

Introduction

During our needs assessment at Reach for Speech (R4S), therapists identified a need to update muscle preparation and home exercise resources for caregivers for the intensive strength clinic. The intensive strength clinic involves a three-week-long program including:

- OT & PT led interventions utilizing the Universal Exercise Unit (UEU)
- Caregiver-led muscle preparation and home exercise programs

Goal:

- Update resources/materials for more efficient and effective use

What is the UEU?

- Cage-like structure using belts and bungee cord to target specific muscle groups, add weight, and/or provide exercises in a gravity-eliminated plane
- An effective form of therapy to build muscle strength and balance (Elsharkawy et al., 2025)



Photo from Reach for Speech Social Media: Image of child seated in UEU.

Objectives

To recognize the importance of health literacy and evidence-based practice in improving parent/caregiver understanding and carryover of muscle prep and home exercise program strategies

To identify the purpose and benefits of the updated R4S intensive strength clinic using the UEU

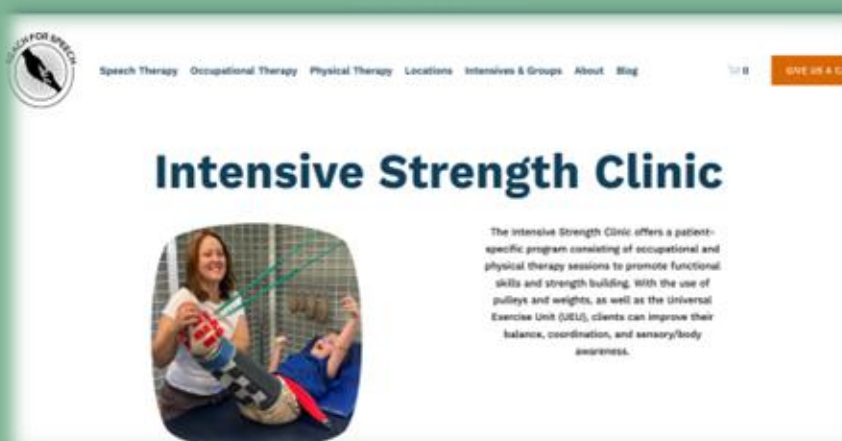


Photo from Reach for Speech Website: Left: Reach for Speech Intensive Strength Clinic Landing Webpage. Right: Binder Cover for Updated Resources



Methods

PARTICIPANTS

- Pre-survey of OTs, PTs, and past Intensive Strength Clinic families at R4S ($n = 10$)
- Post-survey of OTs, PTs, and current/past participating families of the Intensive Strength Clinic ($n = 5$)

PROCEDURES

- **Plan:** Completed needs assessment; Spoke with R4S staff
- **Do:** Developed evidence-based handouts, curated YouTube resources, and produced a series of instructional videos focused on home exercises and muscle preparation; Put materials into website and physical binders
- **Study:** Utilized pre- and post- Qualtrics surveys (formal feedback); Informal feedback through interviews with R4S staff
- **Act:** Determined project sustainability; Created more homemade videos; Improved website access for therapists

