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ABSTRACT

The study reported here had three major objectives: (1) assessment of average vocabulary and comprehension levels of Japanese college students studying English as a second language (ESL) and comparison of the effectiveness of several formats for teaching vocabulary, reading comprehension, and listening comprehension; (2) comparison of three media (traditional silent-reading, audiolingual methods in a language laboratory, and author-designed computer software in a computer laboratory) for teaching vocabulary and reading comprehension; and (3) gaining insights into second language teaching in general and ESL instruction in Japan in particular. Instructional materials were derived from one vocabulary workbook series. Subjects were first- through third-year students at six institutions in Japan. Results indicate that the intensive vocabulary training methods developed for the study were successful in teaching vocabulary usage and retention, with reading and listening comprehension improving as more vocabulary was mastered. Implications for classroom teaching and for future research are outlined. Extensive materials are appended. Contains 293 references. (MSE)

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DEPARTMENT OF EDUCATION

PENSACOLA CHRISTIAN COLLEGE
GRADUATE SCHOOL

DEVELOPING AND TESTING
VOCABULARY TRAINING METHODS AND MATERIALS
FOR JAPANESE COLLEGE STUDENTS
STUDYING ENGLISH AS A FOREIGN LANGUAGE

by
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September 25, 1994 Vice President for Academic Affairs

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ABSTRACT OF DISSERTATION ON:
“DEVELOPING AND TESTING VOCABULARY TRAINING METHODS AND
MATERIALS FOR JAPANESE COLLEGE STUDENTS STUDYING ENGLISH AS
A FOREIGN LANGUAGE”

This research study had three major objectives. First, it sought to assess average vocabulary and comprehension levels of Japanese college students who were studying English as a Foreign Language ('EFL'), to better determine more effective means of instruction for more rapid and successful language learning. Next, various vocabulary-training methods and materials were examined, particularly a series of workbooks known as Wordcraft, produced by Vocab Incorporated¹ (sic). Vocabulary lessons were taught based on these materials, using three different media formats. These were then compared to determine their relative effectiveness in helping students to increase their vocabulary, reading comprehension, and listening comprehension levels. The relative importance of these three essential language skills for developing more general, overall English proficiency was also examined.

Second, the potential of using Computer-Assisted Instruction ('CAI') for more effective, individualized language learning was carefully considered. Evaluations and subsequent recommendations were based upon the use of author-designed vocabulary- training software, primarily constructed based upon Wordcraft's tape-workbook format. The use of these vocabulary development materials was compared in three media settings: 1) using them as traditional, silent-reading texts, 2) using them in a Language Laboratory, with the Audio-Lingual ('ALM') Method, and 3) using author-designed Computer-Assisted Instructional software in the Computer Lab. In addition to the short-term Wordcraft Study done with three groups in the author's two Rapid Reading classes, a long-term comparison of reading improvement over after one academic year was made between these two classes, which used

¹ Wordcraft is a product of Vocab Incorporated. Edited by Bergen Evans, with Ruth Hoffmeyer as consultant, in 1969. The owner and address are as follows: Mr. Tony Badko, 3071 South Broad St., Chicago, Ill. 60608.

several Audio-Lingual and Computer-Assisted Instructional programs, and two traditionally taught, text-based Rapid Reading classes.

Practical recommendations for Second Language Reading ('SLR') vocabulary development are then given, based upon actual results of these longitudinal studies, as well as practical vocabulary teaching and learning experiments with various college students at six Japanese colleges. The periods of instruction varied, depending on the sample, ranging from one month to one academic year, or ten months in Japan.

Third, implications of these findings in the field of Second Language Reading instruction to the more general field of Second Language Acquisition are suggested, with a particular focus on English education in Japan. The field of Second Language Acquisition ('SLA') in brief seeks to show how language learners' internal processing relates to both their linguistic input and output.²

For a brief overview of the actual study data and some of the materials used, the reader should consult the following Appendices: A. Tables of Japanese College Students' Reading Levels; B. Scope and Sequence Chart and Curriculum Objectives of Various C. A. L. L. Materials; C. Sample Lessons for Vocabulary-Training Materials Used in This Study; D. Recommended English for Academic Purposes Vocabulary; and E. English Materials Interest Survey, all found at the end of this work.

Finally, this study should also help to show how essential and beneficial a definite system of vocabulary development is for English students in Japan. Applications may then be made to comparable teaching and learning situations in other parts of the world as well.

² Rod Ellis, Understanding Second Language Acquisition (Oxford: Oxford University Press, 1985), 18.

CHAPTER I

INTRODUCTION

Some teachers in the field of Teaching English as a Second or Foreign Language, otherwise known as Teaching English to Speakers of Other Languages (henceforth referred to simply as TESOL or ESL/EFL), make the claim that students' proficiency in the English language can be rapidly developed if one can just get students to talk more. They seem to think that increased fluency in English can be accomplished by merely decreasing class size or increasing the number of conversation classes which students are required to take. However, types of instruction and interaction that most help to facilitate language learning need to be investigated, based upon actual research in the field of Second Language Acquisition (SLA). So far, this has not been done adequately in the four skill areas.

Although some language teachers and schools in Japan think that "all students really need is conversation"¹ (however that vague, general term is defined), the barrier of low vocabulary levels has not been faced squarely and is seldom addressed. Yet it is commonly known that effective cross-cultural communication--whether written, spoken, read or heard--depends on having both an adequate background knowledge, and a sufficient word bank in the second language being used. Thus one must look at the interrelationships between all four basic communication skills--of listening, speaking, reading and writing--and then compare their relative importance in the development of Foreign or Second Language proficiency in English. The following research was directed to this end, with a particular focus on developing and

¹John Wharton, Teaching Tactics for Japan's English Classrooms (Denver: Global Press, 1986), 40.

testing vocabulary-training methods and materials for Japanese college students studying English as a Foreign Language.

Explanation of Educational and Historical Setting

The author is based in Japan, where he is working as an English teacher, employed by several different Japanese colleges. His comparisons were made both among and between students in these schools, and a study was also made of the influence of various foreign language instructional methods, materials and motivational levels among these different students.

English now plays an important role in the Japanese educational system, especially as part of many dreaded college entrance exams. However it did not become important until the forced opening of Japan to the Western world by Commodore Perry in 1853-54. Especially after the Meiji Restoration of the Emperor in 1864, Japan set out on an explicit policy of modernization, including placing greater stress upon universal literacy, Western-style education, and the study of foreign languages. It is helpful to outline briefly how this policy has affected English language instruction in Japan. Wharton writes, in his Teaching Tactics for Japan's English Classrooms,

Education has always been of tremendous importance in the pragmatic Japanese society but, with the Meiji Restoration of 120 years ago [now 130 years ago], Japan moved its educational reforms into high gear in a desperate attempt to catch up technologically with the rest of the world. Largely because of the country's desire to learn as much as possible about foreign technology through printed matter, a brutal form of grammar-translation was adopted for the learning of English.

With this method, the Japanese condemned themselves to almost never being able to converse with an English speaker but soon were able to read almost anything he might write. For the insular Japanese of the time, however, this suited them just fine. After WW II, suddenly there appeared real, live English-speakers by the thousands, right there in the occupied homeland. Suddenly the focus of English instruction needed to shift from written to spoken but change is excruciatingly slow in Japan.²

Problems with English Language Education in Japan

In the case of Japan, foreign language instruction is usually not begun until junior high, which begins at age thirteen in the Japanese school system. Socially and linguistically this is not a very natural or opportune time to begin. As Ellis stated, a clear pattern can be seen from research in Second Language

²Ibid., 40-41.

Acquisition that shows the following three tendencies. The second two also show the clear benefits of beginning foreign language study at an early age, preferably by ages 6-10.

1. *Starting age* does not affect the *route* of SLA
2. *Starting age* affects the *rate* of learning
3. Both *number of years of exposure* and *starting age* affects the level of success. The number of years [of] exposure contributes greatly to the overall communicative fluency of the learners, but starting age determines the levels of accuracy achieved, particularly in pronunciation.³

Although both rate and degree of success in learning a second language seem to be strongly influenced by the learner's age, sometimes older learners, particularly adolescents, can learn at a faster rate. Snow and Hoefnagel-Hohle showed that teenagers may proceed in language learning at the fastest average rates.⁴ According to their study of Dutch L2 (Second Language) learners, Ellis reports,

they found that although the adults (15 years and older) outperformed the children (6-10 years), the teenagers (12 to 15 years) learnt more rapidly than both. It would appear that although age improves language learning capacity, performance may peak in the teens, after which performance declines. . . . Where success [in SLA] is concerned, the general finding is, not surprisingly, that the longer the exposure to the L2 (Target or Second Language), the more native-like L2 proficiency becomes . . . Burstall . . . concludes, 'the achievement of skill in a foreign language is primarily a function of the amount of time spent studying that language. . . .'⁵

There are very strong pressures to conform in Japanese schools and in society as a whole, as characterized by Ruth Benedict in her classic study, The Chrysanthemum and the Sword.⁶ Due to Japan's well-known 'shame culture,'⁷ teenagers in its large classes often appear to be very shy and concerned about

³Rod Ellis, Understanding Second Language Acquisition (Oxford: Oxford Press, 1985), 106.

⁴C. Snow and M. Hoefnagel-Hohle, "Age Differences in Second Language Acquisition," in Second Language Acquisition, ed. Evelyn Hatch (Rowley, Mass.: Newbury House, 1978).

⁵Ellis, Understanding Second Language Acquisition, 105.

⁶Ruth Benedict, The Chrysanthemum and the Sword (Tokyo: Tuttle Books, 1954).

⁷Takeo Doi, The Anatomy of Dependence, trans. John Bester (Tokyo: Kodansha International, 1981). See "Sin and Shame," 48-57; also Keiichi Sakuta, A Reconsideration of the Culture of Shame, or Haji no Bunka Saikou in Japanese (Tokyo: Chikuma Shobou, 1967).

conforming to group expectations, so as not to 'lose face' or be ostracized by their peers. A common proverb here is that "the nail or post that sticks out will get pounded down."⁸

Young people generally study English for six years, throughout junior and senior high school. Those who go on to higher education, usually from two to four years, get two to four more years of some English instruction. After high school, and sometimes even after college graduation, however, Japanese young people are notorious for being unable to speak even the most basic English sentences with any degree of fluency or accuracy, even after that long period of English instruction. This is easily shown by the fact that many of the most common textbooks used for teaching Oral English at the college level in Japan are clearly stated as being designed for 'false beginners.' False Beginners is a term commonly used to refer to students who speak like beginners, despite having had much previous background instruction in English, even six years before college! Since most have had little chance to actually USE English or engage in any real conversation, they start college English at close to a "Beginner's Level" in terms of speaking skills. Most Japanese college conversation texts are expressly written with these limitations in mind, but still recognizing the fact that these students have had an average of six years of English book-learning. With such a previous background, students should have far more latent potential than a complete beginner. In fact most do have a fairly large amount of passive or recognition vocabulary, on average about 3-5,000 words.

