Switch Wars
Creating a Galaxy of Competent Switch Users

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Jerolyn Allen OTR
Disclosures

• Jeremy Legaspi- I am a salaried regional consultant for PRC.

• Jerolyn Allen- No relevant financial interests
Learning Outcomes

• Participants will learn the importance of motor/auditory automaticity in language development (Theory and Practical Application)

• Participants will be introduced to multiple activities that will enhance the engagement of the switch user and their conversational partners.

• Participants will discuss and troubleshoot other environmental and access difficulties (i.e., switch positioning, low tech options, and other barriers)
Why we are Here

- 132k children ages 3 - 21 with ‘multiple disabilities’ provided special education services in school
  - National Center for Education Statistics 2012
  - Stable since 2000

- 1 in 323 children identified with CP
  - CDC’s (ADDM) Network
  - Stable since 1996

- Only 16% pediatric OTs identify themselves 'confident' working with High Tech AT (AJOT 2007)

- Only 12% SLPs feel there are enough with AAC knowledge to meet the need (ATIA 2011)
**Children with Multiple Disabilities**

- “This disability category includes those students with the most severe physical, cognitive, and communicative impairments. ...The common connection between students in this category is not just that they have two or more coexisting impairments, but that they generally need extensive support across any number of skill areas.”
  - Project IDEAL

*** Problem: How to support our students with multisensory impairments - OI; VI; HI

Individuals who face complex communication needs and physical and sensory challenges require access to assistive technology and robust augmentative and alternative communication systems to participate more fully in life (SIG 12)
AUTOMOTICITY - PRACTICE

• JUGGLING explains why performance is so inconsistent and can not always be predictably repeated ……

GO for success times- move on! Meaningless repetition produces boredom produces inconsistent test results

• Children who experience repeated failure and limited control of their environment may develop learned helplessness (Swinth, Anson, and Deitz 1993)
  -Frustration and passivity may be observed in individuals who are not able to access the typical environment to explore, manipulate, and play with their world.

Provide opportunities for practice within natural contexts that are ENGAGING and Motivating
SO……

• Teaching access with these individuals is challenging and complex. This process involves developing motor automaticity, learning the access method, expanding language skills, and juggling social and cognitive components.

• This requires frequent opportunities to practice across a range of interactive, supportive, and authentic learning environments (Beauchamp, Bourke-taylor, & Brown, 2018)

• Attending vs. Non Attending- develop a definition for that individual
• Creating and Active Learning environment.

• A switch or switches are a means to an end. Our goal should never be to activate the switch, but actively complete the engaging leisure, vocational, academic task with a tool/adaptation.

• There is a difference between environments that promote active Learners and environments that promote passive Learners- It is 'Active Environments' that promote 'Active Learners' and 'Passive Environments' that promote passivity. In an Active Environment there is evidence of staff encouragement of cognitive engagement of Learners.

• Many of our students get "stuck" on cause and effect, not because they aren't capable of more, but because we don't know how to tell when they are ready for more or what to do next. Once a child can activate a switch and anticipates/attends to what the switch does they are ready for more.

• THEY CAN DO IT!!!!

• https://talksense.weebly.com/can.html
Access Methods in AAC
For Children with Physical Disabilities

- Direct Selection
  - Touch
  - Mouse
  - Emulation/Joystick
  - Infrared Sensing (Headtracking)
  - Eye Gaze

- Indirect Selection
  - Multiple Switch Scanning (usually 2)
  - Timed Scanning (single switch)/Autoscanning

Typical Access Method Hierarchy

Direct Touch → Joystick → Headtracking vs. Eye gaze → Eye gaze vs. Switch Scanning
Typical Switch Scanning Hierarchy

- 2 switch Scanning
  - 2 Switch Step Scan
  - 2 Switch Hold Scan

- Timed scanning
  - 1 switch auto scan
  - 1 switch hold scan
  - 1 switch step scan
Use Of Auditory Scanning

- Auditory scanning techniques originally were developed to accommodate the needs of people with severe communication and motor impairments who were unable to see visual symbols. According to Kovach and Kenyon, however, a few augmented communicators who are not visually impaired may also use auditory scanning techniques because auditory feedback can help them: Learn the names or locations of visual symbols. Focus their attention on the message. Use their vision to interact with partners and scan the environment, rather than operate their AAC devices. Be more accurate in their motor responses. Some people have difficulty “looking” and “hitting a switch” because of abnormal reflexes.
USE OF AUDITORY SCANNING (AS)

- Most individuals who use AS systems are visually impaired, but not blind. Many have cortical visual impairments (CVI). CVI occurs when there is damage to the visual cortex, to the posterior visual pathways or to both. Six basic guidelines for clinicians who work with individuals who use AS.

