Seven Stages of Switch Development

Information sheets

Stage 1

Learning by experience
Exploring Egbert the Elephant
Circle/Red

Definition

Exploring Egbert is the stage where you are first introduced to switches and learn how fun they can be. You will use your easiest body movements, which could be your hand, arm, leg, head, or even your whole body moving forward. This will activate a switch that is placed where you can easily press it. Don't worry if it is not a smooth body movement, we will look at this at a later stage.

The switch location may be different depending on whether you are in a chair, lying down, standing in a standing frame, or a different position. The switch activation will give you either an instant or a very short timed sensory response (lights, sound, tactile, movement). It is important the activity is extremely fun and not complicated – no additional brain draining activities!

Through repeated opportunities to press your switch, you will learn, through experience that when you move your body and touch a switch (pressed or press and hold) a fun activity/response/reward happens.

Milestones

- Introduction to switches: you are introduced to switches and start to learn about their function and develop an acceptance to the equipment being near you

- Finding the easiest body movement: you can use your easiest body movement to activate the switch

- Incidental and curious switch activations: through repeated activations of the switch, you will learn that your body movements are causing a fun response

- Fun activities and rewards: as you continue to activate the switch you'll receive a fun activity or reward in response, such as lights, sound, tactile, or movement

Top tips for working with switch users

SWITCH HEROES

- Provide frequent opportunities for the switch user to use their switch across their day

- Ensure activities are fun, of interest and rewarding to the user

- Helpers can, if required, model what the switch does by pressing it to show the switch user

- You can ask a therapist (e.g. Occupational Therapist or Physiotherapist) for advice on which body movement would be easiest for the switch user to access their switch

- Try moving the switch closer to the switch user or to somewhere they may incidentally activate it – avoid prompting at this stage as it shifts the child's focus from independent exploration to compliance

- Try different switches to see which one works best for the switch user – do not get distracted by obsessing over getting the 'right' switch – there isn't one - just the best switch for the moment

- Consider the user's sensory needs when exploring the type of switch and switch activity (e.g. the clicking noise or the tactile feel of the switch can become a positive or negative focus)

- Communicate with the switch user what happens when they use the switch with words, pictures or sounds

