

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

UCARE Research Products

UCARE: Undergraduate Creative Activities &  
Research Experiences

---

2020

## Similarities and Differences of Equine Assisted Speech Therapy and Traditional Speech Therapy –A Retrospective Study

Anna Schulz

Kristy Weissling

Josie Zimmer

Follow this and additional works at: <https://digitalcommons.unl.edu/ucareresearch>



Part of the [Analytical, Diagnostic and Therapeutic Techniques and Equipment Commons](#), and the [Speech Pathology and Audiology Commons](#)

---

This Poster is brought to you for free and open access by the UCARE: Undergraduate Creative Activities & Research Experiences at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in UCARE Research Products by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.





# Similarities and Differences of Equine Assisted Speech Therapy and Traditional Speech Therapy – A Retrospective Study

Anna Schulz, Undergraduate Student, Kristy Weissling, SLP-D, CCC-SLP, Josie Zimmer, Doctorate of Audiology Student

## BACKGROUND

Equine assisted speech therapy (EAST) utilizes horses for therapy while speech-language pathologists conduct the sessions (Thrall and Moser, 2015).

Few studies show the effects EAST has on clients' speech, communication, & language.

This research study aims to identify strategies, progress, & objectives of EAST & traditional speech therapy (TST) to determine the similarities & differences of the therapies.

## METHODOLOGY

A retrospective approach uses information from past events for data analysis (European Society, 2018). All data had been collected prior to this analysis.

### PARTICIPANTS

- 3 participants who have attended both EAST & TST during an 8 week time-frame were selected from electronic medical records. Pseudonyms were used.

Name	Gender	Age	Diagnosis
Asher	Male	5 Years	Expressive & Receptive Language Delay
John	Male	13 Years	Cerebral Palsy, Expressive Language Disorder, Bilateral Vision Impairment, & is a Person with Quadriplegia
Logan	Male	22 Years	Autism Spectrum Disorder (ASD), Expressive & Receptive Language Disorder

### DATA ANALYSIS

- Participants were de-identified before the researcher analyzed the data.
- Data were analyzed by separating & comparing objectives, strategies, & progress of each participant's sessions using Excel. Different themes were then examined & categorized.

## RESULTS

### ACTIVITIES

- EAST:** Riding a horse while shooting balls into a basketball hoop, beanbag toss, placing objects into a mailbox, having the horse walk over a bridge & turn through cones
- TST:** Snack time, puzzles, trampoline, scarves, slide, blending milkshakes, hand washing, wiping tables, & folding laundry

