English Stops, Fricatives and Consonant Clusters: Problems and Coping Strategies of Cantonese ELLs

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Abstract

Producing and discriminating between specific sounds in an L2 can be very difficult for language learners. Some students are able to acquire near native like phoneme production, whereas others struggle throughout their language-learning career. Regardless of a student’s age, level of education, or level of motivation, teachers are presented with the reality that many English language learners (ELLs) have difficulty with phonemes that are not present in their own language, or with phonemes that are extremely similar to those in their L1. This paper will offer an analysis of English stops, fricatives, and consonant clusters and will explore some phonological difficulties and coping strategies of Cantonese ELLs.

Keywords: stops, fricatives, consonant clusters, deletion, substitution, coping strategies
Producing and discriminating between specific sounds in an L2 can be very difficult for language learners. Some students are able to acquire near native like phoneme production, whereas others struggle throughout their language-learning career. For example, it is argued that if learners are past the age of about seven years old, the ability to attain native like pronunciation is extremely difficult. Flege, Yeni-Komshian, and Liu (1999) conducted a study of over 200 Korean L1 speakers of L2 English and found that factors like frequency of L2 use and amount of L2 education contributed more to morphosyntax proficiency than pronunciation proficiency. They argued that once L1 phonology is engrained in a learners mind it’s difficult to create new sound categories in the brain for the L2. In contrast, other research has shown that late learners can become ‘target like’ in pronunciation. Ioup, Boustagoui, Tigi, and Moselle (1994) examined an L1 English late learner of L2 Arabic who was deemed a native speaker by more than half of the listening judges in the study. Although one person’s ability is not generalizable to all language learners universally, Ortega (2009) reports on other similar findings for many learners with an L2 of German, French, English, and Dutch. Because of these individual differences, teachers face the reality that many ELLs have difficulty with phonemes that are not present in their own language, or with phonemes that are extremely similar to those in their L1. This paper will offer an analysis of English stops, fricatives, and consonant clusters and will explore some phonological difficulties and coping strategies of Cantonese ELLs.

**Stops**

One type of English consonant phoneme is the stop. According to Gimson and Cruttenden (1994), there are three main stages to producing a stop: *closing, compression,* and
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*release.* The closing stage consists of “the articulating organs move together in order to form the obstruction”, the compression stage during which “lung action compresses the air behind the closure”, and the release stage where “the organs forming the obstruction part rapidly, allowing the compressed air to escape abruptly” (p. 139). Most stops have a voiceless and a voiced counterpart. Phoneme /p/ is the voiceless bilabial counterpart to /b/, /t/ is the voiceless alveolar counterpart to /d/, and /k/ is the voiceless velar counterpart to /g/.

One of the more salient features of stops is *aspiration.* According to Gimson and Cruttenden (1994), the stops /p,t,k/ are aspirated (a release of air after the phoneme) in the syllable-initial position. Aspiration allows /p,t,k/ to be distinguishable from /b,d,g/ in the syllable-initial position. Using the wrong phoneme in this instance will usually result in changing the word and therefore the meaning e.g., *pen-bin, time-dime, kill-gill.* The strength of the aspiration changes when /p,t,k/ are in different syllables in words or when they come before or after a particular phoneme. For example, when /l,r,w,j/ come after /p,t,k/, “the aspiration is manifested in the devoicing of /l,r,w,j/”; thus the /p/ in *please, pray or play* is not as aspirated as in *pin, piece, or pine* (Gimson & Cruttenden, 1994, p. 140). Aspiration of /p,t,k/ is also limited when preceding a vowel in an unstressed syllable e.g. *police.* Additionally, when /p,t,k/ follow an /s/, they are less aspirated and can be difficult to distinguish from /b,d,g/.

Another important feature of stops is the effect they can have on other phonemes in a word. According to Gimson and Cruttenden, “… vowels and sonorants are shortened before /p,t,k/ while keeping their full length before /b,d,g/…” (1994, p. 142). For example, note the difference in vowel quality of these words, *God-got, bid-bit, dug-duck.* When stops are clustered together in a word or when they are in close proximity in “word boundaries”, the first stop contains no “audible release” (p. 145). Therefore, in stop clusters, the closing stage for the
second stop is created before the release stage of the first stop has been completely articulated.

For example, *rubbed* (/b/ + /d/), *white post* (/t/ + /p/), and *good boy* (/d/ + /b/) are all stop clusters where the first stop in the cluster is not completely released.

**Fricatives**

Although stops are made by a complete restriction and then a release of air flow, fricatives are created when “… two organs are brought and held sufficiently close together for the escaping airstream to produce local air turbulence…” (Gimson & Cruttenden, 1994, p. 162). Similar to stops, fricatives also have voiced and voiceless counterparts. The phoneme /f/ is the voiceless labiodental counterpart of /v/, /θ/ is the voiceless interdental counterpart to /ð/, /s/ is the voiceless alveolar counterpart of /z/, and /ʃ/ is the voiceless alveopalatal counterpart of /ʒ/. There is one glottal fricative /h/ that is voiceless and has no voiced counterpart.

