

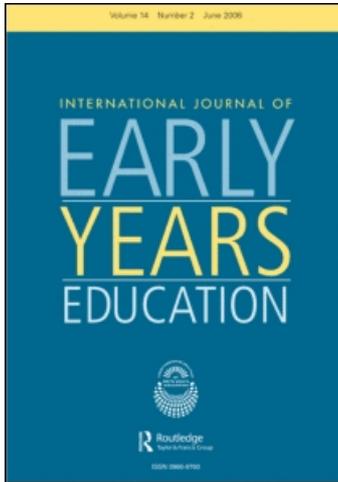
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## **Integrating teaching practice with developmental norms: the case of phonological teaching in L2**

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This paper highlights the crucial role of phonological instruction in early second language English learning. Although older learners can acquire grammar and vocabulary efficiently, younger learners appear to have a greater facility with the learning of sounds. Thus, it makes good sense to focus on articulatory skills for these early learners. By comparing the developmental norms in phonology between an L1 (Cantonese in this study) and an L2, detailed predictions can be provided to guide the process of early phonological instruction. It is important that the teaching of articulation should not be reduced to non-engaging lessons that can be characterised as ‘drill and kill’. Instead, a framework for improving the articulation of children learning English as a second language is proposed. What is unique about this proposal is that it represents the first attempt in Hong Kong to specify and integrate research findings concerning developmental speech norms with existing teaching practice.

**Keywords:** phonology; early English; critical periods; teaching practice

### **Introduction**

The National Association for the Education of Young Children (NAEYC), based in the USA, issued a position statement to argue for the importance of developmentally appropriate practice (DAP) in early childhood programmes serving children from birth through the age of eight (Bredekamp 1987). Its goal was to promote early years learning experiences which reflect the needs of children at different time-points in their development, and to promote the role of teachers as individuals who apply their professional knowledge to the teaching of young children (vs. individuals who are simply caretakers of young children). Specifically, NAEYC believed that through the introduction of DAP, early childhood practitioners could help create a community of learners who possess good socio-emotional skills, problem-solving abilities, a solid language and literacy foundation, and capacities to acquire new knowledge driven by societal changes (NAEYC 1997). The statement also made it explicit that ‘all early childhood teachers need to understand the developmental changes that typically occur in the years from birth through age 8 and beyond, [and] variations in development’ so that they can better support children’s learning and development (NAEYC 1997, 5).

Fuelled by this movement, the last two decades have witnessed substantial collaborations between universities and early childhood education providers in the USA. Their

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common goal was to find out the crucial elements in good teaching practices which facilitate children's development or narrow learners' variations. In the area of language and literacy development, Snow and colleagues have undertaken a series of influential studies which examined the pathway from oral language to literacy. For example, a group of 73 children from low-income families were studied longitudinally in the Home-School Study of Language and Literacy Development (Snow et al. 1995). Young children's receptive vocabulary, narrative production, definition skills, and their reading comprehension in later grades were measured and correlated across time-span. Also, through the use of regression analyses, the factors from home and school that uniquely predicted language outcomes or future reading comprehension were examined (Dickinson 2001; Snow et al. 2007; Weizman and Snow 2001). This work has resulted in the accumulation of new knowledge that informs teaching practice in early childhood. For example, following the emergent literacy approach to language learning, teachers had often assumed that the use of book-reading at home or in the classroom would automatically result in better literacy skills (Teale 1984; Whitehurst and Lonigan 1998; Arnold and Whitehurst 1994). But interestingly, the use of book-reading *per se* was not found to be associated with higher receptive vocabulary scores in children (DeTemple 2001, 41). Rather, it is the rich conversations or discussions between teachers and children *during or following* the book-reading activity which promote vocabulary learning. These discussions, termed *extended discourse*, usually involve the elaboration of the text itself or the rare words introduced through the text (DeTemple 2001; Tabors, Roach, and Snow 2001; Tabors, Snow, and Dickinson 2001; Snow et al. 2007). Other interesting findings included the unique contributions of rare words at meal times (Tabors, Beals, and Weizman 2001; Snow and Beals 2006), and scientific talk (Snow and Kurland 1996) to growth in children's receptive vocabulary. Regarding the link between early years education and later literacy outcomes, kindergarteners' vocabulary scores (obtained through the use of Peabody Picture Vocabulary Test – Revised (Dunn and Dunn 1981)) were found to predict children's later reading outcomes, demonstrating the need for an early solid oral language foundation for later literacy development (Snow 1999, 2006). A kindergartener who lacks breadth in his/her vocabulary runs a higher risk for failure in reading comprehension later in life (Snow et al. 2007).

