

【Education Policy Studies Series】

**Lee Hysan Lecture Series in Education
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Blessings of Babel:
What does it Mean to
Learn to Read
English/Chinese

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Educational Policy Studies Series

Education embraces aspirations of the individual and society. It is a means to strengthen human resources, sustain competitiveness of societies, enhance mobility of the underprivileged, and assimilate newcomers to the mainstream of the society. It is also a means to create for the populace an environment that is free, prosperous, and harmonious.

Education is an endeavor that has far-reaching influence, for it embodies development and justness. Its development needs enormous support from society as well as the guidance of policies that serve the imperatives of economic development and social justice. Policy-makers in education, as those in other public sectors, can neither rely on their own visions nor depend on the simple tabulation of financial cost and benefit to arrive at decisions that will affect the pursuit of the common good. Democratization warrants the emergence of a public discourse on vital matters that affect all of us. Democratization also dictates transparency in the policy-making process. Administrative orders disguised as policies have a very small audience indeed. The public expects well-informed policy decisions — those that are based on in-depth analyses and careful deliberation. Like the policy-makers, the public and professionals in education require a wealth of easily accessible facts and views so that they can contribute constructively to the public discourse.

The Hong Kong Institute of Educational Research of The Chinese University of Hong Kong provides the space for rational discourse on important educational matters. From time to time, the Institute organizes “Education Policy Seminars” to address critical issues in educational development of Hong Kong and other Chinese societies. These academic gatherings have been attended by stake-holders, practitioners, researchers and parents. The bulk of this series of occasional papers are the fruit of labor of some of the speakers at the seminars. Others are written specifically as contributions to the series.

The aim of this Education Policy Studies Series is to present the views of selected persons who have new ideas to share and to engage all stake-holders in education in an on-going discussion on educational matter that will shape the future of our society.

BLESSINGS OF BABEL: WHAT DOES IT MEAN TO LEARN TO READ ENGLISH / CHINESE?

Abstract

This paper outlines the nature of the primary linguistic activities of listening and speaking and the secondary linguistic activities of reading and writing. There are common linguistic principles of parity, classification and segmentation in learning to read English and Chinese. The paper then provides a perspective on language learning by Chinese students in Hong Kong. The need to help children as active learners is emphasised.

We are told by the King James Version of the Bible that originally “the whole earth was of one language and of one speech.” But pride filled the hearts of humans and they tried to build a city and tower to reach heaven. The Lord Jehovah in His infinite wisdom tried to “confound their language, that they may not understand one another’s speech” (Haugen, 1987). Thus was the origin of language diversity as explained in Genesis. In this illustrated Lee Hysan Lecture it is not my purpose to even imply that learning more than one language is a “curse.” Rather, I want to show that learning languages is a source of delight, an experience, and a blessing. This is so in Hong Kong

with its policy emphasizing both the English and Chinese language systems; just as it is so in many other parts of the world.

I will try to show what the linguist John DeFrancis (1989) calls the “unity in diversity” principle in language systems in my discourse on English and Chinese. I will first begin with Caucasian children learning an alphabetic language system such as English. I will then draw parallels in learning Chinese and will look back and forth, Janus-like. From the comparisons and contrasts we can abstract some common principles both in learning and teaching languages generally.

Learning Language Systems is Learning

If we think of six-year old children learning to read formally for the first time, what are some of the tasks facing them? What is it that they need to do in making contact with print? There are those who claim that learning to read is like learning to speak. Since almost all children come to primary one equipped with the ability to listen and to speak, it is assumed that these primary linguistic abilities will enable learners to acquire the secondary linguistic abilities of reading and writing. To these theorists, reading is “talk written down” and all that children need to do is to immerse themselves in literate activities. By learning the “acoustic alphabet” from listening and speaking and through osmosis, it is assumed that they will learn about the optical alphabet. While there

is some truth in the importance of a literate environment and exposure to print, it is only a small part of the truth for several reasons.

First, the primary linguistic activities of listening and speaking are natural and are the results of evolution and biology. The secondary linguistic activities of reading and writing are unnatural and are learned mostly, if not exclusively, at school. Second, these linguistic activities require different processes in the registration, encoding, storage, retrieval and integration of oral or lexicalized linguistic materials in real time. Third, studies of home and school influences on early literacy by such noted child linguists as Catherine Snow and her colleagues have shown discontinuities between oral language and literacy practices (Snow, Barnes, Chandler, Goodman, & Hemphill, 1991). Hemphill and Snow (1996, p.196) argued that “much of the rhetoric surrounding the design of literacy curricula in whole language and other ‘progressive’ educational settings is based on a romantic and misconceived view of the nature of language acquisition” and that this “romantic view” of children as communicators do not take due account of them as active agents of their own development.