Most higher education English teachers have now realized that there are many things wrong with the old system of English language teaching and learning in Japan. To illustrate, Yonemoto, a Japanese English instructor in Kyushu recently compared the TOEFL scores of various Asian students and got the following results:

According to the statistics of ETS (Educational Testing Service), Japanese accounted for the second worst scores among 27 Asian countries on TOEFL. I feel this is very strange, for EFL in Japan

⁸Yosaburo Ikeda and Donald Keene, comp. Proverbs, or Waei Koji Kotowaza Jiten in Japanese, ed. Jouna Hokojiroh (Tokyo: Asahi Evening News, 1982), 51. In Japanese, the proverb reads: "deru kui (or kugi) wa utareru," meaning "Too tall a post is hit on the top," or "If you don't conform, you'll be knocked back down into place."

has already spread nation-wide and the Japanese Government spends a large sum of money on inviting many native speakers as AETs (Assistant English Teachers). How come a nation with such good EFL circumstances performs so poorly on TOEFL? I am afraid there is something seriously wrong with English education in Japan.⁹

A similar report was also made at the 32nd National General Assembly of the Japan Association of College English Teachers on September 8, 1993. At a seminar discussing the importance of "English Education in Asia for Global Peace," Professor Okihara offered some statistical material on the comparative role of English Education in nine different Asian countries. Similar to Yonemoto's findings reported above, Funatsu reported that Okihara pointed out that

among the nine Asian countries, Singapore attaches the greatest importance to English and is ranked at the top, while Japan is ranked at the bottom and the educational role of English is the smallest. He made it clear that Asian countries are divided into two main groups in terms of the quality of ELT [English Language Teaching]--ESL countries: Singapore, Philippines, Myanmar, and EFL countries: China, Indonesia, Japan, Korea, [and] Thailand. (Malaysia is [said to be] in the transitional process from ESL to EFL.)¹⁰

A Professor Park of Korea, at the same special seminar of the Japan Association of College English Teachers, stressed that English is the most politically and culturally neutral language of the Asia-Pacific region. Then he made three recommendations:

- 1) To develop a standardized English testing service,
- 2) To develop ESP [English for Special Purposes] materials for business people, tour guides, migrant workers, exchange students, etc., and
- 3) To operate an English island designed to train people in English-intensive jobs such as diplomats and English teachers.¹¹

⁹Mayumi Yonemoto, "Steps towards the Improvement of English Teaching in Japan," KASELE Bulletin 21 (1993): 34-40.

¹⁰Kohei Funatsu, "English Education in Asia for Global Peace," JACET Tsushin Bulletin 91 (Nov. 1993), 1292-93. (Seminar report of the 32nd National General Assembly of the Japan Association of College English Teachers, Tokyo.)

¹¹Ibid., 1292.

Cogan, a foreign instructor at Waseda University, asked in an article on "Meeting Students' Needs," "What do our students actually need in the way of English language education?"¹² He answered this rhetorical question by saying that there is general agreement as to language instruction's ideal goal.

Most teachers would probably answer: the ability to read, write, speak, and comprehend standard English. No doubt that is the ideal. However, it seems fair to say that few, if any, language programs in Japanese universities are achieving this goal to everyone's satisfaction at the present time. We all know the main reasons for this failure: too many students in one class, too few class meetings [per week], hard to use classrooms, antiquated language curriculums, and inadequate efforts on the part of teachers and students. So what can we do? ¹³

Despite six years of pre-college training, English instructors at the college level usually begin oral instruction at the beginner's level, trying desperately to activate supposed "latent English knowledge" which should have accumulated in students' brains during junior and senior high school. The main problem with most traditional English instruction in Japan has been the use of the so-called yakudoku or "Grammar-Translation method,"¹⁴ which means reading English with direct translation into Japanese after each sentence. This of course prevents the student from ever having to think, much less speak, naturally in English.

Most college teachers in Japan, whether native English speakers or Japanese have by now recognized the educational fallacies of this old, outdated direct 'Grammar-Translation' linguistic method.¹⁵ Yet they continue to inherit students graduating from Japanese junior and senior high schools, where teachers are still generally quite traditional in their approach to English language education. Wharton writes a clear and succinct description of this direct 'Grammar Translation' method, stating:

¹²Thomas J. Cogan, "Meeting Students' Needs," JACET News Trends 88 (March 1993):14.

¹³Ibid.

¹⁴Wharton, Teaching Tactics for Japan's English Classrooms. See ch. 4, "Popular Teaching Methodologies," 19.

¹⁵Marianne Celce-Murcia and Fred Rosensweig, "Teaching Vocabulary in the ESL Classroom," in Teaching English as a Second Language, eds. M. Celce-Murcia and L. McIntosh (Rowley, Mass.: Newbury House, 1979), 241.

The usual method of learning Latin and indeed other languages up to the last century was 'grammar translation.' This excruciatingly boring process had the students study long lists of grammatical rules and vocabulary of the target language, then spend hours translating passages back and forth from one language to the other. Very little time was spent in using the language for free communication of student thoughts, a limitation which virtually guaranteed that the students would have tremendous difficulty ever using the target language for anything but more tedious translation. Sadly, 'grammar translation' is [still] the method of choice of [most] Japanese public schools for the learning of English¹⁶

Wharton also points out that since "close to 100%" of all Japanese graduate from high school, it is safe to say that "over 90% of adult Japanese"¹⁷ have studied English for at least six years, if not more. Thirty to forty percent of all high school graduates go on to higher education for two to four years, where many take English again. Despite this average of six to ten years of English instruction, however, Wharton bemoans the fact that "one conversation with such a person . . . [would] likely convince you that it was not time well spent."¹⁸

Many Japanese have studied English mainly with the pragmatic motivation of knowing enough to pass the dreaded college entrance exams. As a result, most Japanese college students and adults have what has been called "inarticulate English literacy."¹⁹ This means they can read English passably, with varying levels of comprehension, but "precious few can carry on an intelligible conversation with a native speaker."²⁰

Thankfully, the language education in Japan has started to change, especially with the introduction of more foreign Assistant English Teachers into many junior and senior high schools around Japan. Since 1988 the JET (Japan Exchange Teachers) Program has brought increasing numbers of foreign teachers as

¹⁶Ibid.

¹⁷Wharton, Teaching Tactics, 19.

¹⁸Ibid. See ch. 6, "Teaching English in Japan," 39.

¹⁹Ibid.

²⁰Ibid.

'Assistant English Teachers' to help Japanese English teachers in junior and senior high schools achieve more natural and communicative English teaching.²¹ Since 1987 Japan's Home Affairs Ministry began to encourage local and regional governments to expand international exchange programs.²² The number of such locally or regionally hired English short-term exchange teachers (usually for two-year terms) has risen since that first year from 848 to 2,874, about thirty percent per year for the first five years.²³ This trend seems likely to continue, although from a professional language teaching perspective, one must note that only 11.5 percent, or 211 out of 1,841 recruits beginning their English teaching duties in 1991, possessed any formal training and qualifications in TEFL.²⁴

The basic research area which this study focused on was vocabulary development, by examining various vocabulary-training methods and materials to compare their objective effectiveness, as well as students' subjective responses.

Increasing the number of contact hours with exposure to the target language, henceforth called L2, meaning 'Second Language,' would naturally be expected to help students to increase their fluency. Nevertheless, as D.A. Wilkins puts it: "... intensity is no less important an aspect of time than quantity. The frequency of the learner's contact with the second language is possibly a more significant variable than the total amount."²⁵ Pursuing his argument in favor of more intensive language instruction, Wilkins explains the need for more hours of intensive exposure to the Target Language (referred to as 'TL'). This is especially true in countries where English is seen as a foreign language that is not frequently used publicly for social discourse.

²¹Minoru Taki, "The JET Program: Present and Future," *CLAIR* publication, (March 1992): 21-24. (Based in Tokyo, this stands for the Council of Local Authorities for International Relations).

²²*Ibid.*

²³*Ibid.*

²⁴*Ibid.*, 57-58.

²⁵D. A. Wilkins, *Second-language Learning and Teaching*, (London: Edward Arnold, 1974), 44.

especially true in countries where English is seen as a foreign language that is not frequently used publicly for social discourse.

In conventional school language learning, the contact can be as little as two hours a week. It is rarely more than five or six hours a week. Intensive courses, on the other hand, often provide from fifteen to twenty hours a week of instruction, while also requiring work to be done outside the classroom which significantly increases the quantity of exposure [to L2].

... If the contact is as little as two hours a week, it will be difficult to inculcate a sense of progress and achievement and there will be serious lack of interest in learning ... Almost certainly more intensive exposure than is normally provided is desirable. With only two hours a week available, learning by the normal inductive processes is probably very difficult. What is more, there is a serious danger of forgetting when the contact is so sparse. When the intensity is inadequate, the quantity will have to be increased or the objectives will have to be reduced. Where short-duration, intensive courses are provided, the learning achievement will be much more evident and there will be greater productivity for the overall investment of time.²⁶

However, an open question which has not yet been sufficiently investigated by language researchers, is this: "What proportion of hours of language instruction should be spent working on oral skills, rather than the basic areas of listening or vocabulary development, or some other equally essential foundational language skill area?" The two basic research questions which this study examined in more detail are (1) How important is a language learner's vocabulary level and its systematic development, and (2) How can learning the four language skills be best integrated using modern technology, by building around a spiraling core of first learning the most essential vocabulary and grammatical structures?

Various factors were examined which could either hinder or help Japanese college students to increase their EFL proficiency. How are these language areas related to each other in the development of EFL/ESL proficiency? The combined testimony of language teaching experience and acquisition research had to be examined in order to try to answer some of these questions. There was an obvious need for a specific study of the relative importance of vocabulary acquisition in the development of English proficiency among Japanese students, from junior high through college levels. A problem statement of this research task follows.

²⁶Ibid., 44-45.

their learning of English as a Foreign Language? Related research questions included the following: Is there a significant enough relationship between the two skills of vocabulary and listening comprehension ability to indicate that they are both foundational to overall development of general English proficiency? More specifically, when vocabulary and listening comprehension skills are developed together, by using either simultaneous Audio-Lingual (ALM) or synchronized Computer-Assisted Instructional methods and materials (CAI), is the rate of new vocabulary learning found to be significantly higher than that obtained when using traditional methods and texts? What are the effects of increased vocabulary levels on other measures of English ability? These language skill interrelationships need to be studied more.

First of all, changes in reading levels were examined and compared using the Gates-MacGinite Reading Tests²⁷ to measure subskills of: (a) Reading Comprehension and (b) Vocabulary skill, as well as (c) overall Reading Level or expectancy. Test subskills were capitalized as separately assessed variables. Second, more general measures were obtained of (d) Global EFL proficiency improvement, using Michigan Tests of English Proficiency,²⁸ and (e) students' satisfaction, in terms of interest, motivation and confidence levels, using informal surveys. Finally, (f) both short- and long-term retention of new vocabulary was checked to compare the relative effectiveness of different instructional methods and materials. The answers to these questions are very important to consider when attempting to construct a more effective and well-integrated program of instruction for English as a Foreign Language (EFL) in Japan in particular, and elsewhere as well, wherever EFL or ESL (English as a Second Language) programs exist.

Purpose of the Study

The purpose of this study was to examine the effects of a systematic and intensive, contextualized vocabulary development program upon Japanese college students' overall acquisition of English as a

²⁷Walter H. MacGinite, with Joyce Kamons, Ruth L. Kowalski, Ruth K. MacGinite, and Timothy MacKay, Gates-MacGinite Reading Tests. Teacher's Manual. 2d. (Boston: Houghton Mifflin, 1978).

²⁸*Michigan Test of English Language Proficiency*, Testing and Certificate Division, English Language Institute, University of Michigan, 1979. (Forms A and P were used as pre- and posttests, respectively. Tests were prepared by A. Corrigan, B. Dobson, E. Kellman, M. Spaan, L. Strowe, and S. Tyma.)

Purpose of the Study

The purpose of this study was to examine the effects of a systematic and intensive, contextualized vocabulary development program upon Japanese college students' overall acquisition of English as a Foreign Language in general, and upon their development of both reading and listening comprehension skills in particular. The primary area of interest in this study was not only to compare vocabulary training methods, but also to test the effectiveness of certain author-designed instructional techniques and software programs. Until recently there has been little research available in the field of Second Language Reading relative to EFL vocabulary training and acquisition.²⁹

Yamamoto's review of the literature showed that up until about 1980 "only a little research on vocabulary acquisition" had been done, "not only in L2 acquisition but also in FL [Foreign Language] learning."³⁰ Therefore this study sought to find and model viable methods for more effective and well-integrated EFL vocabulary development. It also tried to develop workable methods for (a) assessing the effectiveness of vocabulary and listening software programs, (b) creating better integration of all four language skill areas necessary for the development of balanced EFL fluency, and (c) more accurately assessing students' so-called frustration, instructional, and independent reading levels.³¹

This study used both pre- and posttest evaluations so as to (d) better individualize EFL reading instruction, in terms of both vocabulary and comprehension areas, as well as pacing and word speed. Such a study appeared to be very much needed, given the relatively low levels of Japanese students' vocabulary and their poor international performance on TOEFL tests cited above. Another important reason to find ways to improve English Reading instruction is the fact that literature and reading courses are among the

²⁹Celce-Murcia and Rosensweig, "Teaching Vocabulary in the ESL Classroom," in Teaching English as a Second Language, ed. M. Celce-Murcia and L. McIntosh (Rowley, Mass.: Newbury House, 1979), 241. Stephen Krashen also concurs with this sentiment in Principles and Practice in Second Language Acquisition, (Oxford: Pergamon Press, 1982), 80.

