When Eastern and Western Language Systems Meet: Crossing the English Vocabulary Threshold Versus Breaking the Kanji Barrier

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Abstract

Many lessons can be learned from relevant research in vocabulary- and language-learning strategy training as well as from comparative studies of those learning Oriental languages, which could greatly help language teachers and learners in Kanji-background countries. This article contrasts the minimal threshold levels of vocabulary needed for reading common English text, versus that required for reading basic texts using Kanji characters, whether Chinese, Japanese or Korean. Both mnemonic and Semantic Field Keyword approaches hold great potential for helping such learners from Kanji-block countries by building upon their well-known strengths of rote-memorization, especially of visual images necessary for mastery in reading Kanji-based languages. These areas with a high potential for language learning strategy skill transfer are examined in this study. It compares methods of teaching a Kanji-based language like Japanese to non-natives, with more effective methods for teaching students from Kanji-based countries how to develop better EFL vocabulary and reading skills. Since this is written from an Asian language learners' perspective, the term "Kanji" will be used in a generic sense to mean Chinese characters or language systems based upon them. When not capitalized, "kanji" will refer to specific use of these characters in Chinese, Japanese or Korean.

Introduction

The specific aim of this current study was to compare common methods of learning Kanji that would be part of learners' familiar background knowledge, looking for possible pedagogical bridges to help build a more workable approach to L2 lexical development for English language learners from Kanji-based countries. It addresses and compares assessment and development of both receptive and productive vocabularies in English versus vocabulary training methods most commonly used in Kanji-based Asian target languages. The better these second language vocabulary learning processes and strategies can be delineated and understood, the more language teachers can improve their instruction of learners from these diverse cultural and linguistic backgrounds. In this way language learners can be better assisted with instruction about essential vocabulary processing steps, skills and strategies, which have been shown to be vital for developing fluency in a second or foreign language.

Good readers of cognate languages seem to often invoke prior knowledge or rely on related word forms to decipher new word meanings in their target language. However students learning non-cognate or unrelated languages do not have the benefit of using this strategy. There seem to be special challenges faced by such students when attempting to learn non-related languages, especially in areas of vocabulary acquisition (Loucky, 1997a; 1998), as well as in processing of completely foreign rhetorical styles and unrelated syntactical structure.

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Ruxton (1994, p. 1) noted that "The mastery of Kanji is the greatest difficulty faced by learners of Japanese whose first language is not based on such a complex writing system," distinguishing between learning to 1) copy or reproduce, 2) recognize, and 3) write from memory. Clearly, the ability to recognize kanji characters in reading is a receptive skill, whereas ability to write any character from memory requires recall or productive skills.

By using insights gained from comparative/contrastive linguistics we can also better help foreign language learners whose L1 is an Oriental, Kanji-based system to build on strengths they have gained in learning it, by using familiar visual or auditory imaging and similar mnemonic techniques to enhance retention of L1 target language vocabulary. Such Asian learners possess much essential background cultural and Kanji knowledge, which are necessary for learning each other's language systems. Thus, most learners from Kanji-bloc nations can learn one another's languages in a matter of just two to three years. Westerners often take five to ten years, or even a lifetime to achieve similar levels of literacy in Oriental languages.

Westerners have often become stymied in trying to learn the complex reading and writing systems of Kanji-based Oriental languages. One common anonymous joke has it that becoming fluent in an Asian language, at least for an Occidental, takes at least three lives, lives which must include the "strength of Samson, the wisdom of Solomon, and the longevity of Methuselah." By way of comparison, when Chinese radicals were first defined in 1713, a 42 volume series of dictionaries listed 42,000 Chinese compounds (*Kangxi zidian*). According to Noguchi, (2001, p. 16), in 1962 "Nelson managed to compile the most comprehensive list of characters and compound words available to non-Japanese at the time; approximately 5,500 characters and 70,000 compounds." Since Asians who use Kanji spend so much time learning their complex grapho-phonemic systems, can't Westerners learn something from how these difficult reading and writing systems are taught, which could help to improve L2 vocabulary instruction in English and other languages as well? Evidence seems to be in the affirmative.

Recent studies have accentuated the need for more accurate measurement of students' English vocabulary and comprehension levels (Loucky, 2002c; 2003a). The distinction between learning more passive/receptive versus active/productive vocabulary skills has made better testing of both of these skills needed (Nation, 2001: 412-431, Word Level Tests, including Productive Levels; and Laufer and Nation, 1999). Especially needed has been a Vocabulary Knowledge Scale that would be easy for both students and teachers to use and understand. To better deal with this testing need, and while seeking to more clearly define and test *active versus passive vocabulary* for more effective language teaching and learning, this writer designed a Vocabulary Knowledge Scale (Loucky, 2005a) for first year EFL college students at three different schools and three proficiency levels from China, Japan, and Korea. The pilot study of this new Vocabulary Knowledge Scale was based on asking students to assess their knowledge of the first 200 word families from the well-established ICU EAP Recommended Vocabulary List (See Mizoguchi, et al., 1992).

In order to have a tool to better assess several key variables in English vocabulary and language development among Asian college students, this new type of VKS tool was developed. It is discussed and defined in detail in Loucky, 2005a, which describes designing and testing an easily administered Dual Assessment Vocabulary Evaluator-Instructor used with Asian college students to assess both their L1 and L2 mental lexicons. In brief, it presented a Vocabulary Knowledge Scale (or VKS, shown in Appendices A-C) with evidence for its reliability for assessing the vocabulary knowledge of students at various levels of language proficiency, as demonstrated by its use with various Asian students at several Japanese colleges.

