

## Supplementary Material S4

### Summary of Intervention Tailoring Provided to Participants

Participant	Reason for Tailoring	Summary of and Justification for Intervention Tailoring	Treatment Phase
Princess	<p>The default sound /d/ was not part of Princess’s targeted collapse to [d].</p> <p>Instead, in initial position, Princess produced /d/ as [g] in treatment words. This error pattern was not identified until the commencement of Phase 2, Step 1 due to sampling of this phoneme in initial position in the initial assessment, in which Princess produced the word <i>duck</i> correctly as [dʌk].</p>	<p>The teaching moment of Phase 2 was modified. Teaching moments in multiple oppositions intervention rely on the child’s production of the target and default words (e.g. <i>Joe</i> and <i>dough</i>) being initially homonymous, to provide linguistic feedback about whether the child said them differently. As Princess was already producing these two words differently (e.g. <i>Joe</i> as [doʊ] and <i>dough</i> as [goʊ]), the teaching moment was modified while maintaining the principles of multiple oppositions. The antecedent event presented both the target and the default word, to provide Princess with perceptual knowledge of the contrast between the target and [d]. However, unlike a typical multiple oppositions teaching moment in which the child is meant to produce both the target and the default, Princess was asked to produce the target word only (e.g. <i>Joe</i>). The consequent event was modified to provide linguistic feedback, focusing on the meaning of her production (e.g. “<i>I knew what you meant</i>” or “<i>I’m not sure what you meant</i>”) rather than the child’s homonymy (i.e., the feedback was not “<i>they sounded different</i>”).</p> <p>In addition, to support Princess’s development of /d/ in initial position, each clinic-based treatment session started with drilled production of /d/ in CV contexts for a total dose of 20 (not included in calculations of dose). Her production of initial /d/ in words was not monitored; however, at the immediate follow-up assessment, Princess was observed to correctly produce initial /d/ in the word <i>dance</i>, but to produce <i>door</i> as [goː].</p>	From Phase 2, Step 1 (Session 3)

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Thomas	Limited stimulability of target /dʒ/.	<p>Thomas’s production of target /dʒ/ was phonemically different to the default /d/ but phonetically incorrect in 95% of productions (that is, he produced the target as [z] or [dʒ], demonstrating age-appropriate palatal fronting with or without deaffrication). Although no longer being longer produced homonymously to the default [d], accuracy criteria to progress through the phases of multiple oppositions requires targets to be produced both phonemically and phonetically correct.</p> <p>To support Thomas to achieve phonetically correct productions of this target, traditional articulation intervention for /dʒ/ was provided in isolation and CV contexts for a total dose of 20 at the beginning of each clinic-based session.</p>	From Session 4 (Phase 2, Step 1)
Owen	Limited stimulability of velar targets /g/ and /sk/.	To achieve accuracy with two of his targets, /g/ and /sk/, traditional articulation intervention, using cues outlined by Secord, Boyce, Donohue, Fox, and Shine (2007) <sup>1</sup> , was provided at the beginning of each clinic-based session for a dose of 20 for each target in isolation or CV contexts.	From Session 5 (Phase 2, Step 1)
Marshall	<p>Marshall demonstrated difficulties correctly producing his target /dʒ/: he either produced this as [d], [z] or [g].</p> <p>Marshall’s mother reported that Marshall’s father (who was not trained as part of the study) completed the</p>	<p>To support Marshall achieve phonetically correct productions of this target, traditional articulation intervention for /dʒ/ was provided in isolation and CV contexts for a total dose of 20 at the beginning of each clinic-based session.</p> <p>The importance of Marshall receiving intervention from a trained person was discussed; however, in session 8, Donna reported that Marshall’s father was again completing one structured activity with Marshall each week after watching Donna complete an activity. No</p>	From Session 5 (Phase 2, Step 1)

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	structured home practice with Marshall once per week.	data about Marshall’s father’s fidelity of implementation are available.	
Gracie	Limited stimulability for target /tʃ/.	Gracie’s production of /tʃ/ was phonemically different to the default [d] but phonetically incorrect (e.g., she produced the target as [s], [st] or [ts], indicating increased phonological knowledge about this target’s contrast with the default /d/). To support Gracie achieve accuracy of this target, traditional articulation intervention in isolation and CV contexts was provided for a total dose of 20 at the beginning of each clinic-based session.	From Session 4 (Phase 2, Step 1)

<sup>1</sup>Secord, W. A., Boyce, S. E., Donohue, J. S., Fox, R. A., & Shine, R. E. (2007). *Eliciting sounds: Techniques and strategies for Clinicians* (2nd ed.). Clifton Park, NY: Thomson Delmar Learning.