Invited talk to the International Association for the Promotion of Korean as an International Language, Seoul, November 2001. (Slightly updated in August 2005.)

# **Words and Sounds**

# William O'Grady & Miho Choo

#### 1. Introduction

Second language learning is an extraordinarily challenging activity, so challenging in fact that virtually no one who attempts it as an adult succeeds nearly as well as a three-year old child. This makes the job of a second language teacher particularly demanding, of course, and it makes the need for effective teaching materials particularly acute.

The purpose of this paper is to outline two projects that we have worked on in recent years that may be helpful to teachers of Korean as a second language. Our philosophy in preparing these materials has been to base our efforts on two foundation stones—a linguistically sound analysis of the Korean language and an understanding of the type of information that can be pedagogically useful, given the way language learning works. In what follows, we will illustrate this philosophy with respect to two quite different aspects of second language learning, one involving words and their meanings and the other involving their pronunciation.

### 2. Words

Vocabulary learning is at the heart of the second language process: a great deal can be expressed and understood via words, even when a learner's grasp of grammar is rudimentary and his or her mastery of pronunciation incomplete. At the same time, though, vocabulary learning presents enormous challenges. Not only is it essentially open-ended, it's likely that most of the words that have to be learned will bear no resemblance to the equivalent lexical items in the learner's native language. This is certainly true for English-speaking learners of Korean; it is true to a lesser extent for Japanese- and Chinese-speaking learners, because of the significant number of words of Chinese origin in Korean vocabulary.

Nonetheless, vocabulary learning is far from hopeless, and the prospects for success can be improved if curriculum and textbook designers recognize two important facts, one about the structure of Korean words and the other about the nature of learning. Let us consider each in turn.

#### **Word structure**

Every language has a preferred strategy for building and extending its vocabulary. In Korean, that method involves compounding—the combination of two or more roots to create a new word. Most compounds involve either a noun-noun pattern (수학

'mathematics' [literally, 'number study']) or a noun-verb pattern (운동하다 'to exercise' [literally, 'to do exercise']).

In analyzing compounds, it is common to refer to two criteria—productivity and compositionality. The productivity criterion measures the extent to which compounding can be used to create new words. In some languages, compounding is used very sparingly—French is an example. In contrast, German is known for its extensive use of compounding, while English occupies an intermediate point on the spectrum. Like German, Korean makes very productive use of compounding: its vocabulary contains thousands of compounds, and new words are continually being formed by this process. (For some general discussion, see Sohn 1994:409ff.)

The criterion of compositionality is concerned with the degree to which the meaning of a form can be determined from the meaning of its parts. Korean compounds illustrate the full range of possibilities, but the vast majority are compositional to at least some degree. Many are almost completely transparent—한국, 한식, 식당, 식탁, 탁구, 교실, 교복, 우표, 극장, 책방, 서점, 전화, and so forth)

Others, like 화학 'chemistry' (literally, 'change study'), are only partly compositional: someone encountering the word for the first time could infer that it refers to some sort of academic discipline (because of 학 'study'), but would probably not be able to guess that it is chemistry even though there is at least a loose connection between the notion of a change and a chemical process. The same is true for 사과 'apple' (literally 'sand fruit'), whose meaning can be more easily remembered if one knows that apple trees grow best in sandy soil.

And of course, there are some words such as 결국 'eventually', which are simply non-compositional and must be memorized 'by brute force'. Fortunately, though, such words are in the minority.

How can Korean's propensity for productive, compositional compounding be exploited for pedagogical purposes? The key idea is this: thanks to the frequency and nature of Korean compounds, every time students learn a new word, there is a good chance that they have unknowingly learned parts of several other words as well. For example, by learning the compound 학생 (one of the first vocabulary items encountered in most courses in elementary Korean), a student is not only acquiring the word for 'student', but also half the word for 'school' (학교), half the word for 'college' (대학), half the word for 'semester' (학기), and so on. And, of course, in learning the word for 'school', one is also learning half of the word for 'principal' (교장), half the word for 'school uniform' (교복), and so forth.

## How learning works: the role of word-part analysis

The second key point, which involves the nature of learning itself, is simply this: roots matter. The size of a word's 'family' (i.e., the set of words containing a particular root) is known to be a good predictor of its accessibility to language users (del Prado Martin et al. 2004, Hay & Baayen 2005:343-44, Krott & Nicoladis 2005). And there is

evidence that children's ability to segment and understand compound words is facilitated by knowledge of other compounds built from the same roots (Krott & Nicoladis 2005).