This research seeks to better define and point the way to a more positive and intentional system of vocabulary learning by suggesting various instructional applications which could be used to help improve and revamp this key area of English Education. Baseline English reading and vocabulary levels were first obtained at seven colleges in Kyushu by testing about 2,000 students over the past ten years (Loucky, 1996, pp. 233-299; 1997b; 2002c). Such recent studies have begun to compare the use of objective vocabulary tests with more subjective and personalized assessment of vocabulary knowledge by the use of either a) State Rating Tasks (or SRTs), or b) Vocabulary Knowledge Scales (henceforth VKS) for accessing either receptive or productive vocabulary.

This VKS tool's reliability among users of different language proficiency levels at three colleges with different majors was also established (Loucky, 2005a, 2006a, b, c & d). These three experiments, combined with Waring's (2000) insights and suggestions for using "Vocabulary Knowledge State Rating Tasks" show that some combination of these two types of data collection tools may help us to gather more reliable and principled self-reports about English vocabulary knowledge from Asian students. Refinement of these assessment tools may in turn help to provide us with much clearer views into the developmental patterns underlying both their receptive understanding and productive use vocabularies, along with better insights into cognitive processing skills and strategies being used by Asian learners of English. Finally, the bilingual nature of this recently developed VKS assessment tool can also offer us further insights as to the processes of inter-language transfer on the part of learners from Kanji-background countries, especially in this most crucial area of lexical development.

Defining, Translating versus Guessing New Words

New words may be defined in various ways than help to demonstrate, describe or explain their meanings. Concrete objects and actions are most easily shown by the direct method, and kanji are more easily learned also when one can see a concrete connection between radicals within them that portray observable things rather than just abstract ideas. Other words require more analytical definition, where the basic features of a concept should be focused upon. There are times when L1 translation is the most efficient type of definition to use from rapid instruction. It may also be used to test or quickly find out if a child or learner with limited L2 vocabulary is comprehending. Contextual definitions are indirect explanations of word meanings that often encourage greater learning since they encourage learners to make an effort to "find out the meaning by seeing how the word is used (its grammar) and with what other words it is associated. . . Teachers should vary the contexts in which their learners see and hear new words and should make sure that they meet them often enough to grasp the meaning [for] themselves" (Nation, 1990: 60-61).

The importance of learning new vocabulary in context has been firmly established by much research and common observation (Reed, 2000: 161-163). Nation (1990) notes that "contact with language in use should be given more time than decontextualized activities" (p. 3), since it is "through the contexts of words that we learn most about their meanings" (p. 61). We should present contexts where words occur naturally, since as some linguists claim "meaning is use" (Nation, 61).

Yet while context often helps and influences one's comprehension of texts, encouraging learners to merely guess at the meaning of unfamiliar words is often a slow and unworkable strategy. Context may reveal meaning far less frequently than supposed, as Deighton (1959)

and Laufer (1997) have pointed out. While it is naturally easier to determine the meaning of many words when they are presented in context rather than in isolation, context alone seems to have "little effect on automaticity of word recognition," as Alderson (2000, p. 70-71) has pointed out (though this is admittedly a higher level skill). He also shows how the level of a text's difficulty or readability is a combination of two factors, syntactical complexity and lexical density or load, which are used in computing reading ease or readability formulae. Carnine, et al. (1984) investigated how different kinds of context may have different effects on decoding meaning, depending on how explicit clues are. They found that "Deriving meaning from context is easier when the contextual information is closer to the unknown word, and when it is in synonym form rather than in inference form" (Alderson, 2000, p. 70).

Comparing Cognate and Non-Cognate Languages: Can Eastern and Western Methods Meet?

Rather than taking cognate L1 and L2 languages as a model for SLA of contrastive linguistic systems, however, we should look at studies of native English readers seeking to learn Oriental languages, (such as Shu, Anderson, & Zhang, 1995; Shu & Anderson, 1997) to compare how they fare when facing the reverse challenge. Perhaps not enough thought has gone into the difficulties faced due to differences involved when foreign language learners are trying to process new terms, as some language learners can use cognates and translation more than others, depending on the proximity of the language scripts, etymological backgrounds, and so on (Koda, 2005, Ch. 3). One can compare for example the "Bilingual reading strategies: Opportunities and obstacles (Jimenez, Garcia, & Pearson, 1996) " of bilingual Latina/o students who are successful English readers, with those who are either monolingual learners or learners whose native language offers no common background script or morphology, such as Asians trying to learn English.

When assessing bilingual reading strategies of Latino/a students who are successful English readers, Jimenez, Garcia and Pearson (1996) discovered that they used four successful strategies. First, successful Latina/o readers could actively transfer information across languages. Secondly, they could translate from one language to another, although more often from L1 to L2. Thirdly, they could openly access cognate vocabulary as they read, especially in L2. Fourthly, when they met unknown target language vocabulary, these successful Latina/o readers could combine and draw from "an array of strategic processes to determine the meanings of these words" (p. 91).

Specifically because these more proficient readers "rarely encountered unknown vocabulary, and because they could access well-developed networks of relevant prior knowledge, they were able to devote substantial cognitive resources to the act of comprehension. . . data suggest that Latina/o students who are successful English readers possess a qualitatively unique fund of strategic reading knowledge" (Jimenez, et al., 1996, p. 91). Since Latina/o students clearly benefited from instructional environments that promote and encourage access to their L1 Spanish language strengths, it is only reasonable to assume that Asian students would also benefit from having access to their Kanji-based language strengths. This means teachers should use vocabulary learning approaches which encourage greater use of East Asian learners' well-developed visual and mnemonic memories, and guidance in the proper use of bilingualized dictionaries, such as those assembled for them by this writer at <www.CALL4ALL.us>.

