

Project Title : Developing an intelligibility-oriented approach to teaching and assessing English pronunciation in Hong Kong

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Final Report

by

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Developing an intelligibility-oriented approach to teaching and assessing English pronunciation in Hong Kong

Abstract

The choice of an appropriate pronunciation target for L2 learners has been controversial in English language education. Traditionally, this target has been guided by a native-speaker (NS) ideology, which regards native-like pronunciation as learners' ultimate goal. Over the past decades, however, this NS model has largely been criticised because it no longer serves the diverse needs and functions of most international communication, where L2 speakers are the majority. Furthermore, it presents challenges and dilemmas to most local English language teachers who are not NSs. It is hence argued that contemporary pronunciation teaching should focus on maintaining international intelligibility rather than achieving native-like pronunciation. In Hong Kong, Kirkpatrick (2007) argues that a localised pronunciation teaching approach can be developed by identifying the pronunciation features of the educated form of Hong Kong English (HKE) with reference to research findings about international intelligibility.

This study sought to implement Kirkpatrick's proposal and develop an intelligibility-oriented approach to teaching/assessing pronunciation in Hong Kong. The investigation comprised two main components: First, it established a spoken corpus about L2 pronunciation features of HKE learners/speakers of different English proficiency/education

levels. Second, the study examined ELT teachers' perceptions and practices of teaching/assessing pronunciation using a reflective task, semi-structured interviews and a structured questionnaire. These findings have led to the development of a framework for pronunciation teaching/assessment in Hong Kong's English education. It is believed that a feature-based pedagogy can offer teachers more specific guidelines on determining the priority of teaching/assessing pronunciation features according to students' different needs/English proficiency levels.

Keywords: English as a lingua franca, Pronunciation teaching, Assessment, International Intelligibility, Hong Kong English

Introduction

Over the past decades, there has been a major paradigm shift in research into pronunciation teaching from a native-speaker (NS) ideology to a focus on intelligibility due to the importance of maintaining mutual understanding in international communication (Levis, 2005). In the field of English as a lingua franca (ELF), one significant contribution is Jenkins's (2000) lingua franca core (LFC), which has identified segmental features that are crucial for international intelligibility. Given that English in Hong Kong is mainly used as an international language (Evans, 2013), a key question is how these intelligibility findings can be applied to Hong Kong's English language education.

In the Hong Kong context, English teachers tend to lack confidence in teaching and assessing NS pronunciation (Tsui and Bunton, 2000) whereas the ELT curricula, assessments and commercial ELT textbooks are conceptually NS-oriented (Chan, 2014a). Probably because of the absence of specific guidelines, pronunciation teaching is often less a focus in the ELT classroom and teachers may only assess students' pronunciation based on their general impression. It would therefore be crucial to develop a localised feature-based approach to teaching and assessing pronunciation on the basis of international intelligibility rather than traditional NS-like proficiency, because this NS target is arguably irrelevant, inappropriate and unattainable in most multilingual settings (Kirkpatrick, 2007).

The purpose of this study was to develop a localised feature-based approach by comparing the phonological features of a wide range of English learners/users in Hong Kong to Jenkins's LFC (and other relevant intelligibility findings) and, furthermore, by determining the teaching priority of these features. This approach also takes account of local English teachers' perceptions and practices of teaching and assessing L2 pronunciation. As pronunciation variation is inevitable and arguably necessary for the expression of one's cultural identity, it is hoped that this study can foster recognition and acknowledgement of local (educated) forms of pronunciation that are internationally intelligible and, substantially, initiate changes in students' and teachers' practices of and attitudes towards pronunciation learning/teaching.

Literature review

Pronunciation teaching in ELT – the nativeness and intelligibility principle

Pronunciation research and pedagogy have long been influenced by two contradictory principles: the nativeness (i.e., 'it is both possible and desirable to achieve native-like pronunciation') and intelligibility principle (i.e., 'learners simply need to be understandable') (Levis, 2005, p.370). For much of the history of ELT, the choice of pronunciation goals in most second or foreign language contexts has been guided by the nativeness principle, regarding an exonormative NS model as the ideal and invariable learning target and, hence,

the benchmark of English proficiency (Jenkins, 1998; Kirkpatrick, 2007b; Murphy, 2014). Consequently, NS pronunciation such as Received Pronunciation (RP) or General American (GA) has been widely adopted as the only model in audio teaching materials (Kopperoinen, 2011; Chan, 2014a). Owing to the NS-based standard in assessments, there is also a routine practice of correcting students' inevitable L1 influenced English accents in the ESL/EFL classroom as they are considered as pronunciation 'errors'.

Over the past three decades, the application of a single NS target to all sociolinguistic settings has been criticised in the field of applied linguistics on the grounds that it not only neglects real language use and needs in multilingual settings (Sridhar and Sridhar, 1986; Kachru and Nelson, 2006; Kirkpatrick, 2007b), but also takes little account of local culture and identity (Phillipson, 1992, 2009; Pennycook, 1998; Kirkpatrick, 2007b). In most current English-speaking situations, English is no longer a language owned by a limited number of NSs; rather, it is used by speakers of diverse linguistic and cultural backgrounds with different functions and patterns of language use (Seidlhofer, 2001, 2011). Alternatively, a general consensus in the literature on pronunciation teaching has been the recognition and adoption of endonormative (or localised) targets, which are likely to feature linguistic and communicative patterns of successful bilingual speakers in the local context and be modelled by qualified local English teachers (Kachru and Nelson, 2006; Kirkpatrick, 2007a; Chan, 2013a; Murphy, 2014). As accent variations inevitably occur among English varieties,

regional dialects and even individuals, a critical parameter for the development of this localised pronunciation target is the issue of intelligibility.

According to the intelligibility principle, communication can be remarkably successful even in the presence of noticeable or prominent foreign accents - there is a lack of clear relationship between accent and understanding (Munro and Derwing, 1998). Central to pronunciation teaching from this perspective is therefore instructions focusing on features that are most helpful for understanding while deemphasising those that are relatively unhelpful (Jenkins, 2000; Levis, 2005). Table 1 illustrates the differences implied by the nativeness and intelligibility principle in terms of their overall language learning goal, targets in pronunciation teaching, roles of teachers and learners, teaching model(s), potential listeners and perspective of foreign accent.

Table 1 Differences implied by the nativeness principle and the intelligibility principle (Adapted from Levis, 2018, p.221)

Statements	Nativeness	Intelligibility
Overall goal	<ul style="list-style-type: none"> • Speak with a native accent 	<ul style="list-style-type: none"> • Speak so that your message is understood • Listen to others so that you are able to understand
Targets	<ul style="list-style-type: none"> • All pronunciations different from those of native speakers 	<ul style="list-style-type: none"> • Primarily variations that affect understanding
Teachers	<ul style="list-style-type: none"> • Native speakers, preferably trained 	<ul style="list-style-type: none"> • Any intelligible speakers with training
Learners	<ul style="list-style-type: none"> • Learners of any age can (and should) become native-like if they are taught correctly 	<ul style="list-style-type: none"> • Intelligibility can always be improved
Model	<ul style="list-style-type: none"> • Native prestige models (e.g., RP and GA) 	<ul style="list-style-type: none"> • Any intelligible model of English
Who are the listeners (and therefore judges of intelligibility)?	<ul style="list-style-type: none"> • Native speakers 	<ul style="list-style-type: none"> • L1 and L2 speakers
What are the evaluations of speaking with a foreign accent?	<ul style="list-style-type: none"> • L2 learners are deficient when they continue to have an accent 	<ul style="list-style-type: none"> • Accents are normal and expected. • Accents are not directly related to intelligibility

English as a lingua franca (ELF) research and the lingua franca core (LFC)

As a newly emerged research paradigm, English as a lingua franca (ELF) research has been closely associated with globalisation, which has seen second language (L2) speakers become the majority in international communication (Seidlhofer, 2011). ELF research is therefore highly relevant to the issue of international intelligibility and contemporary language goals concerning the contexts of language use and the corresponding interlocutors. Since the beginning of the millennium, much of the exploratory work in ELF has been informed by corpus projects such as the Vienna-Oxford International Corpus of English (VOICE) (Seidlhofer, 2001), corpus of English as a Lingua Franca in Academic Settings (ELFA) (Mauranen, 2003), and Asian Corpus of English (ACE) (Kirkpatrick, 2010), which

investigated spoken interactions of (mainly L2) English speakers in continental Europe and Asia. Derived from naturally-occurring interactional speech data, ELF studies has revealed speakers' common language features in terms of lexis, lexicogrammar, pragmatics and phonology. Commenting on the nature of English in contemporary international communication, Jenkins (2015, p.77) argues that English should be positioned 'within a framework of multilingualism', with ELF defined by its 'variability', 'complexity' and 'emergent nature'.

Within this stream of research, one important work is Jenkins's (2000) *Lingua Franca Core (LFC)*. Her study investigated instances of communication breakdown in international interactions where most of the interlocutors were L2 speakers (rather than NSs) and identified specific phonological sources of mis- and non-communication. The resulting model she developed prioritises sets of pronunciation features that affect mutual intelligibility in international communication (see Table 2 for a summary).

Table 2 ELF and NS pronunciation targets (adapted from Jenkins, 2002, p.99)

	NS target	ELF target
1. The consonantal inventory	<ul style="list-style-type: none"> • All sounds • RP non-rhotic /r/; GA rhotic /r/ • RP intervocalic [t]; GA intervocalic [ɾ] 	<ul style="list-style-type: none"> • All sounds except /θ/, /ð/ and [ʃ] • Rhotic /r/ only • Intervocalic [t] only
2. Phonetic requirements	<ul style="list-style-type: none"> • Rarely specified 	<ul style="list-style-type: none"> • Aspiration after /p/ /t/ /k/ • Appropriate vowel length before fortis/ lenis consonants
3. Consonant clusters	<ul style="list-style-type: none"> • All word positions 	<ul style="list-style-type: none"> • Word initially, word medially
4. Vowel quantity	<ul style="list-style-type: none"> • Long-short contrast 	<ul style="list-style-type: none"> • Long-short contrast
5. Vowel quality	<ul style="list-style-type: none"> • Close to RP or GA 	<ul style="list-style-type: none"> • L2 (consistent) regional qualities
6. Weak forms	<ul style="list-style-type: none"> • Essential 	<ul style="list-style-type: none"> • Unhelpful to intelligibility
7. Features of connected speech	<ul style="list-style-type: none"> • All 	<ul style="list-style-type: none"> • Inconsequential or unhelpful
8. Stress-timed rhythm	<ul style="list-style-type: none"> • Important 	<ul style="list-style-type: none"> • Does not exist
9. Word Stress	<ul style="list-style-type: none"> • Critical 	<ul style="list-style-type: none"> • Unteachable/ can reduce flexibility
10. Pitch movement	<ul style="list-style-type: none"> • Essential for indicating attitudes and grammar 	<ul style="list-style-type: none"> • Unteachable/ incorrectly linked to NS attitudes/ grammar
11. Nuclear (tonic) stress	<ul style="list-style-type: none"> • Important 	<ul style="list-style-type: none"> • critical

Subsequent empirical research has generally supported the LFC proposals. For example, Deterding and Kirkpatrick's (2006) and Deterding's (2013) investigations of international conversations in the ASEAN region pointed to the importance of segmentals (i.e., vowels and consonants), particularly consonantal features, in international communication. The LFC findings also gain some theoretical support from the functional load (FL) principle, which offers a theoretical framework for 'prioritising issues in pronunciation teaching' (Munro & Derwing, 2006, p.522). Specifically, the FL principle is used to 'rank segmental contrasts according to their importance in English pronunciation' (p.522). It states that minimal pair

contrasts with a high FL cause more intelligibility problems than those with a low FL. An example is Jenkins's (2000) claim that the low importance of substitutions of dental fricatives (e.g., pronouncing 'think' as 'fink' and 'that' as 'dat') for intelligibility can be explained by their relatively low FL (Munro & Derwing, 2006). In contrast, the lack of contrast in pronouncing /i/ and /ɪ/ (e.g., in 'sheep' and 'ship') is more likely to result in a communication breakdown than pronouncing /f/ for /θ/ (Derwing & Munro, 2015; see Sewell, 2017 for a more detailed discussion).

