



UNIVERSITY OF  
MARYLAND



# Assistive Technology/Universal Design

EDUC 477/6890

AT Categories Overview



# Assistive Technology Categories



# Application Use

- **Personally necessary**
  - for use by an individual student
- **Developmentally necessary**
  - may be shared, meets an educational need based on developmental delay, allows active participation
- **Instructionally necessary**
  - modifications to instructional process at grade level

*(J. Judd-Wall categorizations)*



# Technology Levels

- **Low Tech**
  - straws, Velcro, pencil grip, raised line paper, and oversized marking pens
- **Mid Tech**
  - wrist stabilizer, tape recorders, calculators and switch operated toys
- **High Tech**
  - computers, software, and motorized wheelchairs



# RESNA Personal Use Categories



- **Aids for Daily Living**
  - Aids to improve self-help skills and encourage independence in activities such as cooking, eating, dressing, toileting, and home maintenance.
- **Communication/Augmentative Communication**
  - Electronic and non-electronic devices that enhance communication skills for persons who are semi-intelligible or non-verbal.

RESNA Categories (REHABILITATION ENGINEERING AND ASSISTIVE TECHNOLOGY SOCIETY OF NORTH AMERICA) *from their 2002 PD workshop. Find more at <http://128.104.192.129/prodev/fundamentals.html>*



# Personal Use cont.

- **Computer Applications**
  - Input and output devices (voice, Braille), alternative access aids (headsticks, light pointers), modified or alternative keyboards, switches, special software, and other devices that enable persons with disabilities to use a computer.
- **Environmental Control Systems**
  - Environmental control systems are primarily electronic systems that enable someone without mobility to control various devices such as appliances, electronic aids, and security systems in her or his room, home or other surroundings.



# Personal Use cont.

- **Home/Work Site Modifications**
  - Modifications in the home or work environment to remove or reduce bathrooms, ramps, customized desks and work tables to accommodate wheelchairs, automatic door openers, alternate computer systems, and voice output devices for the blind or visually impaired.
- **Instructional Material Aids**
  - Computers with adaptive switches and keyboards that substitute for normal keyboard use or conventional handwriting; audiotape players, braille displays or print magnifiers for students who are blind or visually impaired.



# Personal Use cont.

- **Leisure time or Recreational Adaptations**
  - Structural adaptations to promote participation in cultural events and leisure time activities for individuals with disabilities.
- **Mobility Aids**
  - Vehicles used to increase personal mobility including manual and electric wheelchairs, mobile bases for custom chairs, walkers, three-wheel scooters, scooters, walkers, modifications of vans for travel, and canes used by pedestrians who are blind or visually impaired.



# Personal Use cont.

- **Prosthetics and Orthotics**
  - Replacements, substitution or augmentation of missing or malfunctioning body parts with artificial limbs or other orthotic aids (splints, braces, etc.).
- **Seating and Positioning Aids**
  - Adapted seating, standing tables, seat belts, braces, transfer aids, cushions and wedges to maintain posture, and devices for trunk alignment that assist people in maintaining body alignment and control so they can perform a range of daily tasks.



# Personal Use cont.

- **Sensory Aids**
  - Devices for people who are blind or visually impaired or hearing impaired.
- **Vehicle Modifications**
  - Adapting driving aids, hand controls, wheelchairs, or other motor vehicles used for personal transportation.

*(RESNA Categories)*