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# Comparison of Two Treatment Conditions for Young Children with Speech Sound Disorders

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# Comparison of Two Treatment Conditions for Young Children with Speech Sound Disorders

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## Comparison of Two Treatment Conditions for Young Children with Speech Sound Disorders

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The purpose of this study was to compare treatment outcomes between stimulus presentation conditions to children with moderate to severe SSD: a traditional paper presentation versus a computer software generated presentation.

The participants were four monolingual kindergarten children with moderate to severe SSD. A multiple baseline across behaviors single subject design was employed in the study. Two non-stimulable, non-cognate sounds from two different manner categories were selected as sound targets. One sound error was treated using paper stimuli presented in a traditional paper table-top presentation (TAB condition) while the other sound error was treated using stimuli presented on the computer (CBI condition). Picture stimuli for both conditions were generated by the SCIP (Sound Contrasts in Phonology) software program. Treatment followed the paradigm described by Williams (2003).

The number of treatment sessions, final treatment performance, and highest generalization performance are summarized for both treatment conditions in Table 1. Although conditions were counterbalanced, data are arranged by condition for ease of interpretation.

**Table 1. Treatment performance by subject, condition, and goal.**

Ss #	Condition	Goal	# Sessions	<i>Final Tx Level for Goal</i>	<i>Highest Generalization Level for Goal</i>
1	TAB	g~d/#_	14	0%	0%
2	TAB	ʃ~s/#_	3	60%	0%
3	TAB	k~t/#	2	73%	10% <sup>a</sup>
4	TAB	f~b/#	3	60%	0%
1	CBI	f~b/#	2	88%	0%
2	CBI	p~b/#	5	78%	10%
3	CBI	ʃ~s/#_	9	75%	10%
4	CBI	k~d/#	2	51%	0%

<sup>a</sup> highest generalization for this target occurred during computer training for Goal #1 and not when target was addressed during table training

The percentage of "known" aspects of each child's phonology relative to the adult sound system (productive phonological knowledge or PPK) is summarized for both treatment conditions in Table 2.

**Table 2. Percent correct of adult sound system (PPK).**

Ss	Pre-treatment PPK	Between Conditions PPK	Post-treatment PPK
1	37%	43%	40%
2	63%	63%	58%
3	59%	60%	62%
4	49%	63%	60%

With the exception of S1, children achieved moderate to high levels of treatment performance on their treated sounds in both conditions. The CBI condition took fewer sessions on average (4.5 compared to 5.5 for the TAB sessions) with higher treatment and generalization performance (73% treatment and 5% generalization compared to 48.25% and 0%, respectively for TAB condition).

Social valence data were gathered from clients, parents, and clinicians. Three children indicated that the TAB condition was easier and chose that condition to complete the final 5 treatment sessions. Parents' responses and clinicians' ratings were equivocal.

Results from this investigation indicate that both treatment conditions were effective - children achieved criteria (50% above the baseline mean) in an average of 5 treatment sessions. However, it appears that for some children, CBI may be a more efficient treatment option due to higher treatment and generalization performance. Further study is needed to examine possible interactions between goal selection and treatment conditions.