Since word-decoding processes differ between alphabetic/phonetcially-based languages versus pictographic Kanji-based languages, vocabulary learning styles and strategy training must take

into more careful consideration these sharp differences in orthographic processing between L1 and L2. Kanji-based languages in East Asia are pictographic, not including Korean's Hangul, Chinese pinyin, or Japanese Hiragana or Katakana scripts of course. Therefore these Kanji systems are learned as ideographs, with a primary initial focus on each character's meaning, not on its various possible sounds/readings. In alphabetic systems like English and most European languages, by contrast, each letter represents a particular phoneme, so grasping the meaning of new words begins with a proper "sounding out" of each word phonetically. However, as Koda (2005) states,

> Writing systems differ on two dimensions: orthographic representation and depth. orthographic representation refers to the linguistic unit each graphic symbol denotes. . . In logography, such as Chinese characters and Japanese Kanji, by contrast, each symbol maps onto a morpheme [basic meaning unit]. . . Lexical information thus is assigned holistically to a single graphic symbol.
>
> The second dimension, orthographic depth, refers to the degree of regularity in sound-symbol correspondences. In *shallow* orthographies, the symbol-sound relationships are highly regular, and thus transparent. . . English orthography. . . is characterized as a phonologically *deep* system—that is, while governed by phonemic constraints, it tends to preserve morphological information [from its Greco-Latin roots] at the expense of phonological transparency [resulting in] . . . many spelling irregularities. (pages 36-37).

Different writing systems may have varying orthographic depths, and non-cognate language scripts provide few clues to new word meanings, other than those found in words borrowed from foreign languages. Moreover, since there is not a one-to-one correspondence in Kanji-based language systems, learners from these East Asian countries are used to learning new L1 vocabulary by thinking visually of the concepts these characters represent, rather than by decoding sounds as one does with an alphabetic language. Just as phonological decoding ability has been shown to be as crucial as semantic access to word meanings in alphabetic languages (Torgesen & Burgess, 1998), ability to decode visual Kanji pictographs to quickly gain semantic access into their basic idea or meaning representations is a more important initial skill for learners of Kanji-based language systems than trying to remember which of several possible sounds/readings fits a particular context or compounded character.

Just as it is important for students of language systems using Chinese characters to have rapid-access indexing systems available at their fingertips, so too English language learners from these Kanji-based countries especially need to have more high-speed, user-friendly, multiple-function computerized bilingual dictionaries (CBDs) available to help them. Such tools can give them more rapid access and an ability to automatically archive new TL word meanings, examples, pronunciation, and as much information as possible about parts of speech, frequency of use, common collocations, etc. The author has been able to create a "Virtual Encyclopedia of Language Learning Links and Web Dictionaries" at <www.CALL4ALL.US>, initially designed to help me the needs of Asian learners. Over 1,500 Web Dictionaries have been organized there at <http://www.call4all.us///home/_all.php?fi=d/> Sites for Japanese learners or students of Japanese are found also at <http://www.call4all.us///home/_all.php?fi=k> and those for Korean and Chinese users are also located more specifically at <http://www.call4all.us///home/_all.php?fi=k>.

Background of Kanji Study in China and Japan

Since the 2nd Century AD, when the first Chinese dictionary was compiled, Chinese Kanji began to be organized into six categories, based either on character composition or usage (Henshall, 1988, pp. xv-xix). These traditional categories can help enlighten the Occidental English teacher working with Oriental students as to the nature of Kanji. This is quite important to understand, because Kanji is after all their conceptual language, which basically determines how people from such language backgrounds tend to think, express themselves, and how they begin to process both listening input and also reading texts. This principle of linguistic relativity has become known as the Whorfian (or Sapir-Whorf) hypothesis, upon which contrastive linguistic analysis is based. This hypothesis has also been characterized as a linguistic *Weltanschaung* (or worldview) problem by Stern (1983), since "Language learners are only too well aware of the fact that certain aspects of a new language—items of vocabulary or grammatical features—often imply concepts for which the native language has no equivalents" (p. 203). The six categories of Kanji to be aware of are as follows.

1. Pictographs—象形 （ Shoukei Moji） or characters
2. Signs or Symbols—指事 （Shiji Moji） or characters
3. Ideographs—会意（Kaii Moji） or characters
4. Phonetic-Ideographs or Semasio-Phonetic—形声 (Keisei Moji) or characters (These comprise the largest category, with 85% of all characters, combining general semantic elements with more specific phonetic elements.)
5. Characters with borrowed meaning or pronunciation— 転注（Tenchuu Moji） or characters
6. Phonetically borrowed characters— 仮借（Kasha or Kashaku Moji--These are characters borrowed for phonetic sounds to make a sort of temporary kanji alphabet.
7. A seventh category is added by some scholars, called Kokuji (国字), or "National Characters," for those dozen or so very few characters originally made in Japan.

Ruxton (1994) correctly assessed weaknesses and strengths of various approaches to the learning of the Japanese Kanji system in his article entitled "Opening the 'Kanji Curtain': a survey of learning materials." Those instructional approaches and texts which he describes may be characterized as having strengths or weaknesses in the three essential areas of all Kanji learning, which are common denominators whether used in reading Japanese, Korean or Chinese. These three essential elements of any kanji characters are: 1) how to write it, or its stroke order and number; 2) its core meanings; and 3) its possible readings. Japanese kanji may have as many as up to twenty different readings, but almost all have at least two, an original Chinese (or *onyomi*) pronunciation and a native Japanese reading (or *kunyomi*). Ruxton (1994, p. 3) points out that good Kanji texts include instruction on each of these areas, and that Kanji learning would be incomplete if any one of these elements is missing, just like a stool missing one of its three essential legs. In order to progress beyond mere copying or reproduction of kanji characters, learning "typical compounds in which the character is used . . . are essential if the learner is to progress to the next major stage of learning . . . reading the character in context."