Vocabulary learning through the analysis of word parts has been shown to be an effective strategy in the case of second language learning as well. As Schmitt (2000:132) observes, "the main way of learning and remembering new words is by finding some pre-existing information to 'attach' the new information to." This can be done, he notes, "by grouping the new word with already-known words that are similar in some respect. Because the old words are already fixed in the mind, relating the new words to them provides a 'hook' to remember them by so they will not be forgotten. New words that do not have this connection are much more prone to forgetting."

Further support for this view comes from Nation (2001:281), who emphasizes that "using word parts to help remember new words is a major vocabulary learning strategy [that] deserves time and repeated attention." A similar conclusion is put forward by Ganske (2000:182), who writes: "Students who can apply their knowledge of roots to the tasks of identifying words and building vocabulary have an edge up on those who cannot. I often use the 'root analogy' strategy in my own reading and find it a relatively easy way to determine the meanings of unfamiliar words and to remember them. The more I learn about roots, the more I am impressed with what a valuable strategy this is." A much earlier expression of this same sentiment can be found in the work of Dale & O'Rourke (1971:137), who advise that "mastering the root-meaning of words through a systematic study of word parts is as necessary for the elementary and secondary student as it is for the college student." As Dale & O'Rourke also note (p. 3), "a student adequately instructed in the process of dividing words will quickly learn how words are formed and acquire the habit of automatically analyzing unfamiliar words whose meanings he can infer from the sum of their parts."

## The Handbook of Korean Vocabulary

A systematic attempt to exploit these facts can be found in our *Handbook of Korean Vocabulary* (Choo & O'Grady 1996). The *Handbook* is a compendium of word lists specifically designed for English-speaking learners of Korean at the beginning and intermediate levels.

The *Handbook* consists of several hundred such lists, each organized around a particular root and presenting a set of compounds formed from it. Wherever possible, the literal meaning of each compound is given in addition to its colloquial interpretation in order to emphasize the compositional character of the word, which in turn can facilitate its retention by learners. Transparent compounds appear first in each list, followed by opaque compounds and idioms.

The type of information offered by the Handbook is not generally accessible in conventional bilingual dictionaries. To see this, one need only compare the Handbook's list for  $\[ \vec{\circ} \]$  with the corresponding entries in the widely used  $Essence\ Korean-English\ Dictionary$  (Seoul: Minjungseorim, 1986). The dictionary treatment of this root is not particularly useful from the point of view of vocabulary building. That is because entries beginning with  $\[ \vec{\circ} \]$  in a dictionary are likely to be interspersed with words beginning with

completely different roots. Take, for example, the word 학년 'school year' on p. 1981 of the *Essence Dictionary*. As can be seen there, 학년 is separated from the word 학비 'school expenses' by the word 학대 'maltreatment' (among others). This may make sense from the point of view of spelling, but it does not help when it comes to meaning, since the 학 in 학대 is completely unrelated to the 학 of 학년 and 학비.

Conventional dictionaries make words easy to look up, but they don't facilitate the sort of word-part analysis that contributes to vocabulary learning. In order to find all the words containing the root 학 in a dictionary, a student would have to be willing to search through the entire volume. While he or she would find 학교 'school' on the same page as 학 (p. 1980 of the *Essence Dictionary*) and 학생 'student' on the next page, many other words containing 학 are scattered throughout the dictionary: 대학 'college' is on p. 431, 수학 'mathematics' is on p. 1044, and so forth.

It is precisely for this reason that a root dictionary such as the *Handbook* can be so useful for vocabulary building. Each list in the *Handbook* consists only of items built around a particular root. By organizing vocabulary items on the basis of their component parts rather than alphabetic order, the *Handbook* creates an easy and systematic opportunity for the word-part analysis that in turn facilitates learning.<sup>1</sup>

Many teachers may have reservations about having students learn vocabulary 'out of context', using the sort of lists offered by the *Handbook*. In fact, of course, vocabulary learning involves several layers of understanding, the deepest of which involves subtle matters of collocation and connotation that take years to master. Of necessity, the *Handbook* is concerned only with the first layer, which corresponds to something like 'basic reference'. This is nonetheless important. As Nation (1990:1-2) notes, "many teachers too quickly dismiss the approach of getting learners to study a list of words out of context." In fact, as he goes on to observe, "there is a very large amount of experimental research showing the effectiveness of such an approach...", including the use of the first language to present the meaning of new words (p. 384). Pearson & Johnson (1984:148) draw a similar conclusion, noting that "structural analysis has value in vocabulary expansion both alone and when used in combination with context." The *Handbook of Korean Vocabulary* offers students and teachers an opportunity to take advantage of this sort of approach to word learning for Korean.

