Assistive Technology Resource Centers of Hawaii

"Linking individuals with Assistive Technology"





- ATRC services
- The importance of play
- Easy to access toys
- Basic EADL (Electronic Aids to Daily Living)
 - Battery operated toys and other devices
 - Simple electrical toys and other devices
- Computers
 - Desktop applications
 - Mobile devices Apps

Our Mission

 Linking individuals with technology so all people can participate in every aspect of community life.

 Empowering individuals to maintain dignity and control in their lives by promoting technology through advocacy, training, information, and education.

What is Assistive Technology?



Any item or equipment that has been speciallydesigned, modified, or made commercially available which enables anyone to maintain or improve their functioning at home, school, work, and play while ensuring their quality of life.



- 1. Information and Referral
- 2. Funding and Advocacy
- 3. AT Depot Equipment Loan Bank
- 4. Computer Redistribution
- 5. ATRC Financial Loan Program
- 6. Demonstration and Training
- 7. Camp Cool and other outreach programs

The Importance of Play

- Play is far more than recreation
- Play is:
 - Participation
 - Socialization
 - Key to development skills
 - Motor
 - Sensory
 - Visual Auditory
 - o Tactile, vestibular, etc.
 - Cognitive



What are your thoughts?

- Children under the age of 5 should have minimal screen time
- 2. Children 2 and under should have no screen time
- 3. Some screen time is ok, even for infants and toddlers
- It does not matter how much screen time young children get

Universal Design for Learning (UDL)

- A framework for guiding educational practice that :
 - provides flexibility in the ways information is presented, in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and
 - reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students, including students with disabilities and students who are limited English proficient.

3 Principles of UDL

multiple and flexible means of representation or presentation of information

multiple and flexible means of action and expression of learning by children/students

multiple and flexible means of engaging and maintaining engagement of the learner

Goal of UDL

- To build purposeful, motivated, resourceful, knowledgeable, and strategic goal-directed learners
 - there is no one best way to learn
 - there is no one best way to demonstrate attainment of proficiency
 - there is no one best way to motivate and engage



- Children's play may appear random
- These multi-sensory experiences are directly linked to all areas of development
- This builds a foundation for future learning

Play Development Learning



Opportunities to play are reduced for children with limitations in:

- Motor skills
- Sensory abilities
- Cognitive abilities





- Toys have changed a lot over the years
- Many toys are challenging to play with
- Some are easier:
 - To manipulate (fine motor)
 - For children with sensory deficits



Toy Resources

- Toys R Us catalog for children with special needs (closing soon)
- Lekotek
 - o www.lekotek.org
- Be creative



When Being Creative Isn't Enough

- Some children cannot manipulate even "easy to play with" toys
- Assistive Technology can bridge the gap



Basic Electronic Aids to Daily Living provide alternative access to:

- battery operated devices
 - o i.e. a toy
- simple electrical devices
 - o i.e. a fan
- or provide limited control of an infrared receiving device
 - o i.e. television "channel up" command
- Handout

Access

Access is almost always by Switch





- To provide independent play
- To develop cognitive skills through this play
- Psychosocial development
- To prepare for future assistive technology use

How Does it Work?

- Direct connection
- Intermittent control
- Battery operated devices
- Electrical devices
- IR receiving devices

Direct Connection

- Direct connection
- Intermittent control



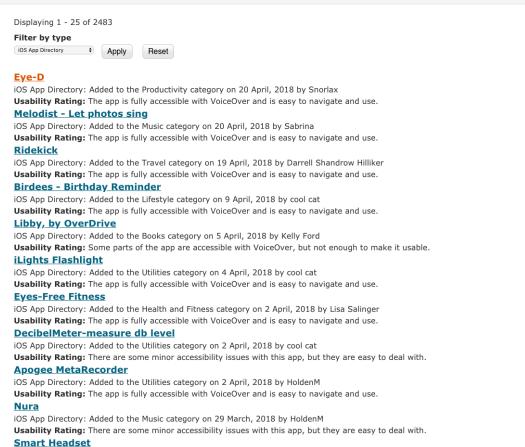
Intermittent Control

- Good for developing scanning skills
- Anticipation
- Waiting
- Accurate activation
- Timing



Empowering blind and low-vision users of Apple products and related applications

Latest Additions to the AppleVis App Directory



iOS App Directory: Added to the Photo and Video category on 29 March, 2018 by HoldenM

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SKOOG 2.0

 The Skoog is a customizable electronic musical instrument that has been designed to be inclusive and accessible – especially to those unable to play conventional musical instruments



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Google

The iPad







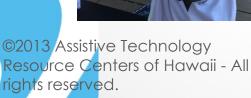
A computer exploration camp for children with disabilities and their friends/siblings. Campers learn website development, video production, digital photography, computer-based applications as they explore, learn and play with AT.