- Ensure activities involve direct activation, where the switch is on when activated and off when released, OR momentary activation, where the switch plays for a timed period (set for no longer than 6 seconds) when activated.
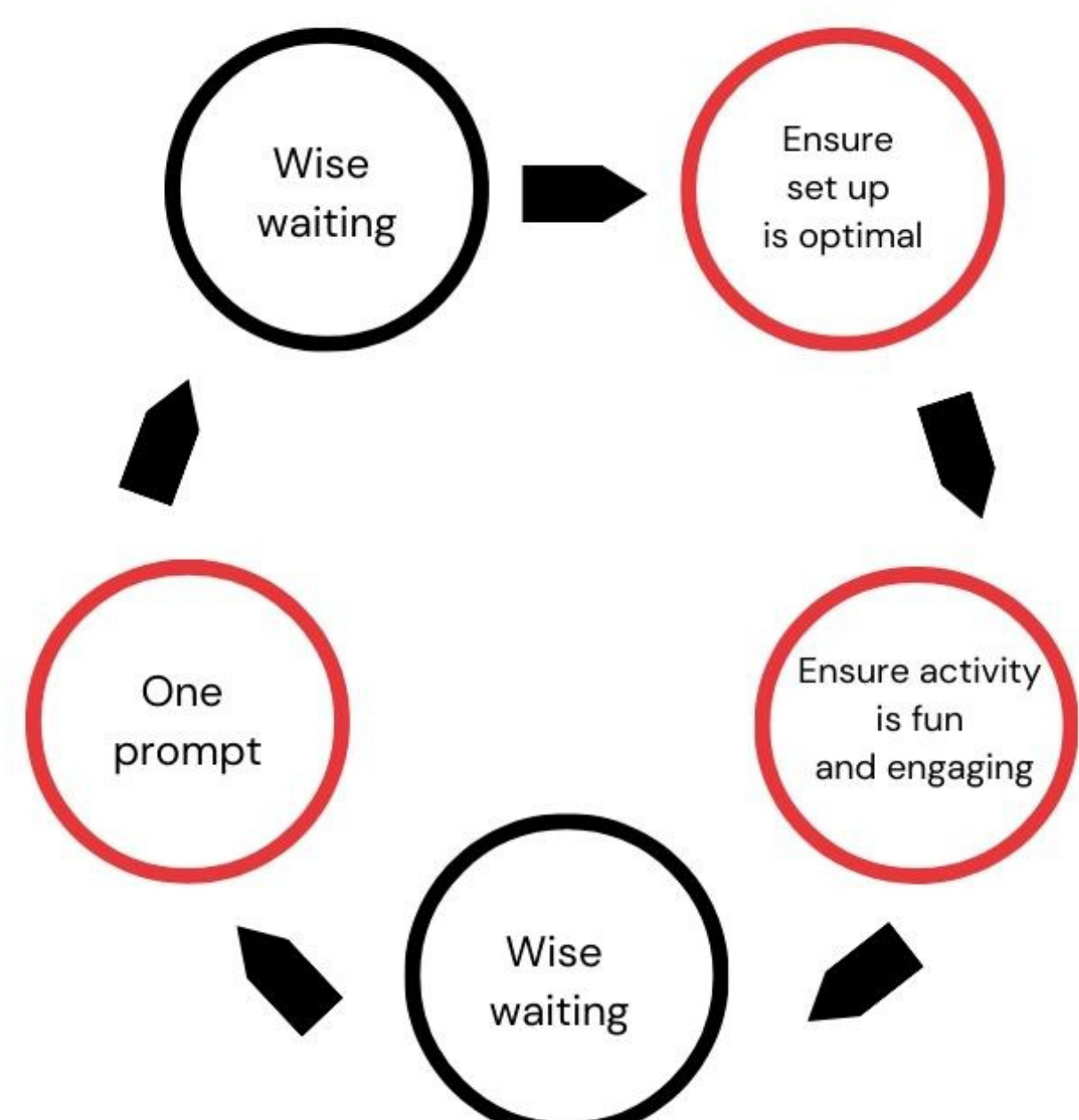
Activities

Try using a switch that does something itself when it is pressed, such as light up or vibrate so the child can experience direct feedback

Use cause and effect toys, for example, toys that activate a sound, light or movement when the switch is pressed. You could try a noisy switch toy to capture the child's attention

Consider sensory activities, for example activities that provide sensory stimulation when the switch is pressed, such as bubble tubes, fibre optic lights, or vibrating toys

Have a simple message recorded on a voice output switch that gives a simple, fun request, such as 'more tickles'. When the recording is played, ensure the response is given immediately

Instead of a prompt hierarchy where the type of prompt increases in support level, we recommend our one prompt switch session support cycle

Wise waiting → Ensure set up is optimal → Ensure activity is fun and engaging → Wise waiting → One prompt →

Pace

The Seven Stages of Switch Development

Information sheet

Stage 2

Intentionally make happen
Journeying Jiao the Giraffe
Square/Orange

Definition

Journeying Jiao is the stage where you start to intentionally make something happen when using switches. You will increasingly understand that when you press – or press and hold – a switch, it causes the activity/effect to happen. Through lots of repetition, you will also start to develop the motor skills to press the switch with your body.

This stage has two steps, the knowing (cognitive) step and the doing, motor skill (physical/body movement) step. It is important to first focus on the knowing step. Activities need to be fun and of interest to you, with the switch being placed where you can most easily reach it.

The knowing step is when you start to show anticipation and understanding about the switch activities. Moving the switch to different locations for you to use different parts of your body helps you to know that wherever the switch is, when you press it, the activities are still activated. Moving a single switch also prepares you for the next stage (playing with two switches) and provides you with more options for using switches in the future. For example if you get tired or hurt from using one switch site you can change to another.