- 1. Visual performance can be variable. Remember that vision also affects motor responses.
- 2. Reduce extraneous visual information. Be especially aware of the fatigue that can occur in trying to decipher visual, auditory and tactile information. Build in breaks.
- 3. Use imagery that is multi-sensory (e.g., feel the sand, see the blue water, feel the warm sun, taste the salty air, remember the fun you had at the beach)
- 4. Pair visual with auditory scanning whenever possible.
- 5. Use touch as a primary means of introducing information. Be aware that intonation and language use are also very important.
- 6. Repetition is important. Practice is critical. Allow the person extra time to respond. 250 times to make it habitual!
CoreScanner is a “Motor First, Vocabulary Second” language program.

CoreScanner seeks to build language through the activation of the switch itself by providing a consistent, progressive scan pattern into which the vocabulary is made to fit. Whether beginning with a single word, or with hundreds of words, motor actions learned for words never require relearning in the CoreScanner progression.

Should I use 1 Switch or 2?

- In general, 2 switches will work best for individuals who have two movements, natural and frequent, that the individual can begin using to activate 2 separate switches.
Cornerstones Level Activity Plan

Name: ____________________________ Date: ____________

Today’s Activity: ____________________________

*Circle words below to be targeted during today’s activity.*

<table>
<thead>
<tr>
<th>More</th>
<th>Stop</th>
<th>Go</th>
<th>Hello</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mine</td>
<td>Play</td>
<td>On</td>
<td>Turn</td>
</tr>
</tbody>
</table>

Response to Activity: ____________________________________________________________

__________________________________________________________

__________________________________________________________
What’s the Plan?

JAM! Level Activity Plan
Can also be used with PrePathway, Pathway & PreJam

**Name:** ________________________  
**Date:** __________

**Today’s Activity:** __________________________________

Circle words below to be targeted during today’s activity.

<table>
<thead>
<tr>
<th>ME</th>
<th>CLEAR</th>
<th>SPEAK</th>
<th>SPELL</th>
<th>SOME</th>
<th>SAY</th>
<th>FIND</th>
<th>END</th>
<th>TALK</th>
<th>LIVE</th>
<th>WEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORE</td>
<td>COLOR</td>
<td>ALL</td>
<td>STOP</td>
<td>WANT</td>
<td>FEEL</td>
<td>GO</td>
<td>DRINK</td>
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<td>HELLO</td>
<td>PLEASE</td>
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<td>YES</td>
<td>NUMBERS</td>
<td>NO</td>
<td>LOOK</td>
<td>DO</td>
<td>THINK</td>
<td>BIG</td>
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<td>GOOD</td>
<td>HELP</td>
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<td>MINE</td>
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<td>MY</td>
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<td>WE</td>
<td>DON’T</td>
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<td>ARE</td>
<td>AN</td>
<td>WERE</td>
<td>RIGHT</td>
<td>SLEEP</td>
</tr>
</tbody>
</table>

Response to Activity: ____________________________________________
Where are the nouns?

My Categories Vocabulary Planning Worksheet: Under each category, list extended vocabulary unique to the individual. Remember that these categories are permanent fixtures in the CoreScanner progression. Once a word is learned it should not be taken away or its location changed.

<table>
<thead>
<tr>
<th>Category</th>
<th>1.</th>
<th>2.</th>
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<th>4.</th>
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</table>
The Stepping Stones of Switch Scanning

- Switches and Switch Placement - Stepping Stones to Switch Access
- Stepping Stone 1: Single Switch – Cause and Effect
- Stepping Stone 2: Single Switch – Multiple Locations and Multiple Functions
- Stepping Stone 3: Two Switches – Two Functions
- Stepping Stone 4: Learning to Two Switch Step Scan
- Stepping Stone 5: Two Switch Step Scanning: Failure Free Learning With Feedback
- Stepping Stone 6: Two Switch Scan to a Target – Activities for Increasing Accuracy and Cognitive Engagement
- Stepping Stone 7: Practice for Increasing Accuracy With Two Switch Step Scanning
- Stepping Stone 8: Switch Automaticity – Reducing time for Success and Demonstrating Knowledge
Switch Placement

There are as many switch locations and configurations as there are individuals who need them. Also look for alternatives in different positions.
Switch Placement

Switch Assessment Strategy:

*Observe natural, frequent movements.*

*Intercept the movement with a switch.*

Switches placed flat on the lap tray are a usual “go-to”. For others this position can result in getting ‘stuck’ on the switch.
Switch Placement

Switch Assessment
Strategy:

Observe natural, frequent movements.

