

INTEGRATION OF WIRELESS TECHNOLOGY IN GROUP INTERVENTION

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1st International Conference on
Adults with Complex Hearing Needs
Phoenix, AZ
Dec. 8th, 2015



University of Texas at Dallas



Callier Center for Communication Disorders

Advanced Hearing Research Center

Main Campus, Richardson, TX

Callier Center at Richardson



ABSTRACT

- The benefits of wireless technology are often not realized when introduced in the traditional clinical appointment with a patient and their significant other. However, when presented in an opportunity to immediately realize the improvement in speech recognition that wireless technology can provide, patients are much more motivated to explore the options. These experiences with wireless systems in group rehabilitation sessions have been extremely useful for not only patients but also for AuD graduate students. They see the significance of the group rehabilitation sessions and learn how to evaluate the benefits of wireless technology in meaningful situations.

Acknowledgements

- Phonak
- Archer Foundation
- Livingston Audiology
- Jones Audiology
- Texas Dept of Assistive and Rehabilitative Services

Overview

- Benefits of Introducing Wireless Technology in Groups
- Adult Rehab Groups-SIARC
- Teen Rehab Groups-Camp CHAT

Benefits of Introducing Wireless Technology in Groups

- Ideally group composed of student advocates or other successful users to provide validation
 - *Participants can compare themselves and share identity*
 - *If they like it or even if they thought this was a good idea....I might like it!*



Benefits of Introducing Wireless Technology in Groups

- Can relate benefits of using wireless technology to a variety of problems
 - *Participants can each share a difficult communication situation*
 - *A variety of solutions can be considered that may not have been addressed in an individual appointment*



Benefits of Introducing Wireless Technology in Groups

- Actually experience benefits while in the group setting
 - *Wireless technology is most impressive when there is distance, reverberation, or background noise*
 - *All of these factors are more likely to occur in group settings than in individual appointments*



Adult Rehabilitation at UTD SIARC

S..pecialized
I...ntensive
A..uditory
R..ehabilitation
C..onference

Thibodeau, L. & Cokely, C. (2003). Maximizing Auditory Rehabilitation Training for Clients, Students, and Faculty through SIARC: Summer Intensive Aural Rehabilitation Conference. *Journal of the Academy of Rehabilitative Audiology*, 36, 67-82.



SIARC

Service
Delivery

Student
Training

Community
Awareness



SIARC

- Guided learning with real-world practice
- Supportive environment
- Benefits of technology realized in the clinic, then demonstrated outside the clinic



SIARC

- Week-long intensive program
- Designed for couples or communication partners
 - *Husband/Wife, Mother/Daughter, Friends*
- AuD/SLP students paired with a couple
- All fit with hearing equipment (their own or SIARC loaners)



In the Beginning.....

Wireless Technology for Group Rehabilitation in 2000

- Single Channel Transmitters
- Some used Body worn Receivers to Neckloops or Direct Audio Input Connections
- Some fit with audio shoes and Single Channel Receivers
- Used UTD Sound System for Soundfield Amplification



Equipment starting in 2014

Used in all sessions, dinners, tours

■ Hearing aids



■ Roger

– Receivers

20 Receivers



One HUGE benefit for Group Rehab Sessions
NO CHANNEL MANAGEMENT!!
Create Networks—Still have to remember to get off
networks when no longer in that conversation



Special thanks to Phonak!



Use of Roger during SIARC STUDENT INSTRUCTIONS!

- During lunch, dinner, tours invite your couple to use Roger
- Offer to manage/carry equipment
- Offer to turn on and connect to network at dinner table
- Try different mic settings:
Lanyard, Interview, Conference
- Turn it off...converse...turn it back on...converse



Soundfield Distribution Equipment

- **Roger Inspiro**
 - *Could transmit to Roger Receivers AND to iSense Receivers worn by students!*
- **Dynamic Soundfield System**
 - *Used in all group settings*
- **Passaround Microphones (N=3)**
 - *All participants required to use mics for comments/questions*



Special thanks to Phonak!

