

Information about Vietnamese speech

1. A comparison between Vietnamese and English phonology

Aspect	Language	Number	Details	Source
Consonants	Vietnamese	24 consonants	/p, b, t, t̚, d, ɗ, c, k, g, ʔ, m, n, ɲ, ŋ, r, ʈ, β, f, v, s, z, ʃ, ʒ, ʐ, x, ɣ, h, u, ɿ, j, l, w, ʈʂ, ʈʂʰ/	Hwa-Froelich (2007)
Consonants	Vietnamese	24 consonants	Ho Chi Minh City: /p̚, b, t̚, t̚ʰ, t̚, d, ɗ, c, k, k̚, m, n, ɲ, ŋ, f, v, s, z, ʃ, ʒ, ʐ, ɣ, ɣ̥, h, (w), l/	Ly Kha Nguyễn (2011)
Consonants	Vietnamese	24 consonants	Southern Vietnamese: /p̚, b, t̚, t̚, d, ɗ, c, k, k̚, m, n, ɲ, ŋ, f, s, (ʃ), ʐ, x, ɣ, h, w, l, j/	Tang & Barlow (2006)
	English	24 consonants	/p, b, t, d, k, g, m, n, ŋ, θ, ð, f, v, s, z, ʃ, ʒ, h, tʃ, ʤ, j, w, ɹ, l/	Smit (2004)
Consonant clusters	Vietnamese	None		
	English	23 consonant clusters	Many 2 and 3 element consonant clusters in initial position including /pl, bl, kl, gl, fl, sl, pr, br, tr, dr, kr, gr, θr, fr, ʃr, pj, tj, fj, mj, nj, sm, sn, sp, st, sk, spl, spr, str, skw/ and many 2 to 4 element consonant clusters in final position	Smit (2004)
Vowels and diphthongs	Vietnamese	11 vowels + 28 diphthongs + 12 triphthongs	Vowels: /æ, ɛ, e, i, ɪ, ʌ, ɒ, u, ʊ, o, ʏ/ Diphthongs: /aɪ, ai, aʊ, ɒo, ɒu, ei, ei, eo, eu, eu, iʌ, iə, io, iu, ie, iu, iɪ, iə, oa, ou, ue, ui, uə, ua, ue, ui, ui, uə/ Triphthongs: /eui, ieu, oai, uia, uei, uai, uia, uiu, ueə, ʔui, uiə, uiʔ/	Hwa-Froelich et al. (2002) Hwa-Froelich (2007)
		11 vowels + 3 diphthongs + semivowels	Vowels: /i, e, ɛ, ʊ, ʏ, ʌ, a, u, o, ɔ/ Diphthongs: /ie, ʊʏ, uo/ + semivowels in word final position /-u/, /-i/	Tang & Barlow (2006)
	English (US-General American)	14 vowels + 3 diphthongs	Vowels: /i, ɪ, e, ɛ, æ, ə, ɜ, ɝ, u, ʊ, o, ʌ, ɔ, ɑ/ Diphthongs: /aɪ, aʊ, ɔɪ/ (Smit also lists 5 'r'-colored diphthongs)	Smit (2007)
	English (Canadian)	14 vowels + 3 diphthongs	Vowels: /i, ɪ, e, ɛ, æ, ə, ɜ, ɝ, ʌ, u, ʊ, o, ʌ, ɔ, ɑ/ Diphthongs: /aɪ, ʌʊ, ɔɪ/	Bernhardt, & Deby (2007)
	English (UK-Received Pronunciation)	12 vowels + 8 diphthongs	Vowels: /i, ɪ, e, æ, a, ə, ɜ, u, ʊ, ʌ, ɔ, ɒ/ Diphthongs: /aɪ, aʊ, ɔɪ, eɪ, oʊ, iə, eə, uə/	Howard (2007)
	English (Australian)	12 vowels + 8 diphthongs	Vowels: /i:, ɪ, e, æ, ɐ:, ɐ, ɔ:, ɒ:, ʊ, ʉ:, ɜ:, ə/ ⁱ OR /i, ɪ, ɛ, æ, a, ʌ, ɒ, ɔ, ʊ, u, ɜ, ə/ ⁱⁱ Diphthongs: /æɪ, ae, əɐ, æɔ, ɔɪ, iə, eɪ, uə/ ⁱ OR /eɪ,	ⁱ Harrington, Cox, & Evans, (1997) ⁱⁱ Mitchell

			aɪ, ʊʊ, aʊ, ɔɪ, iə, eə, ʊə/ ⁱⁱ	(1946)
	English (New Zealand)	12 vowels + 8 diphthongs	Vowels: /i, ɪ, ɛ, æ, ə, ɜ, u, ʊ, ʌ, ɔ, ɒ, ɑ/ ⁱ OR /i, ɪ, e, æ, a, ə, ɜ, ʊ, ʌ, ɔ, ɒ/ ⁱⁱ Diphthongs: /aɪ, aʊ, ɔɪ, eɪ, ʊə, iə, eə, ʊə/ ⁱ OR /aɪ, aʊ, ɔɪ, eɪ, ʊə, iə, eə, ʊə/ ⁱⁱ	ⁱ Bauer & Warren (2004) ⁱⁱ MacLagan (2009)
Tones	Vietnamese	6 + 2 tones	6 tones are used in Vietnam + 2 derivative tones with plosives -p, -t, -k. There are two words for tones in Vietnamese Dấu = writing accent Thanh = oral tone	Ly Kha Nguyễn (2011)
	English	0 tones	-	
Syllable shape	Vietnamese	C ₍₀₋₁₎ W ₍₀₋₁₎ V ₍₁₋₂₎ C ₍₀₋₁₎	Allowed syllable shapes: V, VV, CV, CVV, CVC, CVVC, VC, VVC, wV, wVV, wVC, wVVC, CwV, CwVV, CwVC, CwVVC, where w is a semi-vowel	
	English	C ₍₀₋₃₎ VC ₍₀₋₄₎	The smallest syllable is V and the largest is CCCVCCCC <i>strengths</i> .	Smit (2004) McLeod (2007)
Stress-timed or syllable- timed?	Vietnamese	Syllable- timed	Three stress levels: loud, medium, and weak.	Hwa-Froelich (2007)
	English	Stress-timed	Syllables can be strong or weak. Stress also is used for emphasis.	
Varieties	Vietnamese	Many	Many “pronunciations” (Vietnamese people do not use the word dialect)	
	English	Many dialects	Many dialects including General American English, Received Pronunciation (England), Scottish English, Irish English, Australian English, New Zealand English, South African English etc.	
Writing system	Vietnamese	Latin alphabet	Based on Latin alphabet: Chu Quốc ngữ. Tonal markings are added.	Hwa-Froelich (2007)
	English	Latin alphabet	Latin alphabet loosely related to phonetic realizations of the consonants and vowels.	

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Vietnamese studies

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2. Vietnamese speech assessments

For a list of speech assessments in Vietnamese see: www.csu.edu.au/research/multilingual-speech/speech-assessments
Intelligibility in Context Scale: Vietnamese www.csu.edu.au/research/multilingual-speech/ics

3. Monolingual speech acquisition (summaries and studies written in English)

- Hwa-Froelich, D. A. (2007). Vietnamese speech acquisition. In S. McLeod (Ed.), *The international guide to speech acquisition* (pp. 580-591). Clifton Park, NY: Thomson Delmar Learning.
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4. Multilingual speech acquisition (summaries and studies written in English)

General summaries

- Goldstein, B. A., & McLeod, S. (2012). Typical and atypical multilingual speech acquisition. In S. McLeod & B. A. Goldstein (Eds.), *Multilingual aspects of speech sound disorders in children* (pp. 84-100). Bristol, UK: Multilingual Matters.
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Studies of multilingual Vietnamese speech acquisition

Languages	Country	Study	Age of children	Total number of children (no. of multilingual children)**	Typically/atypically developing children	Speech /language	Production/perception
Vietnamese-English	Australia	Hemsley, G., Holm, A., & Dodd, B. (2006). Diverse but not different: The lexical skills of two primary age bilingual groups in comparison to monolingual peers. <i>International Journal of Bilingualism</i> , 10(4), 453-476.	Mean = 11;5	101 (62 (34 = Vietnamese-English))	typical	language	production perception

Note. * Studies of typically and atypically developing multilingual children published in English were included; however, studies that only included monolingual children were excluded.

**The total number of children may have included both multilingual and monolingual children, so the number in brackets provides the total number of multilingual children.