



Critical Appraisal Form

Date: 19-Feb-20

Members in Discussion: Anna, Jana, Megan and Melissa

Article: Jesus, Martinez, Santos, Hall, & Joffe (2019). Comparing Traditional and Tablet-Based Intervention for Children With Speech Sound Disorders: A Randomized Controlled Trial, *Journal of Speech, Language, and Hearing Research*, 62, 4045-4061.

Participants: 22 Portuguese children with phonologically based SSD aged 3;6-6;6. No oro-motor impairments, or symptoms of CAS. Age-appropriate receptive language and nonverbal IQ.

Comparison Groups: 2 groups: 11 children with tablet-based intervention; 11 children with traditional intervention.

Methods:

Teachers identified children with poor speech in the Aviero region of Portugal. Children were assessed and those who fit SSD inclusion criteria were randomly allocated to 2 groups (tabletop or tablet). After a waiting period of 3 months (for maturation effect) the children were assessed again. They received 12x weekly 45min sessions over 3 months from one SLP. Intervention approach was identical for both groups apart from the presentation method. Tx activities included: auditory bombardment, hearing and discrimination, grapheme-phoneme correspondence, phoneme identity, segmentation, blending, rhyme, & phoneme manipulation.

Outcomes:

Percent Consonants Correct (PCC), Percent Vowels Correct (PVC) and Percent Phonemes Correct (PPC) scores were calculated at baseline T1; Then calculated again at T2 following 3 months of no intervention. At T2 maturation effect size was large for both groups.

Scores were calculated again post intervention at T3. The intervention effect between T2 and T3 was found to be significantly greater than the maturation effect between T1 and T2. Large intervention effect sizes were found for each group. The differences between the two groups were not found to be significant.

Strengths and Limitations:

- Small sample size
- Use of standardized speech measures that consider “all speech sounds equal”
- The research methods are described in detail
- Strong internal and external validity with study execution

	Compelling	Suggestive	Equivocal/Uncertain
Validity		x	
Clinical importance		x	

Clinical Implications/Discussion: This study indicates that both tablet-based and table-top methods of intervention delivery for phonological intervention are effective in improving the speech of children with phonologically based SSD.

- Members discussed a desire for software advances with available tablet-based resources
- ‘Screen time,’ transitioning from ipad use, and possible reduction in eye contact opportunities (in comparison to traditional intervention) were discussed as potential cons of ipad use; For older children/teens with typical social skills these issues are possibly not as relevant.
- Members discussed their own ipad use and apps, and were generally not in support of using an ipad for an entire session with a child