Given the importance of receptive vocabularies in the early years, it is alarming to find that huge gaps in vocabulary size exist across ethnicity and across socioeconomic groups prior to children's admission to pre-schools (Hart and Risley 1995; Farkas and Beron 2004). Also, due to the presence of migrant families in many societies, many young children are instructed in a language that is not the language of the home. Research seems to suggest that, coupled with the factor of low socioeconomic background, many young English language learners (ELLs) from migrant families may end up struggling in the school's system, as reflected in poor oral language scores in both their home language (Spanish) and their school language (English) (Páez, Tabors, and López 2007), and that poor English word-reading skills were associated with poor L1 word-reading skills (Páez and Rinaldi 2006).

By piecing together this rich body of available evidence, educators now know more about (1) the unique element in early oral language – receptive vocabulary that contributes to literacy development; (2) the factors that promote vocabulary learning via the presence of extended discourse at meal times, during or after book-reading activities; and (3) the variations across language learners.

This review of the early childhood setting in the USA has illuminated the cascading effects of an educational movement for higher quality education which resulted in

richer research and better-informed teaching practice. Later, Wong-Fillmore and Snow (2002) further promoted DAP by explicitly stating what teachers needed to know about language and psychology in order to better teach English. In terms of oral language, teachers of English were advised to learn about linguistics (e.g., the English sound system, and its morphological system), developmental psychology (e.g., the growing lexicon in children and how words are acquired), and sociolinguistics (e.g., dialectal difference vs. 'bad' language). In terms of written language, teachers were advised to learn about the sound–letter correspondences in English and the problems that children encounter when learning to read and spell.

These concrete suggestions offered by Wong-Fillmore and Snow (2002) encourage teachers to pay attention to linguistic theory and specific linguistic structures. Unfortunately, these suggestions have not always met with a warm reception, as reflected in the mounting difficulties in persuading early childhood education training institutes to provide a comprehensive coverage of linguistics and developmental psychology within a tight curriculum. Bredekamp (2002, 55) reflected on her experience in linguistics:

[A]s an early childhood educator who has dedicated much of my professional life to improving the quality of programs that serve children in the earliest years of life, I was disturbed by how unattainable [Wong-]Fillmore and Snow's vision appears to be for my field.

Despite the presence of resistance to these new ideas, I would like to follow the footsteps of Wong-Fillmore and Snow by highlighting some additional knowledge that would be useful to teachers of young ELLs. In particular, I will specify the steps involved in bridging the gap between practice and research in the area of teaching phonology to the growing population of ELLs who outnumbered English monolinguals internationally at least three to one (Crystal 1997).

When working with young ELLs, it is important for teachers to understand the relative sequence in English sound acquisition and what teachers might do so that their learning activities could prepare children to learn English speech sounds. For the purpose of illustration and to ground my proposal firmly in existing language groups, I will discuss possible methods for phonological instruction for Cantonese–English ELLs in Hong Kong (HKG). This group differs from the Spanish–English ELL group, which has been at the focus of so much research in the USA, because the dominant language in HKG is Cantonese rather than English – and because English exposure time is lacking both at home and in school, in distinction to the USA.

