

## The Research Comparison Between the Consonants of Bahasa Indonesia and Chinese Mandarin

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### ABSTRACT

Indonesian Students face a lot of difficulties when learning Chinese Mandarin, it is very common that they mispronounce the consonants of Chinese Mandarin. There are not a lot of Indonesian Students who can pronounce Chinese Mandarin consonants accurately. Phonetics teaching is a very important part of learning other languages. Bahasa Indonesia is classified as "The Family of Austronesian Language", and Chinese Mandarin is classified as Sino-Tibetan Language System. Although they have a Different language system, the two languages have a lot of similarities and differences in every aspect of it. If we look at the consonants of Bahasa Indonesia and Chinese Mandarin, Bahasa Indonesia has 23 consonants, Chinese Mandarin has 22 consonants. These 2 kinds of languages have similarities and different points of the pronunciation and the pronunciation method.

### KEYWORDS

Bahasa Indonesia; Chinese Language; Consonants; Comparison.

### INTRODUCTION

Bahasa Indonesia is classified as "The Family of Austronesian Language", and Chinese Mandarin is classified as Sino-Tibetan Language System. Although they have a Different language system, the two languages have a lot of similarities and differences in every aspect of it. Phonetics teaching is a very important part of learning other languages

In the process of learning Chinese Mandarin, the writer has found that students from Indonesia face a lot of difficulties when learning Chinese Mandarin, it is very common that they mispronounce the consonants of Chinese Mandarin thus there are not a lot of Indonesian Students who can pronounce Chinese Mandarin consonants accurately.

Through self-experience, I believe that Indonesian Students who learn the consonants of Chinese Mandarin has some difficulties to reach near accuracy of pronunciations, it is due to four factors of pronunciation method, pronunciation location, whether the vocal cords are vibrating, and the strength of the airflow that exhaled by the mouth, Bahasa Indonesia and Chinese Mandarin has a different way of pronouncing their consonant.

Therefore, I decided to compare Between the Consonants of Bahasa Indonesia and Chinese Mandarin as this paper's research object.

There are similarities and differences in the consonants between Bahasa Indonesia and Chinese Mandarin. After going through approximately five years of learning the Chinese

Language together with other students who also came from Indonesia, including individual's learning of Chinese Mandarin's pronunciation, phonetic consonants are one of the most common factors for phonetic consonant errors. The main content of this paper is the comparison between the similarities and the differences between the consonants of Bahasa Indonesia and Chinese Mandarin. Since the differences between the two languages have representative factors, this paper focuses on the differences between Bahasa Indonesia and Chinese Mandarin.

Hoping that the results of this paper could help other Indonesian Students who are learning Chinese Mandarin and to know more about the similarities and the differences of Chinese Mandarin's consonants, and also to provide data references for research purposes of Chinese Mandarin teachers to teach Indonesian Students and language research, this will show them how to solve the mistakes of Indonesian Students who learn Chinese Mandarin's consonants.

### THE CONSONANTS OF BAHASA INDONESIA

According to Hasan Alwi in "Tata Bahasa Baku Indonesia"<sup>1</sup> It is stated that Bahasa Indonesia has 23 consonants, divided into three parts: whether the vocal cords vibrate, where to pronounce, and how to pronounce. There are unvoiced and voiced sounds depending on whether the vocal cords vibrate. If we look at the place of articulation, it can be divided into bilabial, dental labial, front tongue, back tongue, root tongue, and throat sound. In terms of pronunciation methods, it can be divided into plosives, fricatives, nasal sounds, vibrators, side sounds, and semi-vowels. Below is a table of Bahasa Indonesia's consonants:

**Table 1.** *The Consonants of Bahasa Indonesia*

The Way of pronunciation		The Pronunciation Part	Bilabial	Labiodental	Front Tongue	Back Tongue	Root of Tongue	Laryngeal
Stop Sound	Un voiced	p [p]			t [t]	c [tʃ]	k [k]	? [?]
	Voiced	b [b]			d [d]	j [dʒ]	g [g]	
Fricative	Un voiced			f [f]	s [s]	sy [ʃ]	kh [x]	h [h]
	Voiced				z			

<sup>1</sup>Hasan Alwi. Tata Bahasa Baku Bahasa Indonesia. Jakarta: Balai Pustaka, 2003, page 54-55.