³⁰Hiroki Yamamoto, "College Students' Retention of Vocabulary Learned during the Three Years of Senior High School," Seinan Women's Junior College Bulletin 32, (Kitakyushu, Japan: Seinan JoGakuin, December 1985): 67-68.

³¹Eldon E. Ekwall, Diagnosis and Remediation of the Disabled Reader, (Boston: Allyn and Bacon, 1976), ch.11, 260-91.

most common English courses taught in Japanese colleges, and English is one of the main subjects tested in college entrance examinations.

Research Objective

This study was designed to test the following central hypothesis: First- and second-year Japanese college English majors will show a significantly higher level of improvement in their English reading and listening skills when using both (1) an Audio-Lingual Method (ALM) and/or (2) Computer-Assisted Instruction (CAI) vocabulary development materials, rather than when simply using (3) traditional text-based materials and a Sustained Silent Reading (SSR) method. Such Japanese college students will both learn more rapidly and feel more satisfied when they are using such systematic, intensive and integrated vocabulary and listening development methods and materials, rather than when simply using traditional, text-based instruction. Four first-year Rapid Reading classes using these three means of instruction were compared, using both Treatment (TG) and Control (CG) groups. Two of these classes were also exposed to Audio-Lingual and Computer-Assisted materials over the course of the year, and their relative rates of reading improvement were compared with two more traditionally taught Rapid Reading classes at the same school. If this major hypothesis is valid, one would expect to find a significant difference both in levels of cognitive performance, as well as in affective satisfaction levels between classes exposed to different vocabulary-training media. This difference should become more marked with greater exposure to such media and with more media-assisted study over a longer period of time.

Working Hypotheses

Stated in the null Hypothesis (Ho) form, this study tested the following three hypotheses:

(1) Ho 1: EFL students' tested level of Reading Comprehension will not increase significantly in direct proportion to an increase in their Vocabulary Level. (Test Subskills were capitalized.)

(2) Ho 2: EFL students' Listening Comprehension, as assessed by TOEFL Listening Sections,³² will not increase significantly in direct proportion to an increase in their Vocabulary Level, as shown on Gates-MacGinitie Reading Tests.³³

(3) Ho 3: Students using Computer-Assisted Instructional materials and/or an Audio Lingual Method to improve their English vocabulary will not show a significantly higher rate of improvement over those students using just a traditional, text-based Sustained Silent Reading method of vocabulary acquisition. One would expect that increases in such areas of linguistic competence as vocabulary (semantic) and/or grammar (syntactic) skills, would encourage significant and corresponding increases in foreign language learners' communicative competence and confidence in English. That is precisely the goal of Second Language Acquisition, after all. In this way a true and realistic goal may be clearly shown for EFL instruction in Japan, along with a workable plan of effective methods and materials.

Significance of and Rationale for the Study

Yamamoto found that Japanese college students' speaking ability in English, despite six years of previous study, is usually hindered not only by (1) having large classes, with an average of forty to fifty students, and by (2) few chances to speak English, but also by (3) their relatively low level of English vocabulary.³⁴ For example, Yamamoto found that students tested at the author's junior college, regardless of the length of time they were enrolled in the English Department, whether first- or second-year students, "were shown to maintain an average [of only] between 60% and 70%" of the English vocabulary words

³²Milada Broukal and Enid Nolan-Woods, Preparation for TOEFL and Practice Tests for TOEFL (London: MacMillan Press, 1990). Further information may be obtained directly from Educational Testing Service, TOEFL Program Office, P. O. Box 6155, Princeton, N.J.

³³Walter H. MacGinitie, and others, Gates-MacGinitie Reading Tests, Second Edition, Teacher's Manual (Boston: Houghton Mifflin, 1978). This study used the revised Second Edition tests.

³⁴See the writer's extensive "Tables of Japanese College Students' Reading Levels," including both 'Vocabulary, Comprehension and overall Reading Levels' based on his administration of the Gates-MacGinitie Reading tests, in Appendix A, Tables I-XII. He has tested the individual vocabulary levels of over 2,000 Japanese college students.

which they were supposed to have learned in high school.³⁵ This lack of vocabulary knowledge clearly hinders further progress in all four areas of their language development: (1) listening comprehension, (2) speaking fluency, (3) reading comprehension, and (4) writing ability.

The typical Japanese college freshman or sophomore's age, averages eighteen to twenty years old, having just finished six years of English at junior and senior high school. Nakata described their normal characteristics. "[They] . . . should have a reasonable amount of knowledge of English grammar. . . and some 4,000 English words. Unfortunately, he/she has developed little communicative competence. This is probably a fair description of a Japanese learner who has studied English for some six years."³⁶ Often non-English majors have mastered only 1-2,000 English vocabulary words before entering college.

One objective of this study was to determine whether it is true that when Japanese EFL student's vocabulary level is increased considerably, then their English skills in several other language areas would also tend to improve significantly. While it was difficult to test each of these areas, this study sought to obtain at least informal measures in each area, while focusing upon the development of reading skills in particular. This research also investigated to what degree listening skill improved, which would seem to be a related result, especially when vocabulary and listening development are taught together as proposed.

This research also looked at how vocabulary levels and their improvement are related to the relative strengths of an EFL student's "anticipatory set skills," a term that means "ability to successfully predict correct words, meaning, structure or patterns in context." These may, therefore, be semantic, syntactical or logical contexts, either (1) when listening and/or viewing, (2) when reading, or (3) when both listening and reading simultaneously. Written or dictated cloze tests can help measure these skills.³⁷ The "Cloze

³⁵Yamamoto, "College Students' Retention of Vocabulary," 67-92.

³⁶Yasuyuki Nakata, Language Acquisition and English Education in Japan: A Sociolinguistic Approach (Kyoto: Koyo Shobo, 1990), See in particular ch. IV, "In Pursuit of Communicative Language Teaching in Japan," and "Conclusions," 74-116.

³⁷Hiroki Yamamoto, "Cloze or Dictation: Which Is a More Functional Tool as an EFL Overall Proficiency Measure?" Seinan Women's Junior College Bulletin 36 (December 1989): 15-30.

Procedure” consists of replacing every ‘nth word’ with a blank line, which students must try to fill in properly from the context of the reading passage. Ekwall tells how to use this technique, for placing students in graded materials or for use in selecting materials to meet the needs of a particular group of students. The percentage of correct answers are then calculated and from these percentages “Free or Independent, Instructional and Frustration reading levels” are derived.

John Bormuth (1967 and 1968) researched the use of the close procedure His studies were later duplicated and validated by Earl Rankin and Joseph Culhane (1969).³⁸ To give an example of using the Cloze Procedure, if every 5th word of a reading passage were deleted, the percentages for each reading level have been figured by Ekwall as follows:

Free or Independent Level	=	58-100%
Instructional Level	=	44-57%
Frustration Level	=	43% or less ³⁹

Written Cloze tests can be very useful test indicators of students’ reading and writing abilities, just as dictation tests provide a good measure of students’ listening abilities. Analysis of errors on such Cloze tests can also help us to see how well a student has remembered particular details of a story or reading passage. Because it can be administered as a group test, it also has an advantage over informal reading inventories that must be administered individually. When using Cloze tests one should keep in mind that only the exact word omitted is normally counted as correct. Synonyms are not counted correct because then grading would become too cumbersome, and they also would not greatly affect test results anyway. Bormuth’s research⁴⁰ has shown us, in Ekwall’s words, “that the overall percentages change very little

³⁸Eldon E. Ekwall, Diagnosis and Remediation, 286-91.

³⁹Ibid.

⁴⁰John R. Bormuth, “Comparable Cloze and Comprehension Test Scores,” Journal of Reading 10 (Feb. 1967): 291-99.

regardless of whether synonyms are counted as correct or incorrect.”⁴¹ Incorrect spelling is also not counted wrong, as long as there is no doubt that the word meant properly fits the context.

When they are trying to write or speak in English, EFL learners are trying to create rather than to discern the meaning of communication. Yet here in their speaking and writing skill development, EFL students in Japan seem to be seriously hindered from freely developing expressive skills, due in large part to the extremely limited nature of their English vocabulary. Yet despite this obvious problem, Yamamoto points out that “there has been little emphasis upon helping EFL learners to develop their lexical competence.”⁴²

This study examined some of these contentions in order to better assess and understand the interrelationships between the four basic language communication areas. The findings should help to suggest how to better prioritize and balance instruction in these various communication skill areas, so as to produce a more effective EFL program in Japan, especially for high school and college students. Since all four communication areas are interrelated, integrated English taught by using new Computer-Assisted English instructional software should be much more effective for foreign language students in Japan than traditional methods. The implications of new ‘Multi-Media CAI’ using CD Roms for foreign language instruction could be quite revolutionary.

Assumptions

1. It was assumed that the teacher of English as a Foreign Language was adequately prepared academically to present the material as prescribed by this study.
2. It was assumed that all students in this study would be first- or second-year college students in Japanese colleges, unless otherwise specified for comparative purposes.
3. It was assumed that the students involved in this study would be given material that was appropriate to their instructional level. This means they would be given material at a level appropriate to

⁴¹Ekwall, Diagnosis and Remediation, 286-91.

⁴²Yamamoto, “College Students’ Retention of Vocabulary,” 67-68.

their present functional ability as measured by some standardized reading test. There are three commonly accepted levels of general reading, when evaluated in terms of the relative measure of difficulty of reading material for a particular student, namely: a) frustration level, meaning too difficult, b) instructional level, meaning just far enough above their free-reading level to be challenging or instructive, and c) independent level, where students can read freely without any need for explanation or instruction.

As defined by Bond and Tinker in their text, Diagnoses of Reading Difficulties,⁴³ one can determine a particular student's general reading level formally by using Betts'⁴⁴ four classifications:

1) A child's *independent reading level*, is ascertained from the [basal] book in which he can read with no more than one error in word recognition (pronunciation) in each 100 words [99% word recognition or better] and has a comprehension score of at least 90 percent . . . At this *independent reading level*, the child has complete control of experience (concepts), vocabulary, construction, and organization. He has, therefore, maximum opportunity for doing the thinking that is required for a full understanding of what he is reading.

2) The *instructional reading level*, is determined from the level of the book in which the child can read with no more than one word-recognition error in each 20 words [at least 95% word recognition] and has a comprehension score of at least 75 percent. At this level the child reads orally, after silent study, without tension . . . When using challenging materials at this level, and with purposeful reading directed by the teacher, the result should be maximum progress in acquiring reading [including vocabulary] abilities.

3) The *frustration reading level* is marked by the book in which the child 'bogs down' when he tries to read . . . The child comprehends less than half of what he is trying to read . . . No child should be asked to go on reading at the frustration level when he is being taught [or tested] The teacher, however, should recognize that such a level exists [for each student]. Too frequently children are found to be working at their frustration levels in classes where instruction is not satisfactorily adjusted to individual differences.⁴⁵

In Japan reading tests to determine individual student's English reading levels relative to native norms are seldom given since such tests are not locally available. In the writer's ten years of teaching experience in Japan in Adult English Education, he knows of no college that has used such individualized reading tests, other than those which he himself initiated. Such problems were addressed in this study.

⁴³Guy L. Bond and Miles A. Tinker, Diagnoses of Reading Difficulties (Englewood Cliffs, N.J.: Prentice-Hall, 1973), 220-21.

⁴⁴Emmett A. Betts, Foundations of Reading Instruction. (N Y: American Book Co., 1946).

⁴⁵Bond and Tinker, Diagnoses of Reading Difficulties, 220-21.

