

## Testing vocabulary levels in Japan: A literature review

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### Introduction

Although calls for educational reform have been raised in many nations, just how accountable are schools, teachers, or students themselves in Japan for their own language teaching or learning? While the use of course evaluations has come into vogue, many colleges do not assess English majors' linguistic ability in a professional manner, for example by comparing learners' pre- and post-test scores in all four skill areas in order to determine how much they have each learned individually in each communication skill area. Even at colleges where TOEFL ITP scores are compared, other than acknowledging the embarrassing continued decline in language proficiency present on the part of many new students year after year, little is done to find better remedies by diagnosing language learners with more precise evaluative instruments.

Various aspects of assessing vocabulary have been thoroughly analyzed by Read (2000), among these being tests for measuring how broad and deep learners vocabulary knowledge is; how effective different methods of systematic vocabulary learning are; how incidental learning occurs through reading and listening activities; whether and how learners can infer the meanings of unknown words encountered in context; and how learners deal with gaps in their vocabulary knowledge.

Language teachers first need to know what they are trying to test. As Read states:

an essential first step in language-test design is to define the purpose of the test... We evaluate the results in relation to the intended purpose of the test. Regardless of what statistical procedures are used, though, another important aspect of validation is to try to clarify conceptually what a vocabulary test is supposed to be measuring, (p. 151)

Hunt and Beglar (1998:131) also note:

The need for reliable and valid tests of vocabulary size is a critically important issue in the field of second language acquisition. Without such tests a number of practical and theoretical problems cannot be solved. These problems include determining the percentage of words known by learners at a particular frequency level, the rate that words and lexical items are

acquired, and the relationship of frequency to other factors that contribute to item difficulty.

It is preferable to use a wide variety of tests to better assess both individual and group learning. One of the most crucial areas to test in order to get base-level comparisons from year to year is students' individual and class average target language vocabulary and comprehension levels. I have long argued for the use of Headword Level tests, such as Nation's Vocabulary Levels Tests (1990, 2001), standardized reading tests such as Gates McGinitie Reading Tests (1978-1989) for quick, general class profiles, and Individual Reading Inventories like Silvaroli's (1969) for more precise diagnosis of specific problem areas. Having used these for more than a decade to assess language development, widely varying vocabulary levels, and individual needs of students at two different international schools in Okinawa and seven colleges in Kyushu, I can attest to their effectiveness and usefulness for measuring learners' relative levels of English language, vocabulary and reading proficiency.

### **Review of the literature**

Few specific studies of Japanese students' English vocabulary levels relative to native reader grade level norms can be found in the literature. Other than my own extensive study at seven Japanese colleges (Loucky, 1996; 1997b), vocabulary studies in Japan have tended to focus on comparing native versus non-native mental lexicons (Wolter, 2001), or assessing learners' vocabulary learning strategies. This may be due to the fact that few language teachers know how to obtain or effectively use standardized reading tests. The advantage of such tests is that they can be used as a tool to measure and monitor the approximate grade level of students' vocabulary ability in terms of native reader norms.

Published vocabulary studies with Japanese learners include the following. Schmitt and Schmitt (1993) investigated 600 Japanese EFL students. Until their study, most studies of vocabulary learning strategies focused on only a narrow number of strategies, such as the mnemonic keyword approach (Atkinson, 1975; Pressley, Levin, & McDaniel, 1987), guessing from context, or on comparing these with a semantic-based strategy (Pressley, Levin, et al. 1982). With the exception of Crow (1986 a, 1986 b), Crow & Quigley (1985)'s Semantic Field Keyword Approach, which has always been more systematic and effective for rapid overall expansion of learners' receptive lexicons, vocabulary books and studies have often dealt with a narrow number of strategies, such as improving a learner's knowledge of word etymologies (McKim, 1999), rather than being well integrated into an overall vocabulary learning system. As a result, as the Schmitts (1993: 27) observe:

paradoxically, although the bulk of general learning strategy research has focused on vocabulary, vocabulary strategies taken as a group have been extremely under-researched. There have been few studies which have approached vocabulary learning strategies as a set, either seeking to identify or analyze them.

Regarding how many words Japan's Ministry of Education thinks Japanese junior high school students need to know, Pakos (2001) and Bowles (2001) write that its mandated list contains only 507 items, but gives no clear direction to publishers or teachers as to which meanings are most important to introduce for each target word. Use of State Rating and Vocabulary Knowledge Scales has also been recommended by Waring (2000), and I have also been used with high levels of reliability in Japan with learners at different levels of proficiency.

Brown and Yamashita (1995) examine English language entrance examinations at Japanese universities. All together they examined the reading passage statistics or readability of passages used

on 21 entrance exams, using ten different kinds of variables. Most important is the fact that the passages ranged from about the start of grade 8 to the last year of college, relative to native reader norms. When this is known and then compared with the average actual vocabulary or reading grade levels of most college students, it is quite a shocking contrast in that the average learner's proficiency level is far below the level being tested. While this situation does not make much educational sense, few others have asked investigated the vocabulary and reading levels of Japanese students carefully, nor have many practitioner-researchers carefully considered how they can help raise their learners' English proficiency levels in each specific communication area more effectively by focusing first on improving foundational lexical processing skills and strategies.

