

USING CHOPSTICKS TO DISTINGUISH /n/ AND /l/ IN SPOKEN ENGLISH

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This teaching tip describes the difficulty in distinguishing the /n/ and /l/ phonemes in English by speakers of Cantonese and Southwestern Mandarin and provides instruction on how to teach students to improve the position of the tongue in the mouth with the help of a chopstick to articulate these sounds more successfully. An instructional video clip is included for use with learners.

Keywords

Nasal, lateral, /n/, /l/, southern Chinese speakers, southwest Chinese speakers, phoneme, allophone, phonetic realization

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BACKGROUND

“Low, low, low! Lot lumber line!” admonished one student to another. The adults in my multilingual ESL oral communication class were playing a communicative team game when a player called out the number nine to the first student. The second student seemed puzzled at the response, but viewing the animated gestures of the first student helped warn against making an unfavorable move. I smiled, knowing that the first student meant to say, “No, no, no! Not number nine!” In that student’s pronunciation inventory, the prevocalic nasal sound [n] and the prevocalic lateral sound [l] were evidently merged, with a strong tendency to substitute [l] preceding a vowel sound. I took note, and while offering a brief mini-lesson, determined to have a longer lesson and practice session on these sounds, which in English are distinct phonemes.

It is useful for teachers of pronunciation to prioritize which aspects of phonology to target, for we are faced with various constraints, including the amount of lesson time, student characteristics, and curricular or institutional demands. In order for learners to speak more comprehensibly, some phonemes deserve more instructional focus than others. If two phonemes distinguish a large number of vocabulary items—and therefore may convey conflicting, confusing, or incomprehensible information—they are considered to have a high functional load. On the other hand, phonemes with a low functional load distinguish fewer words and are less likely to be misunderstood by listeners. The phonemes /l/ and /n/ are among those that have a high functional load in English (Munro and Derwing 2006), as there are many contrasting word pairs in English, such as *no-low*, *not-lot*, *nine-line*, *night-light*, *connect-collect*, *neighbor-labor*. Not only are they minimal pairs, but many are of the same grammatical category (e.g., nouns, verbs), so speakers who cannot adequately perceive or articulate /l/ and /n/ are likely to encounter greater communication difficulties, that is, by misunderstanding others and/or being misunderstood.

In addition to principles of functional load in phonology, attention to the existence of allophones in a given language can direct teachers toward a useful teaching objective. In English, for example, [p] and [p^h] are allophones of the /p/ phoneme. The word “paper” uses the sound /p/ at the beginning and in the middle, but there are two different phonetic realizations: the prevocalic /p/ is aspirated and intervocalic position /p/ is not: [p^heɪpə]. Fluent English speakers typically do not perceive a difference because they are accustomed to hearing and producing these two phonetic variants as belonging to the same phoneme, /p/; they are allophones. If a speaker uses the “wrong” allophone, and says [peɪpə], [p^heɪp^hə], or [peɪp^hə], it does not cause a change in meaning, and the listener can still understand it. Depending on the learners’ language backgrounds, the different phonetic pronunciations may map onto different phonemes in their dominant languages, and they may mistakenly think, for instance, that the unaspirated intervocalic /p/ belongs to the /b/ phoneme. They need to be taught to perceive and pronounce [p] and [p^h] as allophones of the /p/ phoneme in English.

How does this relate to /n/ and /l/? These are clearly distinct phonemes in English. If you ask someone to /kælekt/ *the wires*, you will get an entirely different result than if you ask them to /kænekt/ *the wires*!