Existence of a Common 'Threshold Level' of Essential Kanji and English Vocabulary

It is well known that less proficient FL/SL readers possess less vocabulary knowledge, or usually fall below what has become known as the minimum 'threshold' necessary for independent reading. Laufer (1997, p. 23) defined this threshold at about 3,000 word families,

also known as headwords, or about 5,000 distinct vocabulary items. Not only do low proficiency readers possess fewer vocabulary resources in their verbal databank, they also possess less cognitive processing skills and strategies required for more fluent reading (Loucky, Forthcoming). Less successful Latina/o readers, for example, were often unable to construct plausible interpretations of L2 text for two reasons. First, there were large amounts of unidentifiable vocabulary. Secondly, they knew and used less comprehension strategies, and were thus less successful in "resolving comprehension difficulties in either language" (Jimenez, et al., 1996, p. 91). These weaknesses of less proficient readers become even greater barriers which inhibit the smooth processing of L2 texts or listening input when languages being learned are completely unrelated in any grammo-phonemic way. Thus it becomes even more important in such instructional settings to try to isolate, analyze the vocabulary and comprehension processing strategies which are needed by these students in order to develop more workable instructional interventions for such EFL students.

Does one find a similar "Minimal Threshold Level" essential for reading of Oriental languages? Obviously mastery of Pinyin, or simplified Chinese script, is necessary for reading Chinese, just as mastery of Hangul or Korean syllabary symbols are essential for reading or shopping in Korea. Likewise, Japan's Ministry of Education officially recognized 1,006 Kyouiku or Education Kanji characters as basic essentials for all elementary students to learn since 1989. Most texts for learning Japanese Kanji indicate that about 2,000 characters are the basic minimum needed for even moderately fluent reading of Japanese texts. Three examples may be given. First would be *Henshall's Guide to Remembering Japanese Characters* (1988) which covers 1,945 of them. Another would be Kikuoka's (1970) excellent guide to *Japanese Newspaper Compounds*, which covers the 1,000 most important character compounds in their order of frequency of appearance. A third example would be Crowley's (1990) *The Kanji Way to Japanese Language Power*, which is a systematic approach to Japanese language fluency based on scientific studies and use of the 500 most common Chinese characters used in Japanese, given along with both phrase and sentence usage. It is the most practical approach encountered by this author in his study, since it has not only Japanese, but gives Romaji readings in the back so a learner can easily confirm them. Gakken's New *Dictionary of Kanji Usage* (1982, frontispiece), typical of many designed by foreign students of Japanese, contains 2,000 kanji entries, noting that these are "all that are needed for reading modern Japanese, and over 98% of the kanji encountered in everyday Japanese life."

Various memory retention approaches have been used to help strengthen learners long-term memory of kanji characters. Among those using a "Mnemonic Keyword Approach" are Heisig's (1990) *Remembering Kanji, Books 1 and 2;* and Hewgill's (1997) *Kanji Gold* software, giving learners the excellent option of recording words missed into their own file for further review. This uses Step #3, **Archiving**, in the "Taxonomy of Learning Strategies." Similarly, Henshall's (1988) *Guide to Remembering* [1,945] *Japanese Characters* uses mnemonic phrases for learning almost 2,000 most common kanji used in Japanese. He also includes a very useful list of the 100 most commonly occurring kanji character elements, which use from 2-10 strokes, and gives their principal meanings. He also gives such useful charts as one which gives the original source characters from which Hiragana and Katakana syllabaries were derived, and another which indexes Non General Use (NGOs) and Chinese Only (COs) characters, categorizing them helpfully by number of strokes from 1-26 strokes. Finally, it should be known that Japanese themselves look up unknown kanji characters either by using "Stroke Count Index" or else a "Readings Index," both of which Henshall adds at the end of his very user-friendly guide.

Although Kanji systems offer perhaps an overabundance of visual symbols and hints as to their meanings, their possible readings or pronunciation renderings differ depending upon how they are compounded. This is similar to how English words may differ in meaning according to the context. It seems clear that when learning new target vocabulary a student of Oriental languages will have to modify his or her approach so as to maximize the potential benefits of using Kanji system's natural inherent strengths and linguistic hints. Likewise, when an Easterner meets a Western language he or she needs to focus on using all of these essential steps needed to recognize and remember its Greco-Roman roots, so as to more quickly expand and more firmly anchor new vocabulary learning. In particular, a "Mnemonic Keyword Approach" may be more helpful in learning a Kanji-based language due to its pictographic ideas. Several works that can greatly help non-Kanji background learners to better appreciate the origins of Kanji systems are 1*) Biblical Encounter with Japanese Culture*, by Corwin (1962); 2) *God's Promise to the Chinese*, by Nelson, Broadberry, and Chock, (1997); 3) *The Discovery of Genesis*, by Kang and Nelson (1979); 4) Genesis and the Mystery Confucius Couldn't Solve, by Nelson and Broadberry (1994); and 5) *Kanji ni Himerareta Seisho no Monogatari*, by Tim Boyle (1996), a Japanese version, as well as 6) *Bible Stories Hidden in Chinese Characters: A Japanese Perspective*, Boyle's English version (za3t-blyl@asahi-net.or.jp) showing that the original Kanji system and characters seem to have many things in common with Biblical themes, history and language. Although quite a few kanji can be remembered by the pictorial image they create, many are composed of a combination of radicals that become too complex to easily remember in this way. Some of the simpler ones can be, however, and are illustrated by such approaches as that of Rowley (1992) in his *Kanji Picto-graphix.*

When learning English, however, mnemonic devices can only be effectively used for concrete actions or nouns if one can readily associate a visual symbol or sound with a concept standing for a target word. A much more universally applicable approach which appears to hold much potential for helping language learners to more rapidly expand their target vocabulary is the Semantic Field Keyword Approach, which builds learning both on common conceptual schemata and also around more simple and central Keywords. In pilot tests done at the author's school this method proved to be even more effective when used together with rapid access CBDs, using portable devices, software programs and an online course developed for this purpose.