Fourth, and this is the most important reason, learning the sounds of speech at the phonetic level may not give the linguistic insight into the phonological level of the language system. The two levels are linked by a system of phonological rules or structures. The sounds

of speech are not just discreet segments, but are coarticulated or merged, one into the other to form speech segments. It is this **coarticulation** effect that underlies the complex nature of speech as a code. This effect is what researchers at the Haskins Laboratories term **gestures** or linguistic primitives that must be exchanged “at parity” between speakers and listeners (Liberman, 1992; Liberman, Cooper, Shankweiler, & Studdert-Kennedy, 1967). Speech units cannot be mapped directly onto lexical and sublexical units in reading and spelling. Children may produce speech streams quite effortlessly, but they must bring to the awareness level in reading and writing their implicit understanding of speaking and listening and they must be taught to do so explicitly and systematically.

Empirical Evidence

That there are major differences between speech and reading and that written words are linguistic units beyond visual identification have been shown in a classic, empirical study by Shankweiler and Liberman (1972). Shankweiler and Liberman examined the pattern of errors generated when the same monosyllabic words were presented by ear for oral repetition, then for reading by the same group of 10 grade 3 children (ages 10 to 12) “somewhat retarded” in reading. The 204 real monosyllabic words (consonant-vowel-consonant or CVC such as DUB, PUT; CCVC such as CLOG, CLING; CVCC such as WELT, SUCH) give equal representation to most of the consonants, consonant clusters and vowels

of English. The children's responses were recorded and transcribed twice by phonetically trained experimenters.

The general findings were that there was a progression of difficulty: a) final consonants were more frequently missed than initial ones and b) there were more errors on vowels than on consonants. The consistency of these findings transcended the choice of words and level of reading ability. The first finding was contrary to the usual thinking of sequential probability. The second finding can be explained in terms of the greater orthographic complexity of vowels than consonants and hence the greater probability for vowels to be misread than misheard. In terms of error rate, the oral repetition was around 7%, whereas that for reading was around 24%. Shankweiler and Liberman emphasized that these results "should not be taken to mean that reading and speech are not connected. What the results do tell us is that reading presents special problems that reflect the difficulties of the beginning reader in making the link between segments of speech and alphabetic shapes." (Shankweiler & Liberman, 1972, p. 309)

What Beginning Readers of English and Chinese Learn

Learning to Read English

With the above summary statement of the non-equivalence of reading and speaking as the background, let us look at some of the tasks facing the child in learning

to read the noun phrase “the cat.” There are several inter-related aspects that should be noted. There is the graphic symbol CAT to denote the feline; and reading the letter string is the “interpretation of symbols” (Downing & Leong, 1982). For the emergent reader the interpretation begins with the phonological structure of the three speech segments /kæt/ transmitted in parallel with the vowel sound merging into the initial consonant and final consonant. This parallel transmission is the process of coarticulation. This phonological form makes contact with the orthographic form of CAT to provide meaning. Also, the article “the” denotes a particular cat or the species, and not any one cat.

In reading such a regular word as CAT, the child needs to learn to use symbol-sound correspondence by “assembling” the phonology of the phonemes. Or alternatively, the child may learn the onset (beginning consonant or consonant cluster) “c” and the rime (vowel and consonant after the onset) “at” and by analogy with such other words as BAT, SAT may learn the pronunciation of CAT (Goswami & Bryant, 1990). In the case of longer or complex words, the internal, relational aspect is also important. This is the morphological aspect of internal word structure and becomes more important with older readers reading more complex words (Leong, 1989a), spelling different kinds of words (Leong, 2000) and in helping poor readers (Leong, 1989b).

In a nutshell, the beginning reader needs to be aware of the phonological structure of the stop consonant /k/ and its merging with the neighboring vowel /æ/ and the latter with the final consonant /t/ to arrive at the pronunciation of /kæt/. This is the primary, phonological activity in the morphophonemic English. Sensitivity to, and knowledge of, the phonological structure of words is important and gives learners the kind of self-help skill that is needed in learning English (Share, 1995, 1999).

Learning to Read/Write Chinese

As has been shown in the literature, and as argued earlier, phonology is important in the mainly phonemically based morphophonemic English, what about Chinese? Chinese is morphosyllabic (DeFrancis, 1989) with its emphasis on meaning-plus-sound syllabic system. Let us look at the sequential steps in learning and teaching reading lessons in the early weeks of primary one and try to understand what children need to do in learning to read Chinese (Figure 1 from People's Education Publishing, 1992). First, the characters to be learnt are carefully controlled in terms of frequency of occurrence, iconicity (complexity of strokes in the configuration) and meaningfulness in real-life situations. Second, the children learn these characters through songs and games and these characters are repeated in a meaningful manner. Third, the children are guided in both the recognition of these characters and later the writing of them in the correct stroke sequence. This is followed by revision of the characters just taught and learnt.