More instructors are recognizing the clear connection between learners' strategy use-awareness and their language proficiency levels (Yamato, 1997; Edasawa, et al., 1998). Similarly, the important connection between a language learner's vocabulary level in particular, and that individual's subsequent reading and listening comprehension ability in the TL has also long been known. As Alderson (2000: 35) writes:

Measures of readers' vocabulary knowledge routinely correlate highly with measures of reading comprehension, and are often, indeed, the single best predictor of text comprehension. Having to struggle with reading because of unknown words will obviously affect comprehension and take the pleasure out of reading. Research . . . shows that readers need to know 95per cent of the words in text to gain adequate comprehension and to be able to guess unknown words from context. Hirsh and Johnson estimate that in order to be familiar with 97 per cent of the words in text, a reader needs a vocabulary of roughly 5,000 words.

Recognizing these strong relationships makes such a study and comparison of vocabulary and language proficiency levels of prime importance, especially in Japan where few such studies can be found.

Finally the need to better assess and focus on specific essential core lexical items and phrases has been clarified by Guest (2000). His results show that to better develop learners' lexical skills, 'the choice of lexical items for analysis or study should not be left up to the individual learner, but rather deliberately and explicitly guided and monitored by teachers' (p. 180). While one would be wise to allow for at least some learner autonomy, especially in terms of preferred learning styles and strategies which CALL multimedia can now better help to facilitate, because of the central importance of developing learners' TL lexicon, teachers should try to help them to develop necessary cognitive skills for more systematic lexical processing, which can become a strong foundation for almost any dimension of second language acquisition. Takefuta (1999) examined three types of CALL Courseware Developed for Teaching vocabulary to Japanese College Students, each using a greater number of cognitive processing steps, which could also serve to support Craik & Tulving's (1975) depth of lexical processing theory.

### **Students' knowledge of vocabulary**

It is necessary to first assess what kinds of vocabulary knowledge our students have and most need to learn. In order to do so, several Vocabulary Knowledge Scales (VKS) have been proposed by Wesche & Paribakht (1996), and Zimmerman (1997). Schmitt and Meara (1997) have researched vocabulary through a Work Knowledge Framework, looking at students' word associations and use of verbal suffixes. Use of State Rating and Vocabulary Knowledge Scales has also been recommended by Waring (2000), and I have also been used with high levels of reliability in Japan with learners at different levels of proficiency.

A study by Melka (1997) also showed the need for teachers to better discern between receptive versus productive aspects of vocabulary knowledge and learning in testing and teaching. Learners also need to be shown the difference between developing a better receptive understanding vocabulary, and the need to expend greater effort to develop their productive use vocabulary through more active negotiated interactions and communicative output (De la Fuente, 2002).

Aizawa (1998) developed a vocabulary size test for Japanese EFL learners, and also compared incidental vocabulary learning through free reading with the use of guessing exercises, glossing or accessing dictionaries. Shiotsu (2001), as well as Beglar and Hunt (1999) have analyzed or revised some forms of Nation's (1990) Vocabulary Levels Tests for Japanese students. According to Meara (1996), vocabulary size is more important for L2 learners with a small lexicon. Mochizuki (1998) reviews vocabulary size tests and develops a vocabulary size test for Japanese learners of English. His abstract also states: "Vocabulary can be a reliable indicator of L2 proficiency. Vocabulary knowledge should be measured in terms of breadth and depth. However, there has been no vocabulary test that addresses ... both breadth and depth." (p. 1).

My Dual Assessment Vocabulary Evaluator attempts to begin to address the assessment of both receptive and productive, as well as both LI and L2 mental lexicons, in addition to the development of deeper lexical processing skills and strategies. Taken together this model proposes both a taxonomy of vocabulary learning steps and strategies, as well as a modified Vocabulary Knowledge Scale, given first as a self-assessment survey of the student's own TL vocabulary knowledge. Next it is given after instruction with teacher assessment to compare objective learning with subjective prior self-assessment to see how much a language learner's actual vocabulary knowledge has developed.

### **Rationale for testing vocabulary**

Why test language learners' vocabulary? Language teachers need to know what lexis their students already have acquired, and what they yet need to learn. Before testing, however, teachers and researchers need to clearly understand why they are assessing their students and how the results will be used. Care must always be exercised when testing since it usually has a dual effect of not only producing information, but also influencing attitudes of both teachers and learners. How test results are used, therefore, could be either encouraging or discouraging, so we must try to be wise and careful in their use.

Nation (1990) suggests that:

Once the purposes and uses of testing have been decided, the next points to be considered are what kind of knowledge is to be tested, and what type of test is most suitable.

