

Considerations for Choosing an Eye Gaze System

With a range of different eye gaze systems available it can be difficult to know which system will best suit the needs of the user(s). Each system has its own features and functions which means no one system will be the best choice for everyone. Identifying the features that are required now and in the near future can help to work out which system will best support the student's success using eye gaze as an access method. This can be a complex process and it may be of benefit to access additional support from therapists or suppliers with expertise in eye gaze technology.

Eye gaze should be considered alongside other access methods for a student. Different tools and access methods may be best suited to different environments and tasks. For information about a range of access options please contact us at help@indigosolutions.org.au

Key Components of an Eye Gaze System



Hardware

This can include the:

- ▶ Eye gaze camera
- ▶ Computer, tablet or communication device
- ▶ Other requirements such as infrared controller, switches etc.

Software

This can include:

- ▶ The interface for the eye gaze camera and associated control functions
- ▶ Any other software for communication, recreation or learning

Mount(s)

This can include:

- ▶ One or more mounting solutions for different situations (i.e. wheelchair mount, table top mount, floor stand)

Support and Training -

- ▶ Support and training may be required for setup, use and maintenance of each of the components.
- ▶ Ongoing support may also be required with troubleshooting and supporting continued skill development for the student(s).



It's important to use a team approach when gathering information and planning. Key members of a team around a student or group of students may include the students themselves, family members, school staff, speech pathologists, occupational therapists, physiotherapists and other assistive technology specialists or suppliers.

1. Gather information as a team to determine features required

It may be helpful to use a framework such as the SETT Scaffold for Data Gathering (Zabala, 2005) to support team discussion and identify features needed to support student outcomes. At this point it is also important to consider which funding avenues may be available. This will inform what information needs to be gathered, and the specific process that may need to be followed to satisfy funding criteria.

Some considerations relating to the student(s), environments and tasks include:

Student(s)	Environment	Tasks
<p>Specific information relating to the student's current abilities, special needs and goals.</p> <p>This may include areas such as:</p> <ul style="list-style-type: none"> • Eye health and vision • Visual attention and memory • Head control and movement • Positioning needs across a day • General health • Fatigue • Communication (Expressive and receptive language) • Literacy skills • Interests 	<p>This may include areas such as:</p> <p>The people around the student(s):</p> <ul style="list-style-type: none"> • Comfort using technology • Ability to assist with positioning, use, troubleshooting • Training and support available or needed <p>The physical environment:</p> <ul style="list-style-type: none"> • Where will the system need to be used? • Will it need to be moved between places? <p>Resources:</p> <ul style="list-style-type: none"> • What technology/equipment is available or already in use? 	<p>What tasks does the student need or want to be able to complete?</p> <p>This may include areas such as:</p> <ul style="list-style-type: none"> • Recreation and leisure (games, music, videos etc.) • Face to face communication • Remote communication (email, text, skype, social media etc.) • Writing • Tasks for different learning areas including art, music etc. • Educational software programs • Computer functions • Environmental controls <ul style="list-style-type: none"> • Current and future

When an eye gaze system will be used as a communication aid, the student's language requirements should be considered as the primary component and consultation with a Speech Pathologist is recommended. The Matching persons with Augmentative and Alternative Communication (AAC) Technology Model (Hill, 2010) can further guide feature matching. This can be found in Appendix A.

A number of suppliers have feature matching or selection guides available:

- ▶ Communication Device Feature Matching <https://www.linkassistive.com/wp-content/uploads/2018/08/Considerations-for-Choosing-Communication-Devices.pdf>
- ▶ Considerations for Mounting Communication Devices <https://www.linkassistive.com/wp-content/uploads/2018/02/Considerations-for-Mounting-Communication-Devices.pdf>
- ▶ Choosing an AAC device for Your Child https://liberator.net.au/pub/media/wysiwyg/Choosing-an-AAC-Device-for-Your-Child_2.pdf
- ▶ Eye Gaze Selection Guide https://www.zyteq.com.au/selection-guide/eye_gaze



2. Compare available tools

A range of eye gaze hardware, software and mounting solutions, along with links to suppliers, can be found on the National Equipment Database (NED) at www.askned.com.au.

Available eye gaze hardware, software, mounting and training options should be compared based on the features identified. A framework such as the SETT scaffold for tool selection (Zabala, 2005) may assist. For students who may require a wide range of software or positioning options, it may be useful to complete a more detailed SETT Scaffolds for each component.

Features → Tools ↓	Preferred Communication page set	> 7 hours battery	Eye gaze and switch ports	Infrared controls	Wheelchair mount capability	Support and training
Option A	✓	X	✓	✓	Compatible with X or Y	details of support
Option B	X	✓	✓	✓	Compatible with X or Z	details of support
Option C	✓	✓	✓	✓	Compatible with X or Y	details of support
Option D	✓	X	No switch ports	Can add additional accessory	Compatible with X or Z	details of support

3. Complete trial(s)

It's important to trial the eye gaze system(s) you're considering to ensure they will meet the student's needs. Different systems may work better with different students' eyes.