Betts has a fourth level of difficulty called *probable capacity reading level*, which would be the hardest, or highest level book in a basal series of which a child could comprehend 75% of the material when read to him aloud by the examiner.⁴⁶ Studies by Duker⁴⁷ also suggest that "listening ability may be a better predictor of reading potential than mental age."⁴⁸ Perhaps using a combination of listening and intelligence tests would give the best possible prediction of a student's reading potential. These findings suggest that one should attempt to compare students' (1) Gates' Reading Levels with their (2) Listening Comprehension, as measured by performance on TOEFL⁴⁹ Listening sections, and (3) general English Michigan Proficiency scores for probable correlations.

4. It was assumed that Gates-MacGinite Reading Tests⁵⁰ provided a valid enough measure of an EFL student's reading level in terms of both (a) vocabulary, (b) comprehension and (c) total overall ability. Although these tests were normed in the United States, there are presently no known norms for Japanese students' reading ability in English. This writer knows of no Japanese colleges that even attempt to give individualized reading tests to determine the specific ability of each student in all three of these areas, so as to make instruction most appropriate and effective. This poor educational condition must be addressed and corrected by Japan's language teaching community. Clearly, appropriate educational materials cannot be adequately prescribed without proper diagnosis.

⁴⁶Betts, Foundations of Reading Instruction. See definitions of reading levels.

⁴⁷Sam Duker, "Listening and Reading," Elementary School Journal 65 (March 1965): 321-29. Duker's studies on methods of presentation and modalities suggest the best predictor of reading potential may be a combination of intelligence and listening ability. Cf. Ekwall, 244-59, and Bond & Tinker, 221.

⁴⁸Bond and Tinker, Reading Diagnosis and Remediation, 221.

⁴⁹Broukal and Nolan-Woods, Preparation for TOEFL and Practice Tests for TOEFL.

⁵⁰MacGinite, and others, Gates-MacGinite Reading Tests.

5. It was further assumed that Michigan Proficiency Tests⁵¹ provide a valid measure of foreign students' general or overall English fluency in terms of the following areas: (a) vocabulary, (b) grammar, and (c) comprehension. These were specifically normed on international students going to America to study in college.

6. It was assumed that the above tests would be given as both pre- and post-tests to determine the overall improvement of both control and treatment groups, and that these and other tests devised to measure anticipatory, recognition and comprehension abilities in reading and listening represent valid measures of students' skill and progress in those areas.

7. It was assumed that both Cloze⁵² and Dictation testing⁵³ procedures provide a valid measure of EFL students' ability to anticipate correctly in context either: (a) appropriate phonetic sounds and words, (b) appropriate semantic meanings, (c) correct grammatical structures, or (d) certain logical patterns, relationships and conclusions.

8. It was assumed that none of the students involved had any previous training using these particular vocabulary and listening training methods and materials before their entrance into college. All students had the same six years of previous study of English in junior and senior high school in Japan. No students who had studied overseas more than two months were included.

9. It was assumed that only teachers and students who were willing to do so would participate in this study.

⁵¹Forms A and P were used as pre- and posttests, respectively.

⁵²John W. Oller, "Scoring Methods and Difficulty Levels for Cloze Tests of Proficiency in English as a Second Language," *Modern Language Journal* 58 (1972): 239-41.

⁵³Yamamoto, "Cloze or Dictation." See also Ekwall's description of "The Cloze Procedure," in *Diagnosis and Remediation of the Disabled Reader*, 286-91. Also for an excellent review of the cloze procedure regarding its effectiveness as a teaching device see Eugene Jongmsa, *The Cloze Procedure as a Teaching Technique* (Newark, Del.: ERIC/CRIER and the International Reading Association, 1971).

10. It was assumed that students would be asked to give their own personal opinions concerning their background in English and current English study habits, as well as their interest and attitudes toward the materials and methods to which they were exposed.

11. It was also assumed that students would receive feedback as to their own performance. Part of this study examined the effects upon Japanese EFL college students of increased immediate feedback, which was made possible by the use of computers (CAI).

Limitations of the Study

1. The schools chosen were familiar to this researcher in terms of student population, subject area majors, and level of English education at present.

2. Students involved in this study were Japanese college students attending one of the following colleges in Kitakyushu, Japan: (a) Seinan Women's Junior College, English Department, (b) Kitakyushu University, English Department, (c) Kyushu Institute of Technology Engineering Division students, (d) Denki Daigaku in Kokura, technical junior college students, or (e) Kitakyushu Shokugyou Junior College, technical school students.

3. Students involved in this study were in their first or second year of college during the research.

4. The study involved primarily the areas of reading and listening, especially in terms of (a) vocabulary, and (b) comprehension in the specific field of Teaching English as a Foreign Language.

5. Samples from a Japanese college population are normally limited to classes of about twenty to fifty students. However, a major difficulty in doing such research is the fact that college classes normally meet only once a week.

Factors Influencing Second Language Acquisition of Particular Relevance to This Study

There are many different variables related to successfully learning a foreign language. As recently as 1988 the U.S. Government's Interagency Roundtable sponsored a conference in Washington, D.C. with the joint sponsorship of the ERIC Clearinghouse on Languages and Linguistics. Its purpose was to

reassess older foreign language tests to see if they adequately reflect new findings in educational and linguistic fields, especially such variables as the "relation of attitudes, motivation, personality, and other emotional characteristics and predispositions to second language learning."⁵⁴

Other factors such as individual cognitive styles, personal learning strategies, and brain hemispheres research may also be related to success in learning a foreign language. Besides individual learner variables, instructional variables must also be considered in a systematic way. As Stansfield writes for the ERIC Digest, "Perhaps the time has come when the notion of foreign language aptitude needs to be expanded and refined, and related to factors other than the learner."⁵⁵ He enumerates such factors as:

... personal characteristics of the teacher; the instructional method employed, the task or language skill to be learned; the classroom environment . . . and the proficiency level that needs to be acquired. A new program of language aptitude research, test development, and data collection and analysis might improve our ability to predict successful language learning and to tailor the classroom environment and instruction to individual students.⁵⁶

This study focused upon the development of reading skills, especially English vocabulary levels, in particular. Another objective of this study was to determine whether as Japanese EFL student's vocabulary level increased considerably, their English skills in several other language areas would also improve significantly. While these other areas proved difficult to test for small changes, this study sought to obtain at least pre- and posttest measures in listening and general English proficiency as well. It also attempted to investigate to what degree listening skills improved. This would seem to be a related result of improving one's English reading level, especially if vocabulary and listening development can be taught together as proposed.

⁵⁴Charles W. Stansfield, "Language Aptitude Reconsidered," *ERIC Digest* (December 1989). Cf. ERIC Clearinghouse on Languages and Linguistics (Washington, D. C.: Center for Applied Linguistics).

⁵⁵Ibid.

⁵⁶Ibid.

Definitions of Programmed and Personalized Instruction

Programmed Learning--"A procedure that provides information to the learner in small steps, guarantees immediate feedback concerning whether or not the material was learned properly, and allows the learner to determine the pace with which he or she goes through the material."⁵⁷

Teaching Machine--"A device used to present programmed material."⁵⁸

Personalized System of Instruction (PSI)--"A teaching technique developed by Keller that involves dividing course material into segments, evaluating student performance on each segment, and allowing students to move from segment to segment at their own pace."⁵⁹

Computer-Assisted Instruction (CAI)--"The utilization of computers to present and evaluate a wide variety of educational materials."⁶⁰ CAI is the term used most often to describe using computers to perform instructional tasks. Bitter and Camuse state that other terms commonly used to describe the use of computers in education include the following: "Educational software', 'course-ware,' CBI (computer-based instruction), and CMI (computer-managed instruction)"⁶¹

Sensory Memory--or Sensory Store. This begins when one's "sense receptors are activated and lasts for about a second. Such memory stores a great deal of information . . . available for only a very short period of time."⁶² Sensory Store is seen as the first stage of information-processing. Norman began

⁵⁷B. R. Hergenhahn, An Introduction to Theories of Learning, 3d ed. (Englewood Cliffs, N. J.: Prentice-Hall, 1988), 121.

⁵⁸Ibid., 122.

⁵⁹Ibid., 455.

⁶⁰Ibid.

⁶¹Gary G. Bitter and Ruth C. Camuse, Using a Microcomputer in the Classroom, 2d ed. (Boston: Allyn and Bacon, 1988), 67.

⁶²B. R. Hergenhahn, An Introduction to Theories of Learning, 372-87.

his analysis of memory and learning by first looking at how a person's Sensory Memory processes data from the environment. In his study,

... visual and auditory systems have been given the most attention because they are the sense modalities through which most of our knowledge of the environment come [sic]. The sensory memory corresponding to the visual sense is called iconic store. The sensory memory corresponding to the auditory sense is called echoic store Although there is a vast amount of information in sensory store at any given moment, only a fraction of it is attended to, and thus made available for the next stage of information processing.⁶³

Short-Term Memory--also called Short-term Store and Primary Memory. This means "Memory of material selected from sensory memory for further processing. Such memory lasts for about 15 seconds."⁶⁴ Hergenhahn points out, however, that "unless information in short-term memory is selected for further processing, it, too, will be forgotten in a very short period of time."⁶⁵ This fact shows the great importance of finding vocabulary-training methods and materials which help language learners to 'lock' new words into their memory.

Long-Term Memory--also called Long-term Store and Secondary Memory. This means memory which lasts for over fifteen seconds. Learning is conserved over longer periods of time. Items stored in Short-term Memory seem to be transferred into one's Long-term Memory only by repetition or rehearsal. There it can last indefinitely.⁶⁶ This study will test the added effects on long-term memory of two types of repeated rehearsal which may be used in language learning: (1) Oral Imitation in a Language Lab, and (2) Written Extension in the form of 'Vocabulary Stories,' personalized creative stories written by language students in which they try to use fifty vocabulary words of five Wordcraft lessons appropriately.

⁶³Ibid.

⁶⁴Ibid.

⁶⁵Ibid., 373.

⁶⁶Ibid.

Active versus Passive Vocabulary--words one can use expressively in their speaking or writing make up a person's Active Vocabulary. Passive or Receptive Vocabulary, however, includes the words whose general meanings one can recognize when they are heard or read.

As John Crow writes in his excellent text Vocabulary for Advanced Reading Comprehension which uses the Keyword Approach, "The largest single obstruction to their [nonnative English speakers'] reading is AN INADEQUATE PASSIVE VOCABULARY."⁶⁷ At UCLA, sixty-eight percent of the advanced ESL students considered that an inadequate vocabulary was their main cause of difficulty in academic reading.⁶⁸ A larger Passive Vocabulary is clearly the greatest need for foreign students doing more advanced study in English. Thus, to help these students solve the vocabulary problems they face when required to do advanced readings, "we must find an approach that will allow students to acquire recognition ability for a large number of words in a relatively short period of time." This Keyword Method, based on how the human mind organizes ideas into various networks of associations, seems to be an effective approach. Both Wordcraft and Crow lessons follow this basic approach.

Semantic Fields--defined by Mackey as being made up of "basic keywords, which command an army of others. The semantic area may be regarded as a network of hundreds of associations, each word of which is capable of being the centre of a web of associations radiating in all directions."⁶⁹

Communicative classrooms, or Communicative Language Teaching--is defined by Japan's Ministry of Education as being instruction in which students are given "opportunities to try out their English in a communicative situation."⁷⁰ Actual expressive use between language learners is stressed,

⁶⁷John T. Crow, Vocabulary for Advanced Reading Comprehension: The Keyword Approach, (Englewood Cliffs, N.J.: Prentice-Hall, 1986), ix-xiv.

⁶⁸John T. Crow and June R. Quigley, "A Semantic Field Approach to Passive Vocabulary Acquisition for Reading Comprehension," TESOL Quarterly 19, no. 3 (Sept. 1985): 497-510.

⁶⁹*Ibid.*, 497-98.

⁷⁰Kevin Stoda, "A Burning Issue: The Need to Introduce 'Beneficial Backwash' and a Testing Partnership in Japan in the 1990s," Language Teacher 18, no. 10 (Oct. 1994): 36.

rather than passive listening to a teacher using English, with little chance for student interaction.

CAI--Computer-Assisted Instruction or CALL--Computer-Assisted Language-Learning

EFL--learning English in a country where English is not widely used or spoken, but is rather considered to be a completely 'Foreign Language.'

