

True Word Vowel Development  
by degree of hearing loss and  
age

# True Word Vowel Development: Mild/ Moderate

<b>Vowel</b>	13-18 mon	19-24 mon	25-30 mon	31-36 mon	37-48 mon	49-60 mon	61-72 mon	73-85 mon
<b>Phone</b>	n=0	n=0	n=5	n=7	n=9	n=7	n=9	n=2
i			100.0%	71.4%	88.9%	100.0%	100.0%	100.0%
l			100.0%	57.1%	88.9%	100.0%	100.0%	100.0%
ei			100.0%	85.7%	88.9%	100.0%	88.9%	100.0%
short e			100.0%	85.7%	88.9%	100.0%	100.0%	100.0%
ae			100.0%	57.1%	88.9%	100.0%	100.0%	100.0%
a			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
schwa			80.0%	71.4%	88.9%	100.0%	100.0%	100.0%
^			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
u			100.0%	100.0%	88.9%	100.0%	100.0%	100.0%
omega			80.0%	57.1%	55.6%	85.7%	100.0%	100.0%
o			80.0%	85.7%	100.0%	100.0%	88.9%	100.0%
aw			40.0%	71.4%	88.9%	85.7%	66.7%	100.0%
er			20.0%	14.3%	55.6%	57.1%	77.8%	100.0%
diphthong aw capital l			0.0%	14.3%	11.1%	28.6%	11.1%	50.0%
diphthong o omega			100.0%	71.4%	66.7%	57.1%	33.3%	100.0%
diphthong a capital l			80.0%	100.0%	88.9%	85.7%	88.9%	100.0%

# True Word Vowel Development: Moderate-Sev/Severe

<b>Vowel</b>	13-18 mon	19-24 mon	25-30	31-36 mon	37-48 mon	49-60 mon	61-72 mon	73-85 mon
<b>Phone</b>	n=1	n=12	n=22	n=22	n=19	n=17	n=11	n=1
i	100.0%	66.7%	77.3%	100.0%	100.0%	100.0%	90.9%	100.0%
l	100.0%	83.3%	86.4%	100.0%	100.0%	94.1%	90.9%	100.0%
ei	0.0%	50.0%	77.3%	81.8%	100.0%	100.0%	90.9%	100.0%
short e	100.0%	58.3%	95.5%	100.0%	94.7%	100.0%	100.0%	100.0%
ae	100.0%	91.7%	95.5%	100.0%	100.0%	100.0%	100.0%	100.0%
a	100.0%	66.7%	95.5%	90.9%	100.0%	94.1%	100.0%	100.0%
schwa	100.0%	58.3%	86.4%	86.4%	100.0%	100.0%	90.9%	100.0%
^	100.0%	75.0%	86.4%	95.5%	100.0%	100.0%	100.0%	100.0%
u	100.0%	66.7%	81.8%	90.9%	89.5%	100.0%	90.9%	100.0%
omega	0.0%	50.0%	72.7%	81.8%	73.7%	88.2%	100.0%	100.0%
o	0.0%	83.3%	81.8%	95.5%	100.0%	100.0%	90.9%	100.0%
aw	100.0%	33.3%	54.5%	68.2%	57.9%	88.2%	72.7%	100.0%
er	0.0%	0.0%	40.9%	59.1%	73.7%	76.5%	72.7%	100.0%
diphthong aw capital l	0.0%	0.0%	4.5%	9.1%	5.3%	11.8%	9.1%	0.0%
diphthong o omega	100.0%	50.0%	63.6%	54.5%	78.9%	82.4%	90.9%	100.0%
diphthong a capital l	0.0%	75.0%	90.9%	86.4%	89.5%	94.1%	81.8%	100.0%

# True Word Vowel Development: Severe- Profound/Profound

Vowel Phone	13-18 mon	19-24 mon	25-30 mon	31-36 mon	37-48 mon	49-60 mon	61-72 mon	73-85 mon
	n=1	n=1	n=2	n=3	n=2	n=2	n=4	n=3
i	100.0%	100.0%	100.0%	66.7%	50.0%	100.0%	100.0%	66.7%
l	100.0%	100.0%	100.0%	66.7%	100.0%	100.0%	100.0%	66.7%
ei	100.0%	0.0%	100.0%	33.3%	0.0%	100.0%	50.0%	66.7%
short e	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	75.0%	33.3%
ae	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	66.7%
a	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	66.7%
schwa	100.0%	100.0%	100.0%	100.0%	50.0%	100.0%	75.0%	33.3%
^	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
u	0.0%	100.0%	100.0%	66.7%	100.0%	100.0%	100.0%	66.7%
omega	100.0%	100.0%	100.0%	0.0%	50.0%	100.0%	75.0%	66.7%
o	100.0%	100.0%	100.0%	33.3%	50.0%	100.0%	100.0%	100.0%
aw	100.0%	100.0%	100.0%	33.3%	0.0%	100.0%	50.0%	33.3%
er	0.0%	0.0%	50.0%	0.0%	0.0%	100.0%	75.0%	66.7%
diphthong aw capital l	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	33.3%
diphthong o omega	100.0%	100.0%	100.0%	0.0%	50.0%	100.0%	100.0%	100.0%
diphthong a capital l	100.0%	0.0%	100.0%	33.3%	0.0%	100.0%	50.0%	66.7%

# True Word Vowel Development: Cochlear Implant

Vowel Phone	13-18 mon	19-24 mon	25-30 mon	31-36 mon	37-48 mon	49-60 mon	61-72 mon	73-85 mon
	n=0	n=0	n=5	n=7	n=9	n=7	n=9	n=2
i			100.0%	71.4%	88.9%	100.0%	100.0%	100.0%
l			100.0%	57.1%	88.9%	100.0%	100.0%	100.0%
ei			100.0%	85.7%	88.9%	100.0%	88.9%	100.0%
short e			100.0%	85.7%	88.9%	100.0%	100.0%	100.0%
ae			100.0%	57.1%	88.9%	100.0%	100.0%	100.0%
a			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
schwa			80.0%	71.4%	88.9%	100.0%	100.0%	100.0%
^			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
u			100.0%	100.0%	88.9%	100.0%	100.0%	100.0%
omega			80.0%	57.1%	55.6%	85.7%	100.0%	100.0%
o			80.0%	85.7%	100.0%	100.0%	88.9%	100.0%
aw			40.0%	71.4%	88.9%	85.7%	66.7%	100.0%
er			20.0%	14.3%	55.6%	57.1%	77.8%	100.0%
diphthong aw capital l			0.0%	14.3%	11.1%	28.6%	11.1%	50.0%
diphthong o omega			100.0%	71.4%	66.7%	57.1%	33.3%	100.0%
diphthong a capital l			80.0%	100.0%	88.9%	85.7%	88.9%	100.0%