Setting specific, short term goals and monitoring progress can help decide on and demonstrate the most suitable system. There are a range of online resources to help record the operational skills a student is demonstrating and to track progress. These include:

- ▶ Unlocking Abilities Monitoring sheet, and Assessment and Setup for Eye Gaze Device Use handouts <https://www.indigosolutions.org.au/.../unlocking-abilities>
- ▶ Inclusive Eye Gaze: Eye Gaze in the Classroom_ <http://www.inclusive.co.uk/Lib/Doc/catalogues/eye-gaze-booklet-2015.pdf> (Assessment checklist page 23 & 24)

Trials are typically required when accessing funding for a system. Be aware of the guidelines and requirements of any funding sources you are planning to access. Funding pathways to consider could be:

- ▶ NDIS (<https://ndis.gov.au/providers/housing-and-living-supports-and-services/providing-assistive-technology>)
- ▶ CAEP [http://www.disability.wa.gov.au/Global/Publications/Services supports and eligibility/CAEP/CAEP referrer's information kit.pdf](http://www.disability.wa.gov.au/Global/Publications/Services%20supports%20and%20eligibility/CAEP/CAEP%20referrer's%20information%20kit.pdf)
- ▶ Community grants or fund raising may also be able to contribute to the costs of obtaining a system.

Once a system is chosen and the student(s) develops their skills, continue to review whether the system meets their needs. Minor changes such as expanding software or adjusting a mount can ensure the system continues to grow with the student(s) and best supports their success.

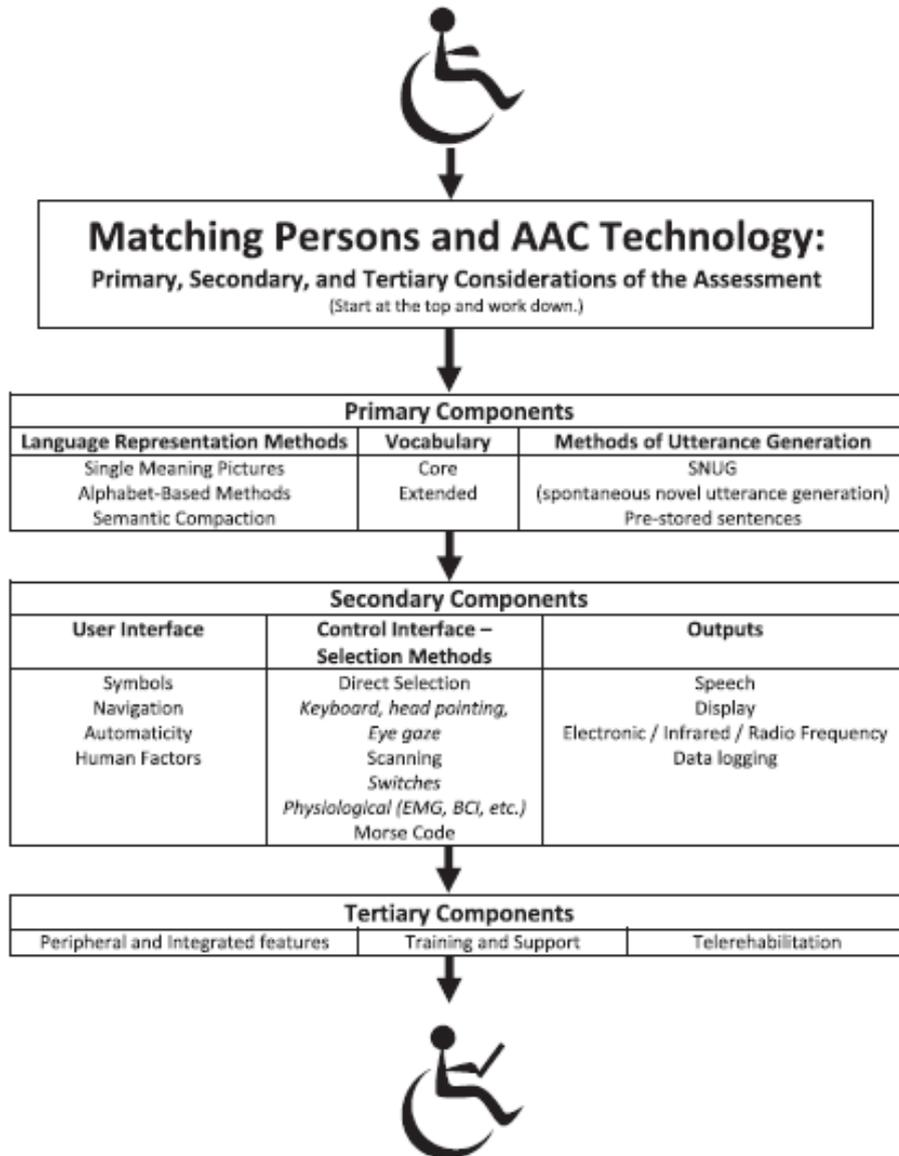


References

Hill, K. (2010). Advances in Augmentative and Alternative Communication as Quality-of-Life Technology. *Physical Medicine and Rehabilitation Clinics of North America*, 21, 43-58.

Zabala, J.S. (2005), Using the SETT Framework to Level the Learning Field for Students with Disabilities. Retrieved from <http://www.joyzabala.com>.

Appendix A: Matching Persons with AAC Technology



(Hill, 2010)