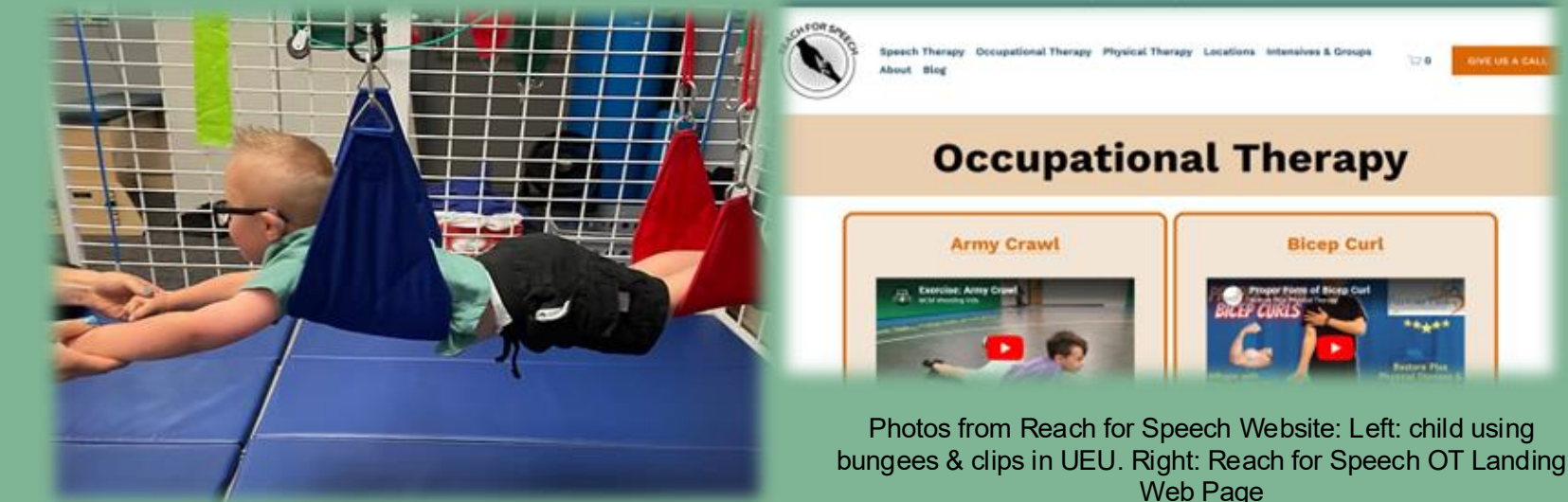
OUTCOMES

- Efficient sharing of materials for staff at R4S
- Easier access of materials for caregivers
- Factors surveyed before and after project: satisfaction, quality, access/ease of use, and general feedback
- Improved caregiver health literacy of materials

Discussion

LIMITATIONS

- Limited parent/caregiver participation in both surveys which resulted in small sample size
- Difficulty with communications across clinic locations, leading to challenges in coordination between staff and clients



Conclusion

TAKEAWAYS

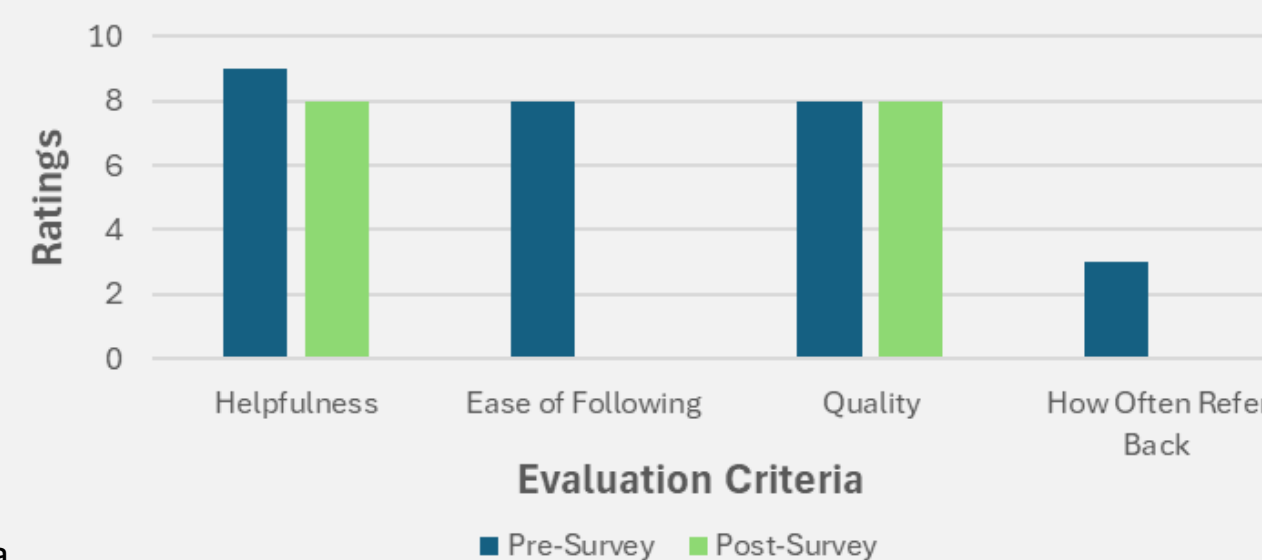
- Creating easily accessible and user-friendly resources increases health literacy of caregivers and staff of the intensive strength clinic, both inside and outside the clinic.
- Using multiple resources (handouts and videos) provides options for caregivers to develop understanding of materials to help child throughout intensive strength clinic