Nonetheless, the LFC has also been criticised for having a relatively small database and unclear inclusion criteria for speech samples (e.g., Dziubalska-Kolaczyk & Przedlacka, 2005; Isaacs, 2014). Moreover, a considerable number of studies have given contradictory evidence/recommendations, particularly regarding the significance of suprasegmental features such as sentence stress, word stress and intonation (Dauer, 2005; Field, 2005; Zielinski, 2008). Apart from linguistic features, the listeners' perceptions may also be affected by an array of factors, such as familiarity with accents, familiarity with speech topics, cultural expectations, attitude and motivation and the listeners' own proficiency and linguistic awareness (see Yan & Ginther, 2018 for a discussion).

ELF intelligibility-oriented pronunciation teaching

One application of ELF intelligibility findings to L2 pronunciation teaching in specific local contexts was proposed by Kirkpatrick (2007a), who suggests that an ELF intelligibility-oriented teaching approach can be developed based on the ‘acrolect’ (the educated form) of a nativised or local variety of English. Specifically, this ELF intelligibility-oriented approach can be developed by identifying linguistic features in the localised educated form of English that interfere with international intelligibility and make these features a pedagogical focus in the ELT curriculum. Sewell (2016) argues that this ‘feature-based approach’ is ‘promising’ because it orients pronunciation teaching ‘towards the intelligibility principle rather than the nativeness principle, regardless of whether we see “nativeness” as residing in native-speaker models or in local “nativised” ones, as both are seen as too restrictive’ (p.98). An advantage of this teaching pedagogy is its shifted attention to specific pronunciation features so that learners can have greater flexibility in their choice of pronunciation target as long as it is internationally intelligible, regardless of whether it is the NS or local ones (ibid.).

In the long-term development, Kirkpatrick (2007a) argues that the codification and benchmarking of the localised English variety can lead to an alternative learning target modelled by the local qualified English teachers, who are presumably successful bilingual speakers in the local context. It is suggested that this so-called ‘local institutional bilingual model’ is most suitable in local multilingual societies owing to their great relevance to the language use and cultural identities of local bilingual English users (p.279). Subsequently in

assessments of pronunciation, it is also possible that L2 learners are no longer penalised for all their L1-influenced features, but only for those that may potentially impede international intelligibility (see Brown, 2014).

Developing an intelligibility-oriented approach for Hong Kong's English language education

In order to develop an intelligibility-oriented approach for pronunciation teaching in Hong Kong, an important initial step is to identify linguistic features in the educated form of the local English variety (Kirkpatrick, 2007a). To date, little research has been conducted to identify such an 'acrolect' (i.e., the educated form) with respect to who speaks it as well as the specific features involved. Most of these previous studies tend to be small in Seidlhofer and focus on one specific group of English speakers in Hong Kong (mainly university students) (e.g., Setter, 2006; Deterding, Wong and Kirkpatrick, 2008; Setter, Wong and Chan, 2010; Sewell and Chan, 2010; Chan, 2013a, 2014b; Edwards, 2016). Furthermore, research into HKE phonology has revealed individual variation in the pronunciation features of different (or the same) Hong Kong speakers (see Sewell, 2016). In this regard, Sewell and Chan (2010) have sought to prioritise the prominence of certain HKE consonantal features among participants in local television programmes by constructing an implicational (or hierarchical) scale. Chan (2014b) has further advanced research in this area about (educated)

speakers' phonological variations by evaluating the authentically, simultaneously produced HKE features by local teachers. The study categorised and quantified the teachers' production of segmental features according to their frequency of occurrences, and subsequently compare them with the ELF intelligibility findings. The findings have suggested the possibility of prioritising HKE segmental features for pronunciation teaching and assessments according to their international intelligibility and prominence in the speech of local English speakers.

Building upon these preliminary studies, this study aimed to more systemically describe the basilect/acrolect continuum of the HKE phonology using a larger-scale corpus and, furthermore, develop an intelligibility-oriented teaching and assessment framework for English pronunciation at the secondary level. The development of this pedagogical framework also took account of English teachers' perceptions and practices of teaching and assessing English pronunciation. By aligning the proposed pedagogical framework with teachers' current beliefs and practices, it is expected that the localised feature-based approach could be practically implemented at different levels of the school system catering for students' diverse educational needs and English abilities.

Methodology

Overall design of the study

The major purpose of this research project was to examine the pronunciation features of various English speakers in Hong Kong, and develop a feature-based teaching and assessment framework for secondary education focusing on international intelligibility. The investigation underwent two main components. The first part consisted of audio/video-recordings of the English pronunciation of Hong Kong speakers from a wide range of education and English proficiency levels (i.e., secondary students, university students, professionals) in a (semi-)authentic group interaction task. These recordings formed a corpus for subsequent phonological analysis that seeks to prioritise HKE pronunciation features for ELT with reference to the ELF intelligibility findings and the prominence of these features in the speech data.

The second part of the investigation examined local English teachers' awareness of ELF and strategies for teaching and assessing English pronunciation at the secondary level. This was achieved via a mixed-methods approach triangulating data derived from both qualitative (i.e., a reflective task and semi-structured interviews) and quantitative research methods (questionnaire) (Springer, 2010). By considering the prominence of HKE phonological features, ELF intelligibility findings and English teachers' perceptions and practices of teaching and assessing pronunciation, a specific pedagogical framework was devised with

regard to how features of students' pronunciation should be taught and assessed from an ELF perspective.

Part I: Analysis of HKE phonology

Participants

The first part of the study involved a sample of 120 Hong Kong English learners/users (Female: 63.3%, Male: 36.7%) who are likely to be positioned across the basilect/acrolect continuum based on their different education and English proficiency levels. The investigation included secondary school students, undergraduate/postgraduate university students and professionals of different occupations. The secondary students were secondary 5/6 students from three secondary schools, where most of the students, according to the school administrators, belonged to band 1, band 2 and band 3 (based on the Hong Kong's three-band scale: band 1–highest academic ability; band 3–lowest), respectively. In each banding, 20 secondary students participated in the audio/video recorded group interaction task (60 in total).

The remaining participants were local undergraduate and postgraduate students who studied in various faculties (e.g., arts, education, social science, engineering, business) in two universities in Hong Kong. 20 students from each university (40 in total) were invited to participate in a group interaction task for the audio/video-recording of their speech. Similarly,

20 professionals from a range of occupations (e.g., engineer, teacher, administrative staff, hotel manager) participated in the audio/video recording task.

Data collection

The corpus in the present study was based on 14 audio/video-recordings in (semi-)authentic English interactions of the various groups of participants. The bands 1-3 senior secondary students from three schools participated in an 8-minute group discussion task (four students in a group), which resembled the format of the English speaking paper in HKDSE. The communicative task allowed them to discuss and negotiate with their peers to achieve certain goals in the setting of a meeting (e.g., organising an event, preparing for a talk, making decisions based on some choices). Furthermore, the university students and professionals were invited to participate in a group interaction task that is similar to that for the senior secondary students but with different communicative purposes suitable for their corresponding roles in the academic and workplace setting, respectively.

Data analysis

After the compilation of the corpus, the phonological analysis of the speech followed that in Chan's (2014b) previous study examining teachers' HKE phonology in terms of the prominence of specific L2 features. The analysis was mainly on the segmental level (e.g.,

vowels, consonants), which, according to Jenkins (2000, 2002), is most crucial to international intelligibility; NS-like suprasegmental features (e.g., weak forms, word stress, pitch movement and other features of connected speech) are arguably less important to intelligibility in ELF communication or not teachable and learnable in the L2 classroom (Jenkins, 2000). Each recorded (8-minute) sample was orthographically transcribed (or verbatim) and followed by phonemic transcription, which involved two researchers to listen to the extracts independently. All the transcribed vowels and consonants were compared and cross-checked by the two researchers to identify instances of disagreement (for inter-rater reliability, from 98.43% to 100%). The final decisions were then made by repeated listening and negotiation between the researchers.

After the phonemic transcription of the speech samples, the analysis comprised the calculation of total amount of vowels and consonants pronounced by the speakers as compared to the recommended pronunciation according to the dictionary. Non-dictionary vowels and consonants in their actual productions were then classified into various shared phonological patterns in the participants' speech with reference to previous phonological studies on HKE phonology (Chan and Li, 2000; Hung, 2000; Deterding, Wong and Kirkpatrick, 2008; Chan, 2010; Setter, Wong and Chan, 2010). These categorised features were also quantified in terms of their frequency of occurrences to reveal their prominence in the data. These elicited HKE features were prioritised for ELT by comparing them with the

ELF intelligibility findings. In other words, the HKE features that are more prominent in the data and more likely to impede international intelligibility should be given a higher priority in pronunciation teaching.

Part II: Evaluation of teachers' perceptions and practices

Participants

57 secondary English teachers (Female: 59.6%; Male: 40.4%) from different schools participated in a reflective task on students' English-speaking performance, 24 of whom attended a follow-up semi-structured interview. A questionnaire was further distributed to 208 teachers (Female: 65.9%; Male: 34.1%) in a wide range of schools in Hong Kong.

Reflective tasks on students' English-speaking performance

The ELT teachers were asked to assess four students' performance a video-recorded group discussion. The video selected for this task was based on the 2015 HKDSE Speaking Examination, which consisted of students with different English proficiency levels. During the task, the teachers wrote specific comments and graded the students according to the HKDSE-based assessment scale or practices they adopt in their daily teaching. This reflective task was followed up by semi-structured/focus group interviews for further explanation.

All the teachers' responses were initially categorised into positive and negative comments. Based on the wordings under each of these categories, their comments were further classified into word-based features (consonants, vowels and word pronunciation), discourse-based features (intonation, stress, linking) and other non-linguistic areas (hesitation, clarity, understanding, accuracy, accent, fluency, pacing, delivery, volume) (see Levis, 2018). The database of all the teachers' comments consisted of 2051 words. We counted the frequency of occurrences of each instance of comments relevant to each feature category (e.g., consonants, stress, fluency). A total of 239 instances were identified, of which 102 and 137 were positive and negative comments, respectively. A normalised ratio of 1,000 words was applied to enable a comparison of comments on the performance of students with different English proficiency levels.