To secure truly solid evidence for the importance of early phonological instruction in the Hong Kong context it will be necessary to conduct a full-scale longitudinal intervention across a wide range of schools and social classes. However, even before we have the results of a massive study of this type, we can orient ourselves to the problem by examining what we already know about the effects of early learning of phonology. At the same time, we can use what is already known about English language teaching in Hong Kong to understand exactly how, where, and why training in English phonology could fit into the curriculum.

To explore these issues, we will first examine the HKG context for early ELLs. Next, we will describe how early childhood trainers in HKG perceive 'good' English language teaching. Then, we will conduct a brief analysis of the literature regarding the Critical Period Hypothesis (CPH) in order to highlight the advantages of early phonological instruction. After this, we will provide a comparison between HKG ELLs' L1 and L2 speech norms, followed by a detailed illustration of proposed

implementation strategies. The goal of this paper is to guide teachers of young ELLs to link up developmental norms for English learning with practice.

### The Hong Kong context

Since the end of the British sovereignty in Hong Kong in 1997, the HKG government introduced various educational reforms in an attempt to reintegrate this international financial centre which housed a population of over seven million people with the People's Republic of China. These measures included the introduction of the Medium of Instruction Policy (MOI) in 1997 which limited the number of secondary schools allowed to use English as their MOI to 114, the majority would use Cantonese as the language of instruction. In the early childhood setting, a review of public documents shows a tendency to consider that the learning of an additional language in the early years would be detrimental to the development of a person's L1 and cognitive growth (Standing Committee on Language Education and Research (SCOLAR) 2003; Hong Kong Education Bureau 2003). Language development was believed to be related to cognitive growth. Expecting a young child to acquire concepts in an L2 is unlikely to boost cognitive development. Since Cantonese is the home language for most children in HKG, and English is reserved for restricted settings: academia, international business communication, technology, etc. (Bacon-Shone and Bolton 1998; Dickinson and Cumming 1996), the City Government discouraged the early introduction of English to ELLs.

The MOI policy sparked off wide resentment in the local population (Koong 2008) because the reforms failed to address the link between the mastery of the English language and better access to education, job opportunities, and social privileges, which are tied to upward social mobility (Baker and Jones 1998; Bolton 2000; Lai and Byram 2003). The population's preference towards early English exposure was evidenced in results from surveys conducted between the '60s and the '90s. The more recent informants were feeling positive towards the English language in comparison to their earlier similar counterparts (Boyle 1997; Lyczak, Fu, and Ho 1976; Li 1996). Further, 75% of parents would opt for proficiency for their children in only English, when given a choice between proficiency in only English or in only Putonghua (Boyle 1997).

Ten years after the change of sovereignty, English language exposure has become universal in kindergarten education – a result of parents who do not want their children to be condemned to a life of few education and career opportunities which they perceive to be closely linked to English proficiency (Koong 2008).

The HKG education authority reacted to this parental pressure by stating that children should only be exposed to English *informally* through play, games and nursery rhymes (Hong Kong Education Bureau 2003). Teachers were advised to cultivate children's interest and motivation in learning English through the provision of a language-rich environment in which opportunities for children to listen to and speak in English would abound. The focus of the Government was on maintaining children's interest in learning rather than advancing their concrete proficiency.

### L2 teaching practice in the Hong Kong early childhood setting

#### *How English is taught to young ELLs in Hong Kong*

Research on how English is taught in HKG kindergartens is sparse. So far there are only two major research studies falling into this category: the *Final Report of*

*Language Education Review* (Hong Kong Education Bureau 2003), and an ongoing project undertaken by Lim, Leung, and Li (2006) at the Hong Kong Institute of Education. The former study is useful to the extent that it documents the actual 'hardware' used in kindergartens in terms of subject-based textbooks and writing exercises. But not enough attention has been given to how teachers of English actually provide comprehensible language input to ELLs across a *large randomised sample* of kindergartens. Also, there was a lack of language assessment regarding how much the learners had learnt from their early English exposure. As for the second project, since it is still in progress, not much information can be derived from it at this stage.