SUSTAINABILITY FOR THE FUTURE

- Maintain a free, organized online video library with regular review and updates by R4S staff using standard operating procedures provided by capstone group
- Update physical and electronic handouts for muscle preparation and home exercise program as new evidence develops

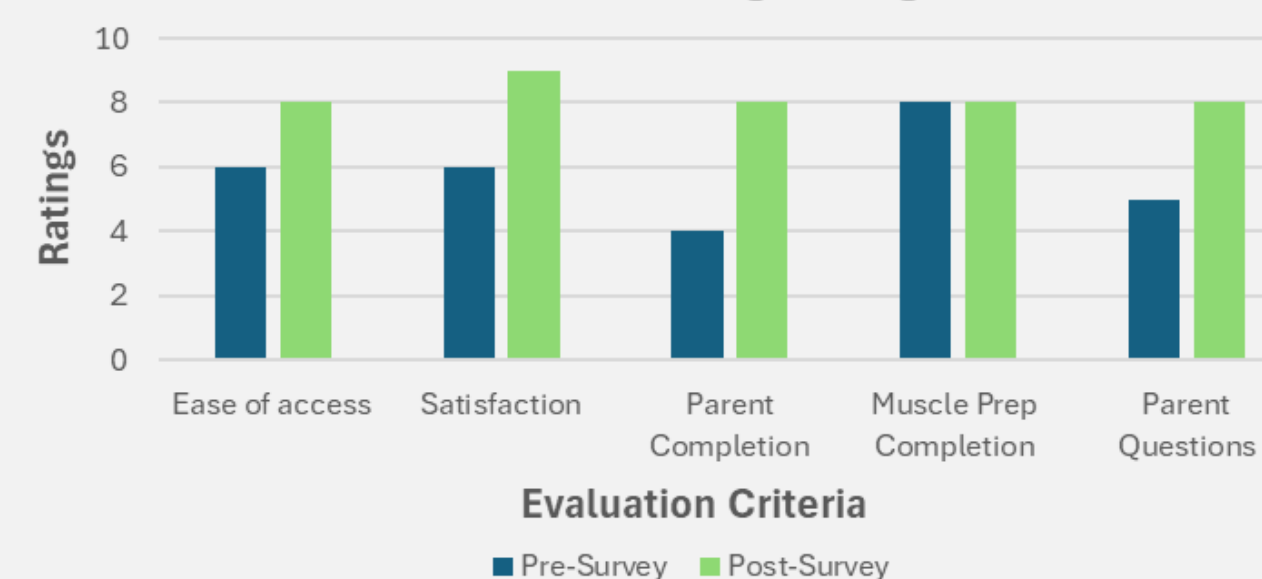
Results

Caregivers of Pediatric Patients Involved with Intensive Strength Program



*Some domains were not reported on post-survey data due to no responses on Qualtrics for that category

Occupational & Physical Therapist Involved with Intensive Strength Program



Acknowledgements

Thank you to our site mentor, Natalie Silverman, OTD, OTR/L for all her help, guidance, and support throughout our experience at Reach for Speech. We are thankful to have worked with the staff at Reach for Speech!