Fig. 1 From pictures to pin[1]yin[1] to characters
and word

看圖讀拼音漢字

From Pictures to Pinyin to Characters and Words

1. 指導看圖
Guided reading of pictures.
2. 指導朗讀（聽故事說話，練讀四聲。）
（「星期一的一」，「阿姨的姨」，
「椅子的椅」，「容易的易」。）
Guided reading aloud and practice with 4 tones.
3. 教學生字，學習字音，理解字義，初步只認
字形。
Learning of new characters and words.
4. 指導寫字
Writing of characters.
5. 溫習（朗讀句群，看拼音寫漢字。）
Repeated reading aloud and writing of charac-
ters from Pinyin.

Curriculum materials and the systematic sequence of teaching are developed along the above lines (People's Educational Publishing, 1992). Several sequential steps should be noted. The characters are first learnt through pictures and reading is reading from pin[1]yin[1]. There is also a great deal of guided reading aloud with emphasis on the differentiation of the suprasegmental four tones as shown. The same phoneme /i/ is differentiated in the allotones (complementary distribution of the tones) of /i[1]/ as in "The first day or Monday", /i[2]/ as in "auntie", /i[3]/ as in "chair", and /i[4]/ as in "easy." Similar logic of guided learning is followed in the teaching of phrases and sentences. Note the emphasis of learning of phrases, idioms and sentences to the deeper level by linking sentences with new words or phrases with similar ones.

Common Learning Principles

What are the common principles involved in these deceptively simple portrayals of learning to read what may appear to be disparate language systems: One the morphophonemic English and the other the morphosyllabic Chinese?

One important psychological principle is that of **scaffolding** as propounded by such developmental psychologists as Jerome Bruner (1960), Jean Piaget (1959), and Lev Vygotsky (1986). Simply stated, this is the principle that the teacher provides systematic guided learning such that guidance is progressively withdrawn so as to help students to be independent learners.

The psycholinguistic principle is what Liberman and Mattingly of the Haskins Lab term **parity** (Liberman, 1992; Liberman & Mattingly, 1989) and it is the parity principle that links speech, reading and writing. Over-simplifying, the parity requirement states that what counts for the sender (speaker or writer) of a message must also count for the receiver (listener or reader) in the communicative process. In the words of Liberman and Mattingly (1989, p. 491) “... what counts as structure in production must count as structure in perception, else communication does not occur.” The relevant speech signals or written symbols must be represented in the minds of the sender and the receiver and should be “on par” at some time.

Some examples will explain this principle of parity. Take the “minimum pairs” of MEAT/BEAT, or words that are distinguished by a single phone in the same position, where /m/ is [+nasal] and /b/ is [-nasal] or PIT/BIT where the initial stop consonant /p/ is bilabial and voiceless, while the initial /b/ is labial and voiced. For understanding to take place in the communicative process and the reading process, there has to be parity between the sender and the reader because the minimal pairs give quite different meanings.

This leads to another principle that governs children’s mapping of print onto speech. This is the twin principle of **classification** and **segmentation**. Classification refers to “identifying units occurring in the signal,” and segmentation means “making a division at some point in the signal” (Cutler & Norris, 1988, p. 114). Furthermore,

In order to classify speech into any sequence of units (phonemes, syllables, or feet) the recognizer must indeed segment the speech signal at the boundaries of these units, but the reverse is not true. It is possible to segment speech without classifying it. That is, the recognizer could segment the signal by choosing points at which to begin lexical access attempts, without necessarily constructing any prelexical representation of the signal as a sequence of specific phonetic segments, syllables, or feet. (Cutler & Norris, 1988, p. 114, original emphasis)

These prerequisite conditions must apply to qualify for a “unit of perception”:

1. The segments must be reasonably distinguishable in the speech signal.
2. The utterance must constitute a string of the segments in question.
3. The units must correspond in some reliable ways to lexical or sublexical units.

Consensus Findings in Learning to Read English

These are some of the consensus findings in beginning to read English (Adams, 1990):

1. Development of phonological awareness is a gradual and lengthy process, beginning in preschool years, extending into school years and beyond.
2. Many children do not have automatic access to phonological awareness even when they begin to read and spell. Some of them can segment words into

onsets and rimes better than into phonemes if the onsets and rimes are not embedded into complex words.