In the absence of this research, another source of reference could be how teachers of English are trained in HKG. Ng, Chiang, and Kong (2005) published an informative booklet providing exemplars of good teaching practice of English in early childhood. Although there may not be a tight correspondence between teacher training and teaching implementation, the information obtained at least serves to suggest how good teaching practice is *perceived* by teacher trainers.

The approach to L2 teaching proposed by Ng, Chiang, and Kong (2005) is theme-based. Examples of themes salient and meaningful to the life experiences of children were provided: 'All About Me', 'Colours and Shapes', etc. Five components are common to all the themes: group circle time, mathematics and science, music and movement, arts and crafts, and games.

To illustrate, in the theme of Animals, the circle time might include reading aloud 'Mr Gumpy' or 'Brown Bear'. The mathematics and science component might involve class surveys on children's preferences for animals. During the music and movement session, children could chant and perform a rainbow animal dance. For arts and crafts, children could design costumes for a drama related to the stories presented earlier. Finally, there could be memory and guessing games to further stimulate learners' interest. All these activities serve to enhance children's vocabularies (e.g., nouns referring to animal names, verbs relating to actions of animals) and abilities to construct phrases (e.g., to be able to say 'Rabbits hop about').

The division of each theme into precisely five components is based on Bredekamp and Rosegrant's (1995) conception of integration, which stipulates that learning is optimal when teaching activities are linked to the life experience, the social experience, and young learners' pre-academic experiences in the areas of language, mathematics and science, and arts and crafts. The design of activities is also consistent with the informal approach towards early English experience recommended by the Government (Hong Kong Education Bureau 2003). However, one inherent flaw in this scheme is that it does not specify the extent to which correct use of language and pronunciation is to be encouraged in the classroom, as this is highly dependent on whether a native speaker is available and how good the quality of the language input is.

Additionally, these materials do not specify how the language exposure should be designed to match the children's *language level*. This is unsurprising, because normative data concerning ELLs in HKG is not yet available. It also is uncertain how much the activities allow young learners' opportunities to expand their individual expressive skills. A viewing of a video from a sample lesson from Ng, Chiang, and Kong's (2005) booklet has shown that there were ample opportunities for children to be exposed to quality comprehensible input, but that these were not matched with opportunities for children to speak or to improve their control of English phonology.

### Critical Period Hypothesis

The CPH, originally used to explain low-level perceptual processes (Penfield and Roberts 1959), was extended to the study of language learning by Lenneberg (1967) who argued for the presence of a biological ‘window’ of time that ends at the onset of puberty during which children can acquire language, especially the grammatical systems of the target language with native-like proficiency. This hypothesis was initially supported by case studies of ‘wild’ or isolated children, e.g., the study of a child named Genie who failed to acquire language after 13 years of solitary confinement in a basement since birth (Curtiss 1977). Later, Johnson and Newport (1989) provide further support for the CPH by showing a marked decrease in grammaticality judgment accuracy for Chinese and Korean speakers who had begun to learn English after the age of 15.

A later review of CPH by Marinova-Todd, Marshall and Snow (2000) contradicted the findings from Johnson and Newport (1989) and suggested that there was no real advantage for early exposure to an L2 for most aspects of language learning when a large sample of learners were examined. Subsequent analyses of the original data from Johnson and Newport (1989), as well as new data with a much larger sample size (Hakuta, Bialystok, and Wiley 2003; Wiley, Bialystok, and Hakuta 2005) have shown that, in fact, there is no sharp drop in language learning outcome across the lifespan. What was noted instead was a *slow, but continuous decline* in one’s ability to learn an L2. Researchers attribute this gradual decline in learning an L2 to the influences of L1 transfer and entrenchment (MacWhinney 2008; Ellis 2002). As learners get older, they become more entrenched in their L1 and it becomes increasingly difficult for them to construct a separate system for their L2. This effect is particularly apparent during the first phases of L2 learning, when the L2 system is highly dependent upon L1 (Kroll and Tokowicz 2005).

