

ENVIRONMENTAL CONTROL: ACCESS & EXPLORE

Liz Persaud
GATE Talk
December 9, 2016

ACCESS AND EXPLORE

During this talk, Liz Persaud will explore and share the collective role each of us play in promoting student success beyond the educational environment and the powerful role of Assistive Technology (AT). As a professional in the AT community with personal experiences that have structured and informed everyday living, Liz will spend his time with you to reflect back, look forward, and share her incredible life journey along with some valuable lessons learned. Diagnosed at the age of 9 months old with Spinal Muscular Atrophy, Liz was not expected to live beyond the age of 2. Medical advice focused on institutionalization and stated that survival would not include access to education, socialization, and employment. Using hope as a catalyst for survival, Liz has and continues to defy all medical expectations. Now at the age of 37, Liz is a college graduate, married, and recognized on a national level for her work to promote independence and disability awareness through assistive technology. Overcoming every day obstacles by using multiple technological outlets throughout the transition process has provided opportunities for independence through environmental and computer access, travel, successful health management, self-advocacy, socialization and more. Liz will discuss positive outcomes that can occur when universal design and appropriate assistive technology solutions are integrated into the lives of individuals with disabilities. This session will also provide participants with opportunities to explore specific AT strategies and solutions to promote success in the school setting and that can ultimately assist with smooth transitions into the workplace and community.

WHY AM I HERE TODAY?



Knowledge has power and
controls access to opportunity
and advancement.

REDEFINING LIFE

Official Diagnosis
December 1979



WHAT DOES IT ALL MEAN?

- Spinal Muscular Atrophy Type 2 ("ALS in children")
 - ✓ Life Expectancy (Age 2, 7, 11, 17) I am 37!
 - ✓ Progressive Muscle Weakness
 - ✓ Fatigue
 - ✓ Chronic Pain
 - ✓ Decline vs. Stable
 - ✓ Respiratory Complications

“SHE WON’T AND CAN’T BE SUCCESSFUL.”



My Parents were advised to put me in a school for individuals with developmental disabilities. They took me out the next day when they realized that *system* was not designed for me.

5TH GRADE ART CLASS WAS NOT ACCESSIBLE



I thought my peers would be mad. In the end it did not matter, we all learned art.

I learned I am not an artist!

But I am an Activist!

SUCCESS IN THE AFFAIRS OF
LIFE OFTEN SERVES TO HIDE
ONE'S ABILITIES, WHEREAS
ADVERSITY FREQUENTLY
GIVES ONE AN OPPORTUNITY
TO DISCOVER THEM.

HORACE

IT MAY NOT NECESSARILY
BE ABOUT FINDING YOUR
VOICE, BUT GIVING
YOURSELF PERMISSION
TO USE THAT VOICE AND
SPEAK UP.

“I WILL AND CAN BE SUCCESSFUL”

- Strong self-advocate, always wanting to help others, chosen as peer supporter to other students numerous times in elementary and middle schools.
- Always had good grades, made honor roll every year!
- In 8th grade won Humanitarian Award for community service.
- Active National speaker for the Muscular Dystrophy Association of Atlanta and the SE.



EARLY ENVIRONMENTAL CONTROLS

- People! Used natural support of parents and siblings at home and friends who helped with activities in school.
- Early adapted devices such as manual/power wheelchair, shower chair, lap tray, Hoyer lift, lightweight utensils.
- AT in High School included word prediction, voice dictation, note takers using carbon paper.

DEFINING ENVIRONMENTAL CONTROL



An environmental control device is a form of electronic assistive technology which enables people with significant disabilities to independently access equipment in their environment e.g. home, classroom and/or office.