Semi-structured interviews

Face-to-face and Zoom (due to the COVID-19 pandemic) individual semi-structured interviews were conducted with ELT teachers of different secondary schools in Hong Kong. The foci of the interviews were their knowledge and perceptions of English use in the globalised world (e.g., contexts of English use, interlocutors and functions), English-use experiences, previous teaching training and, most importantly, beliefs, and practices of teaching and assessing English pronunciation. The teachers who have participated in the

reflective task were further asked to explain their written comments and grades. The interviews were in English or Cantonese, depending on the participant's mother tongue (or their choice). An interview protocol was prepared in advance based on a few pilot interviews. Each interview was audio-recorded and lasted approximately 50 minutes, totalling to 20 hours 53 mins 43 seconds.

All interviews were translated into English (if necessary) or transcribed verbatim for detailed analysis using coding software (NVivo11). The analytical and interpretative process was primarily inductive and comparative. More specifically, the initial and second-level coding involved reading and annotating the interview transcripts, leading to the formation of categories and subcategories based on recurring patterns perceived in the participant response data (Dörnyei, 2007). Pseudonyms are used to represent the interviewees in this report.

Structured questionnaire

The questionnaire was designed with reference to the findings derived from the qualitative data and consisted of factual (e.g., personal information), behavioural (e.g., practices of teaching and assessing pronunciation) and attitudinal questions (e.g., attitudes towards pronunciation teaching and assessments, knowledge and beliefs about English use around the world) (Dörnyei and Taguchi, 2010, p.5). In most sections, the participants were asked to rate the statements on a 4-point Likert scale. Before the administration of the survey,

the questionnaire have undergone a piloting procedure which comprised three phases, namely, an initial piloting of the item pool, final piloting and item analysis (ibid.). Each returned questionnaire was treated anonymously and given a unique identification code. After coding the data, the structured questions underwent the process of data cleaning, data manipulation and variable reduction with the aid of SPSS. The internal consistency reliability was determined in terms of the 'Cronbach alpha coefficient', which is .899 signalling a high reliability (Cohen, Manion and Morrison, 2007).

By aligning the findings derived from the reflective task, interviews, questionnaire survey and phonological analysis, specific guidelines on pronunciation teaching and assessments have been developed with respect to students with diverse needs and English abilities.

Results and Discussion

Part 1: Hong Kong People's pronunciation features

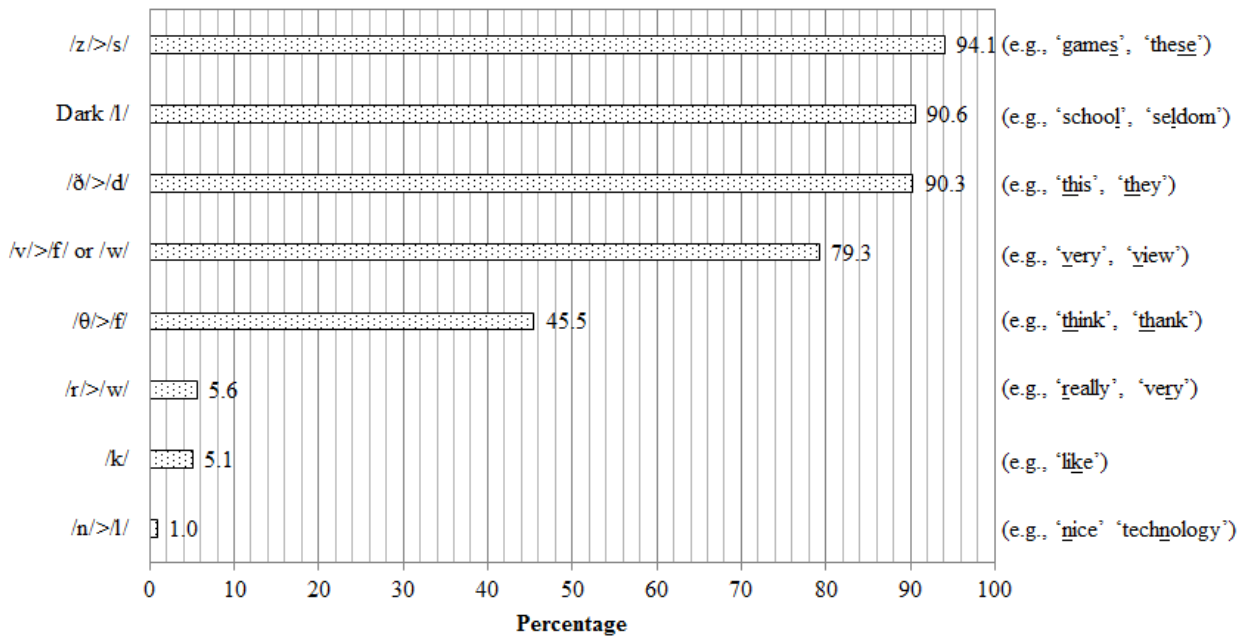
In our spoken corpus, the most commonly-found HKE pronunciation features at the segmental level included five categories, namely, consonant, word-initial consonant cluster, word-final consonant cluster, monophthong, and diphthong. Research has suggested segmental features tend to have a greater impact on word intelligibility, whereas suprasegmental features (e.g., intonation, rhythm, connected speech) are hardly right or

wrong in English although they may affect listeners' understanding of the message or the speaker's intent (Levis, 2018).

Consonants

Figure 1 illustrates the commonly-found non-dictionary HKE consonants according to their prominence in our database. The more prominent Hong Kong features were found in the pronunciation of speakers with both a high and low English proficiency level, whereas the less prominent features often only occurred in the speech of those with relatively lower English proficiency. These consonantal features were in the order of (1) devoicing of /z/ to /s/ (94%), (2) deletion or vocalisation of dark /l/ (90.6%), (3) substitution of /ð/ with /d/ (90.3%), (4) substitution of /v/ with /f/ or /w/ (79.3%), (5) substitution of /θ/ with /f/, (6) substitution of /r/ with /w/ (5.6%), (7) deletion of word-final/medial /k/ (5.1%) and (8) substitution of /n/ with /l/ (1%).

Figure 1 HKE consonants

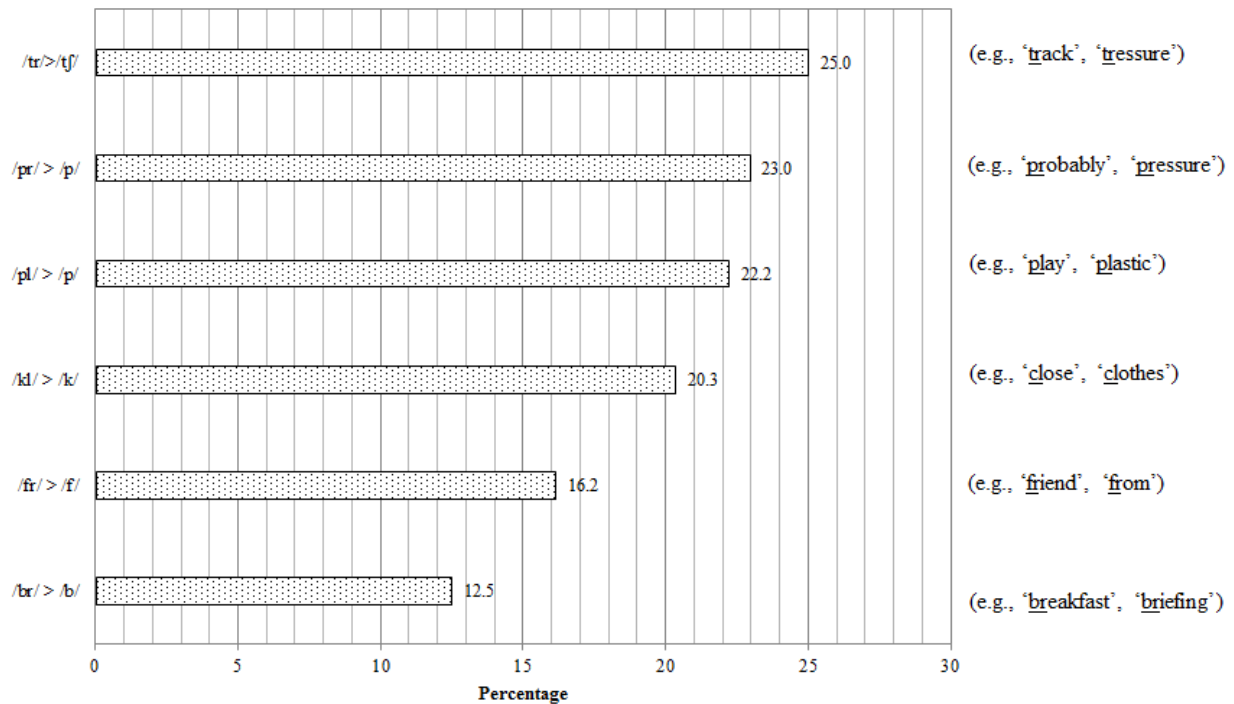


Intelligibility research has suggested that all consonant sounds are important, except for substitutions of /θ/ and /ð/, and 'dark' /l/ (Jenkins, 2000, 2002). Nevertheless, close approximations to core consonant sounds are generally permissible, unless they cause confusion with other sounds (ibid.). It is also suggested that initial consonants and consonants with a higher functional load (e.g., /l/-/n/, /p/-/f/) are more important for maintaining understanding (Munro and Derwing, 2006). In contrast, medial (individual) consonants between vowels and devoicing of word-final consonants are less important (Levis, 2018). From this perspective, Hong Kong people may pay more attention to the pronunciation of /v/, /r/ and /n/ particularly when they are in the word initial position, although substitutions of /r/ and /n/ tend to occur less frequently in our data.

Word-initial consonant clusters

Word-initial consonant clusters are found to be particularly important for maintaining intelligibility (Jenkins, 2000, 2002, Levis, 2018). Our analysis has identified a list of non-dictionary HKE word-initial consonant clusters, which mostly occurred in the speakers with a relatively lower English proficiency level. They include simplifications or variations of /tr/ (25.0%), /pr/ (23.0), /pl/ (22.2%), /kl/ (20.3%), /fr/ (16.2%) and /br/ (12.5%) (Figure 2). Based on the intelligibility principle, these features should be the foci in pronunciation teaching especially for those that are more prominent in the speech of Hong Kong people. Nevertheless, there are inconsistent findings about the importance of word-medial consonant clusters for international intelligibility (Dauer, 2005; Field, 2005; Zielinski, 2008).