				[z]			
Nasal	Voiced	m [m]		n [n]	ny [n̥]	ng [ŋ]	
Vibrato	Voiced			r [r̥]			
Lateral Sound	Voiced			l [l̥]			
Semi Vowel	Voiced	w [w̥]			y [j̥]		

From the Bahasa Indonesia consonants table above, we can know Bahasa Indonesia has 23 consonants. Bahasa Indonesia linguists divide it into three aspects: pronunciation method, pronunciation part, and vocal cord situations. They are divided into:

1. p [p̥] Stop sound, Bilabial, Unvoiced. For example: pasar [pasar] (Market); piring [piriŋ] (plate), etc.
2. b [b̥] Stop sound, Bilabial, Voiced. For example: besar [bəsar] (big); beli [bəli] (buy), etc.
3. m [m̥] Nasal, Bilabial, Voiced. For example: murah [murah] (cheap); makan [makan] (eat), etc.
4. w [w̥] Semi-vowel, Bilabial, Voiced. For example: wajah [wadžah] (face); bawa [bawa] (bring, carry), etc.
5. f [f̥] Fricatives, Labiodental, Unvoiced. For example: fakultas [fakultas] (faculty); visa [fisa] , etc.
6. t [t̥] Stops, Front Tongue, Unvoiced. For Example: toko [toko] (shop); kata [kata] (words), etc.
7. d [d̥] Nasal, Front Tongue, Voiced. For Example: madu [madu] (honey); dari (from), etc.
8. s [s̥] Stops, Front tongue, Voiced. For Example: sama [sama] (same); rasa [rasa] (taste), etc.
9. z [z̥] Stops, Front Tongue, Voiced. For Example: ziarah [ziarah] (tomb sweeping); lazim [lazim] (usually, common), etc.
10. n [n̥] Nasal, Front Tongue, Voiced. For Example: nama [nama] (name); aman [aman] (safe), etc.
11. [r̥] Vibrato, Front Tongue, Voiced. For Example: roti [roti] (bread); Kasur [kasur] (Mattress), etc.
12. l [l̥] Side-sound, Front Tongue, Voiced. For Example: lupa [lupa] (forget); aspal [aspal] (asphalt), etc.

13. c [ tʃ ] Stop sound, After The Tongue, Unvoiced. For Example: cucu [ tʃutʃu ] (grandson/ granddaughter); kaca [ katʃa ] (mirror), etc.
14. j [ dʒ ] Stop Sound, After the Tip of the Tongue, Voiced. For Example: jujur [ dʒudʒur ] (honest); raja [ radʒa ] (king), etc.
15. sy [ ſ ] Fictitious, Back Tongue, Unvoiced. For Example: syukur [ ſukur ] (honest); masyarakat [ maʃarakat' ] (society), etc.
16. ny [ n̄ ] Nasal, Back Tongue, Voiced. For Example: tanya [ taŋa ] (ask); banyak [ baŋa? ] (a lot, more), etc.
17. y [ j ] Semi-Vowels, After the Tongue, Voiced. For Example: pantai [ pantaj ] (beach); kaya [ kaja ] (rich), etc.
18. k [ k̄ ] Stop Sound, Root of Tongue, Unvoiced Sound. For Example: kantin [ kantin ] (canteen); sukar [ sukar ] (difficult), etc.
19. g [ ḡ ] Stop sound, Root of Tongue, Voiced. For Example: lagu [ lagu ] (songs); gagal [ gagal ] (failed), etc.
20. kh [ x̄ ] Fricative, Root of Tongue, Unvoiced. For Example: khawatir [ xawatir ] (worried); khas [ xas ] (characteristics), etc.
21. ng [ ɲ̄ ] Nasal Sounds, Root of Tongue, Voiced. For Example: barang [ baraŋ ] (stuffs/things); jangan [ dʒanjan ] (don't), etc.
22. ? [ ?̄ ] Stop Sound, Laryngeal, Unvoiced. For Example: rusak [ rusa? ] (broken) ; tidak [ tida? ] (no), etc.
- h [ h̄ ] Fricative, Laryngeal, Unvoiced. For Example: hari [ hari ] (days); marah [ marah ] (angry), etc.