Both Halpern's (1990) *New Japanese-English Character Dictionary*'s SKIP method, and also *Daily Yomiuri*'s "Kanji Classes" use methods of vocabulary expansion that may be likened somewhat to the Semantic Field Keyword Approach developed by Crow (1985) and tested by Quigley (1985). Halpern's approach includes both core meanings and compounds, but also helps learners look for, observe and learn patterns of form, meaning and relationships to help them expand their vocabulary. His SKIP method, a "System or Kanji Indexing by Patterns," helps learners to focus on and retain these core meanings and new related compounds since it is based on only four common geometrical patterns.

The *Daily Yomiuri*'s Kanji Class section also builds learner's vocabulary by helping them learn to formulate related compounds by combining a basic "Keyword" Radical with other characters. This follows Step 4 in the author's Depth of Lexical Processing Strategies, the step known as "Associating," or organizing around meaningful conceptual or schematic patterns to cognitively aid one's memory and language development.

Importance of Automaticity of Lexical Access Attained by Mastering Decoding Skills

Many studies across languages have shown the important role that gaining higher degrees of vocabulary knowledge, known more technically as 'automaticity of lexical access,' plays as a necessary prerequisite of reading comprehension. As readers become more skilled and mature they gain better efficiency and automaticity of word recognition skills. How do these findings compare between learners of English and other Western languages, as opposed to Kanji-based languages?

Kuhara-Kojima, Hatano, Saito, and Haebara (1996, p. 158) investigated the "Vocalization latencies of skilled and less skilled comprehenders for words written in hiragana and kanji," two out of three of the writing systems used by Japanese. While hiragana and katakana are syllabaries made up of fifty sound-symbols, kanji characters are known as morphograms, being a combination of meaning and a sound-symbol. Their findings were consistent with those of Perfetti's (1985) "verbal efficiency theory," which learner's potential to vocalize printed words is a good representation of their degree of automaticity of word recognition. In their words:

> Vocalization latencies are operationally defined as the elapsed time from the presentation of a word to the subject's initial vocalization. [Assuming that] . . . some speech process accompanies lexical access. . . a phonological code is necessarily activated with the lexical access (Perfetti, Zhang, & Berent, 1992).

This means that when understanding of target language vocabulary is achieved within a learner's mental lexicon, it triggers some sound-symbol-meaning association, resulting in vocalization. In Kanji systems, however, there are several possible pronunciations for various kanji. Thus, some Chinese or Korean students learning Japanese may be able to read Japanese characters with an understanding of their meaning, but not necessarily know their correct pronunciations in L2.

Numerous factors in the development of reading skills, including developing more automatic word recognition skills, have been analyzed, but not enough studies of these factors have been done in EFL settings in general, and among lower proficiency level learners in particular. This researcher has developed a dynamic "Vocabulary Knowledge Scale" (shown in Appendix C) and a cyclical "Depth of Lexical Processing Scale" (shown in Appendix A, taken from Loucky, 2003c and 2006a & d, expanded from earlier ideas by Craik & Lockhart, 1972 and Craik & Tulving, 1975) to help isolate and analyze each step of development in this growth process. Better means of testing important word identification skills and development need to be found, such as these Vocabulary Knowledge and State Rating Scales. The importance of learning high frequency vocabulary first is a clearly understood principle in learning any language, since knowing these words gives one a higher percentage of text coverage resulting in better comprehension.

Comparing Approaches Used to Learn Kanji versus English Vocabulary and Reading

In seeking to map out some of the approaches used in learning Kanji, many of which are mentioned by Ruxton (1994), the author sought to classify them using his own so-called "Depth of Lexical Processing Scale" and "Taxonomy of Vocabulary Learning Strategies." These both show established principles and strategies used in effective vocabulary learning, which should be taught and practiced as regularly as possible to help language learners develop their semantic knowledge and fluency as much as possible. It has the following "Five Essential Vocabulary

Learning Phases" (shown in Table 2 below) and eight learning strategies. These are based on extensive comparison of many research studies in SL vocabulary acquisition, as well as original studies done in Japan with Japanese, Chinese and Korean students (Loucky, 1996-present). While many of these students did not regularly use very many of these processing steps systematically, most recognized the value of doing so after being introduced to them. In addition, this eight-fold system can be taught bilingually in a way that is clear, simple and memorable. One can also draw a culturally sensitive and appropriate parallel with Buddhism's eight-fold path of right belief, emotions, actions, effort, words, awareness, concentration, and ways of living.

Mori and Nagy (1999, p. 80) point out that "In written Japanese, a large proportion of the vocabulary that readers of Japanese encounter is in the form of kanji compounds, each word consisting of two or more kanji characters. . . because native words are often presented in kanji or in the combination of kanji and one of the syllabaries, the total proportion of kanji words would be much higher than 65%. . . (the 500 high-frequency characters would cover 80-85% of kanji used in printed materials; the 1,000 high-frequency characters 90-95%), . . . After learning the basic kanji characters, learners of Japanese must learn, or at least be able to infer, the meanings of many novel kanji compounds independently."

In light of their vital importance, the strengths of a work like Crowley's (1990) *The Kanji Way* for learning such high-frequency kanji vocabulary should be mentioned. Its page numbers correspond to Japan's National Language Research Institute's ranking of characters in terms of their level of frequency, the order in which vocabulary should be learned to be of greatest benefit to the learner. This gives him or her a better idea of the relative importance of each character or word studied, and also helps to break down the vast system of written systems in Kanji. Perhaps the clearest statement of a minimal Japanese Kanji threshold vocabulary would be Crowley's (1990). He stresses that one should learn characters in the order of their frequency of occurrence in modern Japanese literature. His rationale for learning vocabulary by frequency is: "Proof of this is the fact that one-fourth of all the characters used in modern Japanese occur in three-fourths of all the most frequently occurring words. This means that *by concentrating on learning approximately 500 select characters [as a "Minimum Threshold"], the student is assured of being able to read 75% of all the high frequency words he will encounter in modern literature*. . . they constitute a good beachhead to establish" (p. xviii, our emphasis).