Figure 2 HKE word-initial consonant clusters

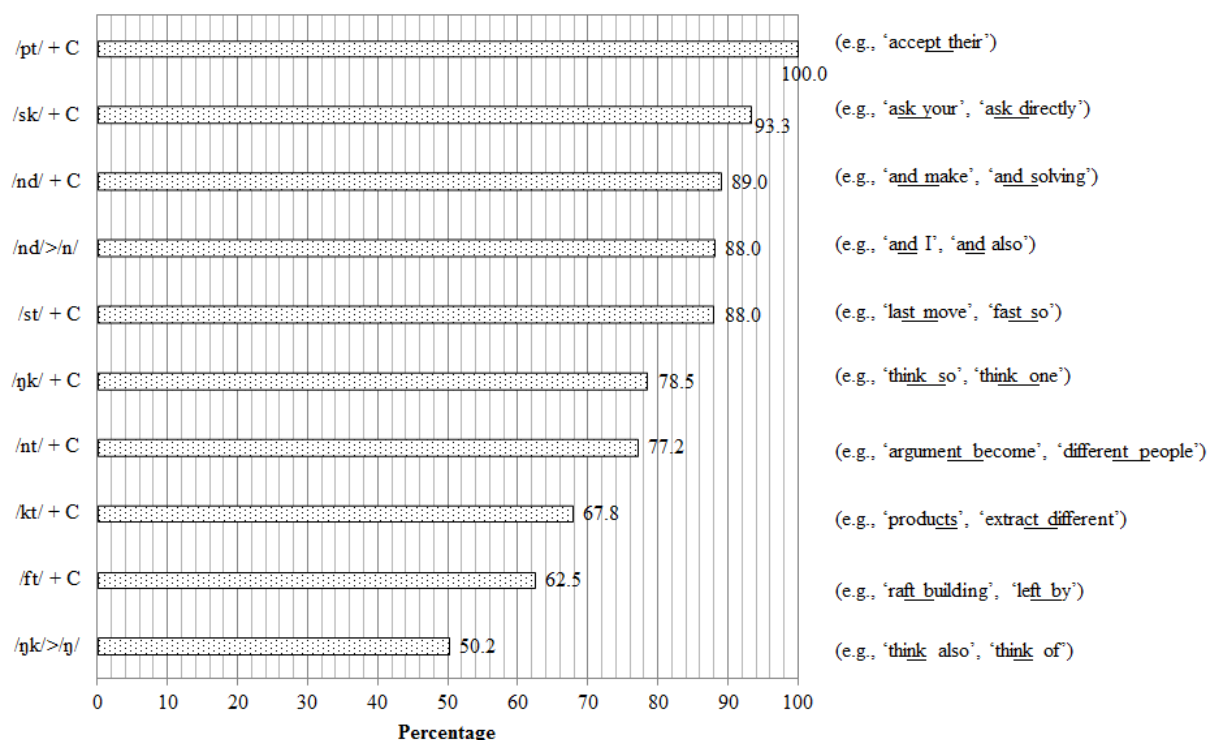


Word-final consonant clusters

Word-final consonant clusters created with *-s*/*'s* and *-ed* endings are grammatical endings that cannot be simplified because they carry grammatical meaning. However, some complex word-final consonant clusters are less important (e.g., 'months') and they are also often simplified by first language English speakers (Jenkins, 2000, 2002). For example, there is often a loss of the medial consonant in clusters of three consonants (e.g., 'scripts', 'fifths'). This simplification also frequently occurs in connected speech in an utterance. As can be seen in Figure 3, many of the Hong Kong people's word-final consonant clusters belonged to this category. The symbol '+C' in the figure indicates that the word-final consonant clusters are followed by another word beginning with a consonant (e.g., 'accept their'), and therefore the speakers often omitted the middle consonant in this cluster of three (or more) consonants.

Two most prominent features that do not belong to this category are simplifications of /nd/ to /n/ (88.0%) and /ŋk/ to /ŋ/ (50.2%), and they should be the foci in pronunciation teaching.

Figure 3 HKE final consonant clusters



Vowels

In the context of international communication (i.e., mainly between L2-L2 speakers), it is particularly important to maintain vowel length contrasts (Jenkins, 2000, 2002). It is suggested that L2 regional qualities are permissible if consistent (except for /ɜ:/), but some vowel quality distinctions with a higher functional load (e.g., /e-æ /, /i-i/, /ɑ-ʌ/) are more important than some others (e.g., /ɔ-ɒ/, /u-ʊ/, /ɑ:- əʊ/) (see Brown, 1998). Figures 4 and 5 display the non-dictionary HKE monophthongs and diphthongs according to the frequency of occurrences in our data. While most of them were consistent L2 variations, some vowel

length and quality contrasts such as mergers of /æ / and /e/ (55.5%) and /ɪ/ and /i/ (26.2%) need more attention in the ELT classroom. Some reductions of diphthongs (e.g., /eɪ/ → /e/ in ‘game’, /oʊ/ → /o/ in ‘only’) are also found in the speech of many speakers of L1 English varieties, and they are internationally intelligible (Levis, 2018).

Figure 4 HKE monophthongs

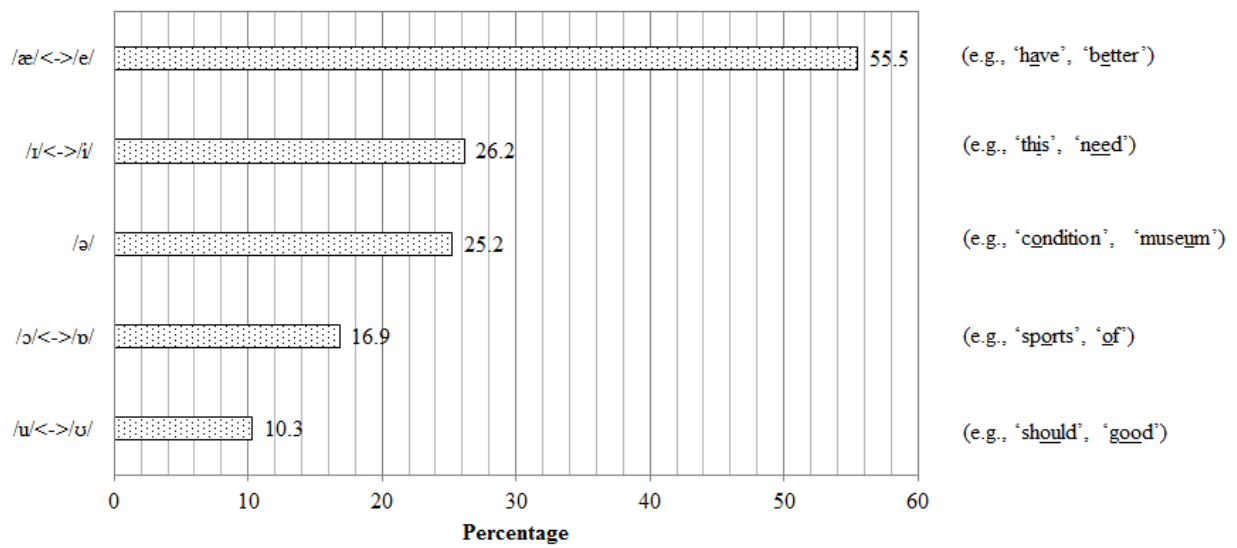
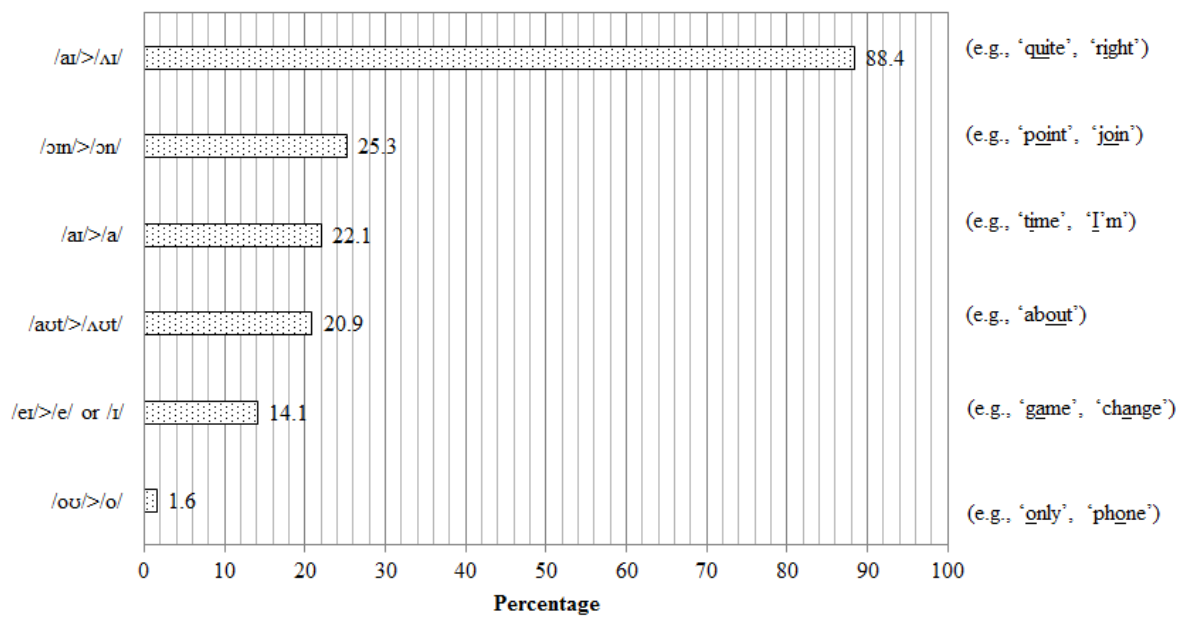


Figure 5 HKE diphthongs



Part II (A) Teachers' views on pronunciation learning and teaching

Table 3 illustrates the teachers' views on pronunciation learning and teaching according to the questionnaire data. Among the four key domains of spoken English, the teachers tended to rate communication skills (mean=3.62) and pronunciation (3.44) higher than vocabulary (3.24) and grammar (2.78). They tended to agree with the statements that 'students should learn native English pronunciation' (2.83, mean>2.5) and it is their 'goal to teach native-like pronunciation' (2.61). They tended to reject the idea that students 'can never acquire native English pronunciation' if they 'study English at a local school' (2.16). Although research into L2 pronunciation teaching tends to advocate the adoption of the intelligibility principle in ELT (e.g., Kirkpatrick, 2007, Sewell, 2016), our results suggest that most teachers were still guided by a 'native-speaker' ideology.

Table 3 Teachers' responses on the views on pronunciation learning and teaching (questionnaire)

Statements	Mean	SD
1. The following aspect is important for speaking:		
(a) Grammar	2.78	0.673
(b) Vocabulary	3.24	0.614
(c) Pronunciation	3.44	0.562
(d) Communication skills	3.62	0.517
2. Students should learn native English pronunciation.	2.83	0.786
3. Students should communicate in English like a native speaker.	2.47	0.767
4. It is my goal to teach native-like pronunciation.	2.61	0.883
5. Native-like pronunciation should be the only target in English language education.	1.86	0.848
6. If students study English at a local school, they can never acquire native English pronunciation.	2.16	0.902
7. Hong Kong English pronunciation can serve as an alternative teaching model.	2.54	0.741

From the perspective of international intelligibility, research has shown that it is not necessary for L2 learners to sound like an L1 English speaker as long as their speech is understandable (Jenkins, 2000, 2002), and that proficient local teachers can in fact be a possible teaching model (Kirkpatrick, 20007). These ideas are apparently not completely agreed among all the teachers in the survey, which shows that they had divided opinion about the two relevant statements: (1) ‘students should communicate in English like a native speaker’ (2.47) and (2) ‘Hong Kong English pronunciation can serve as an alternative teaching model’ (2.54). Interestingly, most of them tended to disagree that ‘native-like pronunciation should be the only target in English language education’ (1.86). Some of the questionnaire results could be further explained by the interview data particularly regarding teachers’ perceptions of L1 vis-à-vis Hong Kong English pronunciation (see below).