### 3. Sounds

Learning a word's meaning is just part of the story—it's also necessary to be able to pronounce it in an intelligible fashion and to recognize it when others utter it. Although infants are able to hear even the subtlest differences among sounds in any language, this ability starts to diminish around the age of ten or twelve months. By the time children finish elementary school, they have to struggle to make and hear phonetic contrasts other

<sup>&</sup>lt;sup>1</sup>Another promising approach, employed by Shin et al. (2000) in their *Handbook of Korean Lexicon*, is to group words by semantic field (e.g., people, family, science, and so forth).

than those in their native language (Eimas 1996:31, Werker et al. 1996). And, of course, things don't get any easier for adolescents and adults.

This doesn't mean that a student can't become fluent in another language, however. It is possible to master the pronunciation of a second language—but only if student and teacher go about it in a systematic way. The first goal is to have students cross what Celce-Murcia, Brinton & Goodwin (1996) call the 'threshold of intelligibility'—to reach the point where their pronunciation does not detract from their ability to communicate and where their perceptual skills are refined enough to allow them to understand what others say.

Two areas of Korean pronunciation are of special interest and importance for English-speaking students. First, Korean has a number of speech sounds that have no direct counterpart in English—including three *ps*, three *ts*, three *ks*, three *chs*, and two *ss*, in addition to several unfamiliar vowels. Needless to say, mastering these sounds is a necessary step toward crossing the threshold of intelligibility in Korean.

Second, the pronunciation of particular Korean sounds can vary enormously depending on the context in which they occur. Take ㅂ, for instance. At the end of a word like 입 'mouth', it is pronounced very much like the 'p' sound in the English word up. But it is pronounced more like a 'b' in 입안 'inside the mouth', and it is pronounced as an 'm' in 입맛 'appetite'. It has a still different pronunciation in 돋보기, 'magnifying glass', where it sounds just like ㅃ, and yet another one in 입히다 'to dress someone', where it sounds just like ㅍ.

A number of factors have impeded the teaching of Korean pronunciation over the years, leading to a great deal of frustration for students and teachers alike. Foremost among these in our opinion are the lack of adequate pedagogical materials and an inadequate understanding of how individual sounds are articulated and of how pronunciations are adjusted in particular contexts. We believe that these problems can be overcome only with the help of explicit instruction that is grounded in a proper phonetic and phonological analysis of Korean and that is accompanied by appropriate practice exercises.

There is good reason to believe that explicit instruction in pronunciation can be helpful to second language learners. This has long been held to be the case for the pronunciation of individual sounds (e.g. Kenworthy 1987:7), and is reflected in the large number of pronunciation manuals for English that discuss the mechanics of articulation (e.g., Sheeler & Markley 1991 and Gilbert 1993, to name just two). And it seems to be true for the sorts of adjustment that take place in colloquial speech as well. For example, Dziubalska-Kolaczyk (1990) reports on a series of experiments involving Polish learners of English, noting that students who received formal training on speech adjustments were more likely to attain a productive mastery of those processes (see also Zborowska 1999).

The Sounds of Korean (Choo & O'Grady 2003) seeks to provide students with the information and practice that they need in order to improve their perceptual and articulatory skills. The book is divided into two major parts, one dealing with the contrasts among the individual sounds of Korean and the other dealing with how pronunciations are adjusted under particular conditions.

### **Contrasts**

Our discussion of basic pronunciations consists of a chapter on vowels and diphthongs and a chapter on consonants. In each case, we divide the sounds into subclasses based on similarities in their pronunciation (with regards to place and manner of articulation) and we use a combination of illustrations and explanation to describe how they are produced.

Take vowels for instance. We begin by explaining how tongue position (front versus back, high versus low) and lip rounding are responsible for the pronunciation of particular vowels, using the English sounds 'ee', 'oo' and 'ah' as a preliminary illustration. We then proceed to examine the Korean vowels one by one, using a combination of diagrams and text in combination with practice exercises to help student refine their pronunciation and perception of these sounds.

For the very challenging vowel  $\dashv$ , for example, we outline two techniques that may be helpful to English speakers in learning how to produce the  $\dashv$  sound. Here is an excerpt from the text itself (p. 13):

One technique for learning how to pronounce  $\exists$  is to start with the 'uh' sound that occurs in words such as *up* and *pub*. As you produce this vowel, try moving your tongue to a more back position without rounding your lips. The resulting sound is  $\exists$ .