ESL--learning English as a second language, usually in a country where English is broadly used socially and economically as a normal 'trade language,' or 'lingua franca.'

L1--means 'Native or First Language.'

L2--means a 'Foreign or Second Language,' or the language being learned after one's mother tongue. Sometimes it is not widely used socially, in which case it is considered to be a foreign language. In an ESL/bilingual situation, one may learn and use two or more languages socially.

SLA--Second Language Acquisition; learning a foreign or second language.

SLR--Second Language Reading; refers in this text to learning English Reading skills and developing English vocabulary and comprehension skills.

TEFL--Teaching English as a Foreign Language, in an EFL situation.

TESOL--Teaching English to Speakers of Other Languages in general, either in an EFL or in an ESL situation.

CHAPTER II

REVIEWING LITERATURE IN SECOND LANGUAGE READING

An adequate model of reading must account for both a particular reader's processing strategies, and also for how these interact to best arrive at comprehension of the writer's product and its intended meanings. A survey of various reading models helps one to think more deeply about the complexity of reading, but also raises significant questions about how the reading development of nonnative speakers of English may differ in important aspects.

Second language reading development most naturally takes place while children and adults are also learning the language as a whole. Indeed the two can strongly support each other, as Barnitz suggests.¹ Normally people learn to read a language as they are learning the spoken language, and there is often a very close interrelationship between both reading and language development.² Just how various aspects of Second Language Acquisition interrelate, especially how the area of Second Language Vocabulary Development is connected with subsequent development in Reading and Listening comprehension, is the major question which this present research study wishes to probe.

Testing and Improving English Reading Skills in Japan

To begin to answer the question of how the testing and teaching of English reading to Japanese college students can be improved, one must first look at the status quo, and ask, "What kind of reading tests are mainly being used in Japan now?" Ando Shoichi of Kyoto University answered this question in his

¹John G. Barnitz, Reading Development of Nonnative Speakers of English (New York: Harcourt Brace Jovanovich, 1985), 11-13.

²Ibid.

article entitled, "Reading: Three Practical Suggestions on Testing Reading Ability," part of a massive work entitled The Teaching of English in Japan.³

As Ando states, most reading tests given in Japanese schools, in fact "about 80% of them are just like the entrance exams."⁴ Since a uniform preliminary examination was introduced in 1979 for entrance to all national universities, two more recent developments have made Ando and other Japanese English teachers rather disappointed with these national tests. Ando's two disappointments were as follows. First, the listening comprehension test was canceled, although it had been recommended by the Japanese Ministry of Education originally. Keeping it would seem to have a good effect on improving the teaching of actual listening and speaking skills in secondary schools.

Second, both cram schools and high schools began to teach techniques for how to take the new national test, rather than how to use English itself more practically. Ando makes a strong point here that most of the Japanese English education system seems geared to preparing students for college entrance tests, rather than teaching actual skills needed for life. He emphasizes that although most teachers would agree that "testing should *follow* teaching, not *determine* it,"⁵ Japanese thinking about entrance exams seems very hard to change.

Hitoshi Maruyama, who was working at a hospital in Kurume, Fukuoka, saw a big need to change the way English is taught in Japanese schools. His proposals are based on his experiences in both the USA and in Japan. His first proposal was that:

Steps should be taken to improve acquisition of English vocabulary. A lack of vocabulary poses a serious problem in speaking, reading, and writing English [he omits listening comprehension, which is of course also blocked by a low level of vocabulary knowledge] . . .

³Shoichi Ando, "Reading: Three Practical Suggestions on Testing Reading Ability," in The Teaching of English in Japan, ed. Ikuo Koike, Masao Matsuyama, Yasuo Igarashi, and Koji Suzuki (Tokyo: Eichosha, 1978), 485-500.

⁴Ibid., 489.

⁵Ibid.

Most Japanese seem to be under the mistaken impression that English is something to learn just to pass college entrance exams, and not as a tool for global communication.⁶

The lack of good listening and oral preparation in secondary schools results in the following three problems. According to Ando, Japanese college freshmen exhibit three major problems in English. These are: "1) they are unable to read aloud in a convincing manner, or with a 'feeling' for meaning; 2) they are unable to read even moderately fast; and 3) their listening comprehension is poor."⁷ In response to these common problems, Ando offers three practical suggestions for improving reading instruction in Japan. These actually relate to all of English language education, however. His three constructive measures were:

- 1) teach and test 'oral interpretation' in the schools;
- 2) include a speed-reading test in the uniform preliminary exams for college entrance, in order to encourage faster reading and listening comprehension in the schools; and
- 3) include, also in the preliminary exams, a 'cloze' test, in order to encourage imparting an all-round English ability at the secondary level, with special emphasis on listening comprehension.⁸

Clearly these three suggestions go beyond just the reading field. Reading in Japan is most often taught using the Direct Grammar-Translation or 'yakudoku method,' meaning students 'read and translate,' or the teacher reads and explains grammar points in Japanese afterward. As a result of these contemporary trends, Ando wisely encourages the inclusion of measures of oral interpretation ability and listening comprehension, as well as a test of students' reading rates. These are all good suggestions, which should lead high schools to teach English in a more practical and integrated manner.

Two other measures should be added, however, to get a better picture of a student's real reading abilities. Reading rate alone tells us little without a measure of one's degree of comprehension. Second, students' vocabulary levels, as compared with native reader (English L1) norms should be measured also. If

⁶Hitoshi Maruyama, "Proposals for Improving Present Education System," Daily Yomiuri, (Tokyo), 5 Nov. 1992, 27.

⁷Ando, "Reading: Three Practical Suggestions on Testing Reading Ability," 493.

⁸Ibid.

native norms are not used, approximate number of headwords known in English could also be used. Nation suggests one such test in the appendix of his excellent work on Teaching and Learning Vocabulary.⁹

Having tested over 2,000 Japanese college students' reading levels mainly in Kyushu, the author has found that the results are rather uniform. For details one should refer to the author's extensive tables showing typical reading levels of Japanese college students in Kyushu in Appendix A, Tables I-XII.¹⁰

In brief, Tables I-VI summarize reading studies done at the author's home school, Seinan Women's Junior College. Table VII compares reading levels of male and female students at Kyushu Electronic Junior College, or "Denki Daigaku" in Japanese. Table VIII shows scores of a similar "Polytechnic Junior College," called "Shushoku Tanki Daigakkou" in Japanese. Table IX shows reading scores of mostly first-year law students at Fukuoka University, the largest college in Kyushu.

The "Kyushu Institute of Technology" study, shown in Table X, summarizes about five hundred first-year engineering students' vocabulary levels, and compares six classes as to their comprehension and total reading levels as well. Table XI shows gains in various reading levels by many English and International Relations major students taught at a high level four-year college, Kitakyushu University between 1992-95. Table XII summarizes all of these college reading scores in what is called a "Kyushu Colleges Summary Chart, 1991-95."

⁹I. S. P. Nation, Teaching and Learning Vocabulary (New York: Newbury House, Harper and Row, 1990), Appendix 8, 264-73.

¹⁰All reading level tables are based on numerical charts, and although space did not permit all of the data to be included, these graphs were actually known as "Embedded Graphs," created by using Microsoft Excel computer program which translates the mathematical tables of numerical data into graphic representations. As a result, they are actually summarized parts of numerical data tables, and as such were more properly included under "Tables" in Appendix A. Although at first some of these graphs might appear to be a picture or illustration, in fact all of this data was an embedded part of a numerical table made by Microsoft Excel. The graph would be impossible to construct without this data, which is first inputted to generate it. The complete table, if it were to fit within the limited parameters of this dissertation, would include the numerical data first, and then the graphs as a secondary part of the same tables. Transforming such numerical worksheet tables into various graphic representations is listed under Microsoft Excel as "Tables, Data Functions." See Microsoft Excel Function Reference manual (rather complicated mathematically and statistically) for details, if in doubt. (Redmond, Wash.: Microsoft Corp., 1992).

Finally, results of four short-term studies done with Rapid Reading classes at Seinan Women's Junior College are shown in Tables XIII-XVI, as follows: (1) Table XIII shows "Crow's Semantic Fields Study;" (2) Table XIV shows "Shinbun 1 and 2 Study;" (3) Table Table XV shows "English Reading Materials Interest Survey;" (4) Table XVI shows "Statistical Analyses," comparing both Wordcraft media results and also comparing "Text-based" versus "ALM/CAI classes." Lastly, Table XVII shows "Typical Reading Levels of Prestigious Japanese Colleges' Entrance Examinations." (See appendix for these.)

These large samples and consistent, uniform results seem to show that even reading tests normed on native English speaking populations can be very useful for measuring relative vocabulary and comprehension levels of Japanese college students. After all, Japanese college students have already studied English for six years, and native level proficiency is at least the ideal goal in SLA, is it not? It certainly is, according to common 'Proficiency Assessment Guidelines' agreed upon by three national American agencies: (1) ACTFL--or the American Council on the Teaching of Foreign Languages, (2) ETS--the Educational Testing Service, and (3) IRL--the Interagency Language Roundtable.¹¹ This last agency, the IRL, was the first independent organization that actually wrote language proficiency definitions in the 1950s. These "stressed functional foreign language skills, thus radically differing from academia's focus on literature and culture [at that time]."¹²

One should remember Saville-Troike's findings about what really makes a consistent difference in Second Language learners' academic achievement. As she clearly found,

Vocabulary knowledge in English is the most important aspect of oral English proficiency for academic achievement. Vocabulary taught in ESL should therefore be related as closely as possible to students' learning needs in their subject matter [i.e., content] classes . . . It is a positive development that we in TESL have broadened our focus from grammatical competence to communicative competence. But many who have jumped aboard this newest bandwagon have unfortunately misinterpreted 'communication' to apply only to social interaction, and such a limited conceptualization still fails to fulfill our accountability for students who must

¹¹Pardee Lowe, Jr. and Charles W. Stansfield, eds. Second Language Proficiency Assessment: Current Issues (Englewood Cliffs, N. J.: ERIC Center for Applied Linguistics, in conjunction with Prentice-Hall, 1988), 1-51.

¹²Ibid.

learn HOW TO LEARN THROUGH THE MEDIUM OF ENGLISH. We need to develop their *academic competence* as well, and this calls for even more changes in our priorities and in our procedures . . . WE MUST BEGIN TO PLACE MORE EMPHASIS ON VOCABULARY LEARNING and less on grammar and pronunciation. Too often we in ESL have forgotten that teaching English is not an end in itself but only a means to an end; the critical outcome . . . is how well we equip them to succeed in school.¹³

Almost all English teachers are aware of the fact that reading levels are generally a composite of students' abilities in two areas: (1) vocabulary, and (2) comprehension. However, it is of greater importance for ESL/EFL teachers to be able to test their students individually in order to determine their actual instructional level. All English teachers need to realize that there are three different reading levels that are important to know and consider before deciding about what reading methods or materials to use. These are as follows: (a) frustration level, (b) instructional level, and (c) independent level.¹⁴ Betts's scoring criteria¹⁵ for determining a student's "Reading Level," (further clarified by Johnson and Kress),¹⁶ is explained by Eldon Ekwall in his text entitled Diagnosis and Remediation of the Disabled Reader.¹⁷ The scoring standards are found in Appendix A, Table XVIII, entitled "Reading Level Criteria."

Lack of proper adjustment to individual student levels seems to be a common problem in Japan, where reading tests to determine individual student's English reading levels are seldom given. In the writer's ten years of teaching experience in Japan in adult English education, he knows of no instance in which a college has used such individualized reading tests, other than those instances which he himself

¹³Muriel Saville-Troike, "What Really Matters in Second Language Learning for Academic Achievement?" TESOL Quarterly 18, no. 2 (June 1984): 199-219.

¹⁴Reading levels are defined earlier. See Ekwall, Bond, and Tinker, or Spache and Spache for further details. Cf. George D. Spache and Evelyn B. Spache, Reading in the Elementary School (Boston: Allyn and Bacon, 1986.)

¹⁵Betts, Foundations of Reading Instruction, 67.