Teachers’ perceptions of L1 English pronunciation

The questionnaire results revealed a slight tendency that the teachers regarded L1 pronunciation as the students’ learning goal, yet they believed that students may not necessarily communicate in English like a native speaker. In the interviews, a considerable number of teachers possessed a positive impression about L1 pronunciation, seeing it as being ‘good’, ‘accurate’, ‘natural’, ‘fluent’ and ‘beautiful’. They believed that it was important to ‘set a good model (i.e., native-like pronunciation) for students as teachers’

Teachers' perceptions of Hong Kong English pronunciation

The questionnaire results suggest that the teachers had diverse opinions on whether HKE can serve as an alternative teaching model, and this concerns their understanding and perceptions of this terminology. This is consistent with the interview data. On the one hand, some teachers believed that Cantonese could help English pronunciation learning, but on the other hand, some other teachers thought that students' Cantonese-influenced pronunciation may affect intelligibility. Some teachers also believed that it was acceptable for students to retain their Hong Kong accent as long as they could communicate with the others; they encouraged diversity in accents as they reflect one's 'personality' (see Table 5 below for some examples).

Table 5 Teachers' perceptions of Hong Kong English pronunciation (interviews)

Theme	Sample excerpt
'Allowing Cantonese-influenced English pronunciation could enhance students' motivation'	<i>Mr. Woo: I think it is positive if the students can step out of their comfort zone and become willing to speak English even if it is influenced by their L1...Being able to express themselves and not to be scared. But quite a lot of the students think that their L1 pronunciation is inaccurate, and hence they don't speak... I think this is bad.</i>
'Cantonese-influenced pronunciation is inaccurate and may affect intelligibility'	<i>Mr. Leung: Students don't care much about whether the English they speak is like that of native speakers. They don't think it is necessary...they don't know their English is not English.</i>
'Hong Kong English is not desirable'	<i>Mr. Kwan: I will remind students when they speak English with a 'Hong Kong style'...They like adding some particles such as 'la' and 'eh', for example, 'yeah ah' and 'why ah'.</i>
'"Chinglish" has nothing to do with pronunciation'	<i>Mr. Johnson: If you are born in Hong Kong, you aren't supposed to sound as if you were born in Britain, or in America, because that is stupid. Chinglish has nothing to do with pronunciation but with lazy vocabulary, that is translating things from Chinese into English, or not knowing the correct English words and then using some Chinese way of saying it.</i>
'Hong Kong English accent is acceptable as long as students can communicate'	<i>Ms. Lau: We tend to think that you're better if you speak English in a better way. However, the actual case is...even if you are a native speaker, you have your own accent. Your accent is never a standardised one, even if you speak RP.</i>
'With pronunciation trainings, local teachers are qualified too'	<i>Mr. Woo: I need to see whether the local teacher has received some pronunciation training. If the teacher knows, for example, some of the technical aspects...and if s/he can find out and correct students' mistakes, then I don't think there is much difference.</i>

Part II (B) School practices of pronunciation teaching/assessment

A major part of the survey concerns the teachers' practices teaching in their school context (Table 6). Their responses tended to focus more on communication skills (mean=3.41), vocabulary (3.14) and pronunciation (3.13) than grammar (2.71) in their daily classroom teaching. They also generally showed confidence in teaching all four aspects of spoken English. As for their teaching practice, the teachers suggested that they tended to 'correct students' L1-influenced pronunciation'. Many of them reported that they adopted teaching methods such as 'modelling and imitation' (3.31), 'comparing and contrasting' (3.06) and 'phonics' (2.97), but relatively few of them explained 'pronunciation rules and theories explicitly' (2.29) or used IPA for teaching pronunciation (2.02).

Table 6 Teachers' practices of pronunciation teaching (questionnaire)

Statements	Mean	SD
8. I focus on the following aspects in the teaching of speaking:		
(a) Grammar	2.71	0.731
(b) Vocabulary	3.14	0.620
(c) Pronunciation	3.13	0.730
(d) Communication skills	3.41	0.630
9. I am confident teaching the following aspects in speaking:		
(a) Grammar	3.40	0.645
(b) Vocabulary	3.45	0.554
(c) Pronunciation	3.46	0.643
(d) Communication skills	3.58	0.559
10. I correct students' L1-influenced English pronunciation.	3.16	0.668
11. I use the following approach to teaching English pronunciation:		
(a) Modelling and imitation	3.31	0.711
(b) Comparing and contrasting (words with similar pronunciation)	3.06	0.693
(c) Phonics (a method to teach sound-spelling relationships)	2.97	0.807
(d) Explaining pronunciation rules and theories explicitly	2.29	0.789
(e) International Phonetic Alphabet (IPA) (e.g. bad /æ/; play /eɪ /)	2.02	0.876

Table 7 summarises some common school policies and arrangements related to pronunciation based on the teachers' interview responses. In all the schools involved, pronunciation learning often took place in separate speaking-focused lessons with the collaboration (and/or co-teaching) of local teachers and NETs. Pronunciation-related arrangements in secondary schools in Hong Kong were generally exam-oriented, which corresponded to Territory-wide System Assessment (TSA) and Hong Kong Diploma of Secondary Education Examination (HKDSE) at the junior and senior secondary level, respectively. There were relatively more rooms for general pronunciation teaching at the junior secondary level, where NETs played a particularly active role. There were often more explicit pronunciation curricula using Phonics (and/or IPA) to develop junior students' foundation in English pronunciation. More attention was given to the teaching of communication skills than pronunciation at the senior level.

Table 7 School policies/arrangements about pronunciation teachings (interviews)

All forms	
<ul style="list-style-type: none"> • Pronunciation taught in separate lessons i.e. study classes, oral lessons, NET classes • Co-teaching of speaking lessons by local teachers and NETs 	
Junior forms	Senior forms
<ul style="list-style-type: none"> • Exam-oriented curriculum: focused on TSA and school assessments • More focus on pronunciation skills and foundation knowledge to prepare for higher forms • Pronunciation curriculum: Phonics and/or IPA (in some schools) • NETs were more involved in general pronunciation teaching 	<ul style="list-style-type: none"> • Exam-oriented curriculum: focus on SBA and DSE • Less focus on pronunciation skills, more focused on communicative skills • Pronunciation curriculum: not explicitly taught • NETs were more involved in examination oral practice trainings

Strategies for teaching pronunciation

In the interviews, the teachers further described how they used different strategies to teach pronunciation in their own classroom. They included correction of students' pronunciation mistakes, the use of phonics, reading aloud, comparing and contrasting, teachers' modelling, use of IPA, separation of syllables, explicit teaching of pronunciation rules, and the use of L1 as a teaching aid (see Table 8 for a summary).

Table 8 Teachers' strategies for teaching pronunciation (interviews)

Strategy	Sample excerpt
Correction of students' pronunciation mistakes	
<ul style="list-style-type: none"> 'All mistakes should be corrected' 	<i>Ms. Shu: I believe every item is important. When you are teaching pronunciation, there is a systematic approach to teach step by step. But what I discover is that Hong Kong students always make mistakes on every item. I do not prioritise them in order.</i>
<ul style="list-style-type: none"> 'Pronunciation mistakes should be corrected selectively' 	<p><i>Ms. Lau: If the pronunciation mistakes are hindering them from conveying their meaning, I would correct them.</i></p> <p><i>Ms. Mak: If I see students making the same mistake for two to three months and s/he is still unable to manage it, I'll remind him/her.</i></p>
Phonics	
<ul style="list-style-type: none"> 'Phonics is a more effective way of teaching pronunciation than using IPA' 	<i>Mr. Leung: Fewer people use IPA nowadays. They think it's a waste of time. Without teaching IPA, we return to the basic step. We teach phonics, though it cannot handle all English pronunciations.</i>
<ul style="list-style-type: none"> 'The teaching of phonics can enhance students' reading ability' 	<i>Ms. Shu: Phonics is a systematic way of teaching. It shows words with a similar pronunciation and students can read them aloud. If the students' ability is high, it helps them greatly in reading. If they don't know the meaning of a word but can pronounce it in their heart, they will not skip the words. They can continue to read.</i>
Reading aloud	
<ul style="list-style-type: none"> 'We can identify students' pronunciation mistakes through reading aloud' 	<i>Ms. Tsang: I often ask students to read after me or read on their own. After reading aloud, I would know if they know it or not, or if there are any mistakes. I usually invite one or two students, or several students, to read aloud a paragraph.</i>
<ul style="list-style-type: none"> 'Students could improve their pronunciation through reading dialogues' 	<i>Mr. Kwan: We choose some core vocabulary from the textbook and create some dialogues for each chapter. Students can read aloud the dialogues and improve their pronunciation...to practise their intonation and acquire more vocabulary.</i>
<ul style="list-style-type: none"> 'It is uncertain if students really remember the pronunciation' 	<i>Mr. Kwan: They can only remember at that moment when they read after the teacher. When they participated in the assessment, they forgot about the pronunciation.</i>
Compare and contrast	
<ul style="list-style-type: none"> 'It is applied to vocabulary teaching' 	<i>Mr. Kwan: When they see some new words, they may try to think about the rhyming words, like those with minimal pairs.</i>
<ul style="list-style-type: none"> 'Assessing "contrasting pairs" in school-based examination' 	<i>Mr. Yau: In our F.1-3 speaking examination...the first part is to let students read some contrasting pairs such as 'bit' and 'beat', and 'bet' and 'bed'. This serves to evaluate if they can differentiate between sounds.</i>
Teachers' modelling	
<ul style="list-style-type: none"> 'Demonstration is important' 	<i>Ms. Hau: It's important that we demonstrate the pronunciation for them. For example you should show how to pronounce the 'th' sound to them. If you only demonstrate once or twice in the class, they will forget immediately. If you give them a video and even give them the links about the pronunciation, they can practise it when they go back home.</i>
<ul style="list-style-type: none"> 'Teacher's modelling is an authentic input' 	<i>Mr. Tung: Students learn from the accent of their teacher, and this is what they usually listen to, the authentic input...</i>
IPA	
<ul style="list-style-type: none"> To teach specific pronunciation features 	<i>Mr. Lee: I will only use IPA when some of the English pronunciation is rare. For example, the [ʃ] in 'pressure'...I will ask them to pronounce in this way when they see this symbol in the dictionary.</i>
<ul style="list-style-type: none"> To introduce new vocabulary 	<i>Mr. Kwan: We combined the vocabulary in the textbook with the IPA symbols for students to learn. I made a package for this.</i>
Separation of syllables	
<ul style="list-style-type: none"> To introduce new vocabulary 	<i>Ms. Tsang: When teaching new words, I usually break down the words and tell students how to pronounce them. I remind them of aspects that most students do not notice, for instance the final sounds. I would remind them to articulate the final sounds more accurately.</i>
<ul style="list-style-type: none"> 'It is useful when students advance from junior to senior level' 	<i>Mr. Chu: We teach students to split the sounds in a word and we teach them different combinations. When the junior students advance to the senior level, reading comprehension becomes more difficult...it would be easier for them if they can split the sounds in words.</i>
Explicit teaching of pronunciation rules	
<ul style="list-style-type: none"> Ending sounds 	<i>Mr. Chu: We teach countable and uncountable nouns. If the noun ends with 'ce', 'ce' is pronounced as [s]. We need to add the 's' sound when it's plural... 'wanted' is pronounced as [wɒntɪd] instead of [wɒnt].</i>
<ul style="list-style-type: none"> Silent 'h' 	<i>Ms. Wang: I talked about silent 'h' today, for example, 'exhausted'. The students didn't understand why the 'h' sound is missing.</i>
<ul style="list-style-type: none"> 'a' and 'an' 	<i>Ms. Lau: When you hear the [ʌ] sound (e.g., in 'umbrella'), then you would have to use 'an'. When you hear the [j] sound (e.g., in 'university'), I will just tell them the choice would be 'a'.</i>
<ul style="list-style-type: none"> Aspiration of /p/ 	<i>Mr. Lee: The senior form students are taught with more rules such whether the 'p' sound should be aspirated or not, for instance, 'speaking' and 'peak'.</i>
<ul style="list-style-type: none"> Stress placement in words 	<i>Mr. Fok: To write the symbols on the board, to show where the stress lies, and then to ask them to practise amongst themselves a few times. That fixes up a lot of students' pronunciation errors.</i>
Using L1 as a teaching aid	
<ul style="list-style-type: none"> Cantonese as a reminder of pronunciation problems 	<i>Mr. Kwan: For example, we can refer to the surname 'Ng' (吳). They can associate the word 'game' with its pronunciation 'gam-ng'. This also sounds like the Chinese word 'geng1' (驚). Local teachers may be able to make use of some jokes related to the Cantonese pronunciation.</i>
<ul style="list-style-type: none"> Cantonese as the reference particularly for weaker students 	<i>Ms. Tsang: We can make use of students' L1 pronunciation to teach them how to articulate certain English sounds, especially for the weaker students. When they start to master this, you can further fine-tune and correct their pronunciation.</i>