Since an even higher percentage of textual coverage could be made possible with mastery of these 2,000 characters, many of which are based on an almost infinite possibility of combinations of primitive elements and/or radicals, this kind of study gives both hope and a clear learning goal to foreigners attempting to become fluent readers of Japanese, or of other Kanji-based languages as well. In *Assessing Reading*, Alderson (2000) notes:

> Measures of readers' vocabulary knowledge routinely correlate highly with measures of reading comprehension, and are often, indeed, the single best predictor of [success in] text comprehension. . . Research by Laufer (1989) and Liu and Nation (1985) shows that readers need to know 95% of the words in text to gain adequate comprehension and to be able to guess unknown words from context [with any degree of accuracy]. Hirsh and Nation (1992) estimate that in order to be familiar with 97%of the words in text, a reader needs a vocabulary of roughly 5,000 words. Readers familiar with only the 2,000 most

> frequent words of English, as compiled by West (1953) in his General Service List (GSL) will only understand roughly 90% of the words in text.

Likewise, Nation and Newton (1997, p. 239) inform us that knowing the 2,000 most high-frequent English vocabulary words gives a text coverage of about 87%. Adding 800 academic words can raise that to 95% of text coverage, and learning 2,000 more technical vocabulary could enable one to know 97% of all the words commonly met in English reading texts. Likewise, mastering the 570 Academic Word List (Coxhead, 1998, 2000) can produce a similar benefit. These relationships can be understood more quickly as illustrated graphically in Table 1 comparing "Vocabulary Word Knowledge" with "Percentage of Text Coverage," showing degrees of text comprehension various levels of word recognition normally result in.

Table 1: Correlating Vocabulary, Comprehension and Text Coverage Levels

READING LEVEL	WORD REC. %	COMPREHENSION vs. Text Coverage %	Headwords Needed #Lexical Items
Frustration Level: >1/20 running words are Unknown	Simple Texts:	50% or Less Text Comprehension	1-2,000 or Less
Instructional (Laufer "Threshold Level")	87- 90% common: EAP/Technical Text 95%; Less than 5% Unknown Vocabular	85% Text Coverage 56% Comprehension 97% Text Coverage	2,000 Hi-Frequency +800 Academic Words 3,000 Families; Know 5,000 Lexical Items
Independent Level	Know 99% or Better of text's words to be at appropriate level. Predicted Range of Comprehension for any text by vocabulary level	**95% Text Coverage** 6,400 word Vocab= 8,000 word Vocab= 9,600 word Vocab= 10,600 Vocabulary= 11,600 Vocabulary= 12,600 Vocabulary=	 63% Comp Level 70% Comp Level 77% Comp Level 84% Comp Level 91% Comp Level 98% Comp Level
JAPANESE KANJI	Simple Texts	75% Text Coverage	500 Common Kanji
	Common Texts	80-85% Coverage	1006 Kyouiku Kanji
Difficulty Levels:	Technical Texts	98% Text Coverage	2000 Major Kanji

These figures can be very helpful in predicting comprehension levels, since vocabulary and comprehension are so closely related. In Laufer's (1997, p. 24) own words:

> These figures are correct if the progress in reading vis-à-vis vocabulary size is always linear. It is possible, however, that when the learner reaches a certain vocabulary level, progress in the reading scores will decrease and finally level off. Even if the results are not conclusive for all vocabulary levels, they provide, nevertheless, a general idea of how reading progresses above the threshold level of 3,000 word families and what vocabulary size should be aimed at for different reading levels. If the optimal reading score is considered to be, for example, 70%, then the

> vocabulary size to aim for will be 5,000 word families [8,000 lexical items]. . . .

Contextualizing Kanji Learning: Finding Helpful Clues for East-Asian English Learners

Since it is a basic educational principle to proceed from and build upon prior, familiar knowledge, one must ask: "How is Kanji being learned in China, Korea and Japan?" "Can any of these steps be useful hints to more effective vocabulary learning for Asian learners of English?" Of course they can be if well analyzed and understood.

There clearly is a basic level of "Threshold Vocabulary" which is necessary to read common text in any language. In Chinese, mastery of Pinyin is a must. In Japanese, it is necessary to know about 2,000 basic characters. As Sugawara (1989) writes, "the study of Japanese can be likened to the solo ascent of a lofty peak." Ruxton (1994) confirms this, saying that "Clearly a major part of the ascent is the ability at least to reproduce (i.e. copy) and recognize, if not write from memory, up to 2,000 characters." The first 1,006 characters learned in Japanese elementary schools are known as the *Kyouiku Kanji*, or basic educational Kanji characters. He also makes a distinction between capitalized "Kanji," representing the global concept of Chinese characters as used in either Chinese, Korean or Japanese language systems on the one hand, and "kanji," representing individual Chinese characters, which have also been borrowed into Korean and Japanese languages. Since efficiency or automaticity of word recognition has been shown to be the most important lower level reading process, after basic reading phonetic skills have been acquired (Kuhara-Kojima, et al, 1996; Bell & Perfetti, 1994; Curtis, 1980), one's efficiency or automaticity in processing kanji characters would also be the most important prior skill needed for fluent reading comprehension in Japanese or Chinese text. As Kuhara-Kojima, et al. (1996, p. 158) have summarized the research in this area:

> A number of investigators (e.g. Daneman, Carpenter, & Just, 1982; LaBerge & Samuels, 1974; Perfetti, 1985) have asserted that individual differences in reading comprehension ability may at least in part be attributed to the extent of master of such lower level skills as recognizing letters and words. More specifically, they have indicated that skilled readers can direct their limited processing capacity more to the higher order processes of comprehension (constructing elementary meaning units and a mental model of the test) because their lower level processes have become more efficient and automated than those of less skilled readers.