## THE CONSONANTS OF CHINESE MANDARIN

Chinese Mandarin has a total of 22 consonants, which are divided into four parts: whether the vocal cords vibrate, the location of the pronunciation, the pronunciation method, and the strength of the airflow exhaled by the mouth. There are unvoiced and voiced sounds depending on whether the vocal cords vibrate. If we look at the place of articulation, it can be divided into bilabial, tooth labial, front tongue, middle tongue, back tongue. The strength of the airflow exhaled by the oral cavity can be divided into aspirated sounds and non-aspirated sounds. From the perspective of pronunciation methods, it can be divided into stop sound, affricates, fricatives, nasal sounds, and side sounds. The following is a table of Chinese consonants:

**Table 2. The Consonants of Chinese Mandarin**

The Way of pronunciation	The Pronunciation Part	Bilabial	Labial dental	Cusp			Tongue	
				Front	Middle	Back	Front	Back

Stop Sound	U	Non-Aspirated	b			d			g
	n		[p]			[t]			[k]
	v	Aspirated				t			
	o					[t']			
	i		p						k
	c		[p']						[k']
	e								
	d								
Voiced									
Affricate	U	Non-Aspirated			z		zh	j	
	n				[ts]		[tʂ]	[tɕ]	
	v	Aspirated			c		ch	q	
	o				[ts']		[tʂ']	[tɕ']	
	i								
	c								
	e								
	d								
Voiced									
Fricative	Unvoiced		f	s		sh	x	h	
			[f]	[s]		[ʂ]	[x]	[x]	
	Voiced					r			
						[ʐ]			
Nasal Sound	Voiced		m		n			ng	
			[m]		[n]			[ŋ]	
Lateral Sound	Voiced				l				
					[l]				

From the table above, we know that Chinese Mandarin has 22 consonants. Divided to:

1. b [p] Stop sound, bilabial, unvoiced, aspirated. For Example: 笔 bǐ [pi] ; 棒 bàng [paŋ] .
2. p [p'] Stop sound, bilabial, unvoiced, aspirated. For Example: 爬 pá [p'a] ; 泼 pō [p'o] .
3. m [m] Nasal, bilabial, voiced. For Example: 妈 mā [ma] ; 蜜 mì [mi] .
4. f [f] Fricatives, labiodental, and unvoiced. For Example: 法 fǎ [fa] ; 风 fēng [fəŋ] .
5. z [ts] Fricative, front cusp, unvoiced, aspirated. For Example: 字 zì [tsɿ] ; 组 zǔ [tsu] .
6. c [ts'] Fricative, front cusp, unvoiced, aspirated. For Example: 擦 cā [ts'a] ; 词 cí [ts'ɿ] .
7. s [s] Stops, front cusp, and unvoiced. For Example: 丝 sī [sɿ] ; 送 sòng [səŋ] .
8. d [t] Stop sound, middle cusp, unvoiced, aspirated. For Example: 大 dà [ta] ; 低 dī [ti] .
9. t [t'] Stop sound, middle cusp, unvoiced, aspirated. For Example: 塔 tǎ [t'a] ; 图 tú [t'u] .
10. n [n] Nasal, middle cusp, voiced. For Example: 拿 ná [na] ; 你 nǐ [ni] .
11. l [l] Side sound, middle cusp, voiced. For Example: 狼 láng [laŋ] ; 梨 lí [li] .
12. zh [tʂ] Fricative, back cusp, unvoiced, aspirated. For Example: 炸 zhà [tʂa] ; 竹 zhú [tʂu] .
13. ch [tʂ'] Fricative, back cusp, unvoiced, aspirated. For Example: 茶 chá [tʂ'a] ; 吃 chī [tʂ'ɿ] .
14. sh [ʂ] Fricative, back cusp, unvoiced. For Example: 沙 shā [ʂa] ; 书 shū [ʂu] .
15. r [ʐ] Fricative, back cusp, voiced. For Example: 热 rè [ʐə] ; 荣 róng [ʐəŋ] .
16. j [tɕ] Fricative, front cusp, unvoiced, non-aspirated. For Example: 季 jì [tɕi] ; 静 jìng [tɕiŋ] .
17. q [tɕ'] Affricate, front cusp, unvoiced, aspirated. For Example: 骑 qí [tɕ'i] ; 晴 qíng [tɕ'iŋ] .
18. x [χ] Fricative, front cusp, unvoiced. For Example: 喜 xǐ [χi] ; 星 xīng [χiŋ] .
19. g [k] Stop sound, tongue root, unvoiced, non-aspirated. For Example: 港 gǎng [kaŋ] ; 鼓 gǔ [ku] .
20. k [k'] Stop sound, tongue root, unvoiced, non-aspirated. For Example: 酷 kù [k'u] ; 空 kōng [k'oŋ] .
21. h [x] Fricative, tongue root, unvoiced. For Example: 汉 hàn [xan] ; 横 héng [xəŋ] .
22. ng [ŋ] Nasal sound, tongue root, voiced. For Example: 忙 máng [maŋ] ; 萌 méng [məŋ] .

### THE DIFFERENCES BETWEEN BAHASA INDONESIA AND CHINESE MANDARIN

The second and third sections of this paper have explained that Bahasa Indonesia has 23 consonants, while Chinese Mandarin has 22 consonants. Through the table above and the analysis, we know that there are some similarities and differences in the pronunciation of

each consonant in Bahasa Indonesia and Chinese Mandarin. To get more understanding and easier classification of the similarities and differences between Bahasa Indonesia and Chinese Mandarin's consonants, below is the comparison of the International Phonetic Symbols of the 27 consonants in Bahasa Indonesia and Chinese Mandarin.

**Table 3.** *The International Standards for Consonants of Bahasa Indonesia and Chinese Mandarin*

	Bahasa Indonesia	Chinese Mandarin
p	[p]	[p̚]
b	[b]	[p̚]
m	[m]	[m̚]
w	[w]	-
f	[f]	[f̚]
t	[t]	[t̚]
d	[d]	[t̚]
s	[s]	[s̚]
z	[z]	[ts̚]
n	[n]	[n̚]
r	[r]	[z̚]
l	[l]	[l̚]
c	[tʃ]	[ts̚]
j	[dʒ]	[tɕ̚]
sy	[ʃ̚]	-
ny	[ɳ̚]	-
y	[j̚]	-
zh	-	[tʂ̚]
ch	-	[tʂ̚̚]

k	[k]	[k']
g	[g]	[k]
kh	[x]	-
ng	[ŋ]	[ŋ]
q	-	[tʂ']
x	-	[ç]
?	[?] -	-
h	[h]	[x]

After comparing the International Phonetic Symbols of Bahasa Indonesia and Mandarin Chinese's consonants, we can conclude that:

1. Bahasa Indonesia has 6 consonants which are the same with the consonants of Chinese Mandarin, there are m [m] , f [f] , s [s] , n [n] , l [l] , ng [ng] .
2. Bahasa Indonesia has 6 consonants that are not included in Chinese Mandarin, such as w [w] , sy [ʃ] , ny [ɳ] , y [j] , kh [x] , ? [?] .
3. Chinese Mandarin has 4 consonants that are not included in Bahasa Indonesia, such as zh [tʂ] , ch [tʂ'] , q [tʂ'] , x [ç] .
4. Bahasa Indonesia and Chinese Mandarin have 11 different consonants phonetic; this paper will discuss the differences into 4 points:
  - a. The difference in the strength of the airflow. The three consonant factors of ([p] , [t] , [k] ) are classified as aspirated sounds in Chinese Mandarin ([p'] , [t'] , [k'] ).
  - b. Whether the vocal cords vibrate. According to whether the vocal cords vibrate or not, the consonants in Bahasa Indonesia and Chinese Mandarin have three consonant factors: b, d, and g, which are explained as follows:
    - The difference between the consonant b in Bahasa Indonesia and Chinese Mandarin is that the vocal cords vibrate when pronounced in Bahasa Indonesia, which means that b in Indonesian is a voiced sound ([b]), while in Chinese the vocal cords do not vibrate when pronounced, which means that Chinese b is unvoiced ([p]);
    - The difference between d in Bahasa Indonesia and Chinese Mandarin is in addition to whether the vocal cords vibrate or not, their pronunciation parts and pronunciation methods are also different. In Bahasa Indonesia, it is pronounced as [d], tongue tip, voiced sound, while in Chinese Mandarin it is pronounced as [t], tongue tip. Also unvoiced;
    - The difference between g in Bahasa Indonesia and Chinese is not only whether the vocal cords vibrate, but also the pronunciation part and the pronunciation method. In Bahasa Indonesia, it is pronounced as [g], tongue root sound, voiced sound, while in Chinese it is pronounced as [k], tongue surface After sound, unvoiced.
  - c. Different parts of pronunciation. Although the pronunciation method of h [x] is the same in Bahasa Indonesia or Chinese Mandarin. If we look at the place of articulation,

it is found that the pronunciation of h in Bahasa Indonesia is the laryngeal sound and the pronunciation of h in Chinese Mandarin is the back sound of the tongue.

d. Different pronunciation parts and pronunciation methods. From the analysis of the pronunciation part and the pronunciation method, including whether the vocal cords vibrate or not, it is found that there are big differences between Bahasa Indonesia and Chinese Mandarin's consonants with four consonant factors: r, c, j, and z. The difference between Bahasa Indonesia and Chinese Mandarin is:

- Although r is voiced in both languages, r is pronounced as [r] vibrato, front tongue in Bahasa Indonesia, and [z], fricative, and rear tongue in Chinese Mandarin;
- c is an unvoiced sound in both languages, but pronounced in Bahasa Indonesia as [tʃ], plosive, and apex, while in Chinese Mandarin it is pronounced as [ts'], affricate, apex, and;
- j is pronounced in Bahasa Indonesia as [dʒ], stop, apex, and voiced, while in Chinese Mandarin it is pronounced as [tɕ], affricate, front tongue, unvoiced; z is pronounced in Bahasa Indonesia as [z], fricative, front tongue, voiced sound, while in Chinese Mandarin it is pronounced as [ts], affricate, front tongue, and unvoiced sound.

## CONCLUSION

There are not a lot of differences in the number of consonants between Bahasa Indonesia and Chinese Mandarin. There are 23 consonants in Bahasa Indonesia phonetics and 22 consonants in Chinese Mandarin phonetics. From the place of articulation and the pronunciation methods, Bahasa Indonesia and Chinese Mandarin's consonants have 6 consonant factors that are the same. There are 6 consonants of Bahasa Indonesia that did not exist in Chinese Mandarin, and 4 consonants are not in Bahasa Indonesia but exist in Chinese Mandarin. In terms of the strength of the airflow, whether the local chords are vibrating, the location of the pronunciation, and the method of pronunciation, there are 11 different consonants factors between Bahasa Indonesia and Chinese Mandarin.

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