### MOTIVATION

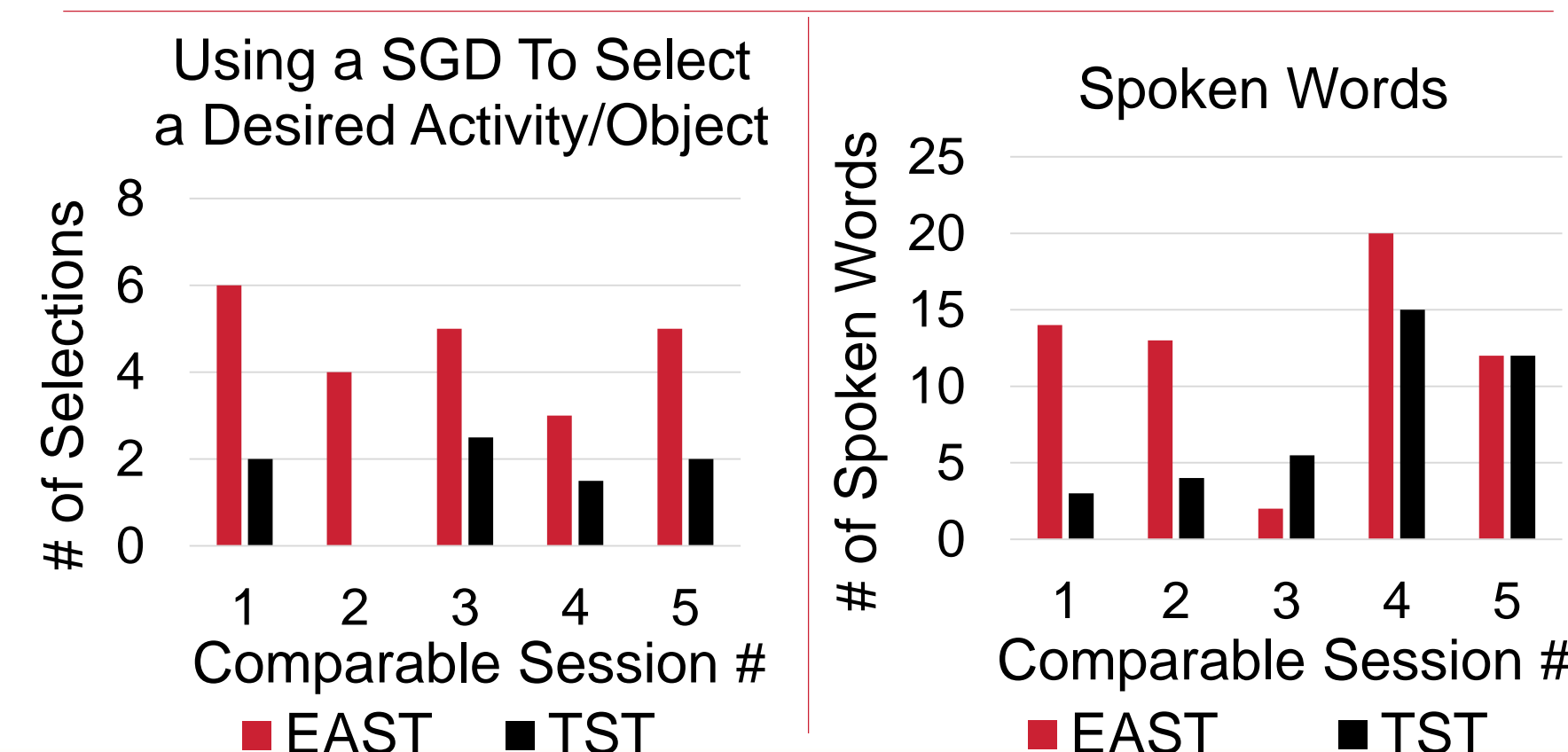
- EAST:** No data related to motivation
- TST:** John required increased redirection during less preferred activities. In 1 session, the clinician stated John increased his accuracy of selecting appropriate messages on his speech generating device (SGD) as a result of talking about horses, which was a highly motivating topic. Logan also demonstrated strengths in requesting preferred activities, but resisted engaging in a variety of activities.

### TECHNIQUES

- EAST:** Clinician models, aided language stimulation, parallel talk, visual routine of a spotlight to signal "whoa" & "walk"
- TST:** Clinician models, aided language stimulation, auditory bombardment

### PROGRESS/OBJECTIVES

Comparisons between therapies were difficult to determine due to differences in frequency & duration. Asher's objectives during EAST & TST were deemed the best suited for comparison. He had 5 EAST sessions for 30 minutes each & 15 TST sessions for 60 minutes each during the 8 week time-frame. Every third TST session was compared to each EAST session, & data frequency count of each TST session was divided in half for equal session time comparison:



