

# Information about Cantonese speech

## 1. A comparison between Cantonese and English phonology

Aspect	Language	Number	Details	Source
Syllable- initial consonants	<b>Cantonese</b>	19 initial consonants	/p, p <sup>h</sup> , t, t <sup>h</sup> , k, k <sup>h</sup> , k <sup>w</sup> , k <sup>wh</sup> , m, n, ŋ, f, s, h, ts, ts <sup>h</sup> , j, w, l/	So (2007) Zee (1999)
	<b>English</b>	23 initial consonants	/p, b, t, d, k, g, m, n, θ, ð, f, v, s, z, ʃ, ʒ, h, tʃ, dʒ, j, w, ɹ, l/	Smit (2004)
Syllable- final consonants	<b>Cantonese</b>	6 final consonants	/p, t, k, m, n, ŋ/	So (2007)
	<b>English</b> (General American, Scottish, Irish)	21 final consonants	/p, b, t, d, k, g, m, n, ŋ, θ, ð, f, v, s, z, ʃ, ʒ, tʃ, dʒ, l, ɹ/	Smit (2004)
	<b>English</b> (UK, Australian, New Zealand)	20 final consonants	/p, b, t, d, k, g, m, n, ŋ, θ, ð, f, v, s, z, ʃ, ʒ, tʃ, dʒ, l/ (does not have syllable final /ɹ/)	Howard (2007) McLeod (2007)
Consonant clusters	<b>Cantonese</b>	nil	(/k <sup>w</sup> , k <sup>wh</sup> / are coarticulated; some authors label them as consonant clusters)	To, Cheung & McLeod (in press)
	<b>English</b>	Approx. 29 syllable- initial and many syllable-final consonant clusters	Many 2 and 3 element consonant clusters in initial position including /pɪ, bɪ, kɪ, gɪ, fɪ, sɪ, pɪ, bɪ, tɪ, dɪ, kɪ, gɪ, θɪ, fɪ, ʃɪ, pɪ, tɪ, fɪ, mɪ, nɪ, sm, sn, sp, st, sk, spl, spɪ, stɪ, skw/ and many 2 to 4 element consonant clusters in final position	McLeod (2007) Smit (2004)
Vowels and diphthongs	<b>Cantonese</b>	8 vowels + 11 diphthongs	Vowels: /i, y, ε, œ, a, ɔ, u, ɐ/ + /ɪ, ɵ, ʊ/ (allophones of /i, œ, u/ respectively) Diphthongs: /ai, ei, ɛi, ui, ɔi, au, ɐu, iu, ou, øy/ + /ɛu/ (in colloquial Cantonese)	To et al. (in press)
		11 vowels + 7 displaying lengthening contrasts + 11 diphthongs	Vowels: /i, i:, y, y:, ε, ε:, œ, œ:, a, a:, ɔ, ɔ:, u, u:, ɐ, ɪ, ɵ, ʊ/ Diphthongs: /ai, ei, ɛi, ui, ɔi, au, ɐu, iu, ou, øy, ɛu/	Zee (1999)
	<b>English</b> (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)
	<b>English</b> (Canadian)	14 vowels + 3 diphthongs	Vowels: /i, ɪ, e, ɛ, æ, ə, ɜ, ɝ, ʌ, ʊ, o, ʌ, ɔ, ɑ/ Diphthongs: /aɪ, ʌʊ, ɔɪ/	Bernhardt, & Deby (2007)
	<b>English</b>	12 vowels +	Vowels: /i, ɪ, ε, æ, a, ə, ɜ, u, ʊ, ʌ, ɔ, ɒ/	Howard (2007)

	(UK-Received Pronunciation)	8 diphthongs	Diphthongs: /aɪ, aʊ, ɔɪ, eɪ, oʊ, iə, eə, uə/	
	<b>English</b> (Australian)	12 vowels + 8 diphthongs	Vowels: /i:, ɪ, e, æ, ɛ:, ɐ, ɔ:, ɒ, ʊ, ʊ:, ɜ:, ə/ <sup>i</sup> OR /i, ɪ, e, æ, a, ʌ, ɒ, ɔ, ʊ, u, ɜ, ə/ <sup>ii</sup> Diphthongs: /æɪ, ae, əɪ, æɔ, ɔɪ, iə, eɪ, uə/ <sup>i</sup> OR /eɪ, aɪ, oʊ, aʊ, ɔɪ, iə, eə, uə/ <sup>ii</sup>	<sup>i</sup> Harrington, Cox, & Evans, (1997) <sup>ii</sup> Mitchell (1946)
	<b>English</b> (New Zealand)	12 vowels + 8 diphthongs	Vowels: /i, ɪ, e, æ, ə, ɜ, u, ʊ, ʌ, ɔ, ɒ, ɑ/ <sup>i</sup> OR /i, ɪ, e, æ, a, ə, ɜ, ʊ, ʌ, ɔ, ɒ/ <sup>ii</sup> Diphthongs: /aɪ, aʊ, ɔɪ, eɪ, oʊ, iə, eə, uə/ <sup>i</sup> OR /aɪ, aʊ, ɔɪ, eɪ, oʊ, iə, eə, uə/ <sup>ii</sup>	<sup>i</sup> Bauer & Warren (2004) <sup>ii</sup> Maclagan (2009)
<b>Tones</b>	<b>Cantonese</b>	9 tones	Tones T1 to T6 end with a vowel, diphthong or nasal. T7 to T9 end with a plosive.	To et al. (in press)
	<b>English</b>	0 tones	-	
<b>Syllable shape</b>	<b>Cantonese</b>	C <sub>(0-1)</sub> V <sub>(0-1)</sub> C <sub>(0-1)</sub>	The 6 possible syllables are: C, V, CV, VC, CVV, and CVC. The words containing only one consonant (C) (and no vowel) are /m/ = 唔 <i>not</i> and /ŋ/ = 5, <i>five</i>	So (2007)
	<b>English</b>	C <sub>(0-3)</sub> VC <sub>(0-4)</sub>	The smallest syllable is V and the largest is CCCVCCC <i>strengths</i> .	Smit (2004) McLeod (2007)
<b>Stress-timed or syllable-timed?</b>	<b>Cantonese</b>	Syllable-timed	Syllables are equally stressed, and each syllable carries a tone.	So (2007)
	<b>English</b>	Stress-timed	Syllables can be strong or weak. Stress also is used for emphasis.	
<b>Varieties</b>	<b>Cantonese</b>	Cantonese is a Yue dialect	Cantonese is spoken by 96.5% of people in Hong Kong. Standard Cantonese is based on the Cantonese of Guangzhou, the capital city of Guangdong Province.	So (2007)
	<b>English</b>	Many dialects	Many dialects including General American English, Received Pronunciation (England), Scottish English, Irish English, Australian English, New Zealand English, South African English etc.	
<b>Writing system</b>	<b>Cantonese</b>	Chinese (Traditional)	Chinese is non-alphabetic and consists of characters that represent lexical morphemes (words). Each syllable has a corresponding standard Chinese character.	So (2007)
	<b>English</b>	Latin alphabet	Roman script loosely related to phonetic realizations of the consonants and vowels.	