Another technique is to begin by pronouncing  $\bot$ . Then, gradually relax your lips so that they are no longer rounded and open your mouth a bit more by lowering your jaw slightly. (If you place your finger just beneath your chin, you should feel it drop a little for  $\dashv$  compare to  $\bot$ .) The resulting sound, with a tongue position a bit lower than for  $\bot$  and with no lip rounding, is  $\dashv$ .

Turning now to consonants, we begin with a general discussion of the way in which these sounds are produced, giving students an opportunity to become familiar with the different parts of the vocal tract. As we work our way through the individual consonant sounds, we once again use a combination of figures, text and practice exercises to make students aware of the perceptual and articulatory factors that are essential to mastering Korean pronunciation. In each case, we compare the Korean sound with similar sounds in English, emphasizing the differences between the two languages that contribute to a foreign accent and even to breakdowns in intelligibility.

One of the most notorious challenges for English-speaking learners of Korean involves the distinction between the sounds 스 and ㅆ. Who has ever met a student of Korean who has not struggled to distinguish 사다 'to buy' from 싸다 'be cheap' and 살 'flesh' from 쌀 'uncooked rice'? Our strategy here is to note that the key difference between the two sounds is that ㅅ is lightly aspirated, with a slight release of air at its conclusion (e.g., Iverson 1983), whereas ㅆ is tense. We explain that the ㅅ is pronounced in a relaxed way, without creating an overly narrow passage between the

tongue and the alveolar ridge for the air to pass through. In contrast,  $^{1/2}$  is pronounced forcefully with a narrow passage for the air flow.

## **Adjustments**

The sounds making up a word are not like beads on a string, unaffected and unchanged by their surroundings. Rather, they interact with their neighbors in many ways, sometimes undergoing major modifications to better accommodate each other's presence. All languages, including Korean, make adjustments of this sort. Learning to recognize and use these adjustments in one's own speech is vital to developing the perceptual and articulatory skills needed to function in Korean.

Vocal cord vibrations have an even more dramatic effect on the pronunciation of ㅎ, which undergoes a very noticeable reduction process when it occurs between voiced sounds. The effects of this change can be heard in words such as 영화 'movie', 전화 'telephone', and 고향 'hometown', in which the ㅎ sound is always weakened and is often lost entirely in faster speech.

Reduction of ㅎ even takes place across word boundaries when two words are pronounced together as a group. This leads to the weakening and possible loss of ㅎ in phrases such as 빨리 하세요 'do it quickly' in colloquial speech.

Aspiration is a very powerful process in Korean. It applies not only within words, as in the examples above, but also across word boundaries if the two words are pronounced together as a group. You can hear the effects of this sort of aspiration in phrases such as 꼭 할게요 'I'll do it for sure' and 밥해요 'I'm cooking a meal (involving rice)', in which  $\neg$  and  $\vdash$  are pronounced as  $\neg$  and  $\neg$ , respectively, because of the  $\circ$  at the beginning of the next word.

Aspiration in Korean					
(can apply across a word boundary)					
Affected sounds	In what position	What happens			
lax stops and	next to ত	The affected sound becomes 'aspirated':			
affricates		ㅂ and ㅎ combine to give ㅍ			
(日, ㄷ,ㄱ, ㅈ)		ロ and o combine to give E			
		¬ and ♂ combine to give ¬			
		L and す combine to give ス			

The CD that accompanies *The Sounds of Korean* includes an extensive set of practice exercises recorded by two native speakers of standard Seoul Korean, one male and one female. Some of the exercises present the targeted sounds and processes within single words, while others place them in full sentences where they may be part of inflected words (e.g., past tense form of verbs, case-marked forms of nouns, and so on).

The exercises for the individual consonants and vowels are designed to provide students with the repeated exposure to the various subtle perceptual clues that distinguish the sounds of Korean from each other and ultimately make it possible for learners to produce the contrasts themselves. The exercises relating to adjustment processes offer students an opportunity to become familiar with colloquial speech, thereby enhancing their ability both to comprehend Korean and to pronounce it in a natural way.

In preparing the practice exercises, we were also careful to employ natural colloquial speech articulated at a moderate speed. Even this may seem fast to a beginning student, of course. Indeed, some of the subtler phonetic contrasts found in Korean are initially difficult for second language learners to perceive at any speed. However, the exercises are designed for repeated use and it has been our experience that improvement comes over time.

