

Facing the Challenges of Access with Students Who've Had Less Than Successful Experiences,

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Introduction

1. Children are not small adults; Individuals with complex bodies
2. Seating and its relationship to access
3. The myth of the optimal position, physiology not physics

A Definition of Access

1. How an individual is able to manage an activity of interest with intention, independently
2. How to manage a particular machine at a particular time for a specific activity which will produce an output (vocal or printed)

A Definition of Seating

1. A range of postures, situationally specific, task defined, and individually preferred
2. A treatment technique for OT's and PT's
3. Seating for Task Performance
4. Seating as a human characteristic, homo sapiens on planet Earth & with its gravity

A Definition of Consistency and Efficiency

1. "Consistency" and "efficiency" and "reliability" are engineering terms, not "human" terms, nor human physiological terms
2. Isolated "motor" control is not "consistent," nor "reliable" but rather "process oriented," "routine dependent," and "adaptive"
3. We are never "error" free, nor "mistake-proof;" but rather we are able to recognize errors and repair them.
4. Motor "acts" and machine control, cannot be measured except in

laboratory environments, which are not Life Situations, nor Life Environments.

Old paradigms we need to leave behind

1. Access to activity and AT and must be assessed FIRST
2. Find the OPTIMAL site

(These "old" historical paradigms were developed from professionals who were working with adults who had a degenerative disease or an acquired injury. These individuals were competent readers, writers, and had been independent in functional activity.)

New paradigms we need to embrace

1. Access is the last, not the first
2. Child must know activity
 - The machine, how it works
 - The software the machine controls, the real activity
 - How a method of access works, by seeing it work first
 - Beginning, middle, and end of activity
 - Repeating the activity in frequency, rather than in length of time
3. In children, switch sites develop and increase
4. Scanning can lead to direct selection
 - (2 switch step, 3 switch mouse, head mouse)
5. Direct selection and scanning can be used simultaneously

Old paradigms we need to leave behind

1. Seating for function is to be restrictive, controlling the body
2. The seating the child comes to school in, is the "right" seating for activity
3. If only the student could hold up her head then we could work
4. The student wants to use her hands

New paradigms we need to embrace

1. Seating must allow for task participation and performance
2. Seating must provide pelvic weight bearing for visual convergence

3. Seating must be situationally specific, and task specific and change
4. For hands to work, heads must work, for heads to work, the pelvis must be weight bearing

Old paradigms we need to leave behind

1. Consistent switch site/s exist and are to be "found" in assessment before AAC/AT device use can occur
2. Single switch scanning is where to start, it's the simplest
3. Use only one or two choices to begin, it's easier
4. "Hand over hand" helps the child learn to use her hands

New paradigms we need to embrace

1. Access sites (body sites) develop from interest, intention, and experience with activity, not in isolation
2. Consistency is not what is needed, interest, intention, and attention are needed
3. The activity must be known, with the beginning, middle and end obvious
4. Repetition of the activity will bring anticipation of motor use and support its accuracy
5. Motor learning requires: no verbal prompts, a mental rehearsal, and specific feedback at activity's end

New paradigms we need to embrace

1. The switch is NOT the activity
2. Electronic (zero pressure) switches vs. mechanical switches for AAC, computer, mobility (automaticity and transparency)
3. Don't use automatic scanning first, 2 switch needed
4. Set up activity for student to join, supporting postural control to the activity itself, and its anticipation
5. Activities need to build, and be interesting, and complex
6. Mistakes will be made, expected, and encouraged
7. Alternative access must be used by others to support the "mental rehearsal" or "visualization"

MORE New paradigms we need to embrace

1. Work for short periods, frequent breaks, support knowledge of beginning, middle and end of activity
2. Increase numbers of activity, to support a larger repertoire of experience and control
3. Expect real "access" to be revealed rather than "taught"
4. The activity must be known, and contain success and challenge, risk and reward

Equipment List: This is an equipment list of equipment I am currently using, prefer and have demonstrated. It is not meant to be inclusive, just an FYI (for your information).

Electronic Switches, interfaces, etc. that I currently use:

1. Proximity Switches

2. Fiber optic switches

From: Adaptive Switch Labs, Inc. (for powered chairs)/ 125 Spur 191, Suite C, Spicewood, TX. 78669; 1-800-626-8698. www.asl-inc.com

3. TASH SCATIR switch (Self calibrating auditory tone infrared) switch, mounted on a gooseneck

From: TASH, Inc. (Technical Aids & Systems for the Handicapped), www.ablenetinc.com

4. Mouse emulation, 3 switch, both wired and wireless, USB

This 3 switch configuration (one switch moves cursor up & down, one switch moves cursor right and left, one switch controls click, double click and click 'n drag). The "hard-wired" mouse emulator is both a 3 and 5 switch, can be configured either way. However, if "wireless" is chosen and you obtain both a transmitter and receiver, then the emulator is only 3 OR 5 switch and cannot be reconfigured. As far as I know at this time, the 3 switch wireless configuration can only be obtained from Comation.