Foci of corrective feedback

As research has shown that not all non-dictionary pronunciation features would hinder

international intelligibility, the teachers were invited to respond to practice of ‘error’ correction in relation to a list of typical features of Hong Kong people’s pronunciation. As shown in Table 9, the questionnaire results suggest that the teachers corrected all of these features regardless of whether these features affect intelligibility. Interestingly, there was a higher rating for some features that are particularly important to intelligibility, such as corrections of mispronounced/missing plural ‘-s’ (3.41) and past tense ‘-ed’ (3.40), initial consonant cluster (3.29), consonantal contrasts such as ‘n’ vs ‘l’ (3.23) and ‘l’ vs ‘r’ (3.22), long-short vowel contrast (3.15) and unfamiliar words (3.12). For example, research has suggested that ‘-s/’s’ and ‘-ed’ endings cannot be simplified because they carry grammatical meaning at the ends (Levis, 2018). Consonantal contrasts such as ‘n’ vs ‘l’ and ‘l’ vs ‘r’ and vowel length contrasts (e.g., ‘live’ vs ‘leave’) should be the focus of pronunciation teaching as they may cause confusion among words (Jenkins, 2000). Furthermore, the teaching/correction students’ pronunciation of unfamiliar words is important especially if they are high-frequency words and words salient to particular contexts of use. Research has also shown that the pronunciation of initial consonant clusters is particularly important for maintaining international intelligibility (Jenkins, 2000).

Table 9 Teachers' foci of corrective pronunciation feedback (questionnaire)

Statements	Mean	SD
12. I correct the following pronunciation features if they differ from those of native English speaker:		
(a) Plural '-s' (e.g. 'fans', 'folks', 'dresses')	3.41	0.716
(b) Past tense '-ed' (e.g. 'wanted', 'looked', 'played', 'watched')	3.40	0.659
(c) Initial consonant cluster (e.g. 'play' vs 'pray')	3.29	0.726
(d) 'n' vs 'l' sound (e.g. 'night' vs 'light')	3.23	0.750
(e) 'l' vs 'r' sound (e.g. 'low' vs 'row')	3.22	0.748
(f) Word stress (e.g. 'INcrease' vs 'inCREASE', 'RECORD' vs 'reCORD')	3.20	0.732
(g) Final consonant cluster (e.g. 'tasks', 'beast', 'crisp')	3.19	0.779
(h) Long-short vowel contrast (e.g. 'live' vs 'leave', 'hit' vs 'heat', 'chip' vs 'cheap')	3.15	0.719
(i) Pronunciation of unfamiliar words	3.12	0.716
(j) 'th' sound (e.g. 'thank' vs *'fank', 'this' vs *'dis')	3.09	0.759
(k) 'v' vs 'f' sound (e.g. 'van' vs 'fan')	3.07	0.810
(l) 'e' vs 'a' pronunciation (e.g. 'bed' vs 'bad')	2.91	0.782
(m) Diphthong (e.g. 'same' vs *'Sam', 'take' vs *'tick')	2.87	0.829
(n) Intonation and rhythm	2.80	0.746
(o) Final 'l' sound (e.g. 'meal', 'school', 'real')	2.77	0.825
(p) Linking (e.g. 'this_is', 'not_at_all')	2.63	0.824

Nevertheless, the questionnaire results also reveal that some features less important to intelligibility were also corrected by the teachers. For instance, research has found that simplification of some complex final consonant clusters tends to cause few intelligibility problems (e.g., Jenkins, 2000, 2002). Variations of pronunciation consonants such as 'th' and final 'l' sound are acceptable. Some L2 regional qualities are also permissible if they are consistent in the speech production. Nonetheless, the significance of some suprasegmental features such as 'word stress', 'intonation' and 'linking' remain controversial according to research, with different studies having reached different conclusions (Levis, 2018).

On the one hand, these results show that the teachers more frequently corrected some of the students' non-dictionary pronunciation features that accord with the intelligibility principle probably because these 'errors' tend to be more noticeable due to their higher frequency of the sounds and words. On the other hand, it may be beneficial for them to receive more concrete guidelines that could help prioritise the teaching and correction of

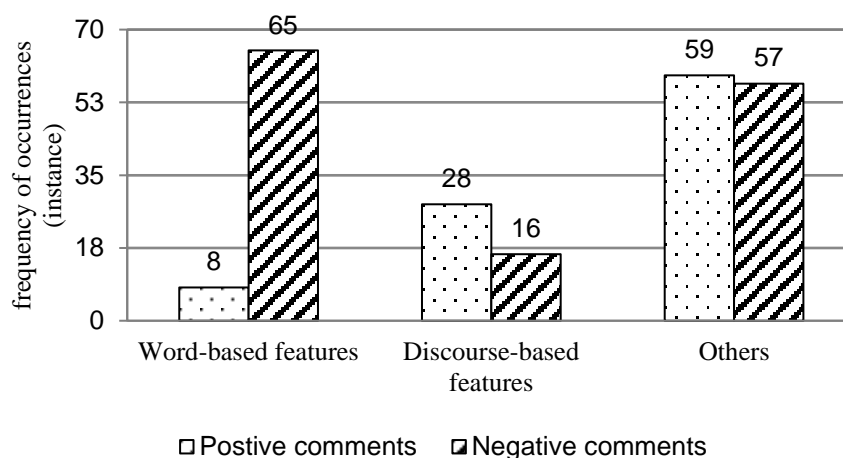
these features.

Teachers' comments on students' pronunciation

Teachers' comments in reflective task. In the reflective task, the teachers were invited to comment on four students' pronunciation in the HKDSE examination task. The analysis was based on the English teachers' wordings, so it helps us understand their foci in assessing learners' pronunciation.

Figure 6 shows the distribution of the teachers' positive and negative comments in different feature categories. It was found that the teachers tended to focus more on students' word-based 'problems' (e.g., word pronunciation, consonants, vowels), but praise the students more for their discourse-based production (e.g., intonation, use of stress). There were a considerable number of comments on students' production in other non-linguistic aspects (e.g., fluency, pacing, volume).

Figure 6 Distribution of teachers' comments (reflective task)



As illustrated in Table 10, the majority of the teachers' comments on students' word-based pronunciation 'mistakes' concerned with their mispronounced words (e.g., e.g., 'ambassador', 'interesting', 'participating', 'enthusiasm') and ending consonants (e.g., ending /t/ in 'management', /k/ in 'think', plural '-s' and past tense '-ed'). There were only a few comments on some of the students' vowel (e.g., /i/ in 'activities', 'this' and 'interest', /ə/ in 'uploaded' and 'one of', /e/ in 'festival', /u/ in 'students', /u:/ in 'fruitul'), consonant cluster (e.g., /tr/ in 'interest') and consonant production (e.g., /θ/ pronounced as /f/ in 'thinth', /n/ pronounced as /l/ in 'known').

Table 10 Teachers' comments on word-based pronunciation features (reflective task)

Features	Examples	Student A	Student B	Student C	Student D	Total
Word pronunciation	'ambassador', 'interesting',	17.9	12.4	7.5	5.6	10.7
Ending consonant	ending /t/ in 'management', /k/ in 'think', plural '-s' and past tense '-ed'	12.0	10.3	7.5	0.0	7.3
Vowel	/i/ in 'activities', 'this' and 'interest', /ə/ in 'uploaded' and 'one of', /e/ in 'festival', /u/ in 'students', /u:/ in 'fruitful'	8.0	2.1	1.9	7.5	4.9
Consonant cluster	/tr/ in 'interest'	2.0	10.3	3.8	1.9	4.4
Individual consonant	/θ/ pronounced as /f/ in 'think', /n/ pronounced as /l/ in 'know'	2.0	10.3	1.9	0.0	1.5

Most of these features are pertinent to international intelligibility. For example, it is understandable that the pronunciation of some common and context-specific words is important for the meaning-making process. Research has also highlighted that vowel length contrast and most consonantal sounds (except for 'th' and dark 'l') are crucial for maintaining understanding. Nevertheless, although the non-reduction of full vowels in di- and multi-syllabic words (e.g., /ə/ in 'uploaded') is typical feature of Hong Kong people's English pronunciation, some studies have suggested that it can in fact enhance intelligibility in international communication (Deterding, 2010; Walker, 2010).

In terms of the students' discourse-based pronunciation production (or features at the sentence level), the teachers' tended to highlight students' 'problems' in the aspects of intonation (e.g., 'flat tone' or 'intonation', 'more variation is needed in tone'), stress (e.g., 'errors in placing primary/secondary stress') and linking (e.g., linkage in 'of all' and 'for

example’) (Table 11). The significance of many of these features remains controversial because research findings have been inconsistent and inconclusive (Dauer, 2005; Field, 2005; Zielinski, 2008). Particularly, discourse-based features may affect how listeners understand the message or the speaker’s intent, but they are rarely right or wrong in English (Levis, 2018). Therefore, the teaching or assessment of these features must take consideration of their meaning in the utterances.