Indeed we need to try to understand with greater empathy that many lower level learners from Kanji-based backgrounds (as well as students accustomed to using other non-Roman scripts) often feel the same kind of linguistic shock, lexical or cognitive overload and confusion when viewing English text from the other side of the cultural door, especially from the Eastern side of the mountain. Several books studying the origins of ancient kanji characters may help to bridge the gaps between East and West, and between a modern, naturalistic worldview with the more spiritual philosophy of life prevalent among the ancient Chinese people. These helpful cross-cultural linguistic comparisons include: 1) Kang and Nelson's (1979) *Discovery of Genesis*; 2) Nelson, Broadberry, & Chock's (1997) *God's Promise to the Chinese;* 3) Nelson, Broadberry, & Wang's (1998*) Beginning of Chinese Characters; 4)* Wang & Nelson's *(2001) God and the Ancient Chinese*; and 5) Legge's English translations of *The Chinese Classics*, which include such ancient Chinese classics as *The Confucian Analects, Works of Mencius, Doctrine of the Mean*, etc.

Practicing these most essential vocabulary learning strategies and processing phases (shown in Table 2) together in proper combination seems to be what is required to develop both native and nonnative reader's lexical **"Automaticity or Anticipatory Set**." Naturally, language learners need to develop other higher level reading and reasoning skills, including inferential predictive skills and syntactically and rhetorically-based comprehension skills. But such strategies should be taught after students have succeeded in "crossing the minimal vocabulary threshold" (Laufer, 1997), just as one would have to master most high-frequency, basic kanji before attempting to read any Oriental literature. Without first mastering the most basic and essential kanji-based vocabulary, texts with Chinese/Japanese characters will just continue to look like "chickenscratch" to Occidental learners.

Even the vast and complex system of Chinese Kanji has been greatly simplified in modern times by the use of *pinyin*, and so must the teaching of English language and vocabulary. Although English uses only 26 letters, even simplified Chinese Pinyin uses 22 different radicals, and 214 key elements or so-called 'primitives' are used to write traditional Chinese characters. Nelson, Broadberry & Wang (2001: 1) point out that "2,000 years ago, Chinese 'alphabet' consisted of 540 radicals!" Just as Kanji vocabulary is developed based around words having similar radicals or meaningful ideographs in them, a more effective means of fostering vocabulary development among such learners seems to have been found in this pilot study. Resurrecting Crow and Quigley's (1985) Semantic Field Keyword Approach (SFKA) and using it in combination with more short-term Mnemonic Keyword devices may well be the most culturally relevant means of expanding lexical development for learners from Kanji-based countries, since they also learn groups of related kanji based on common core compounds and concepts. Many other recommendations to help maximize second language lexical development have been offered by the author in other studies of vocabulary training methods and materials (See author's 1994-2005a-e articles available at <www.CALL4ALL.us> site as well as in reference list).

Table 2: Five Essential Vocabulary Learning Phases

STEP 1:	**STEP 2:**	**STEP 3:**	**STEP 4:**	**STEP 5:**
FORM-FOCUS SOUND-CENTERED	SHORT-TERM MEMORY FOCUS	MEANING-FOCUSED	LONG-TERM MEMORY FOCUS	USE-FOCUSED
ROOTWORD-CENTERED	KEYWORD-CENTERED	Rapid Accessing of Definitions via	Fix Form & Meaning in Memory	New Word/Phrase Activation via:
		a. CBDs-Online or Software off	Category-Centered	Productive Use
Word Analysis of Base, A/Suffixes	Categorized by Related Classes	Computerized Bilingual Dictionary	Record Definitions; Uses Means to Archive	Oral/Written Expressive Skills
		Quickionaries; Portable CBDs	SF Keyword Approach *	Used in Context(s)
Spelling Systems; Pronunciation System or Character-Sound	Stress on Rapid Building of Large Passive Recognition Vocabulary via Semantic Fields	b. Book Dictionary 1) Bilingual vs. 2) Monolingual 3) Bilingualized	Via Semantic Field Networks of Association; Use of Word Maps, Concept	Create own Sentences Use in Whole: a) Oral Speech Utterances/