Now that you know more about what the switch does, you need to practice repeating the body movement until it becomes automatic. This happens when you succeed and have the desire to keep using your switch. It is a good idea to have a main and backup switch location, but it is also important to try out other options regularly. At this stage, the switch activity should now be completely abstract from the switch.

Milestones

- Anticipating cause and effect: You will understand that pressing the switch causes a specific activity/effect to happen

- Developing motor skills: You will have developed the motor skills necessary to press the switch intentionally with your preferred body part

- Moving the switch: You will have experience of the switch being moved and activated by multiple body parts. This helps you to understand that regardless of the location, the switch still activates activities. This will prepare you for the next stage (using a second switch)

- Abstract switch activities: You will know that the switch can cause something to happen that may not be directly related to it – a toy moving on a table away from the switch

- Increase in time: You will be able to engage in motivating switch activities for longer periods of time
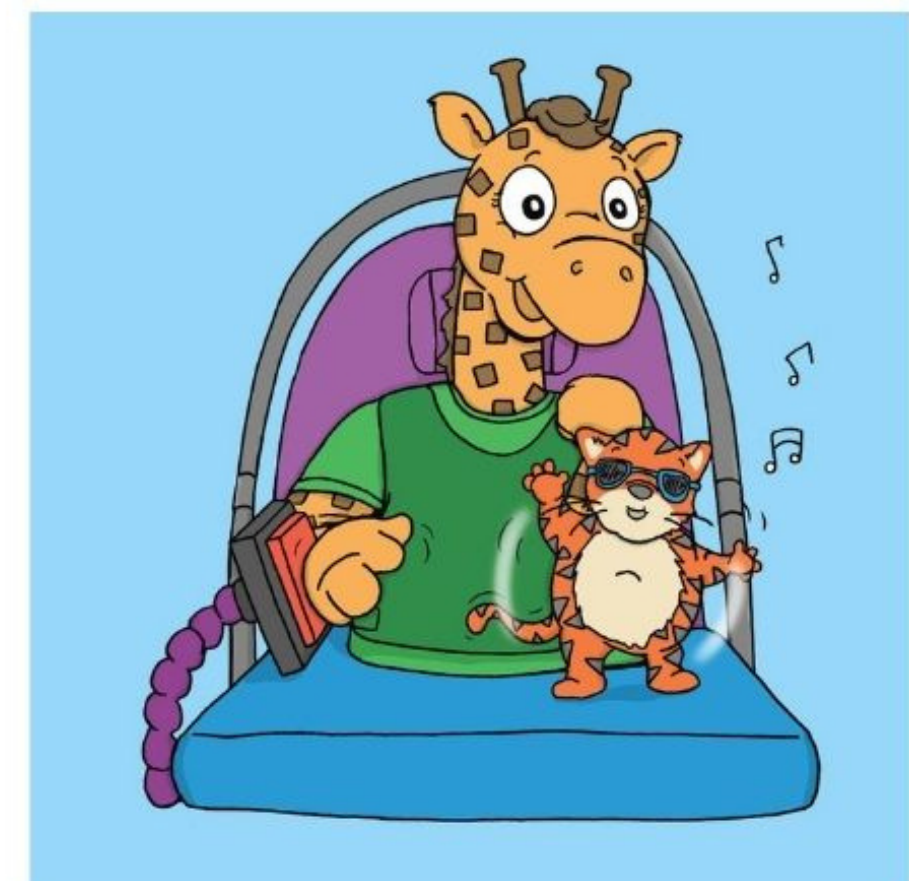
Top tips for working with switch users

SWITCH HEROES

- Provide ample opportunities for the switch user to use switches throughout the day. Frequent repetition will develop motor skills and automaticity

- To keep the switch user motivated, use a variety of different switch activities that are of interest to them

- Experiment with different switch locations and body parts for activation

- Avoid saying the phrase, 'press the switch'. Instead, give them verbal encouragement related to the activity (e.g. 'can you turn the light on?' or 'let's make the toy move/dance/sing!')

