An Introduction to the Unlocking Abilities resource:
What is an access method? Where do I start? What is best for my student?

What is an access method?

An access method is the way we control a computer, tablet, communication device or other electrical device. The access methods we will be exploring are touchscreen, switching and eye gaze.

What are access skills?

Access skills are the abilities needed to use the access method (touchscreen, switching or eye gaze) to control a device to participate in a range of activities.

Why should I assist students with disabilities to develop their access skills?

For students with impaired physical, sensory, or cognitive abilities it can often be difficult to identify and develop a reliable and independent access method to participate in classroom activities and learning. Many students with complex needs will require technology to actively participate in classroom activities. Without the use of assistive technology, they may be unable to participate in various aspects of the curriculum, for example, turning the pages in a book, or accessing a tool for writing if they are unable to pick up and use a pencil.

Assisting students to develop their access skills can increase their opportunities for choice and control and active participation in learning activities. Children who have not experienced much control and/or many successes in their lives can develop passivity and learned helplessness. (Burkhart, 2012)

What could a student use these access methods for?

Touchscreens, switching and eye gaze can be used to access a range of activities including:

- Learning, e.g. reading, writing, maths, participation in class activities
- Communication, e.g. AAC (augmentative and alternative communication) devices, telephones
- Control of the environment, e.g. computers, televisions, air conditioners, lights, electric doors
- Play and recreation, e.g. toys, games, music, puzzles
- Mobility, e.g. power wheelchairs

When should I start teaching access skills?

There are no prerequisite skills to start introducing different access methods. Your student will need to be learning their access methods in parallel with learning their literacy, communication, and other skills. We don't want to hold the student back in one area because of difficulties in another. However, we should focus on one skill area only at a time in each activity. Initially the cognitive demands of the activities introduced to develop access skills will need to be kept low to enable the student to focus on learning new motor patterns. (Burkhart, 2016).

Where do I start? How do I assess what is appropriate for trial?

Introducing a new access method requires a team approach. To achieve the best outcomes, teachers, parents, therapists, and any other important people in the student's life should be involved as part of the assessment process.
When trialling and selecting assistive technology for access for a student it can be useful to use a model or framework to guide your decision making.

SETT Framework

The SETT Framework can be used to gather information to guide collaborative decision making regarding the implementation of assistive technology to meet educational goals for students with disabilities. Technology implementation is based around the Student, Environment, Task and Tool. It was developed by Joy Zabala (2005). This can be used to consider different access methods suitable for trial and the supports required to implement a trial.

Documents and further information regarding the SETT framework can be found at http://www.joyzabala.com/

Some of the key questions to consider prior to trialling a new access method are;

Student

What does the student need to do? (main areas of concern)
What are the student's special needs?
What are the student's current abilities?
What are the functional areas of concern?
What does the student need to be able to do that is difficult or impossible to accomplish independently at this time?

Environment

Where will the student use the technology—classroom, home, community, therapy?
What are the physical arrangements?
Are there special concerns?
What materials and equipment are currently available in the environments?
What supports are available to the student and the people working with the student on a daily basis?
How are the attitudes and expectations of the people in the environment likely to affect the student's performance?

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Task

What task(s) do you want the student to do that relate to the area of concern?
What activities occur in the student's natural environments which enable progression towards mastery of identified goals?
What is everyone else doing?
What are the critical elements of the activities?
(Task analysis may be helpful to determine what elements of a task would be difficult to do without assistance)

Tools

Are the tools being considered student centred and task oriented?
Are tools being considered because of the features rather than the brand names?
What is the cognitive load required by the student to use the tool?
What are the training requirements for the student, family and staff? (Zabala, 2005)

What is best for my student? Touchscreen vs Switching vs Eye Gaze?
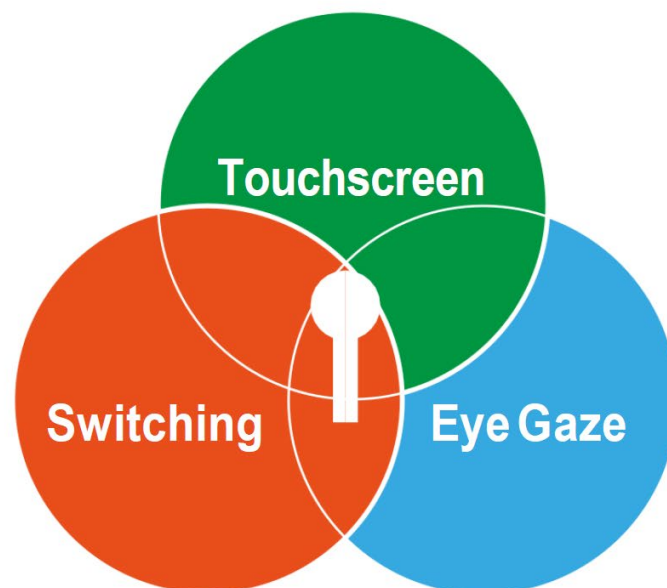
The suitability of different access methods is dependent on the student's abilities, preferences, and the activities they want to participate in. They may use a range of different access methods for different activities. Deciding on which access method to trial and develop skills in will be dependent on what is most suitable for the student to achieve their goals.

Below are some initial considerations for each access method. Each access method will be described further in the access method specific handouts.

Touchscreen

BENEFITS	CHALLENGES
Intuitive, direct physical access	Requires precision with motor skills (finger pointing or use of a stylus)
Commercially available	
General familiarity with how to use one	
Easily transportable	
Relatively low cost	

Switching

BENEFITS	CHALLENGES
Requires less precise motor skills than a touchscreen	To use switches for robust computer access and communication the student will be required to learn switch scanning
Can be used with a range of body parts and movements	Switching scanning has intermediary steps involved before selecting the option you want (it is not direct)
Easy access to a range of toys and activities for the classroom	Switching may cause fatigue due to the repeated movements required
Easily transportable	Requires some set-up, e.g. positioning switch, switch settings in software, use of a computer interface

Eye Gaze

BENEFITS	CHALLENGES
Does not rely on movement, relies on eye tracking	Relies on vision and visual skills
Direct access method – no intermediary steps in selecting an option	Requires specific positioning and set-up
May be less physically fatiguing than other access methods for students with motor difficulties	Device use may not be suitable in all environments, e.g. outdoors in bright light
	May obstruct vision for participation in activities
	Requires significant carer training

References

Burkhart, L. (2016) Multi-Modal Communication and Learning Strategies for Children who Face Significant Challenges. Retrieved fromhttp://lindaburkhart.com.

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

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