In a comprehensive review of a 15-year study of early English–French immersion in Montréal, Swain (1981) showed that, for virtually all linguistic domains, older children are better learners than younger children. Similar observations were reported for children learning French as an L2 in Switzerland (Ervin-Tripp 1974). In terms of vocabulary acquisition, Snow and Hoefnagel-Hohle (1978) have observed that older learners can acquire L2 vocabulary far more swiftly than their younger peers and with far better long-term retention. In terms of L2 competence, Bongaerts (1999) has found that highly-motivated adults receiving good phonetic training can begin learning an L2 after the age of 20 and still acquire full native-speaker competence. Together, these findings indicate that there is no reason for parents or educators to insist that children must obligatorily begin L2 learning at a very early age. In other words, they do not need to worry about the CPH as a determinant of educational practice. What is important for L2 learning is not some critical period, but rather the total time spent on learning (Newell 1990) and the quality of the instruction (Dickinson 2001). Children who begin early with high-quality instruction will markedly overtake other children who begin later.

The domain of phonological learning, however, stands out as an exception to the principle mentioned above. For phonology, it is more important to begin learning well before puberty. Studies by Flege and colleagues (Flege, Yeni-Komshian, and Liu 1999; Flege and MacKay 2004) show that learners acquiring L2 after the age of six will maintain some traces of their L1 accent when speaking L2. Studying Italian immigrants to Toronto, these authors found that the learners who had arrived in Canada

before the age of six achieved pronunciations and sound discriminations fully indistinguishable from those of native English speakers. However, learners who arrived after age six maintained some Italian accent in English, albeit ever so slight. Similarly, in her summary of the 15-year longitudinal study in French Canada, Swain (1981) found that children aged six to eight were able to improve their phonological control of English more rapidly and robustly than older children. From this body of research in CPH, it is clear that phonological training would be advisable for young ELLs.

### **Towards the construction of developmentally appropriate practices in an L2 context**

While we might all accept the importance of phonological training in L2 English language learning, it is not immediately clear how practitioners can best implement early teaching of English in general (Bredenkamp 2002), or phonological training in particular. In order to help practitioners devise practices sensitive to developmental norms, the next two sections are devoted to outlining the speech norms for L1 English and L1 Cantonese and demonstrating how to improve phonological instruction with reference to the integrative framework exemplified in Ng, Chiang, and Kong (2005). We are choosing the /s/ sound as our focus, as this fricative seems to be a major hurdle for both L1 and L2 speakers.

#### ***L1 speech norms – English and Cantonese***

Because of variations across studies, current L1 English speech norms are not in a format that can directly inform teachers how to plan a sequence of sound corrections. To address the issue, Lof (2004) generalised across existing reliable developmental speech norms (Templin 1957; Sander 1972; Prather, Hendrick, and Kern 1975; Smit et al. 1990; Goldman and Fristoe 2000) and divided the 24 English consonants into three groups based on the system used in Shriberg (1993). Table 1 and Table 2 show respectively the age range of mastery of the English consonants categorised (1) according to Shriberg's system; and (2) according to the articulatory characteristics of the sounds concerned. Lof's generalisation was important because one could easily lose track of the *general sequence* of sound acquisition if one only pays attention to the variations across studies in the ages for mastering different speech sounds. The sound /j/, for example, is reported to be mastered by children at 2:6 in Prather, Hendrick and Kern (1975) but at 5:6 in Goldman and Fristoe (2000). Vowels are not discussed in this paper because they are mastered early and appear to pose fewer problems to L1 learners – mastered by the age of three in English (Bauman-Waengler 2000) and by age two in Cantonese (So and Dodd 1994).