Intercept the movement with a switch.

An upward motion with his arm works better.
Switch Placement

Switch Assessment Strategy:

*Observe natural, frequent movements.*

*Intercept the movement with a switch.*

A forward motion with the switches mounted vertically works best.
Switch Placement

Switch Assessment Strategy:

Observe natural, frequent movements.

Intercept the movement with a switch.

Robin has been moving his right elbow in a backward motion to effectively activate his switch for years.
Switch Placement

Switch Assessment Strategy:

Observe natural, frequent movements.

Intercept the movement with a switch.

Brad uses a sideways motion with his right leg.
Switch Placement

Look at a Combination of different switches if needed

A switch on either side of his head provides his most natural access.
Switch Placement

Switch Assessment Strategy:

*Observe natural, frequent movements.*

*Intercept the movement with a switch.*

Ella coordinates two body parts, her left hand and her head for her two switch access.
The Environment

• Create the environment to be “ready” for learning
• Presume competence
• Teach and support independent thinking through support of Intention
• Video and examine what’s really happening
• Give them alternatives in different environments or positions
• LOW and High Tech- Build the low until you get the high.
### Matthew’s Positioning Options

<table>
<thead>
<tr>
<th>Positioning</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUMBLEFORM</td>
<td>Needs Supervision</td>
</tr>
<tr>
<td>SWING</td>
<td>Needs Supervision</td>
</tr>
<tr>
<td>RIFTON</td>
<td>Needs Supervision</td>
</tr>
<tr>
<td>BIKE</td>
<td>Needs Assistance</td>
</tr>
<tr>
<td>LARGE STANDER</td>
<td>Needs Supervision</td>
</tr>
<tr>
<td>FLOOR TIME</td>
<td>Needs Supervision</td>
</tr>
<tr>
<td>BEANBAG CHAIR</td>
<td>Needs Supervision</td>
</tr>
<tr>
<td>BALL PIT</td>
<td>Needs Supervision</td>
</tr>
<tr>
<td>JIGGLE TABLE</td>
<td>Needs Supervision</td>
</tr>
</tbody>
</table>

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Allow Matthew to stay in position as he tolerates. Document position(s) and length of time daily on sheet provided. Questions: Please contact Julie Schnep at schnep@lesd.k12.az.us.
Partners are Key to Meet the Needs of our Students

1. keep them motivated and stimulated.

2. provide opportunities for them to communicate- assess their AAC systems on an on-going bases

3. Provide the aided input and modeling needed for them to learn how to use their AAC system and language.

4. Provide options to communicate effectively in different environment and a variety of ways
### Screener for Communication Level

<table>
<thead>
<tr>
<th>Level</th>
<th>How does the communication look?</th>
<th>Types of words used?</th>
<th>The Student demonstrates</th>
<th>When to Move Up to the next stage?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>- Single words, short phrases or chunks of memorized oral language</td>
<td>- Mostly core words and familiar vocabulary, high frequency words LIST:</td>
<td>- Spontaneous and interactive and ready to move to next stage;</td>
<td>- When student is becoming independent in communication and initiation, begin modeling phrases made with the core words they know... as quickly as possible</td>
</tr>
<tr>
<td>Stage 2</td>
<td>- Phrases, short sentences</td>
<td>- Core words, familiar vocabulary related to content area LIST:</td>
<td>- Spontaneous and interactive and ready to move to next stage</td>
<td>Student will become independent in communication and initiation with known phrases, begin modeling expanded phrases and simple sentences</td>
</tr>
<tr>
<td>Stage 3</td>
<td>- Simple and expanded oral sentences; responses show emerging complexity used to add detail</td>
<td>- General and some specific language related to the content area; may grope for needed vocabulary LIST:</td>
<td>- Spontaneous and interactive and ready to move to next stage</td>
<td>Generally comprehensible using phrases; comprehensibility may from time to time be impeded by errors when attempting to produce more complex phrases.</td>
</tr>
<tr>
<td>Stage 4</td>
<td>- A variety of oral sentence lengths of varying linguistic complexity; responses show emerging cohesion used to provide detail and clarity</td>
<td>- Specific and some technical language related to the content area; may grope for needed vocabulary may be evident</td>
<td>- Spontaneous and interactive and ready to move to next stage</td>
<td>Generally comprehensible at all times, errors don't impede the overall meaning; such errors may reflect poor grammar.</td>
</tr>
<tr>
<td>Stage 5</td>
<td>- A variety of sentence lengths of varying complexity in extended oral discourse; responses show cohesion and organization used to support main ideas</td>
<td>- Technical language related to the content area; facility with needed vocabulary is evident</td>
<td>- Spontaneous and interactive and ready to move to next stage</td>
<td>Approaching comprehensibility to that of peers in terms of comprehensibility and contextual phrase... errors don't impede communication and may be typical of peers.</td>
</tr>
</tbody>
</table>
What’s the Plan?