## 4. Roots, Sounds and Spelling

Our discussion so far has dealt with vocabulary and pronunciation as independent phenomena. Of course, this is not the way things work in reality, where a word and its meaning are inextricably linked. The two come together in a particularly interesting and intriguing way in hangul, the Korean writing system.

Written languages differ from each other very significantly in terms of the relationship between spelling and pronunciation. In languages such as Spanish, the writing system provides a fairly direct representation of the language's pronunciation and there is near one-to-one relationship between letters and phonemes. At the other extreme, there are languages such as Chinese, in which written symbols are used to represent entire words rather than individual sounds. (Korean *hanja* do this too, of course.)

Hangul lies somewhere in the middle of the spectrum. (For a general discussion of the history and workings of hangul, see Kim-Renaud (1997) and Sampson (1985).) In general, the goal of hangul is to provide a single spelling for each root and each suffix,

without regard for the phonetic adjustments that occur in connected speech. So  $\stackrel{\cdot}{\times}$  'clothes' has a single spelling, regardless of how the final consonant is pronounced—as 't' when the word stands alone, as 's' in  $\stackrel{\cdot}{\times}$   $\stackrel{\cdot}{\oplus}$  (with the direct object marker), or as 'sh' in  $\stackrel{\cdot}{\times}$   $\stackrel{\circ}{\circ}$  (with the subject marker). English spelling often adopts a similar strategy, by the way. That's why the root in words like *creative* and *creation* is spelled 'creat' even though the final consonant is pronounced 'sh' in the second word.

Korean spelling follows the principle of one spelling per root and suffix with great regularity and efficiency. Interestingly, there is no better place to see this than in the pronunciation of compounds. Take for instance the root  $\frac{\overline{c}}{2}$ , as it occurs in the following words.

학생 'student'	학원 'educational institute'	학년 'school year'
학기 'semester'	입한 'school admission'	방향 'school vacation'

Thanks to the genius of hangul, of has exactly the same spelling in each of these compounds despite important differences in its pronunciation. A writing system that was designed to represent pronunciation more directly would make the internal structure of many compounds opaque, yielding spellings such as the following.

학쌩	하권	항년	
하끼	이팍	방악	

This in turn would make it difficult for a novice or intermediate student to identify the roots that make up many compounds. Thanks to hangul, however, the structure of Korean words is transparent in many cases, allowing even a beginning student to exploit the information that a root dictionary such as the *Handbook of Korean Vocabulary* offers.

But this advantage of hangul can turn into a burden when it comes to pronunciation—since it means that Korean spelling does not directly reflect the details of pronunciation. The key to solving this problem lies in learning the adjustments that sounds undergo in connected speech. For example, if students are taught about voicing and resyllabification in Korean, they'll understand why the  $\neg$  in  $\Rightarrow \exists$  is pronounced as 'g' and occurs at the beginning of the second syllable rather than at the end of the first. If they're taught about nasalization and tensification, then they'll know why  $\neg$  is pronounced as 'ng' in  $\Rightarrow \exists$  and  $\Rightarrow$   $\neg$  in  $\Rightarrow \exists$ . If they're taught about aspiration, they'll understand why the  $\Rightarrow$  and  $\Rightarrow$  in  $\Rightarrow$  merge to form a  $\Rightarrow$ . And if they're taught about  $\Rightarrow$  reduction, they'll not be puzzled by its loss in  $\Rightarrow$   $\Rightarrow$ .

An understanding of roots and phonetic adjustments is also necessary to deal with the spelling contrasts that distinguish among homophones such as 하권 'final volume' and 학원 'educational institute'. Thanks to resyllabification in the second case, both words have the same pronunciation even though they have very different meanings—something

that language learners must infer from their knowledge of the component roots and the way in which their pronunciation is adjusted during speech.

In sum, an understanding of how the sound system of Korean works greatly enhances the student's understanding of the relationship between Korean spelling and pronunciation. This in turn not only facilitates mastery of hangul, it increases the pedagogical utility of a root dictionary such as the *Handbook* which is also built on the principle of one spelling per root.

#### 5. Conclusion

As explained at the outset, our work on Korean teaching materials is based on two foundations. The first of these is an analysis of the Korean language itself—including its vocabulary and its sound system. The second is an understanding of the type of information that is pedagogically useful—that is, the type of information that second language learners are able to absorb and use to improve their linguistic proficiency.