3. Phonological awareness is a “sine qua non of reading acquisition” (Share, 1995, 1999). It can be taught and needs to be taught systematically and explicitly (Lundberg, Frost, & Petersen, 1988).

Research and clinical evidence these past twenty years or so is clear that learning to read an alphabetic language such as English depends on, among other things, young children’s sensitivity to and knowledge of, the phonological structure of the language and older children’s awareness of phonological and morphological structures (see also Leong & Joshi, 1997). What about beginning to read Chinese? There is actually more in common in terms of the phonosemantic aspects between processing Chinese and English than is commonly assumed.

Phonological Activation in Chinese Word Reading

The Chinese orthography comprises the complex of characters (configurations) plus syllables plus morphemes as discussed by such eminent linguists as Yen Ren Chao (1968), Li Wang (1985), and Michael Halliday (1981). Phonology is implicated in Chinese but it is the phonology of the syllable “analyzed into initial and final, with the initials classified by place and manner of articulation and the finals by rhyme, vowel grade, labialization and time” (Halliday, 1981, p. 137).

The linguistic views implicating phonology in learning to read Chinese are supported by recent psychological, empirical studies in the research program of Perfetti and his colleagues (see Perfetti & Zhang, 1995; Tan & Perfetti, 1998). Using converging experimental techniques such as forward and backward masking, Perfetti and his colleagues have shown that phonological processing is robust in both single character and two-character recognition and the phonology is activated early and rapidly. The degree of generalized phonological activation varies according to the orthographic depth of writing systems in terms of the time course of retrieval. There is increasing reason to believe that “phonology, as a constituent of visual word identification, is accessed universally across writing systems.” (Tan & Perfetti, 1998, p. 40)

Paradigmatic Analysis of Chinese Speech Segmentation

Both linguistic and psychological studies show that phonology is implicated in processing Chinese at the one-character or two-character word level. What are the units of processing? Do similar segmental analyses as with alphabetic languages apply? We are reminded by Chomsky and Halle (1968/1991) that the phonetic component of a language is a system arranged in conformity with transformation rules, where surface structures bracketing a string of minimum elements called formatives are mapped onto phonological representation. The formative consists of consonants and vowels and is analyzable into phonemes and morphophonemes which constitute its segments.

Chinese, however, does not encourage segmental awareness and analysis. Leong (1997) argues forcefully that the analysis of Chinese speech sounds as a precursor for reading Chinese is **paradigmatic**, rather than segmental. The paradigmatic process is explained by Mattingly (1987) in terms of analogies made between members of a set of utterances sharing speech characteristics such as CAP-TAP (same rime). Another linguist Andrew Spencer (1991, p. 417) defines the process more specifically in terms of current connectionist models of slot filling as a “network of relationships, such that, if a language has an empty place at some point in the network, that place will normally be filled.” To maintain that Chinese analytic word reading is paradigmatic is not to diminish the role of phonology or the internal structure of the syllable. The phonological analysis of the syllable revolves around the hierarchical structure of onset and rime in English or the initial and final in the Chinese syllable. Semantically, the way the morpheme complexes fill corresponding positions in the sentence constitutes the paradigmatic aspect of word analysis.

To test this notion of paradigmaticity and its effect on learning to read Chinese, Leong and Tan (in press) have carried out two studies in 1999 and 2000, one with 70 grades 4 and 5 Beijing children and the other with 180 grades 3, 4 and 5 Beijing students. The aim was to test the differential effects of reading related tasks on reading pseudowords in Chinese and pseudowords in English. The tasks included deletion of onsets and rimes, speech sound repetition with

the different suprasegmental tones crossed, Chinese tongue twister and working memory tasks. The results show that onset and rime deletions were the most predictive of reading English pseudowords and the speech sound perception and repetition, of reading Chinese pseudowords. These findings also suggest that Chinese children learning to read Chinese and English concurrently may need to begin with the “large” units of onsets and rimes before moving to the “small” units of phonemes. Leong (1997) further suggested that we should also examine the integral aspects of character complexes of shape, sound and meaning in Chinese word reading, as discussed earlier. A recent example of work in this direction is in Leong, Cheng, and Lam (2000).

“Procrustean” View of Language Learning and Teaching in Hong Kong

In this discourse I have argued for the importance of knowing the nature of the language code, whether this is the morphophonemic English or the morphosyllabic Chinese. This knowledge should be acquired early in the primary grades and in fact continues through secondary school and university. I trust my argument has a universal appeal, as shown by the research literature, including that of my own.

