

Switch Access Beyond Cause and Effect: Stepping Stones for Effective Learning

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Switch Access

- Do you work with learners who are stuck at the cause and effect level? (yes, no, not sure)

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Which Kids?



- Physical Challenges that limit direct select access to a computer display
- Frequently other multiple challenges such as: CVI, Complex Communication Needs, Auditory Processing challenges, cognition, learning differences, previous experiences, etc.
- Individuals who need multiple access methods due to physical position, fatigue, environmental factors, strategic competencies, and preference

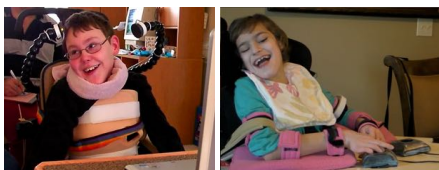
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Misconceptions about use of Switches

- The term "cause and effect" is applied too broadly
- Children often have a "cause and effect" goal for many years without mastering it or moving on
- Many people think that cause and effect can be taught through prompting
- Automatic Scanning is often seen as the next step, which is a huge jump from "cause and effect"
- Many people think that that using one switch is easier than using 2 switches

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There is more to using switches than getting a child to "hit the switch"



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Going on a Switch Hunt?



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Going on a Switch Hunt?



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Myth: "We just have to find the perfect switch placement."

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Reality: We have to find some good possible switch placements and provide opportunities for the child to learn how to use them.

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Its Not About Finding the "Perfect Switch Site"

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Its Not About Finding the
"Perfect Switch Site"

Its About Finding the
Best Switch Sites
to Learn to Use

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So How Do You Teach Switch
Access?

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What Does Research Say
About Learning a Motor Task?

- Initiation of intent must come from within the child
- Problem solving opportunities for trial and error
- Practice and repetition with a purpose
- Thousands of repetitions with variation

Hanser and Burkhart

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Developing Automaticity
takes practice:
Thousands of Repetitions
with

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Developing Automaticity
takes practice:
Thousands of Repetitions
with Intent,

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Developing Automaticity
takes practice:
Thousands of Repetitions
with Intent, Purpose,

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Developing Automaticity
takes practice:
Thousands of Repetitions
with Intent, Purpose, and
Variation

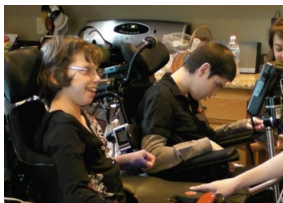
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Motivation Provides Intent



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Natural Context Provides
Purpose and Variation

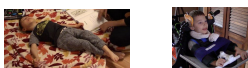


It has to make sense to the person!

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Stability and Active Position
Important Components

- Active weight bearing on pelvis
- Upright and sometimes moving forward slightly
- Learning to actively tilt, rotate and/or shift weight - even if only slightly
- Control often begins at the head when body is actively engaged with gravity



Stability and Active Position Important Components

- Use of arms to help with stability
- Grasp bar (teach child to actively desire and participate in stabilizing and moving themselves)



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Proximity (sensor) Switches can
respond to subtle movements
without extra force applied to
activate them



ROUND PROXIMITY SENSOR - DUAL
Adaptive Switch Labs

ADAPTIVATION



HoneyBee

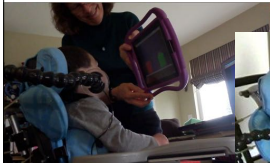
ablenet



Candy Corn

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Proximity Switches and Splashtop or TeamViewer



proximity switches are connected to the
computer And displayed on iPad

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Who Likes to be Told What to Do?



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Who Likes to be Told What to Do?



What do we do frequently with kids?

Limit telling the child what to do

Let them explore and figure it out!

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Provide Strategic Feedback instead of Direct Prompts



Tell them what happened when they activated the switch, not which switch to activate. For ex. "You knocked down the blocks!" instead of "hit the switch" or "knock down the blocks"



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Don't Build an External Prompt into the Motor Loop



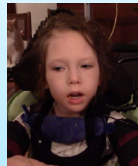
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Stepping Stones to Switch Access - Strategies to Provide Children with Developmental Problem Solving Experiences



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Step 1: Single Switch: Cause and Effect



Child begins to associate an intentional movement with the ability to cause something to happen

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Step 1: Single Switch: Cause and Effect

Technology Features: Immediate response to effect, momentary or direct effect (plays and stops concurrently with switch activation and release), or short effect (plays only 1-6 seconds upon switch activation)

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Begin with Accidental Switch Activation

Working on Cognitive Part not the
"Correct" movement



May also be used again when introducing a new switch site

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Cause and Effect Learning is different from Recreation and Leisure



