Speaker:
Peggy

Haptic Communication to Facilitate Braille Instruction with Deaf-Blind Adults

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July, 2020

Overview

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1. Description of Haptic Communication (Haptics)
2. Origins and Benefits of Haptics
3. Research on Haptics and Braille Instruction
4. Implications of Research for Practice

Description of Haptics

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- Standardized system for providing visual information and social feedback via touch signals on the body
  - Haptic signals specifically designed to be received on body
  - Haptics does NOT replace sign or spoken language
- Sign language was developed to be received visually
  - Tactile sign language; slight modification to be received in hand

Places of Articulation

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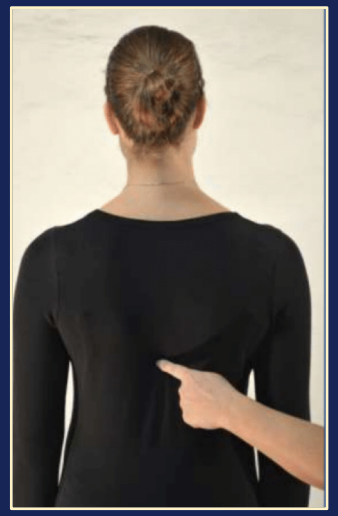
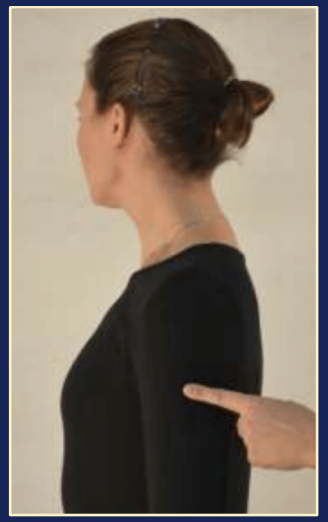
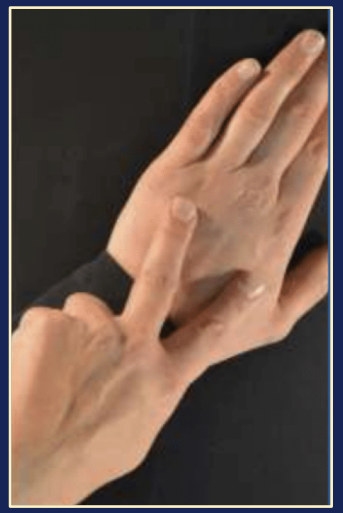


Back



Arm

Leg



Hand

Foot

Examples

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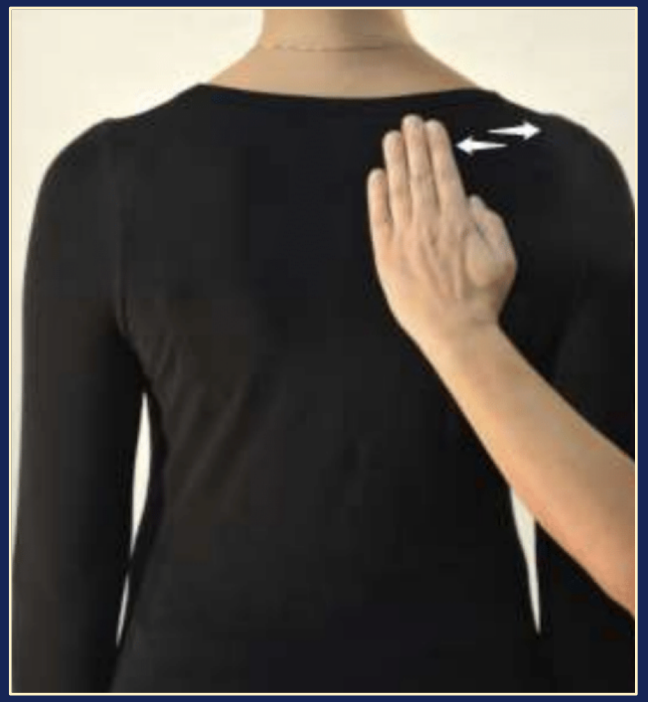
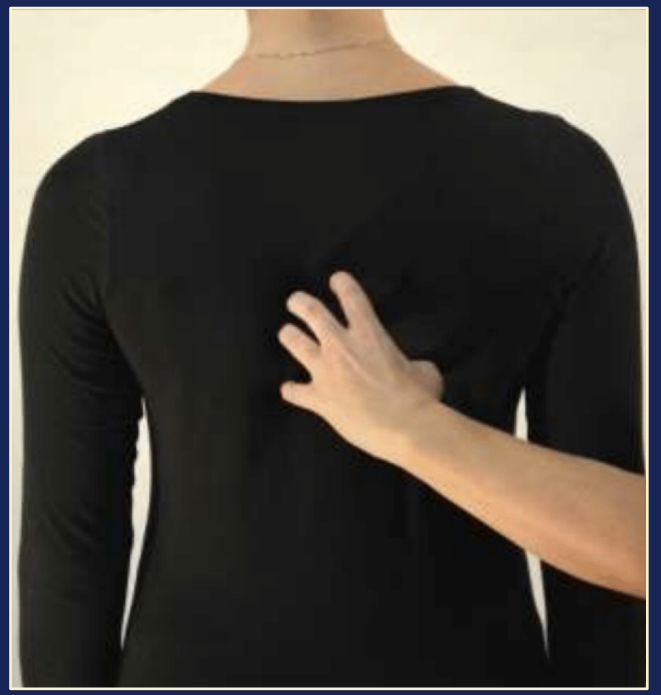
Yes