SIARC

- Invited guest speaker – Used technology which added validation
 - *Thank you Mark Ross, Nancy Tye-Murray, Pat Kricos, Arthur Boothroyd, Sam Trychin, Judy Abrahamson, Jim Jerger, Aage Moller, Michael Kilgard and many more!*
- \$400 per couple
 - *Includes all lectures, services, and meals*
- Many scholarships provided by manufacturers and our state rehabilitative programs



SIARC – Sample Schedule

	SIARC 2014				
	Mon	Tues	Wed	Thurs	Fri
7:30	Student Meeting	Student Meeting	Student Meeting	Student Meeting	Student Meeting
8:30	Cases/Sched	Comm Vitamin	Comm Vitamin	Comm Vitamin	Ck Reports
9:00	Checkoffs	Coping w HL	Coping w HL	Coping w HL	Review Tests/Rx
10:00	Break	Break	Break	Break	Break
10:15	Equip/Needs	Audio	Audio	Audio	Final Wrap-Up
11:15	Mentor Meetings	Pat Kricos U of FL	CommStrat	CaptionCallDemo	Equip Return
12:15	Lunch	Lunch	Lunch	Lunch	Student Meeting
1:00	Welcome	SR/AUDTrain	SR/AUDTrain	Infrared Demo	Equip Sort
1:30	Audio	SR/AUDTrain	SR/AUDTrain	Depart for	Equip Sort
2:00		Break	Pat Kricos	Meyerson	Restore SIARC Café
2:30	CommStrat	Depart	Lecture	Tour	Unpack Carts
3:00	CommStrat	Flight Museum			Final Instructions
3:30	Break	Tour	Break		Depart
4:00	Esther Kelly		Phone Options		
5:00	Dinner Blue Mesa	Dinner	Dinner- Catered	Dinner Marcus	
6:00	Catered	Celebration Café	Murder Mystery Show	Café	
7:00					

SIARC - Sample Schedule

CLASSES			
1 AUDIO CLASS	2 COMM STRATEGIES/ALD	3 AUDIO VISUAL TRAINING	4 COPING
Audiogram OAE Otoscopy Tympanometry HACK - Elec then Real Ear New Technology HINT-No HA or W/pers HA HINT-New HA, FM	COMM RULES Audio/Sp Acoust/Simulate HL ALD's-Phone Tech/Strategies ALD-TV/Alerting/Public ADA	Seeing Hearing Speech Read My Quips LACE Tracking	COSI Comm Breakdowns Stress Effects Changing Behavior

First Day

Assess the Communication Challenges!

THE TELEGRAM

A TOOL TO USE IN **EVERY** REHABILITATIVE
EVALUATION TO PROVIDE SERVICES TO MAXIMIZE
COMMUNICATION

Intended to be a communication assessment that
can be plotted for efficient summarization.

Thibodeau, L. (2004). Maximizing Communication via Hearing Assistance Technology: Plotting beyond the Audiogram! Special Issue: Assistive Listening Devices. *Hearing Journal*, Vol. 57.

TELEGRAM

Telephone

Employment

Legislation

Entertainment

Groups

Recreation

Alarms

Members of House

NAME: _____		Date of Birth: _____		Person completing Telegram: _____				
	T	E	L	E	G	R	A	M
	Telephone	Employ-	Legislation	Entertain-	Groups	Recreation	Alarms	Members
RATING								
1 No Difficulty								
2								
3 Some Difficulty								
4								
5 Great Difficulty								
	C- Cell phone L- LandLine	J- Job S- School	P- Public Listening A- ADA	T- TV M- Movies	R- Religion P- Parties M- meetings	_____	S- Smoke D- Doorbell C- Clock	Check all that Apply

Three Main Problems to Address:

Recommendations:

T _____ E _____ L _____ E _____ G _____ R _____ A _____ M _____

Group Auditory Rehabilitation Wireless Technology Opportunities

■ Group Discussions

- Soundfield Distribution System
- Personal Roger Receivers
- Pass around microphone

■ Group Tours

- Consider need for “Roger-Only” program in VERY noisy tour
- Need for two networks when group divides into two tours

■ Theatre Experience

- Theatre script captioned and sent to ipads
- Live Murder Mystery dialogue

■ Communication Networks at Dinner

- Roger Clip on Mics set in network with Roger Pen
- Benefits of Mic options on Pen Demonstrated
- Spouses can try Roger MyLink with headphones



SIARC

- Real-world experience
- Examples include: Dinner at noisy restaurant, Live theatre, Murder mystery dinner, Museum tours, Dance lessons, Tour of Music Hall



SIARC Dinners



Model asking waiters/cooks
to wear transmitters

Experience hearing speech
unfavorable SNFs!
(signal-to-fire ratios)



SIARC – Ipad Captioning

■ Captioning

- Theatre script transmitted to ipads
- Live Murder Mystery dialogue

Students made this work!!

