

# When and how shall tones be taught in Chinese learning?

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#### Abstract

Chinese is one of the tonal languages. It has 4 syllabo-morphemic contour tones. Many CSL learners and teachers take tones as the most difficult part in mastering pronunciation. Traditionally, teachers tend to emphasize the initial-final-tone or vowel-consonant-tone orders in teaching. However, in my opinion, tones should be clearly and fully taught from the very beginning. In brief, I call it "Tones First".

After explicitly describing the foundational reasons, I will put forth what should be basically considered for enacting the TF principle. In short, the following factors must be taken into consideration: (1) the common segmental units that both L1 and L2 have; (2) tone combinations; (3) the interaction of tone and intonation; (4) the interaction of tone and stress. Reasonable arrangement or design will make teaching and learning more effective. Some examples are given in this article.

**Keywords:** tone, Chinese, intonation, stress, CSL.

### 1. Introduction

For a long period of time, people thought that tone languages were special, uncommon and sometimes even mysterious. However, according to the investigations and research conducted within the last two decades, a majority of global languages have proven to be tonal, and these figures are still growing [1, 2]. At least, a tonal language is no longer mysterious to people nowadays.

Chinese is the most commonly spoken of the tonal languages. Many learners and teachers of Chinese as a Second Language (CSL) take tones as the most difficult part of its pronunciation. Many teachers, abiding by the "from-the-easy-to-the-difficult" rule, tend to take the "initial-final-tone" order or "vowel-consonant-tone" order in teaching, while others introduce tones early but without fully teaching them until later. As a result, many CSL students take for granted that tone is most important yet difficult aspect to grasp, and their tone pronunciation is unsatisfying. Just as expected!

However, if tones are taught correctly, at right time and in the right way, this difficulty and lack of mastery can be successfully avoided.

## 2. When shall tones be taught?

My answer to the question is simple: "At the very beginning". Why? The reasons are as follows:

- (1) Each Chinese syllable, which always relates to a morpheme and a Chinese character, is composed of three parts i.e. an initial, a final and a tone. However, there are only 4 tones in Mandarin, while 21 initials and more than 35 finals are used. Obviously, the toneme category in Chinese phonology has the least number of distinctive units. This makes tones easier to be fully grasped than initials and finals.
- (2) As the consequence of (1), tones have the heaviest functional load among the three components, which means pronunciation errors would be more often noticed if any tone is not well learned. This indicates that tones are more important than initials and finals for CSL learners.
- (3) Tones are supra-segmental, so they can be prolonged and have a longer duration than initials and finals. In perception and learning, this is definitely an advantage.
- (4) Tones are mainly expressed with pitch differences. And according to some famous psychological research [3-5], pitch differences are found to be used earlier than the timber's in L1 acquisition. Further study using Frequency-Following Response (FFR) technology also tells us that results elicited by tones in both Chinese neonates and American neonates show no significant difference [6, 7].

In short, since tones are both easier and more important in learning Chinese pronunciation, why don't we teach them at the very beginning? I believe, like the old saying goes: "Well begun is half done"!

### 3. How shall tones be taught?

In order to succeed in teaching Chinese tones of from the very beginning - let's call it "Tones First" in brief, the following factors and their relations with tone must be taken into consideration: (1) segmental units chosen; (2) tone combination; (3) intonation; (4) sentence stress.

### 3.1. Segmental units chosen

In general, each tone adheres to certain segment(s) mainly to vowel(s). So some people say that we should teach vowels first. That is not true. Not all vowels are needed to "teach" in L2 learning. There are always common vowels (as well as consonants) that both L1 and L2 have. Picking them out and designing tone exercises shall make tone teaching much more efficient.

Besides, Chinese is syllabo-morphemic, which leads to an advantage for tone teaching: there are plenty of meaningful syllables for practice, so one should avoid learning pronunciation with nonsense syllables.

Actually, Pian-Chao [8] demonstrated an efficient example at Harvard University by using segments both English and Chinese have in common to teach Chinese tones at the very beginning of a pronunciation course. She picked out 23 syllables, each having 4 tones separately, such as fa, ya, ai, lao, ti, mi, etc.. They were so common that no American student would pay attention to the segment pronunciation - neither to the initials nor to the finals, all students were sure to focus on tone learning and practice.

Perhaps it is because the transcription system for Chinese pronunciation she used was the old *Gwoin Tzymuu* but not *Pinyin* which was created in the late 1950s and has been adopted by UNESCO and ISO since the late 1970s, that Pian-Chao's textbook and her method were not popular in the CSL field. However, her way to teach Chinese pronunciation was right indeed.

