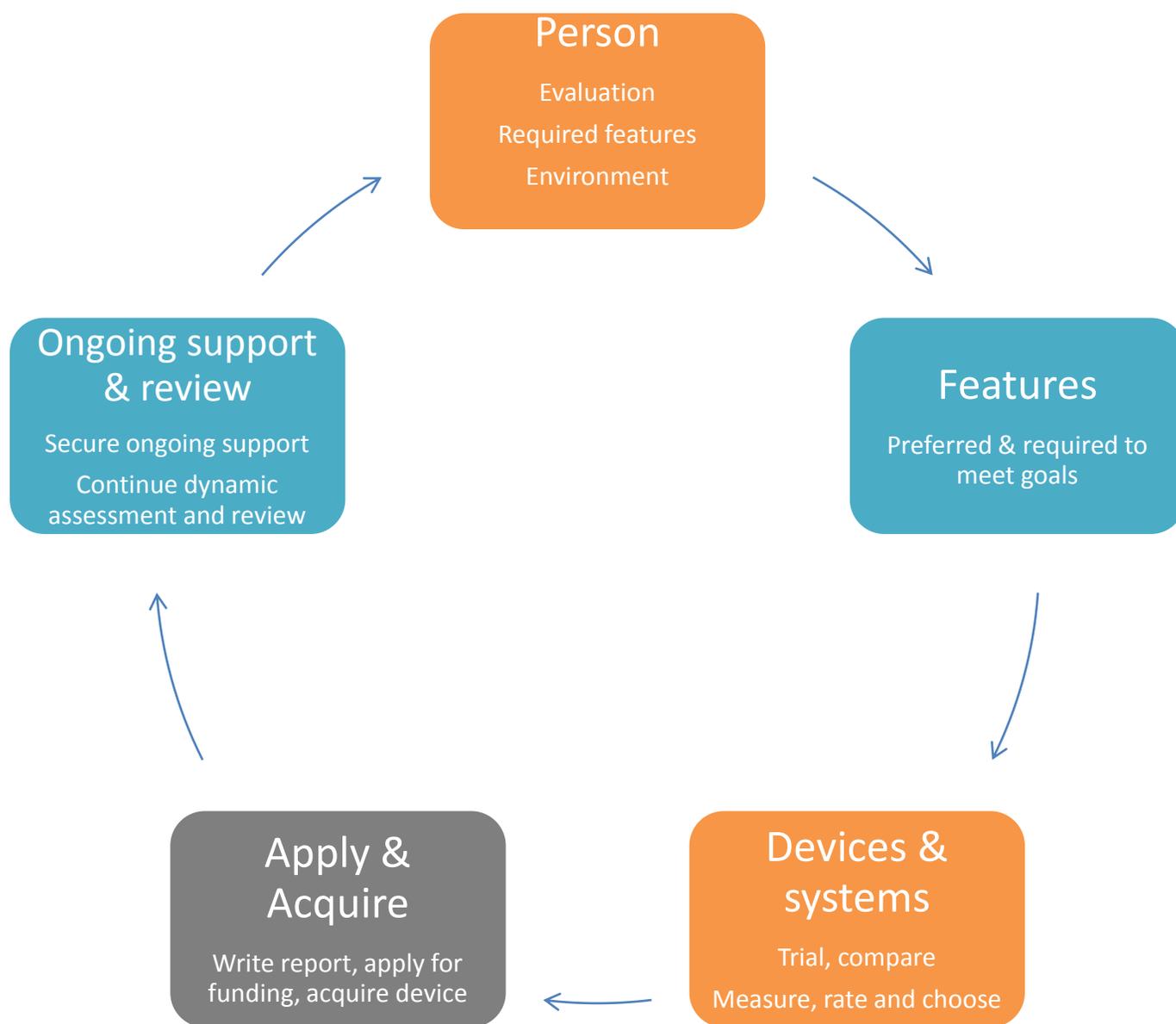
This would include:

1. the reasons for selecting the preferred system
2. details of how the system will meet the individual's goals



Summary of Evaluation Process

The process of finding the right Electronic Assistive Technology can be summarised here:



Where to now?

Zyteq is offering a webinar series and on-line courses.

Learn more about the strategies, hear the stories & examples, ask questions & dive into the detail with us!