‘Just More’ Level Activity Plan

Name: ________________________________  Date: ___________

List activities below to be used to target use of the word MORE:

Activity 1: __________________________________________
Activity 2: __________________________________________
Activity 3: __________________________________________

Response to Activity 1: __________________________________________
Response to Activity 2: __________________________________________
Response to Activity 3: __________________________________________
IMPLEMENTATION = ENGAGEMENT

IN THIS ROOM WE
Teach core words
Make it meaningful & motivating
Use guided access
Model
Allow wait time
Presume competence
Promote motor planning
Velcro & laminate
Read & write
Use switches, scanning, and eye gaze
Speak AAC

Rachael Langley AAC Specialist
TIPS FOR ENGAGEMENT- WOW Factor!

1. **Communicative Intent!** They have to want to know the question and answer. The kid next to me said Wednesday … why do I??

2. **USE HUMOR!** when it comes to getting everyone engaged in their learning. Attention is always better with the crazy therapist!

3. **USE IMAGES- VIDEOS –SOUND THAT ARE OF INTEREST…** Another way of engaging students is by being aware of the types of materials and visuals you present to them.

4. **MAKE IT PERSONAL.** What better way to make asking questions meaningful than to have the answers be ABOUT your students? It adds a whole new element of fun when the students know the characters!
**MAKING IT FUN!**

### Games of precision

- **Snail Game**
- **Fishing Game**
- **Papupult**
- **Frog Game**
- **Darts**
- **Carrot Game**

### Sensory Stories

- **Pete’s Silly Sensory Drive**
  
  *Sheldon the Snail goes to the Beach* – It’s a beautiful sunny day and Sheldon the Snail is off to the beach. Let’s hope he can get his skates on and remember everything he needs!

  Download [Sheldon at the Beach](#) (2.5 Mollusc Megs)

- **Gobbin Hood and his Merry Phlegm** – This is an awful tale of Robin Hood’s less honourable brother Gobbin, who’s weapon of choice is spitting, not the bow and arrow.

  Download [Gobbin Hood](#) (5.1 Mucus Megs)

- **My Teacher is an Alien** – Yeah, well that’s obvious, she smells funny, stomps around making strange noises and looks weird. Of course she’s an alien!

  Download [Teacher is an Alien](#) (3.9 Martian Megs)

- **My Day at Loch Ness** – This story has been criticised for being too far fetched dear reader. “A funny day?” They said, “No Scotch!” Things go off at the head, you know?

Download [My Day at Loch Ness](#) (5.1 Mucus Megs)
Other Places to find Awesome resources

https://aalanguagelab.com/resources/free/corescanner-starter

Computer switch activities free!
https://www.ianbean.co.uk/senict-members-resource-portal/

http://aacgirls.blogspot.com/2014/10/beware-of-flyswatter.html


http://papunet.net/games/games

http://www.priorywoods.middlesbrough.sch.uk/page/?title=Switch+%2F+Touch+Screen+Videos&pid=231

https://talksense.weebly.com/can.html

http://praacticalaac.org/practical/aactual-therapy-fun-with-puzzles/

http://www.portlandcollege.org/curriculum/resources/
<table>
<thead>
<tr>
<th>Activity</th>
<th>More</th>
<th>Want</th>
<th>Love</th>
<th>Go</th>
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<tbody>
<tr>
<td>Bowling</td>
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<td>Book Reading</td>
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<td>Scavenger Hunt</td>
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<td>Board Game</td>
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</tbody>
</table>

*FP = full physical  PP = partial physical  M = model  VS = visual  V = verbal  G = gesture*