#### 3.2. Tone combination

To let students grasp the four tones one by one is not all that CSL teachers should be satisfied with. I often hear the complaint from teachers that although a CSL student can produce Chinese tones well in citation, he/she makes a mess of sentences during spontaneous speech production. Chinese is a syllabo-morphemic language, however, this does not mean sentences are composed by separately uttering disconnected syllables. To produce proficient (fluent and correct) Chinese phrases or sentences, students need to be acquainted with tone combinations, more specifically disyllabic tone combinations, especially their pitch patterns.

Pian-Chao once again pioneered a method on this issue in 1960s. She started tone combination training right after tone learning. Here are some examples:

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T1T1: hua mhau (huāmāo, 花猫 kohleria)
fa in (fāyīn, 发音 pronunciation)
T1T2: fei lai (fēilái, 飞来 fly to come)
fa ming (fāmíng, 发明 invention)
T1T3: ing lii (yīnglǐ, 英里 mile)
ta meei (tāměi, 他美 he is beautiful)
T1T4: fa linq (fālìng, 发令 to command)
hei tann (hēitàn, 黑炭 black carbon)
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Figure 1: Samples of tone combination with segmentals both Chinese and English have. T1-T4 stand for the four tones in Chinese. The italicized words out of the brackets are the *Gwoin Tzymuu*, while the italicized words in the brackets are the *Pinyin*. The other contents in the brackets are Chinese characters of the words and their English definitions.

What is worth mentioning is that in this step of tone practice, the segmentals chosen are still those both Chinese and English have in common. This ensures learners focus on tone and tone combinations.

#### 3.3. Intonation

Without meaningful communication, language teaching cannot be considered successful, and all language communication includes intonation. Both tone and intonation exist in Chinese, actually they exist in any tone language, and both of them use pitch as the main parameter. The next questions then are how do they interact in Chinese? And how to teach them with "Tones First"? The first question can be answered by quoting the famous metaphors Y.-R. Chao raised decades ago [9]. He suggested the relations between tone and intonation as triple and wave.

As for the second question, I recommend to start teaching Chinese intonation right after the period when students grasp the four tones in citation. Drills of simple dialogues should be designed, and monosyllabic words shall be used again. For instance, we can make such a dialogue:

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A: Là? (辣? Hot?)
B: Là。(辣。Hot.)
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Background:

Student A & B are having dinner. A notices that B is opening mouth to breathe, and he/she guesses maybe his/her dishes are hot, so he/she may ask, "(Dishes are) hot?" Then B may answer him/her "(Yes,) hot."

Figure 2: Dialogue sample designed for monosyllabic intonation training.

#### 3.4. Stress

Most researchers agree that both tone and stress are mainly realized by pitch. Chao ever suggested that the stress in a Chinese sentence is realized by the expansion of the pitch range as well as the postfocus pitch compression [9]. His point of view has been approved by many researches [10-13]. According to my own research [14], it can be found that the prominence of a T1 or T4 syllable mainly relies on its following syllable's pitch range shrinking, and that of a T3 syllable often expands the pitch range. However, as for T2 focusing, it uses the cues of the following compression when it is followed by a T1 or T2, while it also uses the cues of the following expansion when followed by a T3 or T4. Apparently, different tone combinations still have different results, and it is not as simple as two rigid boxes (i.e.  $\square \square$ ). Figure 3 shows the pitch patterns of the beginning stressed disyllabic words/phrases. In short, we can call them Chinese trochaic disyllabic pitch patterns.

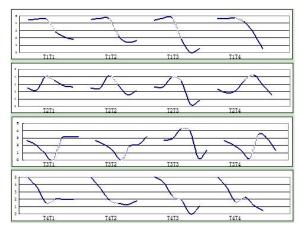


Figure 3: Chinese trochaic disyllabic pitch patterns.

In order to express the correct emphasis in Chinese pronunciation, it is very important for a CSL student to learn and practice how to expand and compress his/her pitch range. Otherwise, he/she may only produce a flat tune and struggle to be understood.

Subject to the declination principle in intonation, there is a common rule in Chinese sentence pronunciation: the words or syllables following a stress or focus are always lower in pitch than the stressed word or syllable. Grasping trochaic pitch patterns is to grasp the pivots of Chinese intonation.

So in CSL teaching, after the tone combinations are learned, tone stress patterns should be taught and practiced in due time.