8 Roger pens on Actors in a network

Audio Signal to all those with Roger Receivers AND to a.....

Mylink connected to a laptop connected to a captioning service

The Audio was captioned by someone in Chicago, SENT BACK TO DALLAS

Captions Projected on the iPad screens around the restaurant via the web

SIARC

Works well in University setting with graduate students and semester breaks in the clinic



EXPANDING TO OTHER TRAINING PROGRAMS

- University of Washington
- University of Minnesota
- University of South Florida

University of Washington Aural Rehabilitation





SIARC at University of Minnesota



March 10-14, 2014



USF – CSD HEARING CLINIC

Spring
Intensive
Auditory
Rehabilitation
Conference
SIARC 2014

USF UNIVERSITY OF
SOUTH FLORIDA

THE USF SIARC
PROGRAM begins...



USF UNIVERSITY OF
SOUTH FLORIDA

Program Benefits

Enhanced Quality of Life



Camp CHAT



Camp CHAT-Communication Habilitation via Audition for Teens

- The goal: Teach AUD and SLP students to empower teens with hearing loss to achieve independence through effective communication
- Teens and THEIR PARENTS and siblings over age 5
- Cost: \$150 for one teen and one parent, scholarships are available



Camp CHAT



- Wanted to address the communication needs of teens with hearing loss through interactive activities in a comfortable, small-group setting with the support of graduate student coaches
- Use of technology in “non-educational” settings to promote acceptance

AUD and SLP students create GAMES

- Ice Breakers
- Audiology Trivia Games
- Communication Strategies/Skills
- Self-Esteem Building Games and Discussion Groups



Types of Activities-Baseball Theme-9 Innings

- Social activities
 - *Develop identity with camp bag to decorate*
 - *Watermelon seed spitting contest*
- Parents see the benefits of wireless technology
 - *Games designed to put them at disadvantage*
- Outdoor Challenge Exercises through Camp Staff
 - *Low and High Ropes, Fishing, Archery*



CHAT – Wireless Technology Teaching Opportunities

■ Group Discussions

- Soundfield Distribution System-plug into ipad to play music/recordings for activities
- Personal Roger Receivers
- Pass around microphone

■ Group Activities

- Set up so parents/siblings who don't have receivers "LOSE" the game
- Demonstrate benefits of instructor having microphone – especially High Ropes

■ Personal Experience

- Demonstrate Bluetooth features while making phone calls
- Demonstrate use in sports and group challenges

■ Communication Networks at Dining Hall

- Roger Clip on Mics set in network with Roger Pen
- Benefits of Mic options on Pen Demonstrated
- Interesting dinner family conversations!







