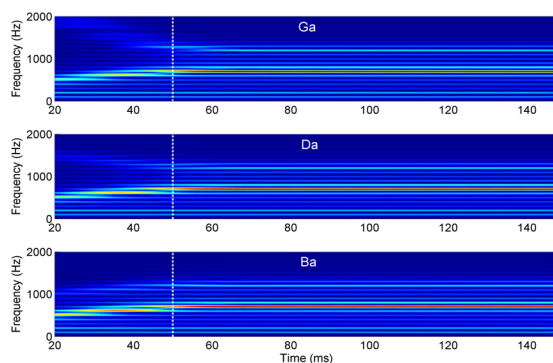


# Supporting Information

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**Fig. S1.** Stimulus spectrograms. Spectrograms of the [ga], [da], and [ba] stimuli are plotted. The 3 stimuli differ on the second formant trajectory during the formant transition period and are identical during the vowel portion (boundary marked by the dashed white line).  $F_2$  decreases in the [ga] stimulus from 2,480 Hz and in the [da] stimulus from 1,700 Hz and increases in the [ba] stimulus from 900 Hz, reaching a steady-state of 1,240 Hz in all 3 stimuli. The spectrograms are generated with a 40-ms window analysis, and the midpoint of each window is plotted.

**Table S1. Means (SD) of behavioral measures for children grouped 3 different ways: (i) with and without learning experiments (n = 23 and 20, respectively), (ii) good and poor phonological awareness (n = 14 each), and (iii) speech-in-noise perception (n = 14 each) as defined by study measures**

Behavioral Measure	Normal Learning	Learning Impaired	Good Phonological Awareness	Poor Phonological Awareness	Good Speech-in-Noise Perception	Poor Speech-in-Noise Perception
Phonological Awareness	108.1 (11.2)	97.0 (13.6)	116.3 (3.3)	85.9 (7.0)	105.4 (14.0)	101.7 (13.6)
Phonological Memory	110.1 (14.5)	94.4 (12.7)	112.0 (14.0)	94.2 (11.1)	102.1 (14.1)	101.5 (18.2)
Rapid Naming	105.4 (12.9)	87.6 (12.8)	99.8 (15.5)	87.4 (13.9)	98.9 (16.2)	102.1 (12.1)
Test of Word Reading Efficiency-Sight	115.9 (8.5)	87.7 (11.4)	108.4 (13.8)	87.9 (13.2)	106.4 (17.7)	102.5 (17.2)
Test of Word Reading Efficiency-Phoneme	117.2 (11.9)	92.8 (11.6)	112.9 (13.5)	90.6 (11.1)	109.2 (17.6)	106.1 (17.7)
Test of Silent Word Reading Fluency	109.1 (12.1)	88.8 (11.3)	111.4 (14.3)	86.86 (10.5)	103.6 (16.7)	98.6 (15.8)
Hearing in Noise Test-Front	65.0 (31.3)	50.1 (33.8)	57.5 (34.2)	62.7 (28.0)	67.9 (26.4)	45.5 (39.5)
Hearing in Noise Test-Right	38.3 (23.5)	26.3 (18.6)	43.9 (21.7)	33.1 (12.9)	57.4 (14.2)	10.0 (5.9)
Hearing in Noise Test-Left	44.1 (35.3)	27.0 (26.9)	40.8 (33.2)	29.7 (23.1)	35.4 (28.0)	25.7 (35.1)
Hearing in Noise Test-Composite	52.0 (26.9)	29.4 (21.4)	49.0 (29.8)	39.3 (14.8)	57.7 (19.6)	20.2 (21.3)