Here are the topics:

- Choosing Electronic Assistive Technology
- 10 Steps to a Productive Trial of E.A.T.
- Mini-Series: Update on Zyteq's Latest Electronic Assistive Technology
- Starting with Eye Gaze
- After iPad.....what next?
- Manage Your EAT : Zyteq AT Action Plan



[WEBINAR DETAILS](#)



Bringing our live sessions to you where ever you are: please join us for the webinar or for the online courses!

[WEBINAR DETAILS](#)

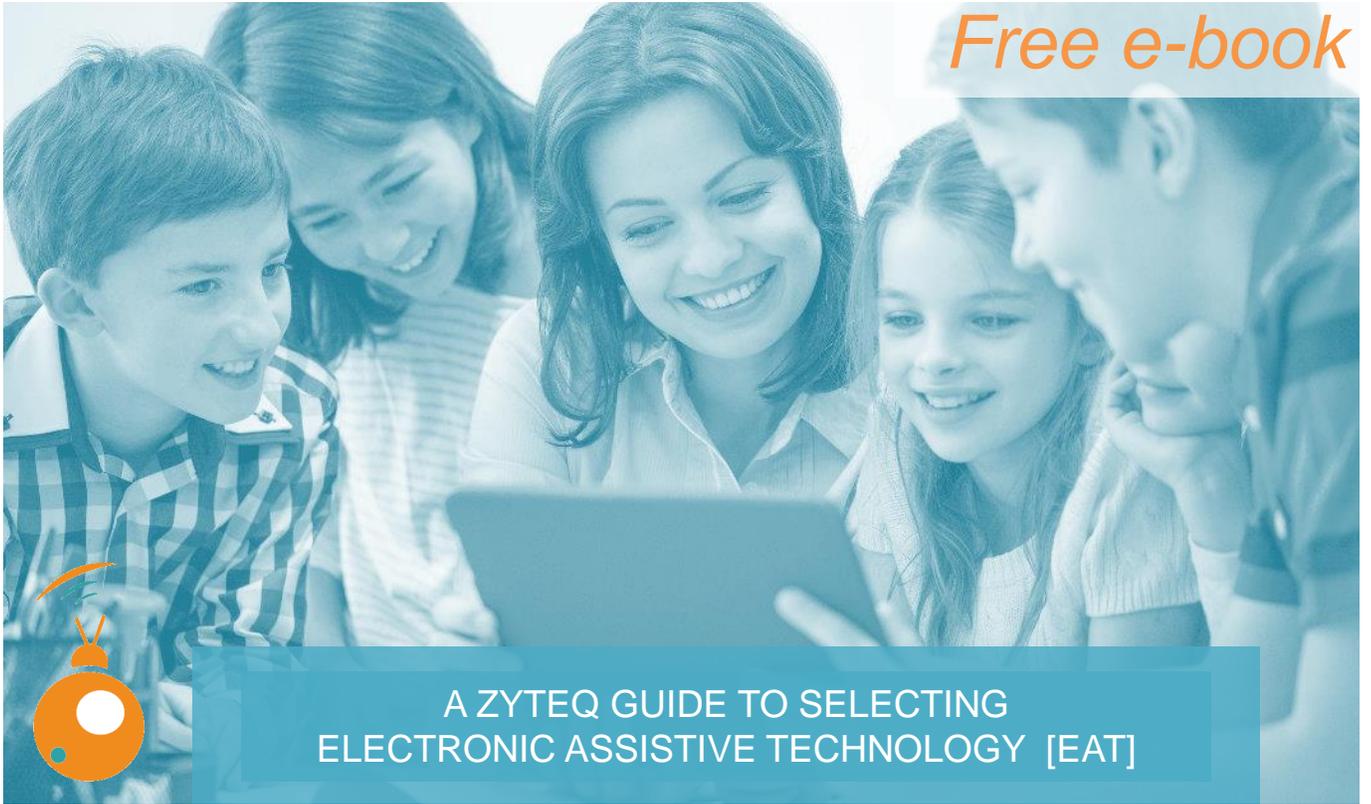


GREAT STUDY DAY! Thank-you for re-energizing my interest and confidence to support client access and communication that best meets their needs

- Speech Pathologist

A Zyteq publication

*Thank you for
reading our
Free e-book*



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