Except for the sound /j/, the first eight sounds that are mastered in English L1 do not display large variations across speech norms. Discrepancies are, however, more noticeable in the Middle eight and the Late eight sets. For example, the age range for mastering the consonant /v/ is between 5:0 and 8:0, whereas the range is between 3:6 and 8:0 for the phoneme /s/. It appeared that the age for mastery appears to be more universal across children for simple sounds, but the more 'difficult' sounds (s, z, etc.) are sometimes only mastered after the age of 7;0 (Lof 2004).

The initial process of L2 learning involves strong transfer from L1 (Cantonese) to L2 (English) (Major 2001; MacWhinney 2008). Because of the importance of early phonological transfer, it is crucial to analyse children's L1 speech norms in order to

Table 1. Age range (years:months) of mastery of English consonants based on five classics studies (based on Lof 2004).

24 English consonants	Phonemes	Examples	Age range of mastery
<b>Early eight</b>			
Nasal	/m/	<i>mother</i>	2:6–3:0
Stop	/b/	<i>back</i>	3:0–4:0
Approximant	/j/	<i>yes</i>	2:6–5:6
Nasal	/n/	<i>neck</i>	2:0–3:0
Approximant	/w/	<i>wait</i>	2:0–3:6
Stop	/d/	<i>duck</i>	2:6–4:0
Stop	/p/	<i>pen</i>	2:6–6:6
Fricative	/h/	<i>hen</i>	2:0–3:0
<b>Middle eight</b>			
Stop	/t/	<i>take</i>	2:6–6:0
Stop	/k/	<i>cat</i>	2:6–4:0
Stop	/g/	<i>go</i>	3:0–4:0
Nasal	/ŋ/	<i>sing</i>	2:0–6:0
Fricative	/f/	<i>flower</i>	3:0–5:6
Fricative	/v/	<i>vase</i>	5:0–8:0
Affricate	/tʃ/	<i>chair</i>	4:6–7:0
Affricate	/dʒ/	<i>orange</i>	5:6–7:0
<b>Late eight</b>			
Fricative	/ʃ/	<i>she</i>	4:0–7:0
Fricative	/θ/	<i>that</i>	6:0–7:6
Fricative	/ð/	<i>these</i>	6:0–8:0
Fricative	/s/	<i>sad</i>	3:6–8:0
Fricative	/z/	<i>zebra</i>	7:0–8:0
Lateral	/l/	<i>light</i>	5:6–6:0
Approximant	/ɹ/	<i>right</i>	4:6–8:0
Fricative	/ʒ/	<i>measure</i>	No data exist

Note: The sounds represented by the phonetic symbols correspond to the sounds represented by the italicized letters which appear in the example column.

find out the resources available for transfer to L2 learning. We can identify sounds that do not require much practice (e.g. those that already exist in L1) and also those sounds which require urgent attention: sounds which do not exist in L1 or those displaying great variations even for monolingual children, such as the /s/ phoneme.

Referring to Table 3, which analyses the consonants shared between Cantonese and English (m, j, n, w, p, h, t, k, ŋ, f, s, l), the order of mastering the different Cantonese consonants closely matches the English pattern described by Shriberg (1993): the /m/, /j/, /n/, /w/, /p/, /h/ sounds are mastered early in Cantonese. The /t/, /k/, /ŋ/ sounds fall into the middle category and so on. The only exception is the /l/ sound which does not seem to be acquired late in Cantonese in comparison to English. But this could be explained by the more varied position of the /l/ sound in an English syllable – in Cantonese it can only appear in a syllable-initial position, whereas in English it can be part of a consonant cluster in English, as in ‘bald’ or ‘halt’.

Table 2. Age range (years:months) of mastery of different consonants: cross-language differences.