Table 11 Teachers’ comments on discourse-based pronunciation features (reflective task)

Features	Examples	Student	Student	Student	Student	Total
		A	B	C	D	
Intonation	‘flat tone’ or ‘intonation’, ‘more variation is needed in tone’	6.0	8.2	5.6	0.0	4.9
Stress	‘errors in placing primary/secondary stress’	2.0	2.1	0.0	3.8	2.0
Linking	linkage in ‘of <u>all</u> ’ and ‘for <u>example</u> ’	2.0	2.1	0.0	0.0	1.0

Teachers’ remaining comments were beyond word-based and discourse-based pronunciation. They tended to be more general descriptions of students’ pronunciation production and hence could not be categorised in linguistic terms. Specifically, the teachers identified students’ pronunciation ‘problems’ in terms of their fluency (e.g., ‘hesitant and break down in delivery’, ‘with difficulty when pronounce words with 3 syllables (often with hesitation and self-correction)’), clarity (e.g., ‘not clear pronunciation’, ‘affect clarity’), ease of understanding (e.g. ‘hard to understand’), accuracy (e.g., ‘wrong pronunciation’, ‘mispronunciation’), accent (e.g., ‘Hong Kong accent’, ‘strong accent’, ‘Cantonese accent’), pacing (e.g., ‘fast pace’), volume (e.g. ‘rather soft’) and nativeness (‘non-native

pronunciation’).

While most of these features may affect the listeners’ understanding, comments solely about the students’ Hong Kong accent should be avoided unless there is a clear focus on which aspects of the accent affect intelligibility. Given the tremendous pronunciation variation among both L1 and L2 varieties of English, it is also neither realistic nor appropriate to evaluate students’ pronunciation based on the nativeness principle.

Table 12 Teachers’ comments on other pronunciation features (reflective task)

Features	Examples	Student A	Student B	Student C	Student D	Total
Fluency	‘hesitant and break down in delivery’, ‘with difficulty when pronouncing words with 3 syllables (often with hesitation and self-correction)’	4.0	18.6	11.3	3.8	9.3
Clarity	‘not clear pronunciation’, ‘affect clarity’	4.0	10.3	7.5	1.9	5.9
Ease of understanding	‘hard to understand’	4.0	0.0	9.4	1.9	3.9
Accuracy	‘wrong pronunciation’, ‘mispronunciation’	4.0	6.2	3.8	0.0	3.4
Accent	Hong Kong accent’, ‘strong accent’, ‘Cantonese accent’	4.0	4.1	1.9	0.0	2.4
Pacing	‘fast pace’	2.0	0.0	1.9	0.0	1.0
Volume	‘rather soft’	0.0	2.1	0.0	0.0	0.5
Nativeness	‘non-native pronunciation’	2.0	0.0	0.0	0.0	0.0

Pronunciation mistakes that teachers tended to correct. Based on the teachers’ interviews, Table 13 summarises the focal segmental features in their corrective feedback. Teachers also possessed different beliefs and principles in their foci of corrective feedback (see Table 14).

Table 13 Teachers foci of corrective feedback on word-based features (interview)

Categories	Features	Examples
Individual consonants	Confusion between /l/ and /r/	'play and pray'
	Confusion between /l/ and /n/	'know' and 'low'
	Confusion between /f/ and /v/	'fan' and 'van'
	Confusion between /θ/ and /f/	'thank' and 'fank'
	Confusion between /θ/ and /d/	'three' and 'free'
Missing ending consonants	Confusion between /θ/ and /d/	'the', 'they' and 'day'
	Confusion of voiced/voiceless consonants	N/A
	Missing final /p/, /k/, /d/, /t/ and /s/	'think' and 'thing'
Vowels	Long/short vowel contrasts	'eat' and 'it', 'shit' and 'sheet'
	Reduction of diphthongs	'take' and 'tjck' 'game' and 'gam' or 'gang'
Consonant clusters	Simplification of initial consonant clusters (e.g., /pr/, /pl/)	'proper', 'professional' 'pray'
	Simplification of final consonant clusters (e.g., /st/, /sts/)	'insist', 'insists'
Plural 's'	Missing final plural /s/	'buses' and 'apples'
Sounds in confusing words	Similar sounding words	'dine' and 'die'
Past tense 'ed'	Verbs in past tense	'looked'

Table 14 Teachers' comments on giving feedback on pronunciation (interviews)

Theme	Sample excerpt
'We should raise the students' awareness of the correct pronunciation'	<i>Mr. Kwan: One day, I noticed a student saying 'tick the roll call'. So I wrote 'tick' and 'take' on the blackboard as I wanted to raise the students' awareness of the pronunciation of these two words.</i>
'Selective feedback on pronunciation due to time constraint'	<i>Mr. Mo: I don't have the time to teach pronunciation properly. If I find out that there are words they pronounced badly, I'll write the words on blackboard and let them find out the pattern.</i>
'Focusing on students' common mistakes'	<i>Mr. Tung: Hong Kong teachers tend to focus on some common mistakes the students make. There are features in English that are not found in Cantonese including 'clusters', consonants that have to be pronounced together, and 'long-short vowels', differences between 'a' and 'e'. These features do not exist in Cantonese, so students pronounce them badly.</i>
'Focusing on mistakes that may cause misunderstanding'	<i>Ms. Lau: If the students pronounce 'expelienc' (experience), it becomes completely a different word, a non-existent word, then I would correct their pronunciation. As for 'l' and 'n' and all those kinds of pronunciation...If they mix up the pronunciation, the meanings will be distorted.</i>
'Focusing on mistakes that are grammatically incorrect'	<i>Ms. Fong: It's not pleasant to hear when plural 's' is missing because when they make mistakes like 'many bus' and 'many apple' in speaking, the next examination paper that would be affected is writing. So these are unacceptable.</i>

Pronunciation mistakes that teachers tended (not) to correct. The interviewed teachers tended not to correct the mispronunciation of voiced/voiceless pairs (/v/ and /f/, /s/ and /z/), consonants (e.g., /ʃ/, /tʃ/, /θ/), final consonants (e.g., 'r'), clear /l/, dark /l/ and long/short vowel contrasts. As can be seen below, the reasons for teachers not correcting students mispronounced voiced/voiceless pairs mainly concern students' English proficiency, teaching effectiveness, and whether these features affected intelligibility (Table 15).

Table 15 Pronunciation mistakes that teachers tended not to correct (interviews)

Feature	Sample excerpt
Voiced/voiceless pairs	<i>Ms. Tsang: For example, the difference between /v/ and /f/ and between /s/ and /z/...Even if they cannot master the pronunciation, it may not necessarily affect the pronunciation of the word.</i>
/ʃ/ and /tʃ/	<i>Mr. Chu: It's not necessary to stress sounds like 'sh' and 'ch'. Should it be 'church' [ʃ] or 'church' [tʃ]? 'School' [ʃ] or 'school' [tʃ]? It's of course good to perfect students in this aspect. Nevertheless, it's not necessary to expect them to be 100% accurate.</i>
Final /r/	<i>Mr. Chu: For me 'sugar', or 'sugar' with the ending sound /r/... 'hamburger' and 'hamburger' without the ending sound /r/... 'car' and 'car' without the ending sound /r/...do we really need to read 'car', 'sugar' with the ending sound /r/? I won't.</i>
Clear 'l' and 'th'	<i>Ms. Wang: Because I think 'l' and 'th' are much influenced by our first language. We don't have these complicated sounds. When it's so common and accepted, I think I seldom pick on these mistakes. I correct the mistakes that hinder communication because I think conveying meaning is most important.</i>
Dark /l/	<i>Ms. Cheung: I would not deliberately correct final /l/s, dark 'l'. However, I would correct students' mistakes, which can affect the meaning, such as /n/ and /l/ sounds.</i>
Long-short vowel contrasts	<i>Ms. Fong: The pronunciation of long and short vowels doesn't affect the feeling much. They don't affect people's understanding.</i>

Some of the non-dictionary pronunciation features highlighted by the teachers (e.g.,

long-short vowel contrasts, clear l) may in fact cause intelligibility problems according to previous studies. This probably shows that the teachers had some awareness of the importance of maintaining mutual understanding in English communication, but their judgement on intelligibility was mainly based on their intuition.

Comparatively, fewer teachers mentioned their correction of students' suprasegmental mistakes. They include stress, intonation, linking and rhythm (see Table 16).

Table 16 Teachers' correction of suprasegmental mistakes (interviews)

Feature	Sample excerpt
Word stress	<i>Ms. Shu: There are some words with four syllables. We will show the students where the word stress is. You cannot pronounce it as 'en-thu-sia-sm'.</i>
Intonation	<i>Mr. Chu: When I teach junior forms intonations, it depends on what they say and the ideas they want to express. I would encourage them to use a happier tone to express the happy feeling.</i>
Linking and rhythm	<i>Ms. Fong: Linking is important. Your speech will be smoother and with less hesitation. I focus on this as it concerns their fluency.</i>

Summary and implications

This study has provided empirical findings about (1) the pronunciation features of various English speakers in Hong Kong and (2) local English teachers' perceptions and practices of teaching and assessing English pronunciation at school. The information is important for developing an intelligibility-oriented approach in the Hong Kong context. According to Levis (2018, p.186), such teaching approach emphasises three main dimensions, namely, (1) features that are likely to promote intelligibility (see below), (2) the needs of the

learners (e.g., educational level, frequency of occurrences, individual challenges) and (3) the use of techniques that are most likely to promote learning. Based on these principles, the following presents our recommendations about the categories of pronunciation features that should be the foci in English language teaching/assessment based on an array of L2 pronunciation studies from the perspective of intelligibility (e.g., Jenkins, 2000, 2002; Deterding & Kirkpatrick, 2006; Munro & Derwing, 2006; Deterding, 2010, 2013; Sewell, 2017; Levis, 2018). They mainly concern pronunciation at the word level including (1) word pronunciation, (2) consonants, (3) consonant clusters and (4) vowels as this is the focus of our project. There have also been inconclusive research findings about the significance of discourse-based features (e.g., rhythm and intonation) for intelligibility (Dauer, 2005; Field, 2005; Zielinski, 2008). As can be seen below, features under each area of word-based pronunciation are further categorised as ‘more important’ and ‘less important’ for pronunciation teaching.

(1) Word pronunciation

In the English language classroom, there are often unfamiliar words that students find difficult to pronounce, but not all words should receive the same amount of attention. Particularly, the deliberate teaching of specific word pronunciation may interrupt the coherence of the lesson with a different language/skills focus. In communicative language teaching, it is not desirable to focus extensively on accuracy in pronunciation at the expense

of fluency in student’s language production. As a result, the teaching of word pronunciation should be selective with the use of strategies such as modelling, comparing and contrasting (with similar-sounding words) and breaking down the words into syllables.

As shown in Table 17 high-frequency words (and those with students often making mistakes), potential taboo words (e.g., beach/bitch, sheet/shit, piece/piss) and vocabulary that are particularly important to the context of communication (e.g., professional, discipline-specific words) (Levis, 2018). In contrast, we can pay less attention to words that students are highly unlikely to use.