Camp Cool











Control of simple infrared controlled devices

Typically control of devices that receive Infrared (IR) signals is done through a Multifunction EADL system. This provides more complete control and through a wider array of access methods. However, some clients do not require this level of control and benefit from a simpler and less costly option. Some of these Basic EADLs are controlled directly through large buttons and some by switch. Control has been simplified on most of these EADLs to accommodate cognitive limitations.

Home audiovisual systems can be quite complex these days. More than one remote control may be required to control the TV (often Power and Volume controls are on the TV remote, but Channel controls are on the Cable remote). Also, some audiovisual equipment remote controls send both IR and Radio Frequency (RF) signals. These Basic EADLs cannot learn or send RF signals and so will not be able to execute those functions controlled by RF.

Some individual devices are switch adapted, including CD Players, MP3 Players and DVD Players. Many of these can be found at Enabling Devices and RJ Cooper.

BASIC ELECTRONIC AIDS TO DAILY LIVING - Simple Infrared Control

NAME	РНОТО	SWITCH INPUT	SWITCH OUTPUT	COST	PROD.#	DIMEN SIONS	COMMENTS
Relax AbleNet		Direct or 1 switch	None IR output	\$425.00	10000020	7.36 x 2.91 x 1.06	8 programmable IR commands, adjustable scanning speed Each location can only learn one IR pulse (i.e. cannot program multi- number channels)
TV Remote Control Enabling Devices	•••	direct or 5 switches	None IR output	\$229.95	1521	15.75 x 10.5 x 3.5	2" buttons or any 5 switches to control power, channels, volume Several versions available IR commands are pre-stored. This device may not be able to control all functions if TV and Cable signals are required.
TV Remote Module Enabling Devices	00000	1-5 switches	None IR output	\$144.95	5150	10 x 4 x 2.5	switch for each desired function: power, volume up, volume down, channel up, channel down. IR commands are pre-stored. This device may not be able to control all functions if TV and Cable signals are required.
TV-Cable/Satellite Remote RJ Cooper	Nids version	2 switches	None IR output	\$99.00	H-68-TV		Universal remote with 2 switches. First switch for power (both or either TV and Cable Box). Second switch Channel Up (can store 10-15 favorites so less channels have to be gone through).

Electronic Aids to Daily Living (EADLs) control devices in the environment using an alternative method to provide independent control for persons with physical, sensory and/or cognitive impairments. Basic EADLs provide limited control of battery operated or simple electrical devices (on/off or limited infrared control) through switch access. Multifunction EADLs provide control of multiple electrical devices (i.e. Television) and functions (i.e. Volume Up) through a variety of access methods (i.e. Direct, Switch, Voice, or Eye Gaze).

How does this technology work?

To operate a battery powered device, such as a toy, a switch is connected to the device which essentially completes the battery connection upon activation. Some battery devices are pre-adapted and include a switch jack, others require a battery device adaptor (not all devices can be activated with a battery device adaptor, for example toys that are activated by pressing the "paw", rather than turning on a switch by the battery). Activating the switch completes the connection and power is provided to the device. Switch activation must be sustained to continue device operation. This can help to develop Cause and Effect concepts, however many clients have difficulty sustaining switch activation.

Some battery powered devices are controlled through infrared (IR) using a remote control. Some basic EADLs can learn and send these IR signals. The device does not have to be adapted.

These Basic EADLs provide Intermittent switch control of battery operated devices. Depending on the Basic EADL used, various control modes are available. Direct (or Momentary) Mode requires a sustained switch activation. In Latch mode, the first switch activation turns the device on and the second activation turns the device off. In Timed Mode, a switch activation turns the device on for a programmed amount of time, generally 1-60 seconds or 1-60 minutes. The device then turns off and another switch activation is required to start up the device again. Any type of switch placed in any location which provides independent control for an individual client can be used.

Why is this technology important?

Many people with cognitive, sensory and/or motor limitations have difficulty manipulating toys and other objects for play. Play is more than just recreation; play provides independence as well as participation and socialization with others. Object manipulation develops critical developmental concepts such as Cause and Effect, Object Permanence, and Stop and Go. Object manipulation is also important for development of vision and visual perception. Finally, use of this technology can help to prepare a client to use more sophisticated assistive technology in the future. For example, use of a Switch Latch and Timer or PowerLink develops scanning concepts and skills: switch activation, waiting, anticipation, timing and accuracy (using Timed Mode).

AbleNet, Inc.	800-322-0956	www.ablenetinc.com
Adaptivation	800-723-2783	www.adaptivation.com
Enabling Devices	800-832-8697	www.enablingdevices.com
Inclusive TLC	800-462-0930	www.inclusivetlc.com
RJ Cooper	800-752-6673	www.rjcooper.com

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