Types of consonants	English	Age range	Cantonese	Age
Stops	/p/	2:6–6:6	/p/	2:0 (2:6)
	/b/	3:0–4:0	/p <sup>h</sup> /	3:3 (4:0)
	/t/	2:6–6:0	/t/	2:3 (2:6)
	/d/	2:6–4:0	/t <sup>h</sup> /	4:0
	/k/	2:6–4:0	/k/	2:6 (3:3)
	/g/	3:0–4:0	/k <sup>h</sup> /	3:6 (4:0)
			/kw/	3:9 (4:0)
			/k <sup>h</sup> w/	4:9 (5:0)
Fricatives	/f/	3:0–5:6	/f/	3:0 (4:3)
	/v/	5:0–8:0		
	/θ/	6:0–7:6		
	/ð/	6:0–8:0		
	/s/	3:6–8:0	/s/	4:6
	/z/	7:0–8:0		
	/ʃ/	4:0–7:0		
	/ʒ/	No data exist		
Affricates	/h/	2:0–3:0	/h/	2:0 (3:6)
	/tʃ/	4:6–7:0	/t <sup>h</sup> s/	(4:3) 5:0
	/dʒ/	5:6–7:0	/ts/	(4:0) 4:3
Nasals	/m/	2:6–3:0	/m/	2:0 (3:0)
	/n/	2:0–3:0	/n/	2:0
	/ŋ/	2:0–6:0	/ŋ/	(2:0) 2:9
Lateral	/l/	5:6–6:0	/l/	2:9 (4:0)
Approximants	/ɹ/	4:6–8:0		
	/j/	2:6–5:6	/j/	2:0 (2:6)
	/w/	2:0–3:6	/w/	2:0 (3:0)

Note: The ages in brackets in the Cantonese section refer to the norms for boys, whereas the ages without brackets are the norms for girls.

In terms of the sequence of ‘intervention’, teachers of English should give a focus to the voiced sounds among the English Early eight set which are absent in Cantonese (e.g. b, d). This is then followed by devising activities that practice the novel sounds that appear in the English Middle eight set (g, v, θ, dʒ). After learners become familiar with the first two sets, teachers then move to the Late eight set *and* work on sounds that are notoriously difficult, such as the /s/ sound, which will be discussed in the next section.

### An illustration of linking phonological training to speech norms

#### *When is it appropriate to practice a certain sound? The importance of speech norms*

According to Table 3, most Cantonese children have mastered the /s/ sound by age 4:6. Since this sound is equivalent to the English /s/ sound, and the age of mastery of this sound in Cantonese is well within the range of the English speech norms (3:6–8:0; mean: 5:9), it would be appropriate for practitioners in the second year of kindergarten

Table 3. The age (years:months) of mastery of the 19 Cantonese consonants in ascending order.

Types of consonants	Sounds	Age
Stop	/p/	2:0
Fricative	/h/	2:0
Nasal	/m/	2:0
Nasal	/n/	2:0
Approximant	/j/	2:0
Approximant	/w/	2:0
Stop	/t/	2:3
Stop	/k/	2:6
Nasal	/ŋ/	2:9
Lateral	/l/	2:9
Fricative	/f/	3:0
Stop	/p <sup>h</sup> /	3:3
Stop	/k <sup>h</sup> /	3:6
Stop	/kw/	3:9
Stop	/t <sup>h</sup> /	4:0
Affricate	/ts/	4:3
Fricative	/s/	4:6
Stop	/k <sup>hw</sup> /	4:9
Affricate	/t <sup>hs</sup> /	5:0

education (for the four year olds) to practice the /s/ sound with learners by introducing the sound through life-relevant, engaging activities. The functions of the activities are two-fold. First, they serve to consolidate the pronunciation skills of those who can already produce the /s/ sound. Second, they provide ‘scaffolding’ (Vygotsky 1962, 1978) for children who have not yet mastered the sound.