Name	EAST Progress/Objectives	TST Progress/Objectives
Asher	<ul style="list-style-type: none"><li>Objectives: Vocalize "walk" &amp; "whoa," SGD to request</li><li>Progress made in 1/3 objectives</li><li>Words "walk" &amp; "whoa" were targeted</li></ul>	<ul style="list-style-type: none"><li>Objectives: Increase verbal words, transition without negative behaviors, use of SGD</li><li>Progress made in 4/5 objectives</li><li>More words than "walk" &amp; "whoa" were targeted</li><li>Speech typically echolalic</li><li>Paired spoken language with symbols on SGD</li></ul>
John	<ul style="list-style-type: none"><li>Objectives: Oral rounding, vocalize /o/ for "go" &amp; "whoa," SGD to request</li><li>3 sessions total: No progress reported</li><li>1 SGD objective: Choose 1 core word</li><li>Vocalized 23x total</li></ul>	<ul style="list-style-type: none"><li>4/4 Objectives: Use of SGD</li><li>Progress made in 3/4 objectives</li><li>1 SGD objective: Choose 2 core words</li><li>No documented data of vocalizations</li></ul>
Logan	<ul style="list-style-type: none"><li>Objectives: Oral rounding, vocalize /o/ for "whoa" &amp; /aw/ for "walk," SGD to request</li><li>Progress made in 3/3 objectives</li><li>Visual inspection of trend-line for use of core words using SGD was similar for both EAST &amp; TST</li><li>Vocalized 52x total</li><li>Vocalized "ball" 2x independently</li></ul>	<ul style="list-style-type: none"><li>4 Objectives: use SGD to communicate, 1 Objective: follow 3-step directions</li><li>Progress made in 3/5 objectives</li><li>Visual inspection of trend-line for use of core words using SGD was similar for both EAST &amp; TST</li><li>No data of vocalization</li><li>Used SGD 9x independently</li></ul>

## CONCLUSIONS

John & Logan's motivation was a factor in how often they participated/communicated in TST, while EAST was labeled as a highly motivating activity. EAST could be seen as a hobby, therefore influencing motivation.

Vocalizing "walk" & "whoa," oral rounding, & using a SGD were the main EAST objectives. Several other areas of communication were targeted through objectives in TST. 60 minute TST sessions vs. 30 minute EAST sessions could be a contributing factor in fewer areas targeted.

Asher's graphs show more progress made in TST for # of spoken words. Additionally, a variety of words were targeted in TST, while "walk" & "whoa" were targeted in EAST. During EAST, Asher consistently used a SGD more & vocalized more times throughout the 8-weeks.

John & Logan vocalized 75x total in EAST, while TST data shows 0 vocalizations. When a client says "walk," the horse moves. Research conducted by Gabriels et al. (2012) states that for people with ASD, this cause-and-effect relationship can increase communication and promote engagement. The horse's response to "walk" may help individuals become aware of the effect of their speech on social-communication behavior.



Figure 1: Equine Therapy. Adapted from Horses for Healing; Equine Therapy and Research Center. (2017).

## LIMITATIONS

### LIMITATIONS

- This is a retrospective case design. Data comparisons were difficult due to differences in duration & frequency. EAST sessions were 30 minutes for all participants, while TST sessions were 60 minutes for at least 2/3 participants. Asher received 5 EAST & 15 TST sessions, John received 3 EAST & 13 TST sessions, & Logan received 6 EAST & 7 TST sessions.
- 2 different clinicians administered the 2 therapies.
- Interaction effects between EAST and TST cannot be ruled out.

### FUTURE DIRECTIONS

- Participants should receive both EAST and TST services from the same clinician. Session length, # of sessions, and objectives should be the same for each participant. Comparison of progress will then be more valid.

## REFERENCES

- European Society for Blood and Marrow Transplant. (2018). Retrospective studies. Retrieved from <https://www.ebmtr.org/retrospective-studies>
- Gabriels, R., Agnew, J., Holt, K., Shoffner, A., Zhaoxing, P., Ruzzano, S., Clayton, G., Mesibov, G. (2012). Pilot study measuring the effects of therapeutic horseback riding on school age children and adolescents with autism spectrum disorders. *Research in Autism Spectrum Disorders*, 8(2), 578-588.
- Horses for Healing; Equine Therapy and Research Center. (2017, November 9). <https://www.facebook.com/horsesforhealingNE/> [Facebook photo] Retrieved from <https://www.facebook.com/horsesforhealingNE/photos/a.656319834563046/683455815182781/?type=3&theater>
- Thrall, A., Moser, M. (2015). Effects of hippotherapy on coordination of speech in a person with traumatic brain injury. *Honors Projects*, 414.