- Optimise the environment to support the child's success with the switch, including positioning the switch at an accessible height/distance and minimising distractions. Regularly assess and adjust the environment as needed to support progress

- Consider the child's sensory and regulation needs and provide appropriate supports

- Focus on building the child's understanding and ability to intentionally press the switch rather than just focusing on how they press it

- Identify and provide a primary and secondary switch site, but also encourage exploration of alternative options

Activities

Use a range of switch adapted toys

Use an iClick/Energizer/Click-on/ to connect household appliances, such as a mixer, hair dryer, or sensory lights
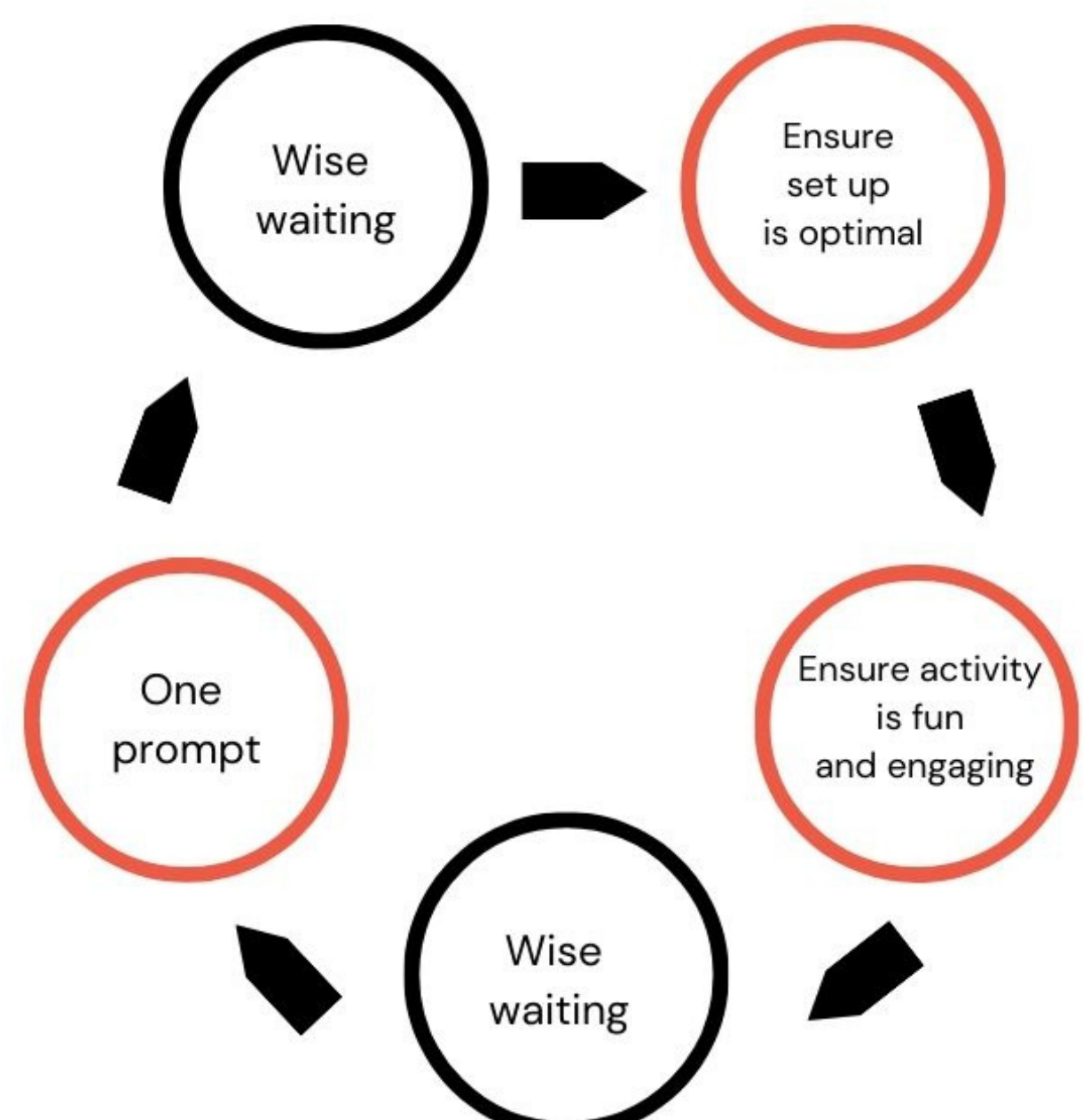
Use a voice output switch to record a range of motivating commands, such as 'tickle me Mummy!' or 'more bubbles'