Associations	Approach		Trees, Graphic Organizers	b) Written Expressions
Related Words or Cognates	Use of Mnemonic Keyword Method	1) Bilingual vs. 2) Monolingual	Specific Lexical patterns/phrases	Generative or Productive Use (Skits/Plays; Songs / Poems)
Part(s) of Speech		Brief Synonyms vs.	Common Idioms/	Monologue Speech
Grammar Forms	EAP/ESP Vocab. (ICU Study, '92)	Homo/Antonym Word Comparisons	Collocations	Dialogue; I.V. Conversations
Vocabulary Texts with this Approach:	Crow's ('86) PHR Keyword Approach Semantic Field Keyword Approach (Receptive Vocabulary)	Bergen Evans *Wordcraft Series*	Idiom Texts McCarthy's Lexical Approach	Author's Creative Vocabulary Story Approach & 8-Fold Learning Taxonomy Steps Applied.
Rapid Expansion of Understanding Level Vocabulary:	Quigley, Mackey's 1965 Semantic Field Keyword Approach	Presentation in Various Contexts 4 Repeated Exposure	Gitsaki ('97, '99); Schmitt & Carter, (TLT, 24/8, 2000)	Laufer & Nation, 1999 Hatch's 5 Steps
Etymological Word Origins Approach: (Eichosha, '94)	Expanding Your Vocabulary by Word Roots, by Jim McKim	Wordalizer, Garb, (1998).	State Rating Tasks/ Word Knowledge Scales:	ACTIVE USE/ RECALL VOCAB
Author's Depth of Lexical Processing Scale; Taxonomy of Vocabulary Learning Strategies:	(Using Semantic Field Keyword * Spider-Web-based Networking Approach) **8 Processing Steps** (below)	Schmitt (1997) Taxonomy of Vocabulary Learning Strategies	Zimmerman (1997); Wesche & Paribakht (1996); Waring (2000).	Basic Vocabulary or Wordcraft used with Creative Vocabulary Stories (10-50 words)
1)Attend & Assess **2) Accessing**	**3) Archiving** **4) Anchoring**	**5) Analyzing**	**6) Associating**	**7) Activating** **8) Reassessing**
STEP 1:	**STEP 2:**	**STEP 3:**	**STEP 4:**	**STEP 5:**
FORM-FOCUS SOUND & SHAPE-CENTERED	SHORT-TERM MEMORY FOCUS: KEYWORD-CENTERED	MEANING-FOCUSED ROOTWORD-CENTERED	LONG-TERM MEMORY FOCUS	USE-FOCUSED: Review and Recycle
		Rapid Accessing of Definitions via	Fix Form & Meaning in Memory	New Word/Phrase Activation via:

Conclusions

This article contrasted the minimal threshold levels of vocabulary needed for reading common English text, versus that required for reading basic texts using Kanji characters, whether used in Chinese, Japanese or Korean. Both Mnemonic and Semantic Field Keyword approaches seem

to hold great potential for language learning strategy skill transfer. Greater use of both methods could greatly help such learners from Kanji-block countries by building upon their well-known strengths of rote-memorization of pictographic forms and visual presentation of ideas. In particular we should encourage greater use of visual images and both short- and long-term mnemonics necessary for mastering reading of Kanji-based languages among English learners from these language backgrounds.

Few Asian students seem to be actively encouraged and taught how to most effectively use a sufficient variety of vocabulary learning strategies or computerized bilingual dictionaries of any kind (Loucky, 2006a, b, c & d), at least among those we surveyed who are studying in Japan. In a nation with plenty of money for computers and instructional technology, not using their vast potential to ease students' vocabulary learning burdens, in both L1 and L2, seems to be a great loss of time and national resources, an issue which begs to be addressed and changed as soon as possible**.** The author's "Virtual Encyclopedia of Language Learning Links and Web Dictionaries" at <www.CALL4ALL.US>, can greatly help meet these kinds of vocabulary learning needs, not only for Asian learners, but also for learners of Asian languages as well as for students of 500 other language pairs all assembled under its D-Dictionaries Galore site (at <http://www.call4all.us///home/_all.php?fi=d>).

It is very important to make manageable look-up and indexing systems available to language learners that are both user-friendly and easy to understand, preferably along with electronic database and archiving functions (Loucky, 2002a, 2002b; 2003b, 2003c, & 2003d). Just as computers have greatly helped to systematize and clarify real language use in modern lexicons, so they can and should also be used to help language learners to better organize and speed up their TL vocabulary development (Loucky, 2006a, b, & d).

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APPENDIX A:

Depth of Lexical Processing Scale: Applying a Taxonomy of Vocabulary Learning Steps, Skills and Strategies

1) Assessing (Pre-Test)	**2) Accessing--**	**3) Archiving--**	**4) Analyzing--**
Assessing Vocab. Level by VKScales; Head-words or Standard Test	MEANING-FOCUSED Accessing Definitions: L1/L2; L1 & L2 (Rapid Access & Recall)	Record Definitions with Means to Recall/Study (Rapid Recording Best)	ROOTWORD-CENTERED Word Analysis of Base, Affixes/Suffixes
Use EAP VKS Sample	"Bilingual is Best"	Quickionary OCR/CBD	Word Origins/Grammar

5) Associating—by Semantic Field Keyword Approach= Categorizing by Related Classes by Keywords	**6) Activating**— USE- FOCUSED (New Words/Phrases Activated by Productive, Expressive Use	**7) Anchoring--** in one's memory (ST) until it becomes fixed in Long-Term Memory. Use Mnemonic Devices.	**8) Reassessing, Reviewing and Recycling --** Measure Vocabulary Growth/ Change by #1 Post-Test

APPENDIX B

Vocabulary Learning Blank Checklist of Lexical Processing Skills: (for Teaching Use)

1) Assessing (Pre-Test)	**2) Accessing**	**3) Archiving**	**4) Analyzing**
English:			
Japanese:			

5) Associating	**6) Activating**	**7) Anchoring**	**8) Reassessing/Recheck Reviewing and Recycling (Post-**

			Test)

APPENDIX C

Author's DAVIE Vocabulary Knowledge Scale for Japanese Students (Dual Assessment Vocabulary Instructor-Evaluator for both Receptive and Productive Use)

Know L1 Japanese Translation A (%) 1 Points	Know L2 English Definition B (%) 2 Points	Can Use Word in a Sentence C (%) 4 Clear or 5 Perfect	Have Heard, but Not Sure D (%) Try to think of a Phrase 2 Points	Unknown Word; No Idea at all E (%) No Points	Word Token or Family	Modified ICU # EAP List
					abandon abbreviate abide ability abnormal abolish abroad absence absolute absorb	1 2 3 4 5 6 7 8 9 10

Date: / / Circle: T1/T2 __ Receptive % or __ Productive Assessment

%

(For **Productive Assessment**, for words believed to be known, students write in definitions they think they know under columns A & B, writing sentences for C on the back. Perfect score=100. Compare with Receptive %.
It is easier to **use simple percentages**, rather than taking time to do any rating at all, which is not truly necessary.)