Here are some examples:

A: *Lā shéi*?(拉谁? Pull whom?) B: *Lā Tā。*(拉她。Pull HER.)

#### Background:

A man and a woman fall into a river. Students A & B discuss who should be helped.

A: Lā bu lā tā? (拉不拉他? Pull him or not?)

B: Lā tā。(拉他。PULL him.)

#### Background:

A disgusting man falls into a river. Students A & B discuss if he should be helped.

Figure 4: Dialogue samples designed for disyllabic tone stress and intonation training in Chinese.

A: Āndí yào măi māo?

(安迪要买猫? Andi wants to buy a cat?)

B: Duì, Āndí yào măi māo .

(对, 安迪要买猫。Yes, Andi wants to buy a cat.)

### Background:

Andi wants to buy a cat. Students A & B discuss about this scenario.

A: ĀnDí yào măi māo?

(安迪要买猫? ANDI wants to buy a cat?)

B: Duì, ĀnDí yào măi māo .

(对,安迪要买猫。Yes, ANDI wants to buy a cat.)

### Background:

Andi wants to buy a cat. However, she didn't like cats before. Students A & B discuss about this scenario.

**Figure 5:** Dialogue samples designed for short sentence pronunciation training based on disyllabic tone stress and intonation patterns in Chinese.

### 4. Summary

The answer to the question of the title of this article could be simply concluded as "Tones First". Basically, in order to achieve successful teaching on Chinese pronunciation, a CSL teacher first of all should select monosyllabic Chinese words, the more the better, which should be composed of common segments that both L1 and L2 (hereto Chinese) have; then, go on to use those words to make meaningful disyllabic words/phrases for tone combination and stress training. Additionally, he/she shall also use the mono- or/and disyllabic words for Chinese

intonational practice. The answer to the question of the title of this article could be simply concluded as "Tones First". Basically, in order to achieve successful teaching on Chinese pronunciation, a CSL teacher first of all should select monosyllabic Chinese words, the more the better, which should be composed of common segments that both L1 and L2 (hereto Chinese) have; then, go on to use those words to make meaningful disyllabic words/phrases for tone combination and stress training. Additionally, he/she shall also use the mono- or/and disyllabic words for Chinese intonational practice.

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#### 6. References

- Maddieson, I. 1978. Universals of tone. In Universals of Human Language; Volume 2 Phonology, ed. J. H. Greenberg et al. Stanford: Stanford University Press, 335-363
- [2] Yip, M. 2002. Tone. Cambridge: Cambridge University Press.
- [3] Nakazima, S. 1962. A comparative study of the speech developments of Japanese and American English in childhood, *Studies in Phonology*, 2, 27-39.
- [4] Wolff, P. H. 1966. The causes, controls and organization of behavior in the neonate, *Psychological Issues*, 5 (1), 1-105.
- [5] Berk, L. E. (ed) 1997. Child Development, 4th edition, Allyn and Bacon, 148-149.
- [6] Jeng, F.-C., Hu, J., Dickman, B., Lin, C.-Y., Lin, C.-D., Wang, C.-Y., Chung, H.-K., Li, X. 2011. Evaluation of two algorithms for detecting human frequency-following responses to voice pitch, *International Journal of Audiology*, 50: 14-26.
- [7] Hu, J. 2015. A talk on the new findings of some Frequency-Following Response researches. *The 2nd International Workshop on Auditory and Speech Perception System*, Beijing.
- [8] Pian-Chao, R.-L. (ed) 1965. Aids for study of Elementary Chinese. Harvard University. Cambridge: Massachusetts.
- [9] Chao, Y.-R. 1968. A Grammar of Spoken Chinese. Berkeley: University of California Press.
- [10] Shen, J. 1986. Beijing-Hua Shengdiao de Yinyu he Yudiao. In: Lin, T. and Wang, L. (eds) *Beijing Yuyin Shiyan Lu*. Beijing: Peking University Press.
- [11] Gårding, E. 1987. Speech Act and Tonal Pattern in Standard Chinese: Constancy and Variation, *Phonetica*, 44, 13-29.
- [12] Kratochivil, P. 1998. Intonation in Beijing Chinese. In: Hirst, D. and Di Cristo, A. (eds) *Intonation Systems: A Survey of Twenty Languages*. Cambridge: Cambridge University Press, 417-431.
- [13] Xu, Y. 1999. Effects of tone and focus on the formation and alignment of f0 contours. *Journal of Phonetics*. 27, 55-105.
- [14] Cao, W. 2010. *Prosodic realization of Chinese foci*. Beijing: Peking University Press.