As an educator who began his teaching career in Hong Kong some forty years ago; as a university teacher, researcher in the psychology of reading and developmental dyslexia in North America these last thirty years; including

these two years directly involved in the Hong Kong educational scene, it is incumbent on me to take this occasion to say more than a few words on language issues locally.

Objective Evidence to Assess Language “Standards”

There is the perception in Hong Kong by the local media, some parents and even some educators that students’ “standards” in Chinese and English are falling. As an empiricist, I would like to see objective evidence to support this perception, or to correct this misperception. For one thing, we do not have baseline data to gauge these so-called standards, whether rising or falling. It would not be correct to compare the performance of students in the year 2000 with that of students before, who were more selective when there was no universal provision of education. In the 1990s all students in Hong Kong completed at least nine years of compulsory education. By the nature of distribution of human abilities, there are bound to be some students doing well, some doing not so well and some 68% in the middle on standardized tests of achievement in Chinese, English and Mathematics.

Given this fact of the Gaussian distribution of human abilities in unselected population, and with the paucity of developmental data for Hong Kong, one reasonable source of evidence that Hong Kong students are not doing poorly in reading literacy is from the International Studies in Educational Achievement (IEA) completed in the early 1990s (Elley, 1994; Lundberg, personal communication, July, 2000;

Lundberg & Linnakylä, 1993). Space constraint precludes my going into details. Suffice it to say that the IEA Study is a large-scale survey of the reading literacy in two samples of 200,000 nine- and fourteen-year old students and 10,500 teachers in 32 school systems (including Hong Kong) involving 21 languages. This mammoth IEA study is predicated on multiple perspectives with multiple indicators of reading and its outcome; and the data analyses include multivariate path analyses, linear structural equation modelling and the item-free and person-free item analyses. Of importance is the concept that reading/literacy involves both **distal** home and community factors; **proximal** teaching conditions such as class size, instructional time, special needs students and the like; and **teacher variables** (e.g., education, experience, and expectation of teachers). These distal, proximal and teacher factors act on, and interact with, instructional behavior such as emphases on the data-driven and meaning driven approaches to reading and the nature of reading assessment.

Within the IEA context, Hong Kong students performed slightly below the international class mean in terms of narrative and expository text reading, but did quite well in document reading. These international comparisons are shown in the regression scores. However, when these scores were adjusted for “country conditions, international community and home conditions” Hong Kong students performed adequately.

Thus I would like to be optimistic. From these macro, multi-faceted analyses and taking into account the distal, proximal and teacher variables, Hong Kong students do not seem to be doing worse than other students in reading/literacy. The IEA results provide some objective evidence to silence the unsupported clamour that so-called language standards in Hong Kong are falling. This of course does not mean that language educators should be complacent. It does mean that we should guard against the Pygmalion effect of the self-fulfilling prophecy. We need to be on the constant lookout for sound concepts and theory-based approaches in working with students learning to read Chinese and English and to make for more effective schooling (see Leong, 1995). Above all, we need to put to good use the hard work, the potential for high achievement and the resilience of Hong Kong students against the odds of distal and proximal causes such as confined living conditions, and less than ideal classroom situations.

Effort and Achievement

In this connection, we must recognize and utilize the emphasis on work ethics and effort in Chinese culture and the ingrained belief that working hard is a way of gaining knowledge, showing filial piety and building moral character (see Bond, 1996). From his extensive research into motivation and achievement in students in the U.S.A., China, Taiwan and Japan, Stevenson and his colleagues suggested from their cross-national data that "... Chinese, unlike American students, believe that working hard not only leads to success, but also increases one's

ability. This view provides the best of all possible situations: success is dependent upon hard work and hard work reduces or eliminates any constraints imposed by differences in ability.” (Stevenson & Lee, 1996, p. 137)

The Chinese cultural values of effort, motivation and achievement can be a mixed blessing. On the one hand, these values spur families and their children on against all odds of learning. This is the concept of resilience. On the other hand, parents may have unduly high expectations of their children. Stevenson and Lee (1996) found that in their Beijing sample only 13% of the mothers thought their children were doing very well in mathematics, even though these students did much better than their American counterparts. This high expectation on the part of these parents (and presumably many parents in Hong Kong) and their dissatisfaction with even good performance may bring about considerable stress and tension.

As educators, we need to be sensitive to these harmful effects and minimize them. A cogent example is the short essay from a primary 3 child (Figure 2, courtesy of Central Kowloon Child Assessment Centre). The short essay is about a greedy kitten pawing and killing a fish and ends with the sentence from the owner: “Kitten, you should die.” Quite apart from the sentiment of condemning the kitten to death that we cannot condone, the teacher simply crossed out the whole piece of creative writing and demanded

the student to rewrite. There was no explanation of why or what or how to rewrite and we could well imagine the anxiety engendered on the part of this student. This is not to blame the hapless teacher who may be burdened with a large class size and many teaching and non-teaching activities. Rather, the teacher should help the child to analyze the writing process and should try to understand the writing from the child's perspective. Above all, the teacher should be sensitive to individual differences and the diverse ways that children learn (Leong, 1998, 1999).

