I can **SEE** what you **HEAR!!**

**Agenda**
- Classroom Access
- Communication Technologies
- Signaling Devices

**Overview**
- Internet technology is transforming the interactions of individuals who are deaf or hard of hearing
- Textual, visual and real-time alternatives for accessible communications

**Classroom Access**

**Choosing VRI**
- Effective strategy in areas without a large pool of qualified interpreters
- Requires good connectivity in classroom
- Class format – lecture or interactive group?
- One-way or two-way connections? Consider student participation
- Reading sign language from the screen may be more difficult than in person
- **Firewalls** may pose problems!

**Video Remote Interpreting (VRI)**
- Uses video-conferencing technology to provide interpreting services from off-site locations
- What's needed?
  - Web camera(s)
  - Display screen
  - Microphone/speaker
  - Software
  - Fast internet connection

**Textual, Visual & Real-Time Alternatives**
- **VRI**
- Relay Textual
- **Yahoo**
- **AOL**
- **MSN**
- **VRS**
**CART** Communication Access Realtime Translation

- **What is it?**
  - Speaker’s words displayed on screen or laptop
  - Usually a *verbatim* readout with disk/printout available after class

- **When is it used in higher education?**
  - Classroom settings, meetings, assemblies

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**Speech-to-Text Systems**

- **What are they?**
  - Speaker’s words displayed on screen or laptop
  - Provides *meaning-for-meaning* translation
  - Uses word processing software aided by abbreviation software

- **C-Print®**
  - Developed at NTID, based on years of research
  - Automatic speech recognition available
  - Online training!

- **TypeWell**

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**How Is It Set Up?**

- **One-on-one Captioning**
- **Overhead Captioning**

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**CART** Communication Access Realtime Translation

- **Who’s the typical student using it?**
  - Student in courses with complex terminology; oral deaf or late-deafened individual

- **Who provides it?**
  - Skilled stenographers with additional training in captioning

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**Speech-to-Text Systems**

- **Who’s the typical student using them?**
  - Students for whom English is their first language; hard-of-hearing, oral deaf or late-deafened individuals

- **Who provides it?**
  - Trained captionists who use laptops and software
Remote CART

- CART provider listens to the speaker via telephone
- Writes the realtime account to a Web site that the student is logged onto
  OR
- Text appears on the student’s computer screen

Remote C-Print®

- C-Print® provided for student access
- Service provider is at remote site
- Connections through phone lines and internet

Caption Mic

- Voice captioner uses a dictation mask or headset and “echoes” what is said in the classroom
- Speech recognition software converts speech into captions
- 4 - 10 hours of speech model training required

Liberated Learning Initiative

- Instructor “teaches” speech recognition software to understand his/her speech
- Uses wireless microphone connected to computer
- Custom software converts spoken lecture into text
- Uses pauses in speech to create visual breaks
- Text is displayed in class

Captioning Webcasts
**Captioning of Videos**
- Process of converting the audio portion of a film, video, or CD-ROM into text
- Open captions vs. closed captions
  - Check equipment to make sure captions will show!
- Captioning existing materials?
  - Professional services available
  - Can purchase software for in-house use

**Rear Window Captioning**
- Movie-goer uses a transparent acrylic panel that attaches to the seat
- Captions are projected from rear of theater and appear to be superimposed on movie screen
- Panels are portable and adjustable

**Communication Technologies**

**The Shrinking TTY**

**TTYs: The Sixties**
- 1964 - TTY invented
- Also known as a TDD
- Allowed deaf people to communicate with other TTY users without depending on hearing friends and family to interpret

**On Campus TTY Access**
- **Strategic locations on campus**
  - Student service offices
  - Library
  - Residence halls
  - Campus security
- **Pay phone TTY access**
  - After hours access
  - Community access
**Telephone Relay Services**

- Access relay: Dial 711
- Deaf person types message on TTY
- Relay operator voices typed info and types what hearing caller says

**Videophones**

- Tiny built-in camera allows direct communication
- 15 frames/sec.—very slow for smooth transmission of ASL
- Small screens

**Videophones—Advances!**

- Big screen—uses TV!
- Smooth transmission of ASL
- Operates as a stand-alone device:
  - Plug into TV and high speed Internet connection
  - Make live video phone calls to all over the world
- D-Link i2eye™: ‘03 Electronic House Product of Year

**Video Relay Service (VRS)**

- Allows sign language users and hearing persons to communicate via videoconferencing with a remote video interpreter
- Uses web-cam and high-speed internet connection
- Log onto VRS website: connect with video interpreter who calls any phone number

**VRS Advantages**

- Ability to communicate in sign language
- Increased communication speed
- Enhanced communication with use of
  - Facial expression
  - Body language gestures

**Internet Relay Service**

- Place text relay calls online without TTY
- Users connect to a Communications Assistant through the Internet relay website:
  - Type outgoing messages on computer keyboard
  - Read incoming messages on computer monitors
Internet Relay - Advantages

- Larger text display area
- Up-front call instructions to the Communications Assistant (relay operator)
- Adjustable text sizes and colors for easier reading
- Split-screen mode to separate conversations

NexTalk

- Call or accept calls from a TTY
- Live, direct text communication
- Web-based service--anyone on browser can call

Advantages:
- Server handles calls; no relay operator needed
- Free calls and downloadable software
- TTYs not needed in offices to receive TTY calls
- Training of staff is simplified
- Conversations can be documented, printed, archived

Captioned Telephone (CapTel)

- CapTel phone used to place/receive calls
- Connects with captioning service
- Caller uses own voice; reads captions
- What’s needed?
  - Captioned telephone
  - CapTel service
- Similar to 2-line VCO, but uses only 1 line and 1 device