From: Adaptive Switch Labs, Inc. 125 Spur 191, Suite C, Spicewood, TX. 78669; 1-800-626-8698. www.asl-inc.com

5. The Head Mouse

I love the head mouse. However, many of the individuals I work with can't get control of it quickly, as they are very unfamiliar or inexperienced with the programs/software they are attempting to control. Consequently, another form of mouse emulation or alternative mouse, I think, is more helpful to begin. Once an application or other software becomes very familiar, then a new method of access can be tried. This is when a Head Mouse can be tried. Many of the manufacturers of these costly products do

have "loaner" programs, please avail yourselves of these for your students/patients/clients. However, you need to learn to use it first, not just set it up for them to use. You move it through the programs to be tried, and become more familiar with it yourself. I have been around these Head Mice for a long time, and they have come down in price, and "new" ones appear periodically. Please don't just look for the cheapest one, make sure you know the company, how long they've been around, how many have they sold and serviced, and what happens if one breaks?. . Instead of "saving" money up front, "spend" money wisely, by purchasing reliable, durable products. Here is my favorite:

Origin Instruments' Head Mouse and Head Mouse Extreme: www.orin.com

You will need to also look at **On-Screen Keyboard programs** when using a head mouse. Make sure you look carefully through these, too. Again, you can find them through searches on the internet, your local AT resources may have some, but, again, look at **Infogrip**, as they carry several choices, including the popular REACH on-screen keyboards. Then, you need to choose looking at **word prediction and screen reading programs** too.

Basic Products I use for assessment with seating and seating with access simulation:

1. EZ Back; Standard comes in pediatric size, can be used on manual chairs or other seating, this is what I use most often in assessment, now, to assist in trunk support.

From: Advanced Mobility Systems, 621 Justus Drive, Kingston, Ontario K7M 4H5
Phone: 800-661-6716; www.amstilt.com

2. Mother Earth Pillows; Flaxseed pillows/bolster in various shapes, used for simulated seating as demonstrated;. Primarily Small bolster(5" x 15") and small flaxseed pillow (7"x 10") 2024 Key West Drive, Suite E, Arnold, MO, 63010; Phone: 800-344-2072; www.motherearthpillows.com

3. Elite Head array with mini-laterals and Pediatric or Mini-head array: these are the two head supports I use with proximity switches embedded within them.

From: Adaptive Switch Labs, Inc. (for powered chairs)/ 125 Spur 191, Suite C, Spicewood, TX. 78669;1-800-626-8698. www.asl-inc.com

4. Chest Strap, Elastic, large or small, from Bodypoint Designs, Inc. www.bodypoint.com

5. Neck towel roll: 100% chamois, PaKTowl (brand name) I get mine from Campmor; www.campmor.com but they can be obtained from many camping/hiking/outdoor stores.

6. Chair Hugger and Cuddle loop (from Abilitations catalog) www.abilitations.com

NEW(er) PRODUCTS I'm using with children:

1. The Tiger CUB, will use Invacare's Mark 6 electronics, a small powered chair, half the size of Invacare's powered Tiger, will have new, pediatric seating, a real chair for little kids. Should be ready any day now. Will be distributed by Adaptive Switch Labs, Inc. 125 Spur 191, Suite C, Spicewood, TX 78669, 1-800-626-8698; www.asl-inc.com

2. **X-Panda**, a great high/low chair, uses only one tool (and it's on-board); seating is truly adjustable, not just one piece, can get feet onto floor by taking off footrests completely. Developed by therapists from Europe. Uses one tool, and it's "on board." Also can be configured as a "dynamic" seat, similar to Rock Active's motion. Has various bases, to work from. Distributed by Snugseat, www.snugseat.com

3. **Nandu**, a new high/low chair again from snugseat. Just played with it, haven't yet used with a student, but love it, as it is. Let me know if it works for you.
www.snugseat.com

4. **KidWalk**, finally a hands-free walker, meant to help kids get close, also able to get child in in less than 30 seconds (and that's true) only in two sizes, but will be three. Developed by pediatric therapist with real kids, for real movement, nothing like it!! Two sizes (with lots of growth), already available. Can use headrest bracket with a head array and proximity switches too!! Can potentially replace standers. Is manufactured and obtained from Prime Engineering, Inc. www.primeengineering.com

5. **Activity Chair**, another high/low chair by Rifton. Comes with a rolling base or a standard base. I have only played with it, but I am so glad we are getting choices. Let me know what you think. www.rifton.com

6. **Leckey's High/Low Chairs; Leckey Mygo and Squiggles**; distributed by Ottobock. Will see in class this year. I haven't yet used, but am happy to see re-design.
www.ottobockus.com

Interesting Further Reading:

This is not a bibliography, as I have shared with you, instead my own understandings and musings as a treating therapist who has had so many wonderful children as a part of my clinical life. However, I do attempt to base my observations, thoughts, and attitudes not only on experience but also on current and past readings, and studies of others. These books I have found particularly helpful to me, I offer them to you for further study yourself, if you so choose. This is by no way a comprehensive list, but rather a good beginning.

1. Streaming Video:

<http://pattanat.com>

"The Challenge of Developing Consistency of Access

2. **"Translating Motor Control and Motor Learning Theory into Occupational Therapy Practice for Children and Young Adults,"** Part One, Nov. 17, 2008, Part Two, Jan. 19, 2009, American Occupational Therapy Associations (AOTA Publications) OT Practice.

3. **"Prognosis for Gross Motor Function in Cerebral Palsy"** by P. Rosenbaum, S. Walter, S. Hanna, JAMA (Journal of American Medical Association), Sept 18, 2002; 288; 1357-1363