Teachers of Paramount Importance: Some Modest Proposals

Implicit in this paper is the importance of helping children to think about what they are learning and to be productive in their language usage, whether Chinese or English. School systems, communities at large, parents and teachers can do much to make language learning fun and purposeful. De-emphasis of sheer drills, of rote learning, of meaningless tests and examinations is one way. Encouragement of more flexible curriculum materials and varied teaching approaches is another. The provision of more enriched print environment with library facilities, shared book reading and other literate activities, especially in disadvantaged areas and homes, could be another.

Above all, policy makers and teachers of language teachers need to base reading/literacy policies and practices on well-founded theories and research findings,

and not just on belief systems such as reading as a “psycholinguistic guessing game.” It is disconcerting that the teaching and learning of reading and spelling [at least for English] in the U.S.A., Canada, Australia, New Zealand, the U.K. and in Hong Kong are highly politicized and based more on similar belief systems, rather than on empirical evidence. To take just one example in terms of recommended textbooks for reading in teacher preparation institutions. Brooks, Gorman, Kendall, and Tate (1992), have shown that the influential, and comprehensive book based on research findings to the late 1980s by Adams (1990) is not even on the reading list at all. Instead, pre- and in-service teachers are taught with texts replete with assumptions, observations and personal beliefs and with a strong bias against experimental studies. Until teachers in training are provided with facts, with balanced perspectives and with approaches and methods that are based on research findings, very little progress can be made.

Nor is it the case of lack of resources. Educators and policy makers in Hong Kong often labor under the grossly mistaken notion that money will solve all problems. If anything, there is a surfeit of development money [a distinction is made between basic research and the purely developmental projects] in Hong Kong. While money is needed for worthwhile programs [as against individual piecemeal projects], too much money leading to ineffective and ineffectual short-term, disconnected studies almost breeds contempt. From my perspective as

both reviewer and recipient of very competitive research grants from the Social Sciences and Humanities Research Council of Canada for more than fifteen years, I can say that in Hong Kong there are very generous, overly generous, provisions of funds under the aegis of different funding agencies for school based projects, including language development. While a few such projects may be worthwhile, many are of a short-term (twelve to not more than twenty-four months) duration, cross-sectional nature, and most are of dubious scholastic and practical values with little or no replication of results. The question to ask is whether the massive funding leads to theory-based practices, to innovations and to changes with lasting effects. The important element in all these is people — teachers, administrators and policy makers — people with the proper advanced preparation, up-to-date knowledge and the dedication to do the job well and with compassion, with whatever resources available.

I would thus like to make some modest proposals to use a small part of the massive money to enhance reading/literacy. One simple solution is to equip all primary schools in Hong Kong with good libraries with both print and non-print materials. The other is the provision of much expanded services of book mobiles stationed in the most disadvantaged areas throughout the region. The third, and this is important, is the formation of a blue-ribbon Panel consisting of leading researchers and practitioners in language learning [not just language teaching], developmental psychology, and curriculum

studies together with school personnel and parents to lay out long-term and short-term goals, directions for language policy, language learning for Hong Kong for the new Millennium. In particular, this Panel will identify best practices of teaching children to learn to read English and Chinese. This deceptively simple proposal is similar to the [U.S.] National Reading Panel created in 1997 under the aegis of the National Institute of Child Health and Human Development (NICHD). The proposal of the Panel also entails work to prevent reading difficulties akin to the Committee on the Prevention of Reading Difficulties in Young Children commissioned by the [U.S.] National Research Council (Snow, Burns, & Griffin, 1998). Both these high powered groups in the U.S. and their publications are yielding far reaching results in the several short years of their creation. In addition, I also want to make a plea that mainly [if not only] research and development programs of a developmental nature and testable over time with sophisticated statistical techniques for cross-validation should be assisted. In this way, there is some evidence for consistency and validity of results.

In all these enterprises, the teacher has an important role to play. In the IEA study, it has been found that a good reading teacher is one who has a number of years of teaching experience, reads a great deal, stays long enough with his or her class to get to know the children well, and provides opportunities for students to do independent work and extensive outside reading. In short, a good reading/literacy teacher is one who has knowledge of

the language(s) taught and is one who cares. These characteristics apply not only to language teachers, but to all teachers.