Use a voice output switch to take part in a story, adding a recording such as, 'turn the page' or say a repeated line of the story

Computer games: for example games that require the child to press a switch to make things happen, such as cause and effect or simple story games. Create a gameplay on Tar Heel Gameplay to allow the switch user to continue playing their favourite YouTube video

Sensory activities: activities that allow the child to control sensory stimulation by pressing the switch, such as bubble machines, vibrating pillows, or sensory balls

Instead of a prompt hierarchy where the type of prompt increases in support level, we recommend our one prompt switch session support cycle

Wise waiting → Ensure set up is optimal → Ensure activity is fun and engaging → Wise waiting → One prompt → (cycle)

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Definition

Growing Gareth is where you start to understand and use two switches to do two different things. You will have had plenty of practise with one switch, as well as using it with different parts of your body and for different activities. Now you have two switches at the same time, which are connected to two very different, simple activities.

This helps you to further understand what switches do. During this time, you can continue to have fun doing simple switch activities, but you have a new challenge of using your body to find and use two different switches that are in different places.

During this time when you play with switches, you learn about making choices. You also continue to learn what switches do and develop the physical/motor skills to use them.

Milestones

- Developing understanding of two switches: you will understand that two switches can do two different things

- Primary and secondary switch sites: there will be two parts of your body that you will mainly use to activate your two switches, with reduced levels of support/prompting

- You will have a good understanding of what other body parts work well or not so well when activating a switch

- Developing choice: you will show a preference between two different switch activities – pressing a preferred option more frequently and avoiding a disliked option

- Automating skills: you will have improved your motor skills, activating a switch with greater speed and efficiency

- Make sure the two switches do two very different things, one could be highly motivating, and the other might be less so (or even disliked) – swap the activities between switches to see if the activity or access is preferred

- Try not to influence the switch user to choose a particular switch, let them explore for themselves

- Introduce the second switch in a clear, obvious and structured way – using modelling to introduce

- Provide activities that enable the switch user to use both switches independently and together, for example, a bubble machine and a fan

- Use visual and auditory cues to help the switch user understand the relationship between the two switches and the outcomes