He further notes that six of the major reasons for language testing are:

- 1) To find learners' total vocabulary size.
- 2) To compare vocabulary knowledge before and after the course.
- 3) To keep a continuing check on progress.-
- 4) To encourage learning by setting short-term goals.
- 5) To see the effectiveness of your teaching.
- 6) To investigate learning. (p.     )

Pakos (2001) asks three important questions about the explicit teaching and testing of vocabulary at Japanese junior high schools, which apply to any level of instruction. These three questions, which can help guide vocabulary teachers and researchers are: 1) How many words do your students know? 2) How many words do they need to know? and 3) Where can they meet the new words they need?

These questions are derived from Nation's (1990) discussion, which helps to focus teachers' attention on how to help increase their learners' vocabulary, by listing specific materials and activities, as well as techniques, strategies and procedures that can be used to develop particular lexical fields and skills. Effectively assessing learners' vocabulary means being able to design lessons, tests or research studies that can help to answer the three questions.

To answer Pakos' first question, one may test each individual learner's vocabulary knowledge by means of several kinds of vocabulary tests (c.f. p. 15 of this article) including standardized reading tests, used to ascertain their approximate vocabulary and reading comprehension grade level relative to native reader norms; using Vocabulary Knowledge Scales (VKS), such as those developed by Wesche and Paribakht, (1996) and Zimmerman (1997), or using the author's Dual Assessment Vocabulary Evaluator (DAVE), designed specifically for use with Japanese students. Finally Headword Level Tests (e.g., Nation, 1990; Laufer & Nation, 1999) can be used to determine the approximate number of words known in the target language, either receptively, or productively.

While studies exist of the latter two types of tests as they have been applied in Japan, information about how standardized reading tests can be effectively used to more accurately determine students' levels so as to better individualize and guide their vocabulary instruction has been much less widely published (but see Loucky, 1994; 1996; 1997a and b). The present article is aimed at addressing this neglected but most important area of language education in Japan.

With regard to Pakos' second question (How many words do they need to know?) West's (1953) General Service Lists is usually taken as a starting point for the high frequency 2,000 word list. Most vocabulary researchers refer to the parameters set forth by Nation and Laufer for most high frequency vocabulary and also for more common core academic vocabulary (see Coxhead (2000) who revises Nation's 800 University Word List into a new 570 Academic Word List).

In answer to the third question (Where can they meet the new words they need?), Nation (1990; 1994a) effectively guides teachers in systematically maximizing students' exposure to new vocabulary, noting that repeated encounters with new words are required for ensuring retention. Thus he states that teachers need to ask several guiding questions while helping learners to meet new words, establish previously met vocabulary, enrich previously met vocabulary (through planned re-encounters), develop vocabulary learning strategies, and develop fluency with known vocabulary. These helpful guiding questions are: a) What words do they need, b) How can they meet these new words, and c) How can we best test what they now know versus what they yet need to learn? The reason it is so important to help learners acquire the most frequent word families in English is because knowing these will enable them to deal with 80 per cent of the words they will usually meet in general written and aural texts. Learning another 570 of the most common core academic vocabulary will raise the potential textual coverage to about 90 per cent. Thus as learners acquire more headwords and their reading grade level rises, so will their level of comprehension. As Laufer (1997) writes:

the turning point of vocabulary size for reading comprehension is about 3,000 word families...  
The level at which good LI readers can be expected to transfer their LI reading strategies to L2 is 3,000 word families, or about 5,000 lexical items. Until they have reached this level, such transfer will be hampered by an insufficient knowledge of vocabulary. (p. 167)

She then goes on to explain how after that threshold level is reached, a student's degree of comprehension can be expected to increase by about 7 per cent for each additional 1,000 words they learn. Indeed, by using such a conversion formula, Laufer (1997) and Nation (1983; 1997) have shown us

convincingly how indispensable having a good vocabulary is to good reading on repeated occasions, and that 'Reading may be a psycholinguistic guessing game, but words are the tools you need to play it right' (Laufer, 1997: 32).

### **Guiding principles**

Hunt and Beglar (1998) give an excellent overview of current research and practice in teaching vocabulary, in which they present a systematic framework that combined insights of the three major approaches to vocabulary development of explicit instruction, implicit or incidental learning, and independent strategy development. Seven teaching principles which they derived from these three approaches that can help to guide our vocabulary instruction are as follows:

- 1) Provide opportunities for the incidental learning of vocabulary.
- 2) Diagnose which of the 3,000 most common words learners need to study.
- 3) Provide opportunities for the intentional learning of vocabulary.
- 4) Provide opportunities for elaborating word knowledge.
- 5) Provide opportunities for developing fluency with known vocabulary.
- 6) Experiment with guessing from context.
- 7) Examine different types of dictionaries and teach students how to use them. (p. )

While these are all excellent suggestions worthy of specific strategy instruction and practice, even the above authors and other vocabulary researchers (Coady, 1997) acknowledge that strategies such as incidental learning and guessing at meanings from context are strategies that may only work for more advanced learners. Acknowledging that guessing the correct meanings from context is a complex and difficult task, Hunt and Beglar (1998: 9) note that 'naturally more proficient learners using texts that are not overly difficult can be expected to use this strategy more effectively than low proficiency learners', thus identifying a problem for the Japanese university context which will be addressed in the second part of this article (to be published in the next issue of *The Japanese Learner*).

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