Not unlike stops, fricatives /v,θ,z,ʒ/ tend to be fully voiced when they occur between voiced sounds e.g. *either, lover, loser*. Voiced fricatives in initial and final positions may also be partially or completely devoiced e.g. *this, them, please*. The effect fricatives can have on other phonemes in a word is realized largely by the voiceless set. The voiceless fricatives /f, θ,s,ʃ/ reduce preceding vowels especially when the vowels follow /l,m,n/ e.g. *leash, fence, self*. Voiceless fricatives also reduce “… the length of vowels, nasals, and laterals…” in the “medial position” e.g. *proofing, earthy, racer* (Gimson & Cruttenden, 1994, p. 163). However, the voiced fricatives /v,ð,z,ʒ/ do not reduce preceding vowels in the same circumstance e.g. *liege, fens, selves*, nor do they effect the length of vowels, nasals, and laterals when they are in the medial position e.g. *proving, worthy, razor*. 
Consonant Clusters

Consonant clusters in English are extremely complicated and can be very difficult for ELLs to produce. Consonant clusters are two, three, or four consonants that are pronounced together. In English, only two and three consonant clusters can occur position initial in a word, whereas two, three, and four consonant clusters can occur position final in a word (Celce-Murcia, Brinton, & Goodwin, 1996, p. 82). Native speakers often employ two main strategies to simplify consonant clusters: *cluster reduction* and *resyllabification*. Cluster reduction is characterized by dropping a consonant, usually the middle consonant in a cluster, to simplify the structure. For example, the word *asked* /æskt/ might change to /æst/. Resyllabification can be defined as separating a final consonant cluster when it is before word that starts with a vowel; the last consonant of the cluster moves to the first syllable of the next word. For example, *he punched it* might look like /hi pʌntʃ dɪt/ (Celce-Murcia, Brinton, & Goodwin, 1996, p. 83). As can be seen, consonant clusters can be difficult even for native speakers. One could infer that learners whose L1 does not have consonant clusters will have particular difficulty producing them. This is the case with Cantonese ELLs that will be discussed in the next section.

Cantonese ELL’s Problems and Strategies

In Hong Kong, Cantonese is the mother language of most people; however, English is used for business, government and law (Chan, 2010b). A substantial amount of pronunciation research has been conducted by Chan (2000; 2010a; 2010b) on Cantonese ELLs. The paragraphs that follow will explore Chan’s research concerning problematic consonant clusters, fricatives, and stops for Cantonese ELLs.

Cantonese contains no consonant clusters and these structures are therefore extremely difficult for Cantonese ELLs. In Chan’s (20010b) study on Cantonese production of initial
consonant clusters, she found that the most difficult clusters to produce contained “…liquids, namely /r/ and /l/, and fricatives not found in Cantonese, namely /ʃ/ and /θ/…” (p. 126). When producing initial clusters with these problematic phonemes, Cantonese ELLs in this study used two strategies to cope with the difficulty: deletion and substitution. For example, when deletion was the coping strategy, words like problem and free were pronounced /prəbəm/ and /fiː/, thus making the words easier to pronounce. When substitution was being employed, the word shrink was pronounced /strɪŋk/ and the word blank was pronounced /bwæŋk/ (Chan, 2010b, pp. 126-7).

Although only apparent in a separate study, epenthesis is another coping strategy used to simplify initial consonant clusters. According to Chan (2000), the word clutch would be pronounced /kalʌʃ/ “with an extra vowel added to produce an extra open syllable, which is preferred in most languages including Cantonese” (p. 82).

According to Chan (2000), Cantonese ELLs often substitute voiceless labiodental and alveolar fricatives for their voiced counterparts: /f/ for /v/ and /s/ for /z/. This substitution makes minimal pairs like fairy and very, or sip and zip indistinguishable (p. 79). The interdental fricatives /θ/ and /ð/ do not exist in Cantonese; therefore, ELLs tend to substitute /t/ or /tʃ/ for /θ/ and /d/ or /dʒ/ for /ð/. Cantonese ELLs also have problems with both of the alveopalatal fricatives /ʃ/ and /ʒ/, where they tend to substitute the phoneme /s/ for both of these fricatives; thus, save and shave would be pronounced the same. Additionally, measure would be pronounced /mesəɹ/ and pleasure would be pronounced /plɛsəɹ/ (Chan, 2000, p. 79).

According to Chan (2000), Cantonese contains no “voiced syllable-final” stops (p. 78); therefore, Cantonese ELLs tend to substitute /p,t,k/ for /b,d,g/ in the final position. During the release stage of plosives in final position, Cantonese ELLs tend to keep the organ that is causing the obstruction in place (stationary), thereby not allowing the air to escape. For example, for /p/
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the lips stay closed, for /k/ the body of the tongue remains on the soft palate, and for /t/ the tip of the tongue remains near the alveolar ridge (p. 78). The lack of release in the final position can make minimal pairs like slop and slob, and late and laid virtually indistinguishable. In the syllable initial position, Cantonese ELLs will often devoice English voiced stops. Interestingly, Chan has not reported problems with voiceless stops in initial positions. This suggests it is easier for Cantonese ELLs to aspirate voiceless initial stops (e.g. pin) than to fully voice the voiced final stops in English (e.g. dig).

Usually, pronunciation errors are recognized as stemming from a phoneme that is present in the L2 but absent in the L1. For example, the lack of consonant clusters or the interdental fricatives /θ/ and /ð/ in the Cantonese language have been documented as problematic for ELLs. However, consonants present in the L2 but not present in the L1 do not always cause problems. According to Chan (2010a), the phoneme /ʃ/ does not exist in Cantonese and does not “…pose difficulties worthy of attention” (p. 323). Pronunciation errors can also be associated with sounds that are similar in both languages. Phonemes /n/ and /l/ are present in both Cantonese and English, yet ELLs tend to produce the English initial /n/ with /l/.

Conclusion

As an English teacher, it is important to understand that your students’ L1 can have an impact on their production of English phonemes. It is also important to realize that extreme similarities in phonemes can also lead to difficulty in sound discrimination and production for some learners. Although this paper concentrated on Cantonese ELLs and their problems with stops, fricatives, and consonant clusters, similar research could be done with different ELLs to help define their possible problems with English phonology. Being able to identify students’
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difficulty areas with English phonology allows the teacher to focus pronunciation instruction on specific problematic sounds that hinder intelligibility.
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References