- Continue with foundational skills: use the hard/easy/hard principle regarding activities. The child will still spend time engaging in single switch activities
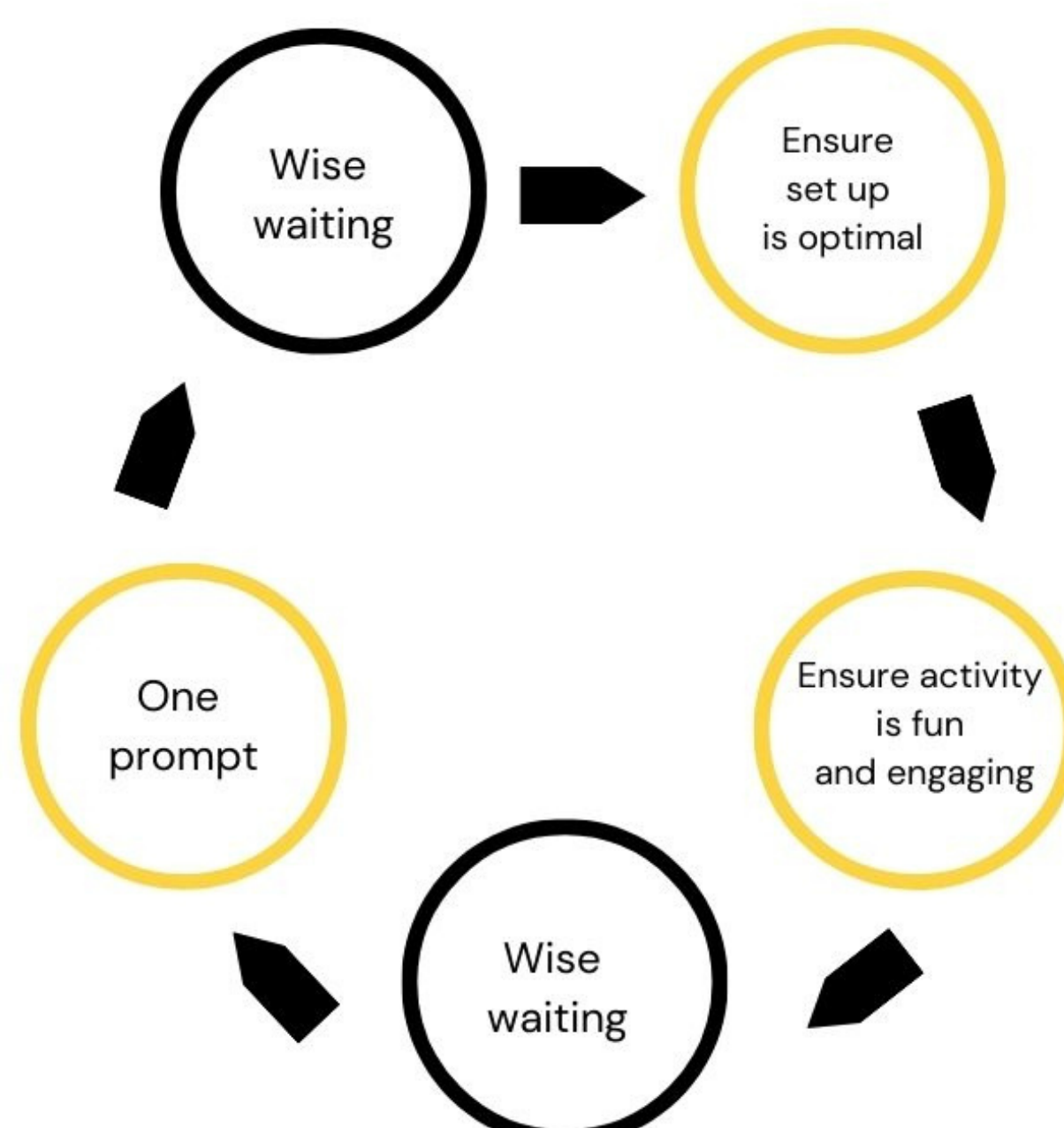
Activities

Try using two different switch toys; for example, one makes a switch toy move/dance/sing, and another blows a fan

Programme two voice output switches (or one with two switch options) to give different commands in a fun game (e.g., 'clap your hands' and 'do a star jump')

Computer games: there are lots of two switch computer activities. Try simple activities that allow each switch to play a different sound or function (The Pace MyWay can be set up to be used like this). You can progress to more complicated two switch activities where one switch works first and the second is redundant/plays a repeat action. Then when the steps are complete the first switch becomes redundant and the second switch finishes the activity

Instead of a prompt hierarchy where the type of prompt increases in support level, we recommend our one prompt switch session support cycle

Wise waiting → Ensure set up is optimal

Ensure activity is fun and engaging

Wise waiting

One prompt

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Stage 4

Using two switches for one activity
Budding Brayton the Bear
Rectangle/Green (Proficient)

Definition

Budding Brayton is the stage where you use two switches with different actions for one activity. Let's say you want to build something – you can press one switch to start building, and then press another switch to knock it down. Or, you can use one switch to say, "go" and another switch to say, "stop" and play a game with your helpers. There are lots of online games that use two switches that you can start to explore. Make sure you start with simple two switch games and avoid scan and select activities. Below is a list of types of two switch computer activities in order of difficulty (easy to hard):