Coda

In our quest for so-called standards and excellence in Hong Kong, we must not lose sight of the very complex issues facing many Hong Kong primary school children and their families in their almost daily struggle with home work, getting through often mindless dictations by recitation, quizzes and examinations, not to mention the two writing systems of English and Chinese they are enjoined to master. This issue of learning concurrently English and Chinese in Hong Kong schools — when and how — needs reappraisal. In particular, so-called medium of instruction in junior secondary schools needs the kind of solid research evidence as shown by Marsh, Hau and Kong (2000). Working with over 12,000 representative samples of Hong Kong students in their first three years in secondary school and using sophisticated multilevel growth analyses to examine their data, these researchers cautioned against teaching all school subjects in English in year one of secondary school. These are complex and delicate issues of language of instruction, which are beyond the purview of this paper. The Marsh et al. (2000) research paper provides a good example of a research base to make policy and administrative decisions.

Teachers must not neglect those children with lesser abilities or coming from disadvantaged homes. The needs of these children are all the greater in the highly

competitive Hong Kong (Leong, 1998). The poet Robert Burns reminded us that one criterion of goodness is what mitigates the woes and increases the happiness of others. Confucius is clear on the goals of education: Teach all children irrespective of their different abilities. These should be the axioms that good language teachers live by.

Note

The numbers [1], [2], [3], and [4] inserted immediately after the main vowels of appropriate Chinese terms of names denote the first, second, third and fourth tones respectively for Pu[3]tong[1]hua[4] or Mandarin Chinese.

References

- Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
- Bond, M. H. (Ed.). (1996). *The handbook of Chinese psychology*. Hong Kong: Oxford University Press.
- Brooks, G., Gorman, T., Kendall, L., & Tate, A. (1992). *What teachers in training are taught about reading. The working papers*. Slough: NFER.
- Bruner, J. (1960). *The process of education*. Cambridge, MA: Harvard University Press.
- Chao, Y. R. (1968). *A grammar of spoken Chinese*. Berkeley, CA: University of California Press.
- Chomsky, N., & Halle, M. (1968/1991). *The sound pattern*

- of English*. Cambridge, MA: MIT Press.
- Cutler, A., & Norris, D. (1988). The role of strong syllables in segmentation for lexical access. *Journal of Experimental Psychology: Human Perception and Performance*, 14, 113–121.
- DeFrancis, J. (1989). *Visible speech: The diverse oneness of writing systems*. Honolulu: University of Hawaii Press.
- Downing, J., & Leong, C. K. (1982). *Psychology of reading*. New York: Macmillan.
- Elley, W. B. (1994). *The IEA study of reading literacy: Achievement and instruction in thirty-two school systems*. New York: Pergamon.
- Goswami, U., & Bryant, P. (1990). *Phonological skills and learning to read*. Hillsdale, NJ: Lawrence Erlbaum.
- Halliday, M. (1981). The origin and early development of Chinese phonological theory. In R. E. Asher, & E. J. A. Henderson (Eds.), *Towards a history of phonetics* (pp. 123–140). Edinburgh: Edinburgh University Press.
- Haugen, E. (1987). *Blessings of Babel: Bilingualism and language planning: Problems and pleasures*. Berlin: Mouton de Guyter.
- Hemphill, L., & Snow, C. (1996). Language and literacy development: Discontinuities and differences. In D. R. Olson, & N. Torrance (Eds.), *The handbook of education and human development: New models of learning, teaching and schooling* (pp. 173–201). Oxford, UK: Blackwell.

- Leong, C. K. (1989a). The effects of morphological structure on reading proficiency — A developmental study. *Reading and Writing: An Interdisciplinary Journal*, 1, 357–379.
- Leong, C. K. (1989b). Productive knowledge of derivation rules in poor readers. *Annals of Dyslexia*, 39, 94–115.
- Leong, C. K. (1995). Effective schools — Suggestions for a research framework for Hong Kong and beyond. In P. K. Siu, & P. T. K. Tam (Eds.), *Quality in education: Insights from different perspectives* (pp. 30–49). Hong Kong : Hong Kong Educational Research Association.
- Leong, C. K. (1997). Paradigmatic analysis of Chinese word reading: Research findings and classroom practices. In C. K. Leong, & R. M. Joshi (Eds.), *Cross-language studies of learning to read and spell: Phonologic and orthographic processing* (pp. 379–417). Dordrecht: Kluwer Academic Publishers.
- Leong, C. K. (1998). Whither specific learning difficulties: Different locales, different problems? In D. W. Chan (Ed.), *Helping students with learning difficulties* (pp. 189–212). Hong Kong: The Chinese University of Hong Kong Press.
- Leong, C. K. (1999). Psychological and educational aspects of specific learning disabilities. *Hong Kong Journal of Paediatrics (New Series)*, 4, 151–159.
- Leong, C. K. (2000). Rapid processing of base and derived forms of words and grades 4, 5 and 6 children's spelling. *Reading and Writing: An Interdisciplinary*