¹⁶Marjorie S. Johnson and Roy A. Kress, Informal Reading Inventories (Newark, Del.: International Reading Association, 1965).

¹⁷Ekwall, Diagnosis and Remediation, 267.

initiated. Clearly, appropriate educational materials cannot be adequately prescribed without proper diagnosis. This study addressed such problems.

Concerning the need for better testing, it seems that the lack of individual testing and diagnosis, with little or no feedback as to performance levels in various language skill areas until the end of the school year annual grades come out, has resulted in low motivation, performance, and improvement levels among Japanese college students in general. One way to help remedy this poor educational situation would be to insist on pre- and posttests in all language skill areas as frequently as possible or at least at the beginning and end of the year. Students who are more often assessed and informed seem to be much more motivated to improve their own individual levels and language skills. Sony's new Language Laboratory comes equipped with an automatic test analyzer,¹⁸ which helps a teacher to be able to administer improvement tests more often. Its use can also help teachers to inform students with more immediate and frequent feedback as to their performance levels and rates of improvement. This regular diagnosis and feedback lends more accountability to the learning task, and acts as an encourager or corrector, whichever is needed in an individual student's case.

Students who are regularly informed and held accountable by periodic testing with immediate feedback seem to have an increased interest and motivation in language learning. An example may be given from a second-year class at a four-year college. These students were informed regularly as to their own individual levels in terms of (a) vocabulary improvement, (b) listening comprehension, (c) reading speed, and (d) degree of reading comprehension. Their individual and average class improvement rates in these interrelated areas of language learning are shown on graphs in Appendix A made by using Microsoft Excel's software, contained in Table XI, entitled "Kitakyushu University, KKD, 1992-95."¹⁹

¹⁸SONY Language Laboratory unit called LLC-9000, meaning Language Laboratory Computer. Write to SONY, Tokyo, Japan, for details.

¹⁹Version 4.0 for Apple Macintosh Series or Windows Series, Frontline Systems, Inc. Contact P.O. Box 4288, Incline Village, NV 89450-4288 for further details.

Fluent reading in a second language, even more than in one's own first language, seems to be the natural result of a well-balanced and integrated four-skills language program. Good second language reading with understanding is not just a mechanical skill that is taught at the junior high level in Japan, and then applied at increasingly more advanced levels. Foundational vocabulary learning and using strategies and comprehension skills must also be taught consistently as early and as often as possible.

It seems to this writer that a language learner's "communicative competence" is best developed through a well-balanced approach which integrates the active, productive use of all four communication skills. However, generally speaking, Japan's English education system not only starts too late, but it also fails to integrate these four skills properly along the lines of natural language acquisition. The development of "linguistic competence" is overstressed, whereas developing real "communicative competence" is understressed. (See Figure 1, "The Scope of SLA Research," to see how linguists divide language skills into linguistic versus communicative competencies.) What can be done about this? Even the more receptive skills of reading and listening should be taught in a more active manner, integrating them along with oral production and written expression.

In Van Allen's view,²⁰ there are four major types of language activities (shown in Figure 2). These are (1) Language Recognition, (2) Language Acquisition, (3) Language Prediction, and (4) Language Production. Three models of reading were contrasted in older views (see Figure 2): (1) Sound-centered, stressed in the phonics approach, (2) Word-centered, stressed in the Linguistic Approach, and (3) Meaning-centered,²¹ which has become generally accepted by most modern reading specialists. Today reading is

²⁰Roach Van Allen and Claryce Allen. Language Experience Activities, and Teachers' Manual (Boston: Houghton-Mifflin, 1976). Teacher's Manual for Language Experience Activities, 2-3. See also George D. Spache and Evelyn B. Spache, "How a Language-Experience Program Works," in Reading in the Elementary School, 3d ed. (Boston: Allyn and Bacon, 1973), 361-68.

²¹J. C. Harste and C. L. Burke, "A New Hypothesis for Reading Teacher Research: Both *Teaching* and *Learning* of Reading are Theoretically Based," in Reading: Theory, Research and Practice, 26th Yearbook of the National Reading Conference, ed. P. D. Person (Clemson, S.C. : National Reading Conference, 1977), 32-40.

generally seen as being a complex, selective, interactive psycholinguistic and sociolinguistic process in which readers predict meaning.²²

How to best help Japanese college students to rapidly develop their limited English vocabularies, both active and passive, is the major thrust of this writer's current research. It is also the reason why he insists that individualized reading tests must be given to each student, both before and after each school year. Only by careful diagnosis of each student's vocabulary, comprehension, and total reading levels can ESL/EFL teachers really help their students to improve as fast and as much as possible. Otherwise no one will ever really know his level, nor his rate of improvement. No one will be able to tell IF he has really learned, HOW MUCH he has learned, or HOW BEST TO IMPROVE his own reading and listening skills.

Although statistical analyses show that an active vocabulary of only 2,000 words is sufficient for everyday conversations, "an average American university freshman has a passive vocabulary of 60,000 to 100,000 words in English."²³ Even though a native speaker of any language has a larger active than passive vocabulary, Crow states that "in contrast, a person who studies a foreign language, even at an advanced level, quite often has a passive vocabulary that is only a little larger than his or her active vocabulary. Therefore, the biggest single problem for the advanced [ESL/EFL] student when reading is a poor *passive* vocabulary."²⁴ A foreign language learner would require six and a half years to learn 60,000 words, even if he learned twenty-five new words per day! Therefore, a more realistic goal is to help him learn how to rapidly build up his passive or receptive vocabulary, by learning to both associate and substitute easier "Keywords" for more difficult ones, rather than constantly turning to a dictionary. This "Keyword Method" appears sound. Although Crow's text teaches 324 Keywords, with a total intermediate to advanced level vocabulary of 1,620 words, his ultimate goal is to help language learners develop their passive rather than active vocabulary to improve their reading comprehension. As he states, "None of the

²²Barnitz, Reading Development of Non-native Speakers of English, 3-10.

²³Crow, Vocabulary for Advanced Reading Comprehension, ix-xiv.

²⁴Ibid.

exercises call for active production from the students; the text is intended to instill passive vocabulary skills."²⁵ However, this approach fails to integrate all four communication skills adequately in a communicative manner.

Research Questions Related to Interactive Reading Models

Most second language reading theorists now accept the fact that reading is an interactive process taking place between two different types of information, namely, textual information and the background knowledge a particular reader brings to the text. In this way reading is seen as a kind of "dialogue between the reader and the text."²⁶ However, certain questions remain to be investigated more thoroughly, especially in the field of learning to read a second or foreign language.

Figure 3 shows how mastering phonics skills is most important at the onset of reading, whereas context clues become more important in well-developed reading. However, this research was aimed at examining just how closely related vocabulary development is to improvement in both second language reading and listening comprehension, as well as other areas of language development. This study focused on that question, but also sought to address several others, such as these three major questions raised by Eskey and Grabe:

1. How does the reading of literate learners acquiring second language reading skills differ from that of fluent first language readers? More specifically:
2. How do differences in control of grammatical structure affect second language processes?
3. HOW DO DIFFERENCES IN CONTROL OF VOCABULARY AFFECT SUCH PROCESSES? [of Second Language Acquisition, including reading and listening comprehension, as well as overall linguistic development?] ²⁷ (writer's stress)

²⁵Ibid.

²⁶H. Widdowson, "The Process and Purpose of Reading," in Explorations in Applied Linguistics, ed. H. Widdowson (New York: Cambridge University Press, 1979), 171-83.

²⁷David E. Eskey and William Grabe, "Interactive Models for Second Language Reading," in Interactive Approaches to Second Language Reading, ed. Patricia Carrell, Joanne Devine, and David Eskey. (Cambridge: Cambridge University Press, 1988), 225.

The current study intentionally focused on this last question. Research has come to recognize three basic factors influencing any reader's perceived meaning of a text. These three factors are (1) the reader's vocabulary knowledge of various word meanings, (2) appropriate recognition of the context in which the word or phrase is used, and (3) the reader's background knowledge, 'mental schemata,' or culturally influenced mental organizational patterns.

In Carroll and Eisterhold's words, Goodman sees reading as "an ongoing, cyclical process of sampling from the input text, predicting, testing and confirming or revising those predictions, and sampling further."²⁸ These views are now quite widely accepted in the reading field. Another reading specialist, Coady, suggested a psycholinguistic model for EFL/ESL readers. His view states that

EFL/ESL readers' background knowledge interacts with [their] conceptual abilities and process[ing] strategies, more or less successfully to produce comprehension. By *conceptual ability* Coady means general intellectual capacity. By *processing strategies*, Coady means various components of reading ability, including many which are also more general language processing skills which also apply to oral language [including sound-symbol associations, lexical meanings, and contextual meanings] Coady also suggests that *background knowledge* may be able to compensate for certain syntactic [grammatical] deficiencies.²⁹

(See Figures 4 and 5, entitled "Coady's (1979) Model of the ESL Reader," and Rumelhart's (1977) "Toward an Interactive Model of Reading.") The field of ESL/EFL reading has been strongly influenced by psycholinguistic theories of reading, starting with Goodman's.³⁰ Goodman views reading as the act of constructing meaning from the text in the mind of the reader (see Figure 6, "Kenneth Goodman's Cyclical View").

Rumelhart's Interactive Model shows how readers extract information from several sources to arrive at the most probable interpretation: (1) visual grapheme input, (2) knowledge of phonics or orthographic knowledge, (3) knowledge of grammar or syntax, and (4) knowledge of word meanings, known

²⁸Patricia L. Carrell, and Joan Eisterhold, "Schema Theory and ESL Reading pedagogy," in Interactive Approaches to Second Language Reading, ed. Patricia L. Carrell, Joanne Devine, and David E. Eskey (Cambridge: Cambridge University Press, 1988), 74-75.

²⁹Ibid.

³⁰Kenneth S. Goodman, "Reading: A Psycholinguistic Guessing Game," Journal of the Reading Specialist, no. 6 (1967): 126-35.

as lexical and semantic knowledge.³¹ It seems that a reader accurately perceives an author's meaning only if these knowledge areas overlap. It is not at all surprising that readers' knowledge of individual word meanings has been found to be closely related to their degree of conceptual knowledge, or percentage of comprehension.³² As Barnitz writes,

Regarding cross-cultural vocabulary, it can be assumed that the cross-cultural lexicon, like the cross-cultural schemata . . . can influence reading comprehension . . . Before examining some cross-cultural aspects of vocabulary, it is useful to understand the interrelationship of schemata, context, and vocabulary knowledge (R. C. Anderson and Shifrin 1980; R. C. Anderson and Freebody 1979). Unlike traditional views of vocabulary, current thinking converges on the fact that a given word does not always have a fixed meaning, rather a variety of meanings that interact with the context and background knowledge of the reader.³³

It is now clearly known and accepted that the prior background and cultural differences of a reader strongly affect both his interpretation and recall of information from a text. There are clear differences in cross-cultural 'schemata,' or conceptual patterns for organizing various categories of vocabulary (as shown by Gleason's visual comparison of the color-spectrum words in three different languages, 1961).³⁴ More crucial for second language learners of English, however, may be their overall data bank, including all three areas of knowledge affecting reading comprehension mentioned earlier, briefly restated as (1) lexical, (2) contextual, and (3) background information systems.

What specifically is the average lexical level of Japanese college students after six years of academic English study? Has anyone bothered to do thorough individual testing to assess this most important area? Apparently few in Japan have done so, because there do not seem to be any standardized levels of English vocabulary established in Japan. There are standard vocabulary lists which must be taught

³¹D. E. Rumelhart, "Toward an Interactive Model of Reading," in Attention and Performance, ed. S. Dornic. (Hillsdale, N. J. : Lawrence Erlbaum, 1977), 573-603.

³²Barnitz, Reading Development of Nonnative Speakers of English, 25.

³³*Ibid.*

³⁴H. A. Gleason, An Introduction to Descriptive Linguistics, rev. ed. (New York: Holt, Rinehart, and Winston, 1961).

in conjunction with junior and senior high English instruction, but average individual levels do not seem to be available. This seems rather strange in a country obsessed with both education and standardization, not to have any more specific individual tests besides general proficiency Eiken Step Tests,³⁵ which are now available on five levels, giving percentages for performance in each area.