References

- Elsharkawy, M. R., Sherif, A. E., Sarhan, E.E., El-Agamy, O. A., & Elsebahy, S. Y. (2025). Effect of universal exercise unit versus functional electrical stimulation on genu recurvatum in diplegic Cerebral Palsy children. *Journal of Musculoskeletal and Neuronal Interactions*, 25(1), 109–118. <https://doi.org/10.22540/jmni-25-109>

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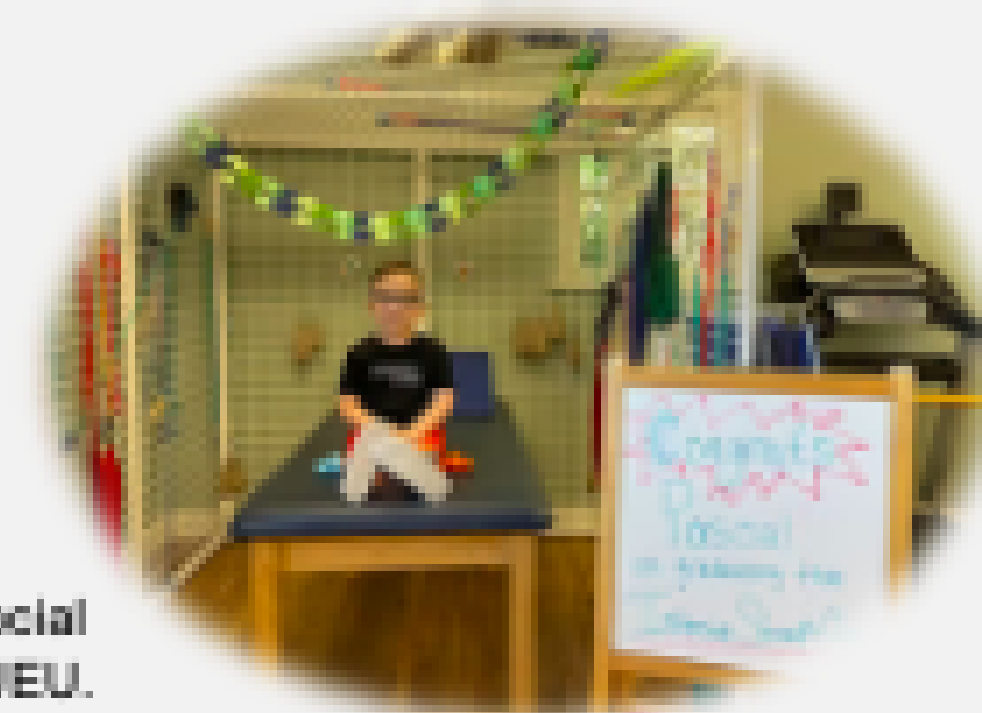