Hong Kong Cantonese pronunciations of /n/ and /l/

As a learner of European languages (French, Spanish, Italian), I had not encountered a confusion, or conflation, of the sounds /l/ and /n/. However, when learning Cantonese, my ancestral language, I noticed that a few native Cantonese speakers used [l] instead of [n] for words that were taught to me as beginning with /n/. When I taught English in Hong Kong in the 1970’s, I heard the [n]-[l] phenomenon among Cantonese speakers. An extremely common word meaning “you” in English has the original pronunciation of [nei] in Cantonese – that is the standard form taught in language classes. In conversation, however, I also perceived some individuals pronouncing [lei] for “you” and using [l] for many other words that traditionally begin with /n/. My appreciation of allophonic variation was thus heightened. Although, in English, these are different phonemes, I became acutely aware that [n] and [l] are allophones in Cantonese. Both articulations are acceptable phonetic realizations of a single phoneme that do not contribute to distinctions of meaning. Interlocutors in conversation are not confused and probably do not even notice the difference. Given accompanying linguistic signals such as tone (Cantonese has 6 to 9 tones), as well as context and nonverbal cues, they respond appropriately.

Studies show that Hong Kong Cantonese has experienced a sound shift in prevocalic /n/ from [n] to [l]. To, et al. (2015) report on the replacement of [n] by [l] over the centuries. From approximately 1000 to the 1900s, the phonemes /n/ and /l/ were clearly distinguished, as evidenced by rhyme books of the times. They cite S.-L. Wong (1941) regarding the non-standard use of [l] at that time as a pronunciation error and H.-N. Cheung (1972), noting that replacement of [n-] with [l-] was very common in Hong Kong Cantonese. To, et al. (2015) cite other field researchers who documented this shift increasing with younger speakers; for example, they described a study by Chen (1999), which reported that fourteen 12-year-old students born in the 1980’s pronounced 92% of words traditionally beginning with [n] as [l].

Hong Kong is located on the eastern Pearl River Delta in South China, outside of and connected historically and culturally to Guangzhou city, the capital of Guangdong Province. Guangzhou was

formerly known as Canton, from which originates the English word for the languages of the region, Cantonese. Over 1,000 km away inland from Hong Kong lies Chongqing, formerly known as Chungking, in a culturally, historically, and linguistically different region of China. Although it is east of the physical midpoint of the country, it is considered to be in Southwest China, much like Ohio, far east of the physical midpoint of the United States, is considered to be in the American Midwest.

Southwestern Mandarin pronunciations of /n/ and /l/

In the early 1980's I taught English in Chongqing, in the province of Sichuan. The language native to Chongqing is Southwestern Mandarin. Most of my students were natives of Sichuan, while some came from other parts of China for short-term language training and professional development. The large majority of the young college students were local. I detected in the speech of quite a number of these Sichuanese students the phenomenon of substituting [l] for /n/ in prevocalic positions in English, as well as confounding the /n/ and /l/ in words. I needed to teach them to perceive and produce /n/ and /l/ as distinct phonemes in English. English was the language used in the classroom, and I encouraged the students to speak English to me outside the classroom as well. If they wanted to use Chinese with me out of class, I requested that they speak not in Sichuanese, which I did not understand, but in Putonghua, that is, Standard (Beijing) Mandarin. Putonghua is a second language, linguistically though not politically, for Sichuanese speakers, and English still an additional language, recognized as a foreign language. It was during conversations in Putonghua with Sichuan natives that I observed that [n]-[l] inaccuracies and inconsistencies also occurred. Since Putonghua phonology distinguishes /n/ and /l/ as separate phonemes, I discerned that Sichuanese phonology lacked a distinction between these sounds. When I later taught English in Beijing, I did not note any such confusion or substitution of /l/ for /n/ among learners from northern China.

