

Supplemental Material S1. Ancillary analyses.

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I. Relationship Between Word List and Conversational Measures

The relationships between list and conversational PCC measures are shown in Supplement Table SI. However, the number of L/D phonemes acquired in the list and in conversation are not shown because the definitions of acquisition in each case were very different. This table shows that the relationship between the two kinds of measures was generally not strong in either the pretreatment time period or in the posttreatment period. Although all of the correlation coefficients were positive, only one of the four reached statistical significance (PCC_{list} vs. PCC_{conv} posttreatment). At the same time, none of the *t* tests for differences between the two types of measures reached significance. It is well to keep in mind that the child produces phonemes in the word list that he/she might not attempt in conversation (see the Supplemental Section II).

Table SI. Comparisons between list measures and conversation measures across the whole group. PCC data are shown as obtained percentages, but the analyses were carried out using arcsine transformations. Shown are Pearson *r* and paired samples *t* tests. The *n* for the PCC measures is 13, and for all L/D measures *n* is 12 because L/D PCC_{conv} data were not available for one child.

Measures	Pretreatment		Posttreatment	
	<i>M</i> (<i>SDs</i>)	Results	<i>M</i> (<i>SDs</i>)	Results
PCC _{list}	64.9 (10.89)	<i>r</i> = .548, <i>p</i> = .053	74.4 (9.06)	<i>r</i> = .674, <i>p</i> = .012*
PCC _{conv}	67.3 (8.42)	<i>t</i> = .874, <i>df</i> = 12, <i>p</i> = .399	73.8 (8.97)	<i>t</i> = .279, <i>df</i> = 12, <i>p</i> = .785
L/D PCC _{list}	34.3 (12.81)	<i>r</i> = .209, <i>p</i> = .515	48.6 (16.36)	<i>r</i> = .507, <i>p</i> = .093
L/D PCC _{conv}	37.7 (14.35)	<i>t</i> = .573, <i>df</i> = 11, <i>p</i> = .578	53.4 (15.17)	<i>t</i> = 1.039, <i>df</i> = 11, <i>p</i> = .321

Note. PCC = percentage of consonants correct; L/D = late and/or difficult.

**p* < .05.

II. Use of L/D Consonants in Conversation Samples

If the children used either more or fewer L/D consonants in conversational samples at the end of treatment than they did at the beginning, this could influence their performance on these consonants. In order to determine if the L/D consonants were used as frequently in the posttreatment as in the pretreatment samples, we looked at L/D consonants as a proportion of the total consonants for the whole group of children. L/D consonants constituted on average .34 of the total consonants in both pre- and posttreatment samples. The mean proportions of L/D consonants used by the two treatment groups were quite similar at pretreatment—for TRD, .34 ($SD = .065$), and for EXP, .34 ($SD = .045$). At posttreatment, the means were similar to not only to the pretreatment means but also to each other—for TRD, .35 ($SD = .053$), and for EXP, .33 ($SD = .027$).

As is typical in conversational samples, some children did not use words containing certain L/D consonant targets, which we define as consonant lacunae (absences). The most frequent consonant lacunae were, in order of increasing frequency, /v, θ, ʃ, tʃ, dʒ/, with a total of 14 lacunae in the pretreatment samples and 14 in the posttreatment samples. At pretreatment, 8 of the 12 children had at least one lacuna, and at posttreatment 7 children had at least one.

III. Occurrence of Unintelligible Syllables in the Conversational Samples

We considered using the percentage of unintelligible syllables in the conversational samples as a potential outcome variable, but this measure exhibited substantial floor effects. Consequently, we did not perform statistical analyses for this potential variable. However, over the whole group, the percentage of unintelligible syllables ranged from 1.2%–18.1% pretreatment and from 0%–10.3% posttreatment. For the TRD children the means were 9.3% ($SD = 7.45\%$) unintelligible syllables pretreatment and 4.6% ($SD = 3.34\%$) posttreatment, while for EXP the corresponding data were 5.8% ($SD = 4.68\%$) and 2.5% ($SD = 3.61\%$). We concluded that for children who initially have frequent unintelligible syllables, tracking this variable could have merit for clinical assessment, but that the measure itself was not suitable for a group study.