Free choice	each switch activates an action from choice of two (e.g. a character singing/dancing)
On/off choice	first switch starts an action and the second switch interrupts that action (build, build – knock down OR play music – stop)
Rotate complete	the first switch rotates through options and the second completes (e.g. food options for crocodile – crocodile eats)
Sequential actions	the first switch completes several steps and the second switch either repeats the action and/or completes the activity (builds, builds, stops – launches rocket)

SWITCH HEROES

- You understand that the two switches connect the two actions to form a sequence for a specific activity

- You can independently select and activate the appropriate switches for the desired action – specifically when one switch becomes dormant and the second is required to complete the activity (e.g. rocket builder in helpkidzlearn)

- You can anticipate, plan and problem solve for the necessary sequence of actions using the two switches – for example when the first switch sequence is complete you will quickly move to the second switch to complete the activity

- You can repeat the activity using the same sequence of switches consistently

- You can generalise the skill to different activities and settings that require the use of two switches

- You have become increasingly proficient at using your body to activate two switches for one activity

Activities

Try using two different switch toys; for example, one makes a switch toy move/dance/sing, and another blows a fan

Programme two voice output switches (or one with two switch options) to give different commands in a fun game (e.g., 'clap your hands' and 'do a star jump')

Computer games: there are lots of two switch computer activities. Try simple activities that allow each switch to play a different sound or function (The Pace MyWay can be set up to be used like this). You can progress to more complicated two switch activities where one switch works first and the second is redundant/plays a repeat action. Then when the steps are complete the first switch becomes redundant and the second switch finishes the activity

Top tips for working with switch users

- Provide clear and consistent feedback to reinforce successful use of both switches together

- Use activities that require the child to use both switches to achieve a specific outcome

- Review switch positioning and supports with the child and consider whether any guides or barriers are required to differentiate between the switch press and reduce accidental presses

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Stage 5

Playing with switch scanning – Error-friendly learning
Flourishing Fatima the Flamingo
Kite/Blue (Expert)

Definition

Flourishing Fatima is the stage where you are introduced to the concept of switch scanning. This is where you use two switches to scan and select/get. The 'scan' switch moves through options by repeated presses and the 'select' or 'get' switch is pressed to activate or confirm a choice. Here you are more explicitly learning about choice. Choice will now progressively grow as you develop through this stage.

Switch scanning activities at this stage are very simple, error-friendly learning. This means activities are really easy to make a choice but there is little pressure on the outcome of the choice. 'Oops' are the best way we learn and it is helpful for someone to give us feedback if they notice. For example, Oops I think you wanted to choose the apple but you choose the banana instead and you looked unhappy/frustrated?

You can use one switch with timed options (automatically scans the options, switch is set to start scan and then select/get) but this is a lot more tricky than using two.

Milestones

- Playing with switch scanning: You've started to master switch scanning! You understand it well and can use it confidently. You can move through options using the 'scan' switch and confirm your choices independently with the 'select/get' switch.

- You're becoming very independent in your decision-making! You can choose from a increasing range of options on your own and showing preferences in your choice (rather than just making random selections).

- You are familiar with playing/using a range of switch scanning games and activities

Top tips for working with switch users

- You don't have to use specialist software, you can manually teach scanning with two audio output switches (or one with two switch option) with 'move' and 'get' recorded on them. Then you can use a finger or a cut out frame to become the scan box.

- Start with two options and slowly add more choices as the child develops

- Do not attempt to influence the switch user to the choice they should make

- Use the phrase 'something different' if the child seems frustrated with the options

- Introduce the scanning method in a clear and structured way

- Use activities and materials that are motivating and engaging for the user

- Provide clear and consistent feedback to reinforce successful scanning and switch activations

Activities

Use software such as Choose and Tell to write your own nursery rhymes by choosing the characters and story lines

Use the software Choose it Maker to make choices in an activity

Write a story using two switches. Use an audio output switch programmed with a list of motivating options such as animals, colours, people etc. Then programme another switch to say, 'that's it!' (Alternatively use a Smooth Talker set to Prompt)

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The Seven Stages of Switch Development

Information sheet

Stage 6

Using Switch scanning to find the right one
Succeeding Saffi the squirrel
Oval/Pink (Mastery)

Definition

Succeeding Saffi is the stage when you are ready to learn how to select the 'correct' option from a range of choices on the screen. To do this, you will need to use two switches to scan and select or one switch with timed input to make your choice. The aim of this stage is to help you learn how to make a specific choice instead of randomly selecting any option that is presented to you.