CRITICAL QUESTIONS TO ASK

- What do you want to control?
 - Computer, Games, TV, Lights, Appliances, Wheelchair, Doors, Smart Phone
- What access can be automated?
 - Timers, Schedules, Scenes
- Will physical and cognitive abilities be changing over time?
 - Neurodegenerative Disease Process, Fatigue

TYPES OF ENVIRONMENTAL CONTROL

1. **Switch** - the user activates an accessible switch to control the environmental control unit, generally done through menu scanning.
 2. **Voice** - the user speaks the commands to the environmental control unit
" turn on bedroom light."
 3. **Both**
- ✓ The more options available (switch, voice, or both) the more independence can be gained.
- ✓ **Tip!** Look for the ability to customize or combine the control (input) devices to meet needs. While a voice-activated system can give the most independence, one's voice can become weak by the end of the day, so an ECU that can be controlled by both voice and switch may be very beneficial.

INDEPENDENCE

Disability is a natural part of the human experience and in no way diminishes the right of individuals to:

- (A) live independently;
- (B) enjoy self-determination and make choices;
- (C) benefit from an education;
- (D) pursue meaningful careers; and
- (E) enjoy full inclusion and integration in the economic, political, social, cultural, and educational mainstream of society in the United States.

THE FIGHT FOR INDEPENDENCE

I couldn't get inside the GSU Village (dorms) because the doors were manual and very heavy.

The solution offered was to coordinate with friends to meet and escort me into buildings.

I used my backyard neighbor as a resource and called Georgia Tech.

Over the next 2 months we collaborated and using a remote system I was able to access all doors.



SOLVING PROBLEMS IS WHAT WE DO.

CREATIVITY IS THE GATEWAY.

LETS TEACH AND LEARN FROM EACH
OTHER!

ASSISTIVE TECHNOLOGY

Assistive Technology (AT) has been the key instrument in my many successes throughout my life.

As technology continues to evolve and social and physical barriers are removed, my journeys are becoming endless while I increase my never ending quest for independence.



FACT!

**If you can control your computer, you
can control your environment!**

AMAZON ECHO

amazon echo

Always ready, connected, and fast. Just ask.



- Speech-controlled speaker system
- Voice recognition - further distances
- All functions are server side
- Compatible with many EC Brands
- \$179.99

PHILIPS HUE LIGHT BULBS

- Wifi Connected
- Dimmable
- Displays Over 16 Million Colors
- Compatible with Amazon Echo
- Color Starter Kit \$174.99



GOOGLE HOME

Google Home

google.com/home



XBOX ONE WITH KINECT



- Control your entertainment with your voice
- Netflix, Skype, Youtube, Internet Browser, Music, Television, etc.
- Price varies depending on bundle.
- Xbox One ~ \$300
- Kinect ~ \$100

MOBILE DEVICES & MOUNTING



- Explore various mounting options to hold mobile devices
- Helps with posture
- Operate wheelchair or other mobility aid safely
- Builds confidence
- Now I can text all the time!

TOUCHMOUSE

- By Logitech turns your iPhone or iPod touch into a wireless trackpad and keyboard for your computer
- Works over Wi-Fi
- Need to download the Touch Mouse Server software



ADAPTIVE SWITCH LABORATORIES (ASL)



125 Spur 191, Suite C, Spicewood, TX 78669
Toll Free: (800) 626-8698 · Local: (830) 798-0005 · Fax: (830) 798-6221

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ASL brings innovative products to our clients! We are here to help each client reach their full potential – our team creates products and designs as a direct result of the needs of those we serve. Our goal has always been independence and equal rights for those we work with....

Driver Control Packages



104 Electronic Head Array

Driver Control Packages



ASL 138 Extremity Control Joystick

Electronic Switches



ASL 215 Round Proximity Sensor
with Mono Port and 24 Volt Connector

Electronic Switches

Specialty Products & Adaptors

Specialty Products & Adaptors

[ducts/product_detail.php?product=105](#)

ASL 138 Extremity Control Joystick

ASL 215 Round Proximity Sensor

BUTTON SWITCH

- The ASL 305 Button Switch is a momentary switch.
- Activation button the size of a dime
- Requires medium force for activation.
- Enables easy access to multiple wheelchair functions (tilt, recline, power legs, elevate, etc.)