Table 17 Word-based pronunciation

More important	Less important
<ul style="list-style-type: none"> • Common words • Potential taboo words • Vocabulary important to specific speech contexts 	<ul style="list-style-type: none"> • Words that students are unlikely to use • Non-sense words • Words that students are unlikely to use

(2) Consonants

Intelligibility research has revealed that the pronunciation of most consonants is important except for substitutions of /θ/ & /ð/ in ‘th’ sounds (e.g., ‘think’ pronounced as ‘fink’, ‘they’ pronounced as ‘dey’) and ‘dark’ /l/ (e.g., ‘schooll’), but that close approximations to core consonant sounds are acceptable, unless they cause confusion with other sounds (Jenkins, 2000, 2002) (Table 18). Nevertheless, some consonantal contrasts were found to be more important to intelligibility than others and this can be measured using the concept of functional load (FL), i.e., how much work two sounds do in distinguishing different words in

a language. In other words, consonants with high FL contrasts are more important than those with low FL contrasts (see Brown, 1998).

Table 18 Consonants

More important	Less important
<ul style="list-style-type: none"> • Consonants with high functional load (consonant pairs such as /n/ - /l/ in 'know') • Word-initial consonants, especially /v/, /r/, and /n/ • Aspiration following word-initial voiceless /p/, /t/ and /k/. 	<ul style="list-style-type: none"> • Consonants with low functional load (consonant pairs such as /θ/-/f/ in 'thank', /ð/-/d/ in 'this') • Dark /l/ (e.g., school) • Close approximations to core consonant sounds if not cause confusion with other sounds • Medial consonants between vowels • Allophonic variants that mark varieties (e.g., flap/tap for intervocalic /t/ or /d/ in 'letter' or 'ladder' in American English)

In addition, the pronunciation of initial (and some final) consonants is important than medial consonants, which are located between two vowels. Other important phonetic requirements include the aspiration after /p/, /t/ and /k/ (e.g., 'pin', 'ten', 'cake') in word-initial position and the vowel length contrasts before voiceless and voiced consonants (e.g., the shorter /æ/ in 'sat' as contrasted with longer /æ/ in 'sad') (Jenkins, 2000, 2002). In the Hong Kong classroom, teachers may focus more on the students' production of /v/, /r/ and /n/ in the word initial position.

(3) Consonant clusters

Word-initial consonant clusters are especially important for intelligibility particularly if the words begin with a stressed syllable (Table 19). In our findings about Hong Kong speakers' pronunciation, consonants in some clusters such as /tr/ (e.g., in 'track'), /pr/ (e.g., in 'probably'), /pl/ (e.g., in 'play'), /kl/ (e.g., in 'close'), /fr/ (e.g., in 'friend'), /br/ (e.g., in 'breakfast') were sometimes omitted or pronounced incompletely. They should hence be the

foci in the English classroom. Word-final consonant clusters are also important especially when they are within inflectional endings (e.g., –s/'s and –ed endings), but word-medial consonant clusters tend to be less important (Levis, 2018).

Table 19 Consonant clusters

More important	Less important
<ul style="list-style-type: none"> • Word-initial consonant clusters (e.g., /tr/ in ‘<u>t</u>rack’, /pr/ in ‘<u>p</u>robably’, /pl/ in ‘<u>p</u>lay’, /kl/ in ‘<u>c</u>lose’, /fr/ in ‘<u>f</u>riend’, /br/ in ‘<u>b</u>reakfast’) • –s/'s and –ed endings 	<ul style="list-style-type: none"> • Complex word-final consonant clusters including those in connected speech (e.g., in clusters of three consonants, /pt/ + /θ/ in ‘accept <u>the</u>ir’, /sk/ + /j/ in ‘ask <u>y</u>ou’, /nd/ + /m/ in ‘and <u>m</u>ake’, /st/ + /m/ in ‘last <u>m</u>ove’, /ŋk/ + /s/ in ‘think <u>s</u>o’, /nt/ + /p/ in ‘different people’ + /kts/ in ‘product<u>s</u>’, /ft/ + /b/ in ‘left <u>b</u>y’)

Nevertheless, it is permissible that some complex final consonant clusters are simplified according to L1 English rules of syllable structure (Jenkins, 2000; Levis, 2018).

One example, is the omission of the medial consonant in clusters of three consonants (e.g., e.g., ‘scripts’, ‘fifths’), and this also applies to those in connected speech, where a word-final two-consonant cluster is followed by another word beginning with a consonant. This feature of connected speech was frequently found in our data about HKE (e.g., /pt/ + /θ/ in ‘accept their’, /sk/ + /j/ in ‘ask you’, /nd/ + /m/ in ‘and make’, /st/ + /m/ in ‘last move’, /ŋk/ + /s/ in ‘think so’, /nt/ + /p/ in ‘different people’ + /kts/ in ‘products’, /ft/ + /b/ in ‘left by’). In fact, deliberate attempts to pronounce the medial consonant may not be necessary as they may make the word less intelligible or affect the speech fluency.

(4) Vowels

Table 20 summarises areas of vowels that are more or less important in pronunciation teaching. As with our previous discussion about the pronunciation of consonants, the concept

of functional load is equally applicable for vowel productions. That is to say, vowels with high FL contrasts (e.g., /e-æ/ in ‘bed’ and ‘bad’, /i:-ɪ/ in ‘these’ and ‘this’) are more likely to affect intelligibility than those with low FL contrasts (/ɔ-ɒ/ in ‘sports’, /u-ʊ/ in ‘good’). Similarly, it is also suggested that contrasts between long and short vowels should be maintained (e.g., between ‘live’ and ‘leave’). The lack of contrasts between /e/ and /æ/ and between /i:/ and /ɪ/ is often identified in HKE and therefore should be the foci in pronunciation teaching in the Hong Kong classroom. Apart from these, other L2 regional qualities (except for /ɜ:/, e.g., in ‘bird’) are generally acceptable they are consistently pronounced.

Table 20 Vowels

More important	Less important
<ul style="list-style-type: none"> • Vowels with high functional load (vowel pairs such as /e-æ/ in ‘<u>b</u>ed’ and ‘<u>b</u>ad’, /i:-ɪ/ in ‘<u>the</u>se’ and ‘<u>thi</u>s’) • Shortening of vowel sounds before voiceless consonants (e.g., the shorter /æ/ in ‘<u>s</u>at’ as contrasted with longer /æ/ in ‘<u>s</u>ad’) • Maintenance of vowel length contrasts (e.g., between ‘<u>l</u>ive’ and ‘<u>l</u>eave’) • Vowels in stressed syllables 	<ul style="list-style-type: none"> • Vowels with low functional load (vowel pairs such as /ɔ-ɒ/ in ‘<u>s</u>ports’, /u-ʊ/ in ‘<u>g</u>ood’) • L2 regional qualities except for /ɜ:/, if consistent (e.g., /eɪ/→ /e/ in ‘<u>g</u>ame’, /oʊ/→ /o/ in ‘<u>o</u>nly’) • Production of schwa in unstressed syllables (e.g., /ə/ in ‘<u>c</u>ondition’) • Distinctions in unstressed syllable quality, e.g., between /ə/ and /ɪ/ in ‘<u>r</u>esult’

Another area of vowel production concerns the pronunciation of unstressed syllables. In L1 English varieties, unstressed syllables tend to be realised as schwa (i.e., /ə/), but this vowel is often stressed in HKE. Nevertheless, as stressing of unstressed syllables in di- and multi-syllabic words (e.g., /ə/ in ‘condition’) is quite common in many L2 English varieties, some research suggested that this L2 features can in fact enhance intelligibility in

international communication (Deterding, 2010; Walker, 2010). It is also not necessary to distinguish between different unstressed syllable quality, e.g., /ə/ and /ɪ/ in ‘result’.

(5) Some other important areas in L2 pronunciation teaching

At the discourse-based level, what is important is for L2 speakers to be able to identify key words/syllables in the stream of speech and emphasise nuclear stress (e.g., lengthening of stressed syllables) in their own speech production (Jenkins, 2000; Sewell, 2013). Prominence is generally agreed to be important for all types of English speech and it is important for students to be able to employ and understand certain widely-used functions such as contrastive prominence (Rogerson-Revell, 2011) (e.g., ‘I like the BLUE flower’ and giving new information (e.g., ‘The actor is GOOD, but not THAT good’).

Furthermore, the term ‘delivery’ is often used in the English language curriculum in Hong Kong to refer to speech features beyond word-based and discourse-based pronunciation such as fluency, pacing, clarity and loudness (Levis, 2018). This is also an area Hong Kong teachers tend to focus on when they provide feedback on students’ pronunciation performance. These features may contribute to understanding, but they are difficult to define, as they may overlap with other features. For instance, flow of speech (i.e., fluency) comprises an array of features, such as speech rate, phrasing, grammatical grouping and final lengthening, which may affect the listeners’ understanding at the sentence level (Levis, 2018).

In classroom teaching, it is important to work on students' general speaking skills so that their production is comfortable. We can also focus on their production of thought groups (or phrases) in reading aloud and in spontaneous speech. In contrast, it may not be necessary to pay substantial attention to linking and connected speech in order to build more fluency speech.

Fluency is also related to the pacing and clarity of the students' speech production (Levis, 2018). Speaking either too fast, too slow or having inappropriate pausing may affect listeners' understanding. As clarity is often associated with unclear articulation in word pronunciation, it is possible that we provide more specific feedback according to our previous recommendations for teaching foci at the word level. Finally, loudness (or its acoustic correlate, intensity) plays an obvious role in the listener's understanding, especially if the speaker's voice is excessively soft or loud. It is reasonable that teachers in Hong Kong often remind students if their voice is too soft.

Given that English pronunciation often receives relatively little attention in the classroom because of limited lesson time, it would be useful to adopt a more focused approach and prioritise the teaching of pronunciation according to the intelligibility principle and the prominence of HKE features.

Note

It should be noted that this report has only provided a brief summary of the findings derived from the project. Further details about the project have been recorded in the following publications. Specifically, we have developed a guidebook for pronunciation teaching in Hong Kong's secondary education. This guidebook has been distributed to teachers in different secondary schools in Hong Kong.

Chan, J.Y.H. (In press). The evolution of assessment in English pronunciation. The case of Hong Kong. *Language Assessment Quarterly*.

Chan, J.Y.H., & Lo, M. M. (2021). Pronunciation teaching in Hong Kong: *Towards an intelligibility-oriented approach*. The University of Hong Kong

Chan, J. Y. H. (2020). Developing an intelligibility-oriented approach to L2 pronunciation teaching: The case of Hong Kong English. Presentation at *the World Congress of Applied Linguistics (AILA 2020)*, the Centre of Groningen, the Netherlands, 15-20 August, 2020.

Chan, J. Y. H. (2020). Exploring pronunciation variation in Hong Kong English: The acrolect-basilect continuum. Presentation at *Sociolinguistics Symposium 23*, The university of Hong Kong, Hong Kong, 16-19 June, 2020.

Chan, J. Y. H. and Chan, W. S. (2019). An intelligibility-oriented approach to teaching Hong Kong English pronunciation. Presentation at *the Fifth International Conference on Linguistics and Language Studies*, Caritas Institute of Higher Education, Hong Kong, 25–26 June.

Chan, J.Y.H. (in preparation). The development of an intelligibility-oriented approach to teaching Hong Kong English pronunciation.

Chan, J.Y.H. (in preparation). Perceptions, practices and challenges in pronunciation teaching in Hong Kong.

Chan, J.Y.H., & Lo, M. M. (in preparation). *Towards an intelligibility-oriented approach to teaching and assessing pronunciation: The case of Hong Kong English*. (Scholarly book expected to be published in 2022)

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