By taking your time and carefully considering the options before making a decision, you will become more discerning and intentional in your use of technology. This will help you to develop your decision-making skills and better understand the consequences of your choices.

Remember, the more you practise selecting the 'correct' option, the better you will become at using equipment and technology in general. So don't be afraid to try new things and keep learning!

Activity options can be graded with 'blank, blank, something' to 'incorrect, incorrect, correct.'

Milestones

- You have learnt to scan through options using two switches or just one with timed scanning

- You can identify and select the correct option from an increasing set of choices

- You can differentiate between blank options and options with content

- You can identify incorrect options and avoid selecting them

- You can successfully select the correct option, demonstrating your ability to use switch scanning for purposeful communication or participating in activities

Top tips for working with switch users

- Ask the child which option they would like to choose without using switches initially and then support them to find this option using their scanning and selecting switches

- Provide clear visual cues to help the user identify and select the correct option

- Encourage the user to practise visual discrimination by locating objects in their field of view with verbal prompting

- Use activities and materials that are motivating and engaging for the user

Activities

Select an activity or item. Setup a grid on a communication device with 3 boxes. Have two empty and one with the activity or item. Setup multiple pages like this with different activities

Use computer software with scanning choices on the screen for social interaction – directing an adult, sensory play, etc

Communication apps: apps that use scanning to allow the user to select and communicate specific messages or responses, such as communication boards or AAC devices

Interactive stories: interactive stories that use scanning to allow the user to make choices and follow different story paths, such as choose-your-own-adventure books

Educational apps: apps that use scanning to allow the user to select and complete different educational activities, such as spelling or maths games

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The Seven Stages of Switch Development

Information sheet

Stage 7

Independent in function use (use across multiple software/devices)
Celebrating Syed the Sloth
Star/Purple (Practical Wisdom)

Definition

Celebrating Syed is the stage where you will learn to use switches to functionally control multiple software and devices across your day. For example, you can use switches for communication using an AAC device, powered mobility, gaming, browsing the internet, writing and so much more. You will learn how to easily navigate between these different devices and software as well as being able to adjust the settings.

Milestones

- You've mastered switches, using them accurately and consistently

- You can apply your switch skills across different software and devices

- You actively use switches for communication, gaming, browsing, and more

- You're versatile, using switches at home, school, and in the community

- You troubleshoot any switch issues, making necessary adjustments with confidence

- You're a strong advocate, effectively communicating your switch needs to others

Top tips for working with switch users

SWITCH HEROES

- Keep things interesting for the switch user to maintain their motivation to use switches

- Consider mounting options to ensure their switches are always available on all of their mobility equipment

- Encourage the user to use switches in a variety of settings and situations

- Provide opportunities for the user to practice using switches independently

- Encourage problem-solving and self-determination by allowing the user to choose activities and tasks that they are interested in and can successfully complete using switches

- Ensure you regularly ask for the switch user's opinion on their switches and software and adapt the requirements based on their ideas and likes/dislikes

- Continue to set goals around the switch user's future independence and how they can progress further based on their own interests and aspirations

Activities

Provide opportunities to develop literacy skills through using a keyboard and spelling

Explore communication software such as Grid 3, Proloquo to Go, etc

Computer access: using switches to access and navigate a computer independently, such as typing or browsing the internet

Environmental control: using switches to control elements in the environment, such as turning on lights or adjusting the temperature

Leisure activities: using switches to engage in leisure activities independently, such as playing games, listening to music, or watching videos.

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Burkhart, L. (2018). Stepping Stones to Switch Access. Perspectives of the ASHA Special Interest Groups, 3(12), pp.33–44.
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