

Raising Phonological Awareness among Hong Kong Students

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The pronunciation problems among Hong Kong students

- Mispronounce many commonly used words.
- Have difficulty in pronouncing unfamiliar words.
- Have difficulty in pronouncing or spelling a word without 'seeing' it.

Their Problems seem to be rooted from their inability to

- Segment a string of sounds, e.g. from a word into individual syllables; a syllable into individual sounds (or phonemes);
- Manipulate sound units, such as phoneme synthesis, phoneme deletion, or transposing two sounds in a sound string ;
- Without being able to do so, the students cannot perceive and repeat sounds accurately.

Phonological awareness

- All the skills mentioned are generally referred to as phonological awareness, or phonemic awareness.
- It does not develop automatically or naturally.
- It is not easy for many English speaking children.

Notorious irregular mapping between spellings and sounds in English

- The letter 'a' may be pronounced as six different sounds:

dame	/d <u>ə</u> m/
dad	/d <u>æ</u> d/
f <u>a</u> ther	/f <u>ɑ</u> ð <u>ə</u> r/
call	/k <u>ɔ</u> l/
vill <u>a</u> ge	/vɪl <u>ɪ</u> dʒ/
man <u>y</u>	/m <u>ə</u> ni/

Notorious irregular mapping between spellings and sounds in English

- The same sound may be spelled with different letters.
- For instance, the /k/ sound is spelled as
 - 'c' as in car
 - 'ch' as in stomach
 - 'q' as in qarter

Phonological Awareness among Hong Kong Students

- It is even more difficult to develop for children using non-alphabetic writing systems, such as Chinese scripts.
- Given that mapping between sound and grapheme in Chinese is syllabic in nature, phonemic awareness is not developed and in fact not required in learning to read Chinese.
- Hong Kong students are expected to have limited phonological awareness.

Holm and Dodd (1996)

- Assessed the English phonological awareness of students from Hong Kong, Vietnam, mainland China and Australia.
- The performance of the Hong Kong group was the poorest.
- They did not effectively use either analogy or grapheme-phoneme conversions to read and spell words and nonwords.

Holm & Dodd (1996)

- Mainland Chinese subjects performed well on all tasks.
- They even surpassed the Australian group in some tasks.

Holm and Dodd (1996)

- Why such a dramatic difference in their performances?
- Attributes the superior performances of the mainland Chinese group to their acquisition in *Hanyu Pinyin* early on in their school years
- Phonological awareness among HK students would be developed through explicit instruction.

The Significance of Phonemic Awareness

- Phonemic awareness is a strong predictor of reading acquisition, better even than IQ, vocabulary and listening comprehension. (Stanovich 1993-94)

Phonemic Awareness and Phonics

- Phonemic awareness is different from phonics.
- Phonics is a method of teaching reading and spelling in the mother tongue.
- Students with limited phonemic awareness will have trouble learning phonics.
- Phonemic awareness has to be embedded in phonics.
- Phonics instruction can benefit phonemic awareness development, phonemic awareness can help phonics instruction.

How to Enhance Phonemic Awareness

- For the majority of our students, phonemic skills can be acquired only through repetitive listening and imitating.
- It is unrealistic to have the teachers practice these skills with individual students until the required phonetic skills are fully internalized given the constraints of present teaching hours and class sizes.

One possible solution

- to have a multimedia computer program that provides unlimited coaching in the learning process

The Sonic Rangers

- A self-learning program to improve the pronunciation and spelling of English words among local students through enhancing their phonemic awareness by engaging means.

Overall Framework

- Builds up phonological awareness by syllable identification, rhyme detection and syllable segmentation.
- Assigns each letter/letter cluster a particular sound that is most frequently associated with the letter/letter cluster.
- Drills the discrimination between similar sounds.
- Blends phonemes into words.
- After sharpening their perception skills, the advanced speech recognition technology scores instantly the pronunciation of the user.

Berndt et al (1987)

- Based on a corpus of 17,310 English words, derives the probabilities for grapheme-to-phoneme correspondences in English.

Berndt et al (1987)

Grapheme	Phoneme	Conditional Probability	Example
a_e	/e/	0.651	ate
	/ɪ/	0.154	senate
	/æ/	0.121	madame
	/ɛ/	0.042	orange
	/ɑ/	0.025	are
	/ɔ/	0.002	false
	/ə/	0.002	pirate

Consonants taught in SR

Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar	Glottal
/b/	b		/t/	t	/k/	k
/p/	p		/d/	d	/g/	g
	/f/	f	/θ/	th	/s/	s, c
	/v/	v	/ð/	th	/z/	z
				/j/	sh	
				/tʃ/	ch	
				/dʒ/	j, g	
/m/	m		/n/	n	/ŋ/	ng
			/l/	l		
			/r/	r		
/w/	w			/j/	y	

Vowels taught in SR

	Simple Vowels			Diphthongs	
	Front	Central	Back		
/i/	e_e, cy, ie, ea, ee	/ʌ/ u	/u/ oo, ue, ew /ju/ u_e	/ai/	i_e, y_e, igh,
/ɪ/	i, y		/o/ o_e, oa, ow	/au/	ou
/e/	a_e, ay, eigh, ai		/ɔ/ aw, augh, ough	/ɔɪ/	oy
/ɛ/	e		/ɑ/ o		
/æ/	a				

Characteristics of the program

- Do not aim at covering all the letter-sound corresponding rules in English, but helping students understand that there are systematic relationships between letters and sounds.
- Tries to break the strong link of word form and meaning held by Hong Kong students and divert their attention to the relation of word form and sound.
- Students are expected to be able to accurately pronounce a wide range of unfamiliar words without, at the moment, worrying about their meanings after completing the whole program.

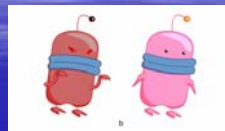
The Most Important Factor in Phonics Teaching

- The students' motivation.
- The program has to keep a strong sense of playfulness and fun.
- Sonic Rangers includes many addictive elements found in video games.

Entertaining

- In the far, far Milky Way, there was an Alphabet Star where a lot of kind-hearted Alphabet Fairies live
- However, this peaceful place was attacked by evil forces from the outer space
- The Alphabet Fairies became evil Alphabet Monsters, and were attacking space travelers
- One day the Sonic Ranger (the user) was attacked by the monsters and trapped in the Star
- He has to help the monsters to recognize their original identity and defeat the evil forces

The consonant monsters 悄悄獸

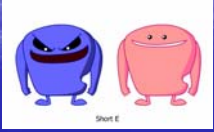


- The Big-Lips Monsters
- 大唇獸
- Represent /b/, /p/

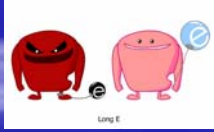


- The Teeth-Ridge Monsters
- 頂牙獸
- Represent /d/, /t/, //

The Vowel Monsters 波音獸



- The Short-e-Monster
- 短e獸
- Represent /ɛ/



- The Long-e-Monster
- 長e獸
- Represent /i/



- The Sonic Desert
- The Twin-Mountain
- The Quiet Ocean

波音沙漠
單聲雙子山
悄悄海洋

Pronunciation problems commonly found in Cantonese Speakers

- Long vowels vs short vowels: /i/ ~ /ɪ/
- Voiced consonants vs their voiceless counterparts: /b/ ~ /p/
- /n/ ~ /l/
- Consonant clusters

Final checking

- Multiple choice questions in the final revision exercise:
 - The letter 'q' is always followed by another letter. What is it?
 - What property distinguishes the 'Short-i' from the 'Long-e' sound?