STUDENT'S EYE VIEW

Sarah Wallace
University of Texas at Dallas

Student roles

- Volunteer

- *Set-up, food, supplies, organization*

- Student guide

- *Paired with a couple, classes, day-to-day*

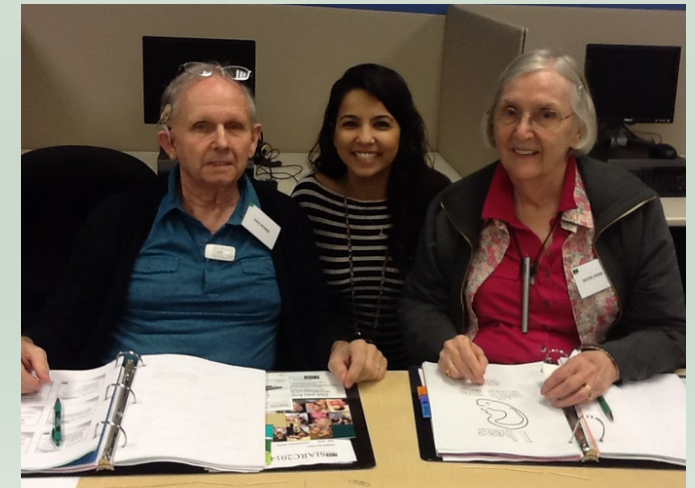
- Mentor

- *Evening event planning, equipment fittings, oversee*



SIARC

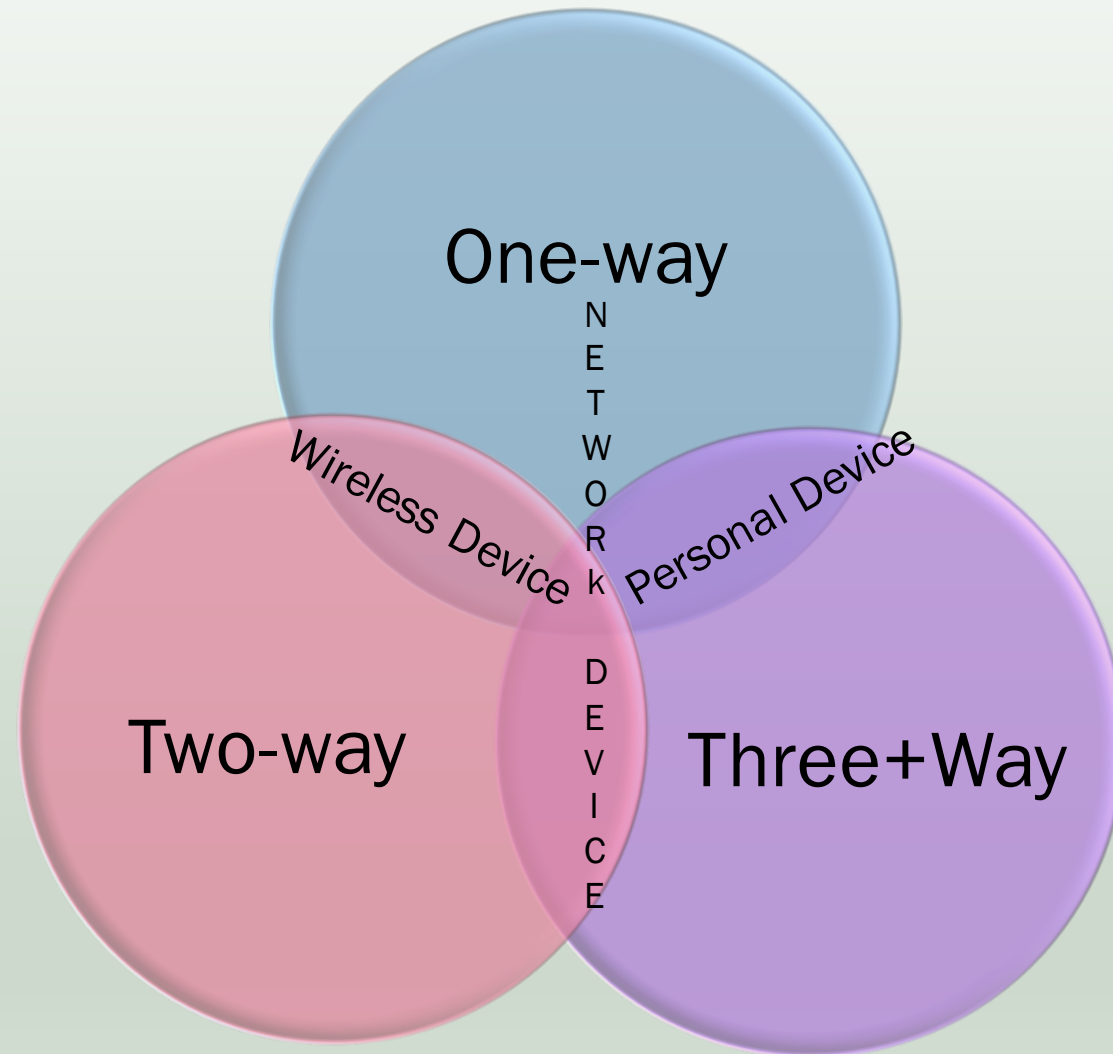
- Offers student's opportunities to...
 - Build relationships
 - Solve problems
 - See growth in participants and themselves



SIARC

- Enlightening, gratifying, edifying
- Builds confidence in skills
- Unique experience offered nowhere else

LET'S CONSIDER TEACHING A COMMUNICATION ENHANCEMENT PROGRAM INCLUDING ONE, TWO, AND THREE+ COMMUNICATION ARRANGEMENTS



WHERE PERSONAL AMPLIFICATION IS JUST ONE OF THE INTEGRATED COMPONENTS!



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