Since no individual reading level norms exist in Japan, this study used standardized individual reading tests normed on American school-age children of each grade level. Gates-MacGinite Reading Tests were normed on populations of 5,000 students per grade, from a total sample of eighty-six school districts, including private schools.³⁶

Eskey's Model³⁷ presents two major claims, the first of which this writer agrees with, but the second claim of reading and writing's independence from listening and speaking development, this writer highly questions. Stated briefly, Eskey's claim is as follows. "For advanced foreign students reading and writing must be considered at least as important as, and largely independent of, listening and speaking."³⁸

In the author's situation in Japan, however, students have been learning mainly grammar, reading and copying English sentences for six years before coming to college. Yet most have little ability to speak or understand what they hear of spoken English. Thus most schools put a belated emphasis on developing speaking, listening, and composition or creative writing skills. Reading then assumes a secondary role, with some classes called 'Rapid Reading,' yet junior college students' average vocabulary level in English

³⁵Eiken Guide. STEP: The Society for Testing English Proficiency, Inc., (Nihon Eigo Kentei Kyoukai), Yarai-cho, Shinjuku, Tokyo. Public Reporting Division's explanatory pamphlet, 1994.

³⁶MacGinite, Gates MacGinite Reading Tests. Second Edition Teacher's Manual, i-vi.

³⁷David E. Eskey, "A Model Program for Teaching Advanced Reading to Students of English as a Second Language," Language Learning 23, no. 2 (1973):169-84; quoted in R. Mackay, B. Barkman, and R. R. Jordan's Reading in a Second Language: Hypotheses, Organization, and Practice (Rowley, Mass.: Newbury House, 1979), ch.6, 66-78.

³⁸Ibid.

usually falls between the fourth and sixth grade level, when based on American norms, as assessed by use of Gates-MacGinite Reading tests.

The author has done fairly extensive research on students' individual reading levels, not only at the junior college level, but also at four-year colleges and also at two-year technical institutions in Japan. From these studies (see Appendix A, Tables I-XII for details), he has obtained average classroom reading levels for both first- and second-year students at these three different types of Japanese college institutions.

In brief, the writer's studies found that the average English vocabulary level of most students in two-year technical schools and junior colleges ranged from about second through fourth grades, relative to American student reading levels. In 1992 an initial sample of forty first-year students from a female junior college showed an average vocabulary level of 4.4, with 57.7% of them ranging between 4.6 and 5.9 vocabulary levels. A much larger sample of 306 students at the same school, Seinan Women's Junior College, in 1993, however, showed the following results. Their total average vocabulary level was 4.03, total average comprehension level was 3.66, and total average expected reading level was 3.86.³⁹ In the year of this Wordcraft study, students' average starting reading levels were much lower, however. Four out of six classes were tested, or two thirds of the entering English Department freshmen. Table IV in Appendix A shows their starting and finishing levels as assessed by Gates-McGinite tests.

One reason for this apparently low level of English vocabulary is that much English literature and even grammar is still being taught with Japanese translation, seriously hindering college students from developing their English language skills. The obvious need is for greater integration of all four language skills developed simultaneously, and taught only in English as much as possible.

Eskey's second recommendation makes more sense in the Japanese situation, however. Because reading specialists now know some of the skills that make a good reader, he states that

³⁹See author's extensive tables on "Japanese College Students' English Vocabulary, Comprehension and Reading Levels" in Appendix A, in particular Tables I-III for the 1993-94 study, and Tables IV-V for the 1994-95 study.

the best reading program at this particular time would be composed of instruction in the critical skills and plenty of practice in various kinds of reading . . . teaching students to read with skill. Reading is an art . . . [However] A curious thing about our programs is that they stick to a kind of beginner's model, no matter what the student's level really is [who knows in Japan?, because few test]; instead of tailoring each level to meet the student's needs. The source of this devotion to a single approach is almost certainly the dogma that 'language is speech,' but we ought to know better than that by now.⁴⁰

Reading Instruction: Skill-based Versus Content-based Programs

Some teachers and researchers argue that reading is mainly a set of skills and subskills. Others argue that there are no subskills but only general skills requiring instruction, such as how to use various reading strategies like previewing or sensitizing, skimming, and scanning. Goodman himself argues against the existence of reading subskills, saying that "the acquisition of literacy has been so obscured by equating it with the acquisition of skills [to the point] that strength is mistaken for weakness and instruction is often at cross-purposes to natural language learning."⁴¹

An excellent article by Shih, entitled "Beyond Comprehension Exercises in the ESL Academic Reading Class," reviews findings relevant to instructional methods used in ESL reading classes, otherwise known as "Reading for Special Purposes."⁴² She also contrasts two basic views of reading instruction, (1) a "content-based, criterion-task-driven reading class" with (2) a "skill-based reading program." Tasks and instructional methods are quite different with these two approaches. Shih's main emphasis regarding ESL instruction at the college level is that "reading assignments in EAP [English for Advanced Purposes]

⁴⁰David E. Eskey, "A Model Program," 66-67.

⁴¹Kenneth S. Goodman, "Acquiring Literacy is Natural: Who Skilled Cock Robin?" in Theory into Practice 16, 1977: 309-14. Also quoted by Elizabeth B. Bernhardt, "Reading in the Foreign Language," in Listening, Reading, and Writing: Analysis and Application, Northeast Conference on the Teaching of Foreign Languages, ed. Barbara H. Wing (Middlebury, VT.: Northeast Conference, 1986), 106-07.

⁴²May Shih, "Beyond Comprehension Exercises in the ESL Academic Reading Class," TESOL Quarterly 26, no. 2 (Summer 1992): 289-318.

classes should be guided by criterion tasks like the tasks students are assigned in content classes, rather than by a focus on reading skills."⁴³

Since research has identified certain comprehension and study strategies that are regularly used by successful readers,⁴⁴ advanced ESL/EFL reading teachers therefore have been encouraged to do three things: (1) decide which reading tasks and strategies to focus on according to the needs of particular students; (2) encourage students to set learning goals in line with these tasks; and (3) evaluate and provide individual feedback to student's specific problem and progress areas in language learning. These suggested guidelines guided this research study.

Comparisons of L1 and L2 Reading Processes

What are the similarities and differences between teaching reading in a first language and teaching reading as a second or foreign language? Barnett's monograph entitled More Than Meets the Eye: Foreign Language Reading: Theory and Practice⁴⁵ describes L1 reading and then applies these findings to L2 reading. Barnett summarizes findings of both first and second language reading research in the above text, and also in an ERIC Digest entitled "Teaching Reading in a Foreign Language."⁴⁶ She reports: "First language research has found that readers' purposes and approaches to texts differ not only by text, but also by the individual reader. Second language researchers have . . . found similarities . . . [and] learned how expectations defined by a reader's culture influence what the reader understands when reading."⁴⁷

⁴³Ibid., 298.

⁴⁴Ibid., 291-311.

⁴⁵Marva A. Barnett, More Than Meets the Eye: Foreign Language Reading: Theory and Practice (Englewood Cliffs, N.J.: Prentice-Hall, 1989).

⁴⁶Marva A. Barnett, "Teaching Reading in a Foreign Language," ERIC Digest, Clearinghouse on Language and Learning (Washington, D.C.: Center for Applied Linguistics, December 1988).

⁴⁷Ibid.

In the field known as Second Language Reading (or 'SLR'), Barnett reports that "most foreign language reading specialists [now] view reading as [an] interactive [process]."⁴⁸ Although almost all reading specialists now recognize that readers' minds interact with whatever type of text they are reading, some define this interactive process as "creating meaning as the reader's mental processes work together at different levels (Bernhardt, 1986; Carrell, Devine & Eskey, 1988; Rumelhart, 1977)."⁴⁹

This writer, however, would prefer to say that readers "discover or discern" the author's intended meanings, rather than "creating" their own meanings. Traditional views of reading have recognized the author as having his/her own intended meaning. Indeed part of good reading clearly involves higher level reasoning skills, such as discerning or inferring the author's mood or tone, purpose, and original meanings. Good readers do not simply "create their own meanings," except in the sense that they turn print into units of meaning within their own minds. Therefore comprehension questions have always been used with the intention of checking to what degree the reader's conceptions agree with the objective truth or reality of a given text.

Because reading involves such a wide array of skills, it is clear that good readers must have a "larger repertoire of compensating strategies to draw upon than will poorer readers."⁵⁰ Such a view of reading seems to account best for reading research results to date. If one accepts an 'Interactive Parallel Processing Model' of reading, (see Figure 7, "A Simplified Parallel Processing Sketch"), five important implications for ESL reading research follow. Summarizing Grabe's observations about these findings,

First, reading as an interactive process . . . remains an important part of the overall reading models . . . [but] exactly how these processes interact . . . is a question for future research Second, . . . such a view suggests that **METHODS OF INSTRUCTION FOR RAPID VISUAL RECOGNITION, FOR EXTENSIVE VOCABULARY DEVELOPMENT, and for syntactic pattern recognition SHOULD BECOME MAJOR PEDAGOGICAL RESEARCH CONCERNS** The third implication is **THE NEED FOR A MASSIVE RECEPTIVE VOCABULARY**

⁴⁸Ibid.

⁴⁹Ibid.

⁵⁰Ibid.

THAT IS RAPIDLY, ACCURATELY AND AUTOMATICALLY ACCESSED--A FACT THAT MAY BE THE GREATEST SINGLE IMPEDIMENT TO FLUENT READING BY EL [and EFL] STUDENTS. This concern may be particularly relevant for students in advanced level ESL courses [as many Japanese college English majors are]. Students studying English for academic purposes are . . . seldom tested specifically for their reading abilities. But many of these students are, in fact, weak in this language skill essential for academic success. . . .⁵¹ [writer's stress]

The final two implications may be paraphrased as follows. Poorer readers who cannot rapidly process words due to low vocabulary or decoding skills will often overcompensate by guessing too often, or else they may read word by word, often fixating on and repeating words which they do not know. Good second language readers who lack relevant background knowledge tend to overcompensate by guessing from the context. Poor readers tend to read in a slow, text-bound manner, struggling to vocalize and understand one word at a time.

Last, there are clearly various stages of skill development in reading. Chall, in her text Stages of Reading Development, proposed five different stages of reading development.⁵² These could help to account for "different types of overcompensation noted in ESL students."⁵³ Chall herself describes various types of processing occurring at each stage of reading, noting that interactive processing begins at or before stage three. The stages she discusses are "prereading, initial reading or decoding, confirmation and fluency, reading for new information, multiple viewpoints, and construction and reconstruction . . . While such a multistage approach would have to be modified to meet the specific conditions of the ESL reading context, it does hold out some promise for considering reading skills development in ESL students."⁵⁴

⁵¹Ibid.

⁵²Jeanne Chall, Stages of Reading Development (New York: McGraw-Hill, 1983).

⁵³William Grabe, "Reassessing the Term 'Interactive'," chap. in Interactive Approaches to Second Language Reading, eds. Patricia L. Carrell, Joanne Devine, and David E. Eskey (Cambridge: Cambridge University Press, 1988), 61-64.

⁵⁴Ibid.

Summary of an Ideal Reading Model from L2 Reading Literature

When their suggestions for instruction are combined, May Shih's article⁵⁵ on advanced ESL reading comprehension strategies and Eskey's Model Reading Program⁵⁶ seem to provide clear direction in helping to develop an ideal reading program for foreign language students, whether in ESL or EFL settings. Eskey states that his approach is eclectic and calls his method reciprocal intensive/ extensive (see Figure 8 for author's interpretation). This means that it moves back and forth between "close in-class analysis and the synthesis that reading in quantity provides."⁵⁷ He says:

To summarize: In the ideal language program for advanced foreign students, the reading component: 1) WILL NOT BE AN ADJUNCT TO THE TEACHING OF ORAL SKILLS (since reading may be the most important skill to master) but will instead CONCENTRATE ON READING FOR ITS OWN SAKE; 2) will not attempt to teach the reading skill directly . . . but will instead provide instruction in the various kinds of skills required at each level of the reading process and PLENTY OF PRACTICE IN READING ITSELF.⁵⁸

The bottom half of Figure 8 shows typical components of a reading course according to Eskey's model of the Intensive/Extensive Reading distinction. Here one can clearly see the two complementary halves of an intensive EFL reading program. On the left side one can see the Intensive Program dealing with in-class instruction, and on the right side he has the Extensive Program, which emphasizes the importance of doing outside reading. Eskey views speed-reading as a type of extensive reading skill, "to which some class time should, however, be devoted."⁵⁹ Nevertheless, he also believes that foreign readers

⁵⁵Shih, "Beyond Comprehension, 289-318.