In the case of words, this approach led us to focus on compounding, since this phenomenon has the two key properties that we are seeking. On the one hand, it is central to word formation in Korean, contributing in very important ways to the character of the Korean lexicon: a huge number of Korean words are compounds and this is the strategy of choice for creating new words. On the other hand—and equally importantly—it turns out that the analysis of words into their component parts is an extremely effective strategy for vocabulary learning. As we have seen, the *Handbook of Korean Vocabulary* takes these two fundamental facts and seeks to exploit them to the advantage of Korean language learners.

A different set of challenges arise in the case of pronunciation, where we began with an analysis not only of how sounds are pronounced in isolation but also of how those pronunciations are adjusted in the course of colloquial speech—information that has been shown to be helpful to second language learners. *The Sounds of Korean* makes this information available to second language learners and supplements it with an extensive set of graded practice exercises.

There is of course no magical formula when it comes to second language learning. But there are pathways that are smoother and easier to travel than others. By adhering to the principles of linguistic analysis and of learning, we hope that we've uncovered some of those pathways in the *Handbook of Korean Vocabulary* and in *The Sounds of Korean*.

#### References

Celce-Murcia, Marianne, Donna Brinton & Janet Goodwin. 1996 *Teaching pronunciation: A reference for teachers of English to speakers of other languages*. Cambridge University Press. Choo, Miho & William O'Grady. 1996. *Handbook of Korean vocabulary: A resource for word recognition and comprehension*. University of Hawaii Press.

Choo, Miho & William O'Grady. 2003. *The sounds of Korean: A pronunciation guide*. University of Hawaii Press.

Dale, Edgar & Joseph O'Rourke. 1971. *Techniques of teaching vocabulary*. Field Educational Publications

Dziubalska-Kolaczyk, Katarzyna. 1990. A theory of second language acquisition within the framework of natural phonology: A Polish-English constrastive study. Posnan: AMU Press..

Eimas, Peter. 1996. The perception and representation of speech by infants. In J. Morgan & K. Demuth (eds.), *Signal to syntax*. Erlbaum. Pp. 25-39.

Ganske, Kathy. 2000. Word journeys. Guildford Press.

Gilbert, Judy. 1993. Clear speech. Cambridge University Press.

Hay, Jennifer & R. Harald Baayen. 2005. Shifting paradigms: Gradient structure in morphology. *Trends in Cognitive Sciences* 9, 342-48.

Iverson, Gregory. 1983. Korean s. Journal of Phonetics 2, 161-80.

Johnson, Dale & P. David Pearson. 1984. *Teaching reading vocabulary*. Holt, Rinehart & Winston.

Kenworthy, Joanne. 1987. Teaching English pronunciation. Longman.

Kim-Renaud, Young-Key. 1997. *The Korean alphabet: Its history and structure*. University of Hawaii Press.

Krott, Andrea & Elena Nicoladis. 2005. Large constituent families help children parse compounds. *Journal of Child Language* 32, 139-58.

del Prado Martin, F.M. et al. 2004. Morphological family size in a morphologically rich language: The case of Finnish compared to Dutch and Hebrew. *Journal of Experimental Psychology (Learning, Memory, and Cognition)* 30, 1271-78.

Nation, I.S.P. 1990. Teaching and learning vocabulary. Newbury House.

Nation, I.S.P. 2001. Learning vocabulary in another language. Cambridge University Press.

Sampson, Geoffrey. 1985. Writing Systems: A linguistic introduction. Stanford University Press.

Schmitt, Norbert. 2000. Vocabulary in language teaching. Cambridge University Press.

Sheeler, W.D. & R.W. Markley. 1991. *Sounds and rhythm: A pronunciation course*. Second edition. Prentice Hall Regents.

Shin, Hyun-Sook, Jeong-Woon Park, Woosoon Kang, & Theresa Yim. 2000. *Handbook of Korean lexicon*. Hankook Publishing Co.

Sohn, Ho-min. 1994. Korean. Routledge.

Taylor, Linda. 1990. Teaching and learning vocabulary. Prentice Hall.

Werker, Janet, Valerie Lloyd, Judith Pegg & Linda Polka. 1996. Putting the baby in the bootstraps: Toward a more complete understanding of the role of the input in infant speech processing. In J. Morgan & K. Demuth (eds.), *Signal to syntax*. Erlbaum. Pp. 427-47.

Zborowska, J. 1997. Self-organization in second language acquisition: The case of phonostylistics. M.A. thesis. Adam Mickiewicz University.