### *Articulation activities based on the integrated approach*

Circle time: teachers of English can first help children articulate individual speech sounds (i.e. sounds not embedded in a word) (Cheung 1995). To prevent the practice from turning into a ‘drill’, teachers can introduce the /s/ sound, for example, by presenting the following story with pictures and body acts which help children acquire the background knowledge for comprehension (Asher 1969). The main idea is that the sound should be introduced in a context so that the children do not see that the purpose of the activities is to correct their pronunciation. In the actual lesson, children learn in Cantonese about how animals hibernate through the winter and they will learn about how snakes move and make sounds. They then begin an English lesson that utilises the concepts that have recently been presented in Cantonese. For example, they will hear this description:

In winter time the weather was cold, and a lot of animals were sleeping. But now the weather is getting warmer. You are wearing fewer clothes. Why? Yes, spring has arrived. After a long sleep, those animals which have been sleeping for long would want to greet

their friends. SSSSS [the /s/ sound is introduced here]. SSSSS. What animal produces this noise? Oh, yes, a snake. A snake must be trying to call out for his friends. Let us greet the snake by saying /s/.

This greeting exercise goes on for a while. Here the children would be imitating the teacher, and the teacher should quickly identify those children who cannot produce the target sound and pay more attention to them.

At this point, a puppet of a sad snake appears and the teacher draws children's attention to its face in order to teach the adjective 'sad'. The teacher then asks the children why the snake looks sad. Later the teacher explains that a good friend of the snake is *sick* and has not returned his greetings. The teacher then asks the children what they can do to help the snake or his friend. This could naturally lead to the suggestion that children draw a card for the snake (since he has no arms) so that he can *send* it to his sick friend.

The teacher can also ask questions in order to elicit the following utterances which contain the /s/ sound: (1) The snake is sad; and (2) his friend is sick. These elicitation are important, as they serve to evaluate how well the children can articulate the /s/ sound embedded in a sentence. If a child cannot produce the word 'sad', for example, the teacher can lengthen the /s/ duration so that the children can identify that the /s/ is the same as the hissing sound of a snake.

Arts and crafts: the children draw a card and then the teacher asks them to put in a message for the sick friend. Utterances elicited could be 'You have become sick, and I am sad. Get well soon'.

Music and movement: after receiving the card, the sick snake feels better and greets his friend by producing the hissing /s/ sound. The two friends are happy and they want the children to dance with them. So all children will create their own snake dance. Later children are encouraged to say, 'I want to see XXX [name of their friend] dance'. In this way, children will be practicing the syllable-final – s, as in 'dance', as well as the syllable-initial /s/, as in 'see'.

Game: a dial can be made, with a pointer pointing at adjectives (with pictures): sad, frightened, happy, etc. When the pointer is pointing at the word 'sad', the children need to say, 'I am a sad snake. Here is my sad dance', followed by a particular dance.

Mathematics and sciences: children can count snakes or learn the characteristics of snakes (without arms and legs, but have scales), etc.

Language: children can take turns to answer the question, 'Sick snake, sick snake, what do you see?' [I see \_\_\_\_\_.]

Please note that this exercise does not reinvent the wheel for English teaching practice. Rather, it embeds phonological instruction in activities that are normally conducted in the classroom settings, and this time the teacher is expected to understand why it is important to provide phonological training, and why a certain sound is introduced at a particular time point in development.

## Conclusion

This paper has highlighted the importance of a focus on phonology in early L2 English acquisition. This approach was illustrated in the Hong Kong context, which is typical of other global contexts where ELLs markedly outnumber native speakers. Within this context, we showed how phonological instruction can be embedded within a thematically integrated framework. The proper implementation of this instruction depends on

understanding the linkage between L1 and L2 speech norms and the ways in which L1 phonology impacts L2 learning. It is hoped that by adopting this framework, teachers will be able to provide a rich scaffolding to assist children to acquire phonological control of English.

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