

Introduction to switching: What is it? Why use it? What equipment do I need?

What is a switch?

“A switch is a device that enables an individual experiencing a learning difficulty and/or a physical disability to operate some part of a mains or battery-powered system through a single action”.
(Talksense Switching to Success, n.d.)

Why use switches?

Switches can be used to participate in a range of activities that may be difficult to participate in due to restrictions in being able to physically access or manipulate tools. Below are some activities that can be accessed using switches;

- Learning; e.g. reading, writing, maths, participation in class activities
- Communication; e.g. AAC (augmentative and alternative communication) devices and 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

Switching equipment

Types of Switches



Switches come in a range of shapes and sizes to suit the individual's abilities. They can be activated by any body part using a range of movements including push, pinch, pull, grasp and twitch. Switches are also available that are operated by breath (pneumatic), proximity (moving in the direction of the switch but not making contact with it) and sound.



How can I use switches with a tablet or computer?

Computers and tablets do not usually have a port that enables you to plug switches directly into them. A switch interface is therefore required to use switches with a computer or tablet. The interface will enable the switches to replicate certain keyboard keystrokes to use software or apps. Different switch interfaces will be appropriate depending on the type of computer or tablet and the software being used. Switch interfaces can be wired (plugged in) or Bluetooth. The interface may have its own switches built in or external switches can be plugged into it.



switch

switch interface

computer

An up to date list of available switch interfaces can be found on NED (National Equipment Database) via this link: http://ilcaustralia.org.au/search_category_paths/767

Other Accessories

Powerlink

Enables electrical appliances to be turned on and off using switches. This can be used with electrical appliances that can be operated by directly turning on and off the mains switch; e.g. lamp, blender, vacuum cleaner, popcorn maker, hairdryer, fan. They usually have a range of settings to assist with teaching of switching skills.



Settings include;

Direct: Activate the switch to make the appliance go. Release the switch to make the appliance stop.

Timed Seconds or Minutes: With one switch activation it will run the appliance for a set period of time.

Latch: First switch activation turns appliance ON; second switch activation turns it OFF.



Battery Device Adapters

Can be used to connect switches to any off the shelf battery-operated devices, such as musical or moving toys.



Switch Adapted Toys and Devices

Battery operated toys and certain electrically powered devices can be adapted to be switch operated. Some switch adapted toys are commercially available and there are some companies that will switch adapt toys and devices.

A range of switch adapted toys are available for loan through Noah's Ark Toy Library: <http://www.noahsarkwa.org.au/>

An up to date list of available switch adapted toys and companies that can switch adapt devices can be found on NED (National Equipment Database) via this link: http://ilcaustralia.org.au/search_category_paths/760



Voice Output Switches

Switches are available that can be used to record and say a single message or multiple sequential messages when pressed. These can be used as an early introduction to voice output devices and a good way for students to interact with the class. A well-known type of single message switch is a 'BIGmack'. A well-known type of multiple message switch is a 'step by step'.

An up to date list of available voice output switches can be found on the Independent Living Centres of Australia website via these links;

Single message switches; http://ilcaustralia.org.au/search_category_paths/733

Sequenced message switches; http://ilcaustralia.org.au/search_category_paths/229

Environmental Control Units

Environmental control units are specifically designed remote controls that are generally switch adapted. They can be used to operate devices and appliances, such as a TV, DVD player, air conditioner, lights and other appliances. These can be used with switch scanning to control a range of functions or with a single switch to control a particular function of the device (e.g – turning the TV on or changing the channel).

An up to date list of available environmental control units can be found on NED (National Equipment Database) via this link:

http://ilcaustralia.org.au/search_category_paths/739



Unlocking Abilities: Developing touchscreen, switch and eye gaze skills for learning and beyond
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Switch Mounts

Switch mounts hold a switch in a fixed location to enable the user to activate the switch whenever they need to. Switch mounts can attach to a wheelchair, bed, tray or table.



An up to date list of available switch mounts can be found on NED (National Equipment Database) via this link: http://ilcaustralia.org.au/search_category_paths/707

References

TalkSense Switching to Success. Retrieved October 7 2016 from <http://talksense.weebly.com>