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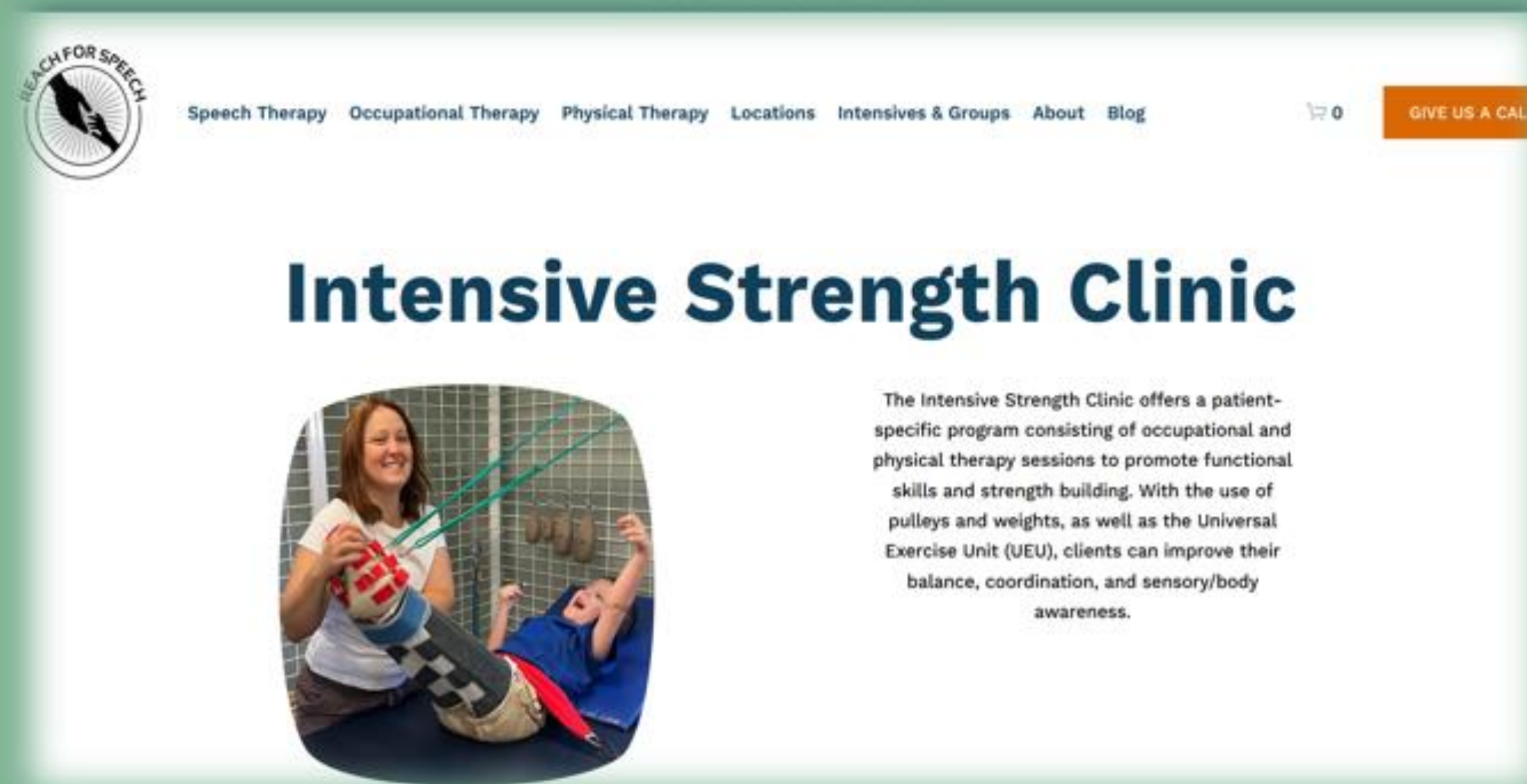