Two-Way Pagers

Blackberry

Pros
- Excellent coverage
- Light & thin, easy handling
- Use as phone (though may lack power needed for HH users)
- Syncs with MS Outlook
- Font size selection
- AOL AIM chat (though experiences are varied)

Cons
- No relay access via internet
- Cannot use with camera
- Cannot download photos via email
- Expensive to purchase
- IM access may be weak
- Inadequate Web Browser

Cons
- Breaks easily
- Coverage not as good as major carriers
- One font size
- Faulty flipscreen

T-Mobile Sidekick

Pros
- Relay is available!
- Can use with camera
- Good coverage
- AOL AIM chat (Excellent access)
- Sells at many deaf events
- Use as phone
- Relay access via Terminal Client and/or IM Camera
- SK II has IntelliSync---syncs with MS Outlook

Cons
- Breaks easily
- Coverage not as good as major carriers
- One font size
- Faulty flipscreen
Using Pagers with Students
- Ongoing communication between students and DSS staff
  - Use of email instead of phone or face-to-face interactions
- Just-in-time communication
  - Notification of schedule changes
- Document exchange
  - Class notes or transcripts
- Scheduling and alarm features

Interpretype®
- Two pre-programmed laptop style computer devices
- Each device sends and displays typed messages to other device
- Log on to have a conversation by reading and typing
- Aids face-to-face communication

AlphaSmart
- Low Cost
- Long Battery Life (700 hours on 3 AA batteries)
- Lightweight rugged design (less than 2 lb.)
- 4-line by 40-character LCD display
- International character support for Danish, Dutch, French, German, Italian, Portuguese, Spanish and Swedish

Communication Assistant
- Provides text captions through a transmitter
- Tiny, wearable display for access to public events and places
- Developing at Georgia Tech Rehabilitation Engineering Research Center (RERC)- not yet available
  - http://www.wirelessrerc.gatech.edu/projects/development/d2_survey.html

Instant Messaging
- Benefits
  - Cheap information and community tool
  - Promotes efficiency in getting answers to questions
  - Supports multi-user conversations
- Drawbacks
  - Often misused
  - Concerns about security

Signaling Devices
Signaling Devices Used on Campus

- Visual smoke detectors and flashing fire alarms
  - Residence halls (common areas; student rooms)
  - Campus buildings
- Door knockers
  - Residence hall use
  - Portable units available
- Captioned TVs in common areas

Postsecondary Education Programs Network

www.pepnet.org
Click on “Resource Center” for PEPNet products

Where to Get More Information?

PEPNet Resource Center

http://prc.csun.edu

Resources: Captioning of Videos

- Captioned Media Program, SC
  www.cfv.org
- Closed Caption Maker, MD
  www.ccmaker.com
- NCI (National Captioning Institute), VA
  www.ncicap.org
- WGNH/National Center for Accessible Media, MA
  http://ncam.wgbh.org
- Captioning Web
  http://www.captions.org/softlinks.cfm

Remote CART

- http://www.cartinfo.org/remotecart.html
- http://www.captionfirst.com/
- http://www.educaption.net/
**Remote C-Print ®**
- Wisconsin: Panther project
  - Shannon Aylesworth: aylessr@uwm.edu
  - Ginny Chiaverina: ginnyc@uwm.edu
- Maine:
  - Lisa Sorenson: 207-282-3421
  - act@maine.rr.com

**Resources: Video Remote Interpreting (VRI)**
- [http://www.interpretersinc.com/services.htm#2](http://www.interpretersinc.com/services.htm#2)
- [http://www.signonasil.com/video.htm](http://www.signonasil.com/video.htm)
- [http://mason.cuir.uwm.edu/panthercom/guidelines.html](http://mason.cuir.uwm.edu/panthercom/guidelines.html)
- [http://www.cacdhh.org/video_interpreting_services.html](http://www.cacdhh.org/video_interpreting_services.html)

**Resources: Speech-to-Text Systems**
- C Print ®
  - [www.ntid.rit.edu/cprint](http://www.ntid.rit.edu/cprint)
- Typewell
  - [www.typewell.com](http://www.typewell.com)
- Viable Technologies
  - [www.viabletechnologies.com](http://www.viabletechnologies.com)

**Resources: Internet Relay Service Providers**
- CSD: [www.c-s-d.org](http://www.c-s-d.org)
- Hamilton Telecommunications: [www.hiprelay.com](http://www.hiprelay.com)
- Sorenson: [www.s-vision.com](http://www.s-vision.com)
- Sprint: [www.sprintvrs.com](http://www.sprintvrs.com)

**Resources: Video Relay Services (VRS)**
- Communication Access Center for Deaf and Hard of Hearing: [www.cacdhh.org](http://www.cacdhh.org)
- CSD: [www.c-s-d.org](http://www.c-s-d.org)
- Hamilton Telecommunications: [www.hipvrs.com](http://www.hipvrs.com)
- Sorenson: [www.s-vision.com](http://www.s-vision.com)
- Sprint: [www.sprintvrs.com](http://www.sprintvrs.com)

**Video Relay Service (VRS)**
- Demos:
  - [http://www.ip-vrs.com/videorelay.jsp](http://www.ip-vrs.com/videorelay.jsp)
Face-to-Face Communication

Interpretype:  www.interpretype.com

AlphaSmart:  www.alphasmart.com

Communication Assistant:
www.wirelessrerc.gatech.edu/projects/development/d2_survey.html

Resources: Instant Messaging

- AOL Instant Messenger
  http://www.aim.com/

- MSN Messenger
  http://www.msnmessenger.download.com/

- Yahoo Messenger
  http://messenger.yahoo.com/