⁵⁶Eskey, "A Model Program," 169-84.

⁵⁷Eskey, in Mackay, et.al., Reading in a Second Language, 72-73.

⁵⁸Ibid.

⁵⁹Ibid.

are usually "unsafe at any speed," which seems to mean that they do not generally possess a high enough vocabulary level yet to comprehend well enough to go at anything but a slow pace.⁶⁰

Some of the skills which should be taught in advanced second language reading classes are enumerated by Shih and Eskey. Eskey states that language teachers should be mainly concerned with teaching "rhetorical and complex syntactical structure, with advanced vocabulary in context, and with [explaining] potentially confusing cultural assumptions."⁶¹ Eskey and Grabe contrast the two most typical approaches used in teaching ESL/EFL reading classes: (1) an individualized Reading Lab approach, versus (2) a content-centered approach, like that used in English for Specific/Academic Purposes (ESP/EAP) courses. They recommend that these two approaches should be combined so that the advantages of both individualized reading in a lab as well as extensive outside-reading are encouraged.⁶²

Grabe, in his excellent overview of "Current Developments in Second Language Reading Research," makes the point that reading has been recognized as "probably the most important skill for second language learners in academic contexts."⁶³ It also seems most important to this writer to work intensively to help EFL students to improve their vocabulary level AS RAPIDLY AS POSSIBLE, since as Eskey states, "the student who cannot read at a reasonable rate will be limited both in the volume of reading he can do and [also] in his overall comprehension, both critical factors in higher-level reading, especially at the university level."⁶⁴

The ideal second language reading program in Eskey's view should include "brief but regular work on increasing reading speed," as well as intensively teaching rapid vocabulary acquisition and other skills

⁶⁰Ibid.

⁶¹Ibid.

⁶²Eskey and Grabe, "Interactive models," 223-38.

⁶³William Grabe, "Current Developments in Second Language Reading Research," in TESOL Quarterly 25, no.3 (Autumn 1991): 375-406.

⁶⁴Eskey, in Mackay et.al., Reading in a Second Language, 74.

which will all help contribute toward producing a good reader.⁶⁵ The author concurs with May Shih's contention that the central goal of higher level ESL/EFL reading programs, especially for foreign college students, should be to teach students how to develop "reading and thinking strategies needed to read academic texts in their content classes in order to learn new subject matter."⁶⁶

Suggested "Reading to Learn" Strategies for ESL/EFL Classes

May Shih's article entitled "Beyond Comprehension Exercises" is one of the most well-designed plans for teaching ESL/EFL students how to learn for themselves from reading texts that this writer has ever seen anywhere. By way of summary, Shih proposes the following excellent suggestions for teaching reading strategies to foreign language students.

1. Select independent, whole texts . . .
2. Read in depth on related topics in specific subject areas.
3. Reading selections should present substantial new information, on topics appropriate to students' ages, educational levels, and interests
4. A logical theme for readings at the beginning of the term is orientation to the assumptions and demands of . . . college.
5. Materials should lend themselves to the particular criterion tasks that students need to develop strategies to handle
6. Choose texts that exhibit discourse patterns and devices that students need to recognize
7. Reading assignments in EAP classes should be guided by criterion tasks like the tasks students are assigned in content classes, rather than by a focus on reading skills
8. Students need to learn and practice strategies for task analysis (i.e. understanding instructor's directions and expectations/evaluation criteria) and analyzing steps needed to complete the task successfully
9. Students should . . . set reading and study goals and . . . monitor their reading and studying process accordingly. Effective learners are goal directed and have developed metacognitive knowledge and control concerning STRATEGIES BEST MATCHED TO SPECIFIC TASK DEMANDS.⁶⁷

Although a bit lengthy, Shih's proposals are essential to keep in mind when attempting to construct an ideal ESL or EFL Reading Program. She also lists many other reading strategies that can be actively taught to help these students increase their comprehension and learning from text. Among these

⁶⁵Ibid.

⁶⁶Shih, "Beyond Comprehension," 289.

⁶⁷Ibid., 289-300.

are direct explanation, modeling, and guided practice. She also lists many reading strategies to teach students to use at the following times: (1) before reading--called 'Previewing or Pre-Reading Strategies,' (2) during reading, and (3) after reading, called 'Post-Reading Activities,' such as literal comprehension or inferential questions, or summarization of main ideas. Outlining and notetaking skills need to be taught to help students remember important ideas for tests, or for subsequent oral presentations.⁶⁸

In conclusion, one can see from a review of the literature in L1 and L2 reading models and methods that in order for students to maximize their learning from text-based materials, teachers must actively teach them (1) how to interact more intelligently with the text, (2) how to transfer reading skills and strategies from reading classes to content area classes, and (3) how to set both reading and studying goals, which will help them to become more independent language learners.

The Field of Vocabulary Development

The remainder of this second chapter reviews the focal area of this research study, namely, the field of Vocabulary Development. It gives particular attention to the following areas, especially analyzing studies relevant to the teaching and learning of new vocabulary in an ESL/EFL setting. Areas examined included the following:

- I. Vocabulary Study: The Process of Teaching Meanings (An Introduction to the Importance of the Problem in Japan)
- II. Effective Vocabulary-Training Methods
- III. The Role of Vocabulary in Past Language Instruction
- IV. Choosing What Vocabulary Words to Teach
- V. Pacing of Vocabulary Instruction in EFL Training
- VI. Teaching Methods Relevant to Vocabulary-Training
- VII. Previous Studies of Vocabulary Acquisition in L1 and L2
- VIII. Recommended Lists and Methods of Vocabulary Acquisition

⁶⁸Ibid., 300-10.

- IX. Vocabulary Studies of Native Readers
- X. Setting Vocabulary-Training Goals
- XI. Accepted Principles of Vocabulary Instruction
- XII. The New Field of Computer-Assisted Language Learning
- XIII. Advantages of Computer-Assisted Instruction Restated
- XIV. Vocabulary-Training: Applications and Recommendations of CAI for Language Instruction
- XV. Future Use of Multi-Media CAI Predicted
- XVI. Concluding Comments
- XVII. Incorporating Insights from Learning-Training
- XVIII. Second Language Learning Styles and Strategies
- XIX. Broad, General Recommendations from American Research

I. Vocabulary Study: The Process of Teaching Word Meanings
(An Introduction to the Importance of the Problem in Japan)

Pearson-Hamatani stated the well-known fact that "insufficient vocabulary is a perennial problem for learners of English as a foreign language."⁶⁹ She went on to explain in her special seminar on "Vocabulary and Reading," that although foreign language learners' knowledge of grammar may be fairly well-developed as it is in Japan, "their exposure to English outside the classroom is limited, giving them few chances to acquire vocabulary naturally."⁷⁰ The obvious and prevalent result in Japan, even at college

⁶⁹Eloise Pearson-Hamatani, "Vocabulary and Reading: What Can Teachers Do?" Paper presented at 23rd Annual Convention of the Communication Association of Japan, Seinan JoGakuin, Kitakyushu, Japan, 26 June 1993, 1.

⁷⁰Ibid.

levels of language instruction, is that "teachers often feel helpless when their learners can't read due to impoverished levels of vocabulary."⁷¹

The problem among Japanese college students does not seem to be an inability to read orally or silently, if one simply means to sound-out words. Rather, as Pearson-Hamatani indicated above, the problem is that most college students, even English majors, have such an extremely limited vocabulary in English due to almost never having used it productively. As extensive individual studies of their vocabulary levels by the writer have shown, Japanese college students' receptive levels of English vocabulary are also generally equivalent to between a third and sixth grade native reading level. [See Appendix for these tables and charts which graph relative positions of English vocabulary, comprehension and total reading levels for hundreds of Japanese college students.]

Pearson-Hamatani goes on in her paper and seminar to explore various activities and ways that teachers can help learners cope with new vocabulary encountered both in and out of the classroom . . . raising learner and teacher awareness of the different types of vocabulary [unimportant, receptive, and productive], and . . . encouraging the use of strategies which take these different types [of vocabulary] into account . . . by having at their disposal specific techniques for dealing with new words, learner attitudes can change. The rationale is that by being aware . . . learners can become more efficient language learners and ultimately more autonomous.⁷²

II. Vocabulary-Training Methods Found to Be Effective

Although Singer notes that "the language ability of most children at age 6 is already well developed . . . possess[ing] a vocabulary of about 5,000 words,"⁷³ one can't assume that such a large vocabulary exists in any ESL/EFL students, even in adult learners of English. Grabe states:

⁷¹Ibid.

⁷²Ibid.

⁷³H. Singer, "Instruction in Reading Acquisition," in Perception of Print, eds. O. Tzeng and H. Singer (Hillsdale, N. J.: Erlbaum, 1981), 291-312.

For ESL reading, we cannot assume that a large vocabulary or basic syntactic structures are already available. Both Eskey (1973, 1986) and Clarke (1979) have characterized these limitations as a language ceiling, or threshold, which ESL students must surpass if they are to develop fluent reading abilities . . . The importance of vocabulary knowledge for ESL reading is [further] discussed in Cooper (1984) and Saville-Troike (1984).⁷⁴ [author's stress]

Well-known author of college English textbooks in Japan Paul McClean writes that at the very best university in Japan, Tokyo University, the students may indeed possess a "reading vocabulary of 3,000 to 7,000 words of English dutifully mastered, "but what would the average incoming college freshman possess?"⁷⁵ This is a very important question, especially if one wants to make language learning materials appropriate to the level of his students, but the topic seems to have been seldom investigated. The writer's colleague, Hiroki Yamamoto, did some important early investigation in this field among Japanese college students. In 1988 he wrote:

Expanding the vocabulary of a target language seems to be one of the most important tasks of a foreign language learner. Especially in the EFL situation, the size of a learner's vocabulary, as well as his/her knowledge of phonological and syntactic features involved in a particular language is crucial in determining the degree of his/her competence of both the written and the spoken language.⁷⁶

Several other linguists are quoted by Yamamoto, who also attach great importance to the role of vocabulary acquisition in overall language learning, such as Torii who says that "a learner's vocabulary takes up over 50% of his/her global language proficiency."⁷⁷ Another well-known linguist, D. A. Wilkins states that "knowledge of a language demands mastery of its vocabulary as much as of its grammar."⁷⁸ He compares the roles of vocabulary and grammar as follows: "The ability to refer to concrete and conceptual

⁷⁴Grabe, "Reassessing the Term 'Interactive'," 58.

⁷⁵Paul McClean, A New World Order (Tokyo: Kirihara Shoten, 1992), 28-31.

⁷⁶Yamamoto, "College Students' Retention of Vocabulary," 67.

⁷⁷A. Mochizuki, "Jisho wo tsukatte nani wo oshieruka?" Eigo Kyouiku 32, no.10 (1983): 24-27. (Partially translated and quoted by Yamamoto on p. 67 of Seinan Bulletin no. 32, referred to above.)

⁷⁸Wilkins, Second-Language Learning and Teaching, 19.

entities is as fundamental to language as is the capacity provided by the grammar to relate such entities to one another."⁷⁹

As Yamamoto stated in 1985, up until then there had been little emphasis in EFL circles upon the importance of developing learners' lexical competence.⁸⁰ In 1979 Celce-Murcia and Rosensweig also had decried the paucity of research as of that date regarding foreign language vocabulary acquisition.⁸¹ Since these remarks were made, some researchers have begun to reassess both the means, role, and relative importance of vocabulary-training in learning a second or foreign language.⁸² Yamamoto noted:

While a drastic change has not yet