Need Momentary / Direct / Short
Activities - Immediate Response to
Movements On and Off
Not Longer Entertainment Activities

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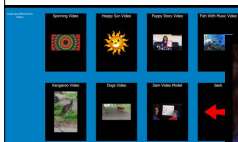
Rad Sounds (RJ Cooper)



Switch Accessible Boombox
& Step Scanning App
(Judy Lynn)

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Mind Express Steps Before Step Scanning Cause Effect Direct (Burkhart)

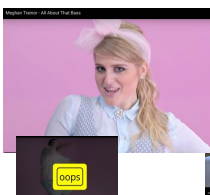


www.star-at.com



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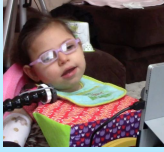
tarheelgameplay.org Basic Cause and Effect



<https://tarheelgameplay.org/2017/07/13/meghan-trainor-simple/>

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Step 2: Single Switch:
Multiple Locations
Multiple Functions



Child understands simple cause and effect but needs practice intending and executing a movement for different purposes or locations

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Step 2: Single Switch:
Multiple Locations / Multiple Functions

Technology Features: Immediate response for short effect upon switch activation

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Single Switch - Multiple Locations

- Create little problems to solve to work out what does this do? How can I use it?
- Try different switch sites - beginning with direct or momentary activation
- Not to find "perfect" switch site, but find possible sites to learn to use

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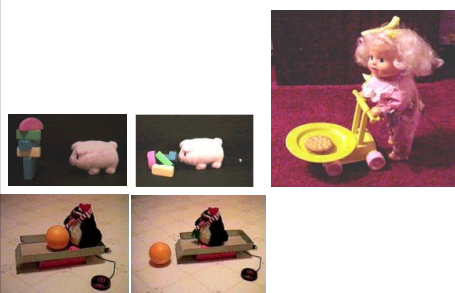
Single Switch - Multiple Functions

Battery Operated Devices with a Purpose or Function!



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Give Switch Toys a Purpose



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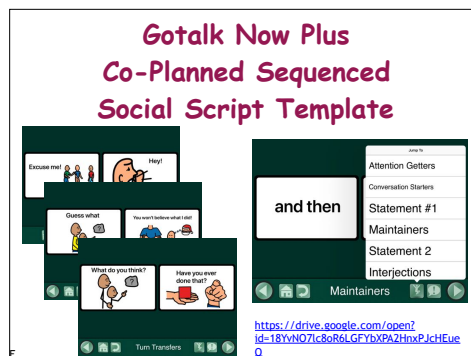
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Let the child explore and
provide strategic feedback



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Step 3:
Two Switches / Two Functions



Discrimination and Problem Solving

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Step 3: Two Switches
Two Functions

Technology Features: Immediate
effect for switch activation.
Second switch interrupts first
effect.

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Move to two switches two
functions as quickly as possible

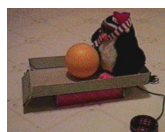


Increase Cognitive Engagement

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A Reason to Problem-Solve

“Throw it to me!”



Make the Penguin kick the ball

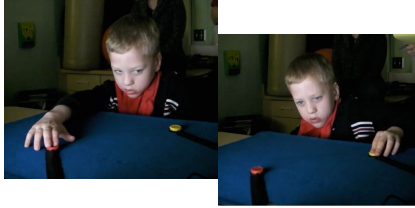


Build it up!

Make the Pig knock down the blocks

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Try Smaller Switches



Increase focus and discrimination

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Recessed Switches



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Loc-Line Switch Mount

Easily adjust position of switches

Modularhose.com



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Super Switch Hitter and Switch Jam

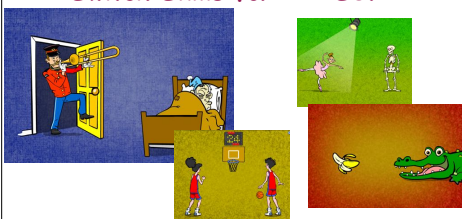
Marblesoft/Switch in Time



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Inclusive Technology

Switch Skills for 2 - Set 1



also some on helpkidzlearn.com

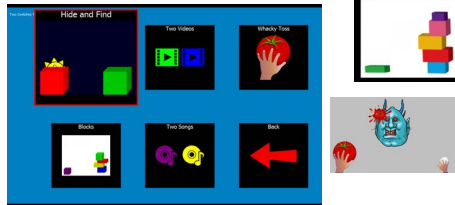
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Judy Lynn: Learning Two
Switch Step Scanning
& Step Scanning App



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Mind Express
Steps Before Step Scanning:
Two Switches (Burkhart)



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Building Blocks



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