NO



Laugh

Origins and Benefits

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- Created by deaf-blind people in Norway
- Used in a variety of contexts
- Main benefits are real time and discreet access
  - Visual and environmental information
  - Social feedback
- Meaningful inclusion

Video: Haptics Impact

Speaker: Peggy

Video Clip: “How Haptics has Impacted My Life” by Maricar Marquez

Benefits that May Lead to Improved Teaching and Learning

Speaker: Peggy

- Quicker paced learning
- Less frustration
- Improved focus
  - not struggling with back & forth communication
- More efficient
- Enables simultaneous access to sensory information
  - example

Video: Haptics Demonstration

Speaker:
Peggy

Video clip “Entering and Leaving a Room” with Faith and Adrianna demonstrating Haptics.

- Simultaneous sensory input and communication
- Environmental information

Research on Haptics & Braille Instruction

Speaker: Megan

- Hands and attention focused on braille
  - Feedback (i.e., good, go ahead, no try that again)
  - Instructional cues (i.e., skip a line, don't scrub)
  - Access to social feedback (nodding, smiling, laughing)
- Documentation, effectiveness and replication
- Six case studies in 2019-2020

Research Study Questions

Speaker:
Megan

- What is the impact of Haptics on the effectiveness and efficiency of braille instruction with deaf-blind learners?
- What are the additional benefits of Haptics during braille instruction?
- What are some of the components of delivering Haptics effectively?

Methods: Participants

Speaker: Megan

Demographics	Number of Participants (N=6)
Gender	
Male	3
Female	3
Race/Ethnicity	
Black	1
White	5
Previous Haptics	
Yes	3
No	3
Primary Language	
Tactile ASL	5
Visual ASL	1
Braille Skill Level	
Beginner	4
Intermediate	2

Methods: Intervention

Speaker: Megan

Examples of Haptics Signals

- Yes/go ahead
- No
- Scrubbing
- Go up a line
- Braille cell replication
- Social feedback

Video: Intervention Example

Speaker:
Megan

Video clip of an instructor demonstrating several Haptics signals to a student.

- Yes, go ahead
- No, not correct
- Scrubbing
- Up a line

Methods: Data Collection & Analysis

Speaker: Megan

- Multiple case studies
  - Interviews
  - Observations
  - Videos
- Qualitative analysis

Case Study of Haptics & Braille Instruction

Speaker: Peggy

- Woman with Usher syndrome
- Communicates using tactile ASL
- Benefitted from using Haptics during braille instruction
- Able to communicate and read simultaneously
- Liked the immediate feedback
- Felt that Haptics communicated encouragement from the instructor

Video: Case Study Example

Speaker:
Peggy

Video clip of instructor using Haptics with student.

- Go back to the beginning of the line
- Braille cell outlined on upper arm
- I'm smiling
- Switch it around

Research Study Results

Speaker:
Megan

- Potential for enhanced learning, communication and rapport
- Modified and new signals improved understanding
- Some signals were more helpful then others
- Students had personal preferences
- Instructor factors were also important

Results Examples

Speaker: Megan

Student Preferences:

Articulation on lower arm

Articulation on upper arm

Instructor Differences:

No Contact

Constant Contact

Video: Benefits of Haptics

Speaker:
Megan

Video clip of student explaining why she likes using Haptics.

- Smooth
- Maintain focus
- Minimize frustration
- Efficient
- Effective

Implications for Practice

Speaker:
Peggy

- Promise for learning, communication, and rapport
- Need for instructor skill and comfort with implementation
- More research is needed on Haptics and rehabilitation

Summary

Speaker:
Peggy

- Haptics signals are used in the deaf-blind community to enhance access to communication and environmental information.

- Research shows that when used during braille instruction, Haptics supports learning and eases communication barriers.

- Haptics is a promising tool for enhancing rehabilitation training for deaf-blind people.

This has been a presentation by the Helen Keller National Center

Speaker: Peggy

We hope this information has been helpful.

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HKNC Helen Keller NATIONAL CENTER for Deaf-Blind Youths and Adults