- Journal*, 12, 277–302.
- Leong, C. K., Cheng, P. W., & Lam, C. C. C. (2000). Exploring reading-spelling connection as locus of dyslexia in Chinese. *Annals of Dyslexia*, 50, 239–259.
- Leong, C. K., & Joshi, R. M. (Eds.). (1997). *Cross-language studies of learning to read and spell: Phonologic and Orthographic Processing*. Dordrecht: Kluwer Academic Publishers.
- Leong, C. K., & Tan, L. H. (in press). Phonological processing in learning to read Chinese: In search of a framework. In E. Hjelmquist, & C. von Euler (Eds.), *Literacy in the new millennium: Symposium in honor of Professor Ingvar Lundberg*. London: Whurr Publishers.
- Liberman, A. M. (1992). Plausibility, parsimony, and theories of speech. In J. Alegria, D. Holender, J. J. de Morais, & M. Radeau (Eds.), *Analytic approaches to human cognition* (pp. 25–40). Amsterdam: North-Holland.
- Liberman, A. M., & Mattingly, I. G. (1989). A specialization for speech perception. *Science*, 243, 489–494.
- Liberman, A. M., Cooper, F. S., Shankweiler, D. P., & Studdert-Kennedy, M. (1967). Perception of the speech code. *Psychological Review*, 74, 431–461.
- Lundberg, I., Frost, J., & Petersen, O.-P. (1988). Effects of an extensive program for stimulating phonological awareness in preschool children. *Reading Research Quarterly*, 23, 263–284.

- Lundberg, I., & Linnakylä, P. (1993). *Teaching reading around the world*. Hamburg: The International Association for the Evaluation of Educational Achievement.
- Marsh, H. W., Hau, K. T., & Kong, C. K. (2000). Late immersion and language of instruction (English vs. Chinese) in Hong Kong high schools: Achievement growth in language and nonlanguage subjects. *Harvard Educational Review, 70*, 302–346.
- Mattingly, I. G. (1987). Morphological structure and segmental awareness. *Cahiers de Psychologie Cognitive, 7*, 488–493.
- People Education Publishing (1992). [*Yuwen Vol. 1: Teacher's manual.*] Beijing: Author.
- Perfetti, C. A., & Zhang, S. (1995). Very early phonological activation in Chinese reading. *Journal of Experimental Psychology: Learning, Memory and Cognition, 21*, 24–33.
- Piaget, J. (1959). *The language and thought of the child*. London: Routledge & Kegan Paul.
- Shankweiler, D. P., & Liberman, I. Y. (1972). Misreading: A search for causes. In J. F. Kavanagh, & I. G. Mattingly (Eds.), *Language by ear and by eye: The relationships between speech and reading* (pp. 293–329). Cambridge, MA: MIT Press.
- Share, D. L. (1995). Phonological recoding and self-teaching: Sine qua non of reading acquisition. *Cognition, 55*, 151–218.
- Share, D. L. (1999). Phonological recoding and orthographic learning: A direct test of the self-

- teaching hypothesis. *Journal of Experimental Child Psychology*, 72, 95–129.
- Snow, C. E., Burns, M. S., & Griffith, G. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Snow, C., Barnes, W., Chandler, J., Goodman, I., & Hemphill, L. (1991). *Unfilled expectations: Home and school influences on literacy*. Cambridge: Harvard University Press.
- Spencer, A. (1991). *Morphological theory: An introduction to word structure in generative grammar*. Oxford: Blackwell Publishers.
- Stevenson, H. W., & Lee, S.-Y. (1996). The academic achievement of Chinese students. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 124–142 & ref). Hong Kong: Oxford University Press.
- Tan, L. H., & Perfetti, C. A. (1998). Phonological codes as early sources of constraint in Chinese word identification: A review of current discoveries and theoretical accounts. In C. K. Leong, & K. Tamaoka (Eds.), *Cognitive processing of the Chinese and the Japanese languages* (pp. 11–46). Dordrecht: Kluwer Academic Publishers.
- Vygotsky, L. (1986). *Thought and language*. (Rev. & Ed. by Alex Kozulin). Cambridge, MA: MIT Press.
- Wang, L. (1985). *Modern Chinese grammar*. Beijing: Shangwu Yinshuguan.

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