Zhang and Levis (2021) substantiate the phonological and phonemic distinctions—and lack thereof—of /l/ and /n/ in Southwestern Mandarin. They examined how common the /l/ and /n/ deviations are in the L2 speech of Southwestern Mandarin speakers, specifically, in their spoken English and Standard Mandarin (Putonghua). They noted that the amount of research on /l/ and /n/ in Southwestern Mandarin speakers' production is substantially less than Cantonese, primarily since Hong Kong was a British colony for 150 years. The /n/-/l/ distinction in Southwestern Mandarin is described as an inconsistent phonological feature based on regional accent. Their study documents the difficulty that 18 of 25 Southwestern Mandarin speaking subjects had in distinguishing /n/ and /l/ in both English and Standard Mandarin when presented with words containing /n/ and /l/ in prevocalic and intervocalic positions. The subjects were categorized by the sub-varieties: dialects with /l/ but not /n/, dialects with /n/ but not /l/, and dialects with both /l/ and /n/. The remaining seven participants were eliminated from the study when it was found that they did not have trouble distinguishing /n/ and /l/ in Standard Mandarin and English. First language (dialect) phonological systems influence production in the speakers' additional languages. As expected, speakers from sub-varieties with only /n/ had trouble pronouncing /l/, and speakers from sub-varieties with only /l/ had trouble pronouncing /n/, with a higher percentage of errors in English than Standard Mandarin. It is also worth noting that the researchers, one native Chinese speaker and one native English speaker, found that some pronunciations were nearly impossible to categorize as either /l/ or /n/.

How a chopstick can help distinguish /n/ and /l/

In an article on embodied pronunciation learning (Chan 2018), proprioception, the unconscious perception of movement and spatial orientation arising from within the body, is described as an important modality for language learning. Learners vary greatly in their ability to grasp a pronunciation point from a written description, an oral description, an auditory model, a visual animation, a cut-away side view diagram, a live presentation, a video recording, a spectrogram, a sonographic representation, an enlarged model of the mouth, or an exaggerated body movement. The astute teacher uses a variety of instructional methods to try to match students' learning modalities. One cost-effective technique is to use a chopstick to help learners access the spatial orientation and movement of the tongue within the mouth to formulate and produce /n/ and /l/ as distinct sounds and associate them with English phonemes.

How are the /n/ and /l/ sounds similar?

Both sounds are voiced: the vocal cords vibrate when each sound is produced. Both sounds require the tip of the tongue to touch the alveolar ridge, the gum ridge. The mouth is open; in other words, the lips are not sealed. Looking at traditional diagrams of the side view of these two sounds, as often presented in phonetics books, one may misinterpret them as identical.

How are the /n/ and /l/ sounds different?

Differentiation of /n/ from /l/ as different phonemes is easy for speakers of languages that already possess this distinction. But to learners who have not experienced the differences, teachers are advised to explicitly demonstrate and describe the distinctions.

The /n/ sound is nasal, which means that the sound is emitted through the nose. With the tip of the tongue pressing the gum ridge, the soft palate is lowered so that the air flows out through the nasal cavity, while the front of the tongue stops the oral airflow. By putting the thumb and forefinger on the sides of the nose and alternately pinching the nostrils together and releasing them, a speaker pronouncing /n/ will notice that closure impedes the sound while release allows the /n/ sound to issue through the nostrils and cause vibrations on the nose.

On the other hand, the /l/ sound is oral, which means that the sound is emitted through the mouth. With the tip of the tongue pressing the gum ridge, the air flows over the sides of the tongue and exits the oral cavity, not through the nasal passage.

What if words and diagrams fail to help?

Some learners have a difficult time translating the descriptions, diagrams, and demonstrations from their teachers into a change of movement of their own speech articulators. They may be able to walk down the hall without looking at their feet or touch a finger to their nose with their eyes closed, but they are physiologically challenged when it comes to the position of parts of their tongue in the act of speaking. Consider that it takes many minute movements of the tongue, palate, glottis, and other speech organs to combine in the right order in the right sequence to combine sounds into utterances. Speakers usually do not look at their own mouths as they speak, and even

if they do, they cannot see all the articulators. In some contexts, educational instruction is primarily through reading and writing, with less focus on listening, feeling, and perceiving.

Chopsticks are not only for eating!

A chopstick can be used to help the learner feel the placement of the tongue. A chopstick is a long, thin, round stick that, in pairs, is the main eating utensil of Chinese people, our target audience. Teachers may be able to obtain chopsticks from restaurants serving Chinese, Japanese, or Vietnamese food that provide paper-wrapped disposable chopsticks to customers. A long pencil, artist's paintbrush, or a stiff drinking straw may be substituted. Please be sure the chosen implement is clean for a safe and sanitary lesson!