ULTRA LIGHT SWITCH



- The ASL 314 Ultra Light Switch has a very light activation force and low profile.
- Ideal for people with limited movement or weakness.
- Attach with a reusable sticky base or 2 screw mounting holes for secure placement.

JOYSTICK TO MOUSE EMULATOR

- Allows any joystick to point & click just like a mouse.
- Joystick can position the mouse cursor and enables the joystick buttons to operate as mouse buttons.
- Provides computer access and control via joystick to do with limited mobility.



VGO TELEPRESENCE ROBOT

- Enables a person to “replicate” themselves in a distant location and have the freedom to move around as if they were physically there.
- Reduces travel costs
- School
- Hospital
- Work Remotely



Solutions

- Overview
- Products and Services
- Benefits
- Applications
 - Healthcare
 - Large Enterprise
 - Manufacturing
 - Education
 - SMB

Quick Links

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People with Disabilities in the Work Place

Sector: **Business**



VGo increases productivity and effectiveness while lowering costs by enabling a person to get to a location instantly and easily. VGo is not designed as a replacement for in-person interaction but rather as the next best alternative to "being" in the workplace. VGo also eliminates the deficiencies associated with other video solutions that are locked to a TV or computer monitor by providing 100% remote controlled mobility. [delete that](#)

In addition to "being" at work from home, VGo can help people who can get to the workplace, but who cannot practically move about the facility or campus. A VGo can be used to enable a person to move around in one part of the facility while they are physically in another.

The benefits of using VGo in the workplace include

- Getting to places previously inaccessible increases opportunities
- Freedom of movement increases personal interaction with others
- Quality of life improvements by expanding the work and social environments
- Costs can be reduced by lowering or eliminating select transportation expenses, and by communications and speeding decision making



Video

DRAGON NATURALLYSPEAKING



- Speech recognition software
- Control your computer with your voice
- Works fast, 99% accuracy
- Dictate documents
- Search the web
- Precise and quick training

BESTIC FEEDER

- Bestic can best be described as a small, robotic arm with a spoon in the end that can easily be maneuvered.
- Bestic is small and compact, has an attractive, discreet design and is very quiet which makes it blend into the dining environment in a natural way.
- By choosing a suitable control device, the user can independently control the movement of the spoon on the plate and choose what and when to eat.



FOR A PERSON WITHOUT A DISABILITY,
TECHNOLOGY MAKES LIFE EASIER.

FOR A PERSON WITH A DISABILITY,
TECHNOLOGY MAKES LIFE POSSIBLE.



HOPE



PREPARATION FOR THE FUTURE

**Let your
environment work
for you!**

All of the solutions and helpful tools and strategies that I learned over the years are helping me to be successful today!



THANK YOU FOR YOUR TIME.
HAVE A GREAT CONFERENCE!

LIZ PERSAUD



Liz Persaud is a nationally recognized keynote, public speaker, and advocate addressing the need to build bridges to solidify the gaps between individuals living with and without disabilities. Liz currently serves as the Training and Outreach Coordinator for Tools for Life and the Pass It On Center at AMAC Accessibility Solutions and Research Center at Georgia Tech. She is a sought-after guest lecturer at numerous universities speaking on the successful marriage of technology and disabilities. Liz is an active advocate with the Muscular Dystrophy Association of Atlanta, providing outreach and raising awareness to numerous groups and organizations across the country about generations of adults growing up and living independently and successfully with childhood neuromuscular diseases. She is also the proud recipient of the 1999 and 2005 Muscular Dystrophy Association Personal Achievement Award in Georgia. Liz has dedicated her life to increasing independence for individuals with disabilities by educating on self-determination and advocacy with a focus on technology and disabilities. Liz is a graduate of Georgia State University and lives in Alpharetta, Georgia with her amazing husband and supportive family.

If you would like to connect with Liz directly, please send an email to: lizpersaud@gatech.edu.



GATE Evaluation Link



<http://tinyurl.com/GATEConference>

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