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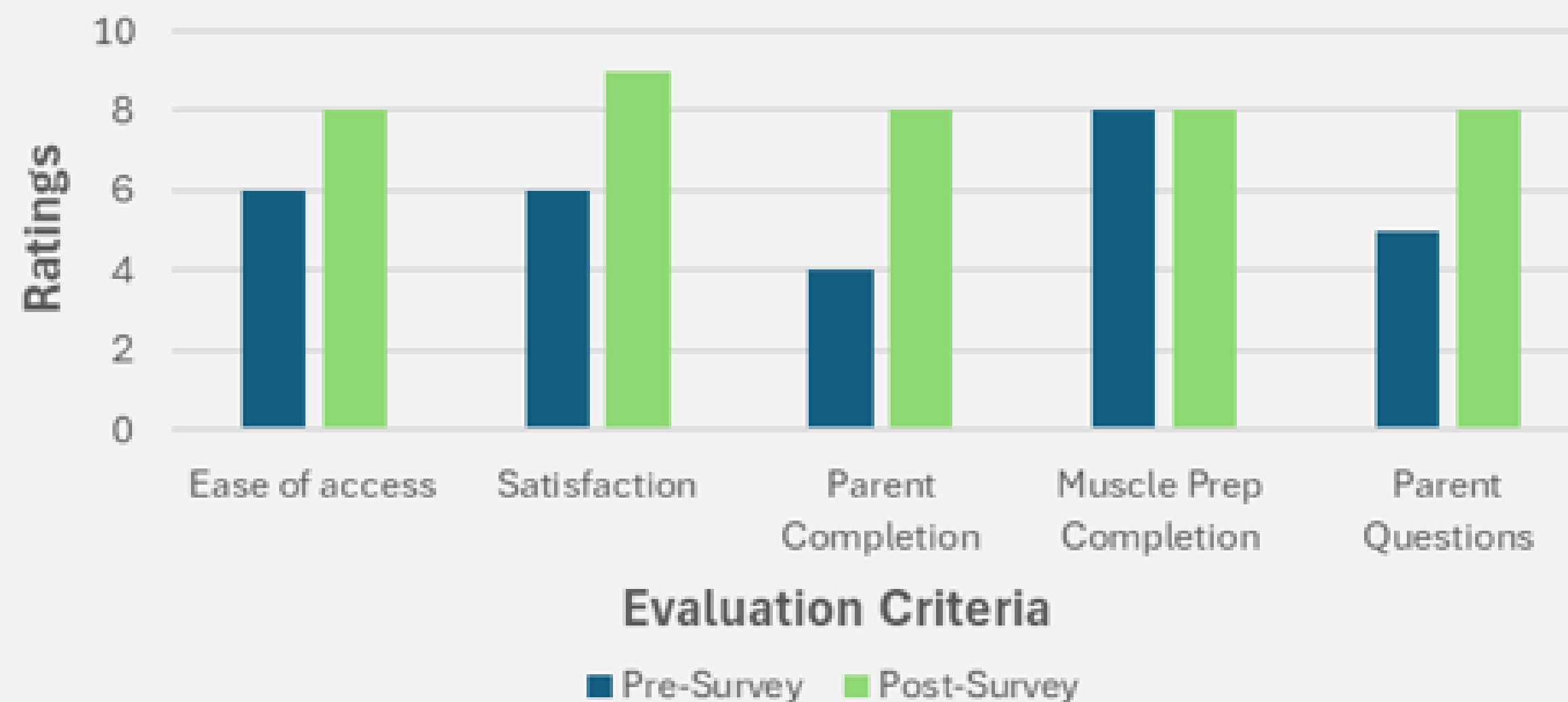
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Photos from Reach for Speech Website: Left: child using bungees & clips in UEU. Right: Reach for Speech OT Landing Web Page

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TAKEAWAYS

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Materials Created

Forearm Pronation/Supination



Purpose:

Increases and preserves flexibility and mobility of the joints

- Supination is the movement of the forearm that brings the palm upward. This movement is important for hand function.
- Pronation is the movement of the forearm that brings the palm of the hand downward.

Directions:

Complete 10-15 repetitions (30 seconds each) once a day

Hold the wrist with one hand and the palm with the other hand. Rotate the forearm so the palm faces towards you. Then rotate the forearm in the opposite direction away from you.

Practice in real life!

- Surprise- while the child's eyes are closed, the parent places a small object inside child's hand, the child is encouraged to rotate his forearm (palm up) and open their palm to see the surprise
- Pouring water
- Flipping coins
- Turning door knobs
- Using a spoon



<https://www.nationwidechildrens.org/family-resources-education/health-wellness-and-safety-resources/helping-hands/exercises-arms-and-hands-passive>

(Nationwide Children's Hospital, 2017)

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Scan me for video!