Here are some tips for teaching learners to use a chopstick, along with a video clip to show students for guidance and practice: [*/n/ and /l/ before a vowel. Where is my tongue? A chopstick can help!*](#)

Using a chopstick to help with /n/

For /n/, press the tip of your tongue against the upper gum ridge. Hold a chopstick at both ends with both hands in a horizontal position in front of your mouth. Then slide the center of the chopstick under your tongue and push it upwards. This is to ensure that all edges of your tongue go up all around, sealing off the upper gums in a manner that prevents air from flowing out the oral cavity. Let the air flow through the nasal cavity while saying, “na-na-na”. Exaggerate the /n/ and feel the position of the tongue and the vibration in the nose. Practice this for one or two minutes with the chopstick in place; then remove the chopstick and activate the tongue muscles without it to produce /n/.



Using a chopstick to help with /l/

For /l/, press the tip of your tongue against the upper gum ridge. Try to lower the center of your tongue so that there is space on both sides of the tongue. Hold a chopstick at both ends with both hands in a horizontal position in front of your mouth. Release the tip of your tongue momentarily, slide the chopstick on top of the middle of your tongue, and then replace the tip of the tongue on the gum ridge. This requires you to stretch your tongue, perhaps more than usual, under the chopstick to reach the gum ridge. The chopstick ensures that there is space for air to flow out of the mouth through the left and right sides of the tongue. Feel the shape and position of the tongue and the airflow as you say, “la-la-la,” exaggerating the /l/. Practice this for one or two minutes with the chopstick in place; then remove the chopstick and activate the tongue muscles without it to produce /l/.



Practice with words

When learners have had the physical assistance of a chopstick to identify the parts of the tongue used to articulate the /n/ and /l/ sounds, teachers can ask them to practice auditory and productive distinctions. Students can listen to the teacher produce minimal pairs and they can then identify them, perhaps while the teacher covers their mouth with a sheet of paper or turns away while speaking to the students. The students can then practice pronouncing the pairs; teachers should coach students in order to activate the sensations students experience when the chopstick is assisting them to feel the position of the articulators. If learners have greater success with /l/ than /n/, start with /l/ words; if their proclivity is for /n/ over /l/, start with /n/ words.

no	low
not	lot
nine	line
night	light
connect	collect
neighbor	labor

For more practice, choose other high-frequency words and words from the students' occupations, fields of study, hobbies, or curricular themes.

like	pollution	neuron
look	collision	nominate
love	notice	nanometer
liquid	knowledge	
lullaby	native	

Practice with sentences

Taking into consideration the learners' English proficiency, depth of vocabulary, syntactic sophistication, interests, and field of study or work, teachers can create follow-up sentence practice exercises, using sentences such as the ones below:

Let's connect the lines.

It's nighttime, so let's turn on the light.

No one knows the number of little lizards on the lawn.

A neurological exam evaluates a person's nervous system.

An allegory is a popular form of literature pointing to a symbolic parallel meaning.

When subsequently implementing a lesson on another aspect of speech, pronunciation, or listening, teachers may wish to review the /n-/l/ distinctions with a chopstick. In some cases, while a student is speaking, the teacher may be able to cue the student to recall the articulation points by simply raising a chopstick for a moment of self-monitoring.

CONCLUSION

It is evident that there is a lack of a distinction or consistency between /n/ and /l/ in the spoken English of Cantonese and Southwestern Mandarin speakers. The processes differ in that Hong

Kong Cantonese is in the process of merging /n/ and /l/, while these sounds in Southwestern Mandarin apparently merged long ago, giving some sub-varieties a predisposition for /n/, others a predisposition for /l/. Both cause difficulty in producing the opposing sound. No matter what the source of the problem, when teachers encounter learners who demonstrate difficulty producing prevocalic and intervocalic /l/ and /n/, and these learners are not able to perceive and distinguish verbal descriptions or auditory models of these phonemes of high functional load in English, a chopstick can be used as gadget to reach their physical awareness, perception, and realization.

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