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### Comparative studies

- Chan, A. Y. W., & Li, D. C. S. (2001). English and Cantonese phonology in contrast: Explaining Cantonese ESL learners' English pronunciation problems. *Language, Culture and Curriculum*, 13(1), 67-85.
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## 2. Cantonese speech assessments

For a list of speech assessments in Cantonese see: [www.csu.edu.au/research/multilingual-speech/speech-assessments](http://www.csu.edu.au/research/multilingual-speech/speech-assessments)  
Intelligibility in Context Scale: Chinese (Traditional) [www.csu.edu.au/research/multilingual-speech/ics](http://www.csu.edu.au/research/multilingual-speech/ics)

- To, C. K. S., & Cheung, P. S. P. (2012). Translation to practice: Assessment of children's speech sound production in Hong Kong. In S. McLeod & B. A. Goldstein (Eds.), *Multilingual aspects of speech sound disorders in children* (pp. 165-169). Bristol, UK: Multilingual Matters.

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

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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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Zhu Hua & Dodd, B. (Eds.). (2006). *Phonological development and disorders in children: A multilingual perspective*. Cleavdon, UK: Multilingual Matters.

Yavaş, M. (2007). Multilingual speech acquisition. In S. McLeod (Ed.), *The international guide to speech acquisition* (pp. 96-100). Clifton Park, NY: Thomson Delmar Learning.

##### Summaries of multilingual Cantonese speech acquisition

Holm, A. (2007). Cantonese-influenced English speech acquisition. In S. McLeod (Ed.), *The international guide to speech acquisition* (pp. 269-276). Clifton Park, NY: Thomson Delmar Learning.

Holm, A., & Dodd, B. (2006). Phonological development and disorder of bilingual children acquiring Cantonese and English. In B. Dodd & Zhu Hua (Eds.), *Phonological development and disorders in children: A multilingual perspective* (pp. 286-325). Cleavdon, UK: Multilingual Matters.

So, L. K. H., & Leung, C. S. S. (2006). Phonological development of Cantonese–Putonghua bilingual children. In Zhu Hua & B. Dodd (Eds.), *Phonological development and disorders in children: A multilingual perspective* (pp. 413-430). Cleavdon, UK: Multilingual Matters.

##### Studies of multilingual Cantonese speech acquisition

Languages	Country	Study	Age of children	Total number of children (no. of multilingual children)**	Typically/atypically developing children	Speech /language	Production/perception
Cantonese-English	UK	Dodd, B., So, L. & Li, W. (1996). Symptoms of disorder without impairment: The written and spoken errors of bilinguals. In B. Dodd, R. Campbell & L. Worrall (Eds.). <i>Evaluating theories of language</i> . London: Whurr.	3 – 5 years	16 (16)	typical	speech	production
	UK?	Dodd, B., Holm, A., & Li, W. (1997). Speech disorder in preschool children exposed to Cantonese and English. <i>Clinical Linguistics and Phonetics</i> , 11, 229-243.	5;2 and 3;7	2 (2)	atypical	speech	production

	Australia	Holm, A. & Dodd, B. (1999a). A longitudinal study of the phonological development of two Cantonese-English bilingual children. <i>Applied Psycholinguistics</i> , 20, 349-376.	2;3 – 3;1 and 2;9 – 3;5 years (longitudinal)	2 (2)	typical	speech	production
	Australia and UK	Holm, A., & Dodd, B. (2006). Phonological development and disorder of bilingual children acquiring Cantonese and English. In Z. Hua & B. Dodd (Eds.), <i>Phonological development and disorders in children: A multilingual perspective</i> (pp. 286-325). Clevedon, UK: Multilingual Matters.	2 – 5 years	56 (56)	typical	speech	production
	Canada	Ng, M., Hsueh, G., & Leung, C. S. (2010). Voice pitch characteristics of Cantonese and English produced by Cantonese-English bilingual children. <i>International Journal of Speech-Language Pathology</i> , 12(3), 230-236.	5 – 15 years	86 (86)	typical	speech	production
Cantonese-Putonghua	Hong Kong and Shenzhen, China	Law, N. C. W., & So, L. K. H. (2006). The relationship of phonological development and language dominance in bilingual Cantonese-Putonghua children. <i>International Journal of Bilingualism</i> , 10(4), 405-427.	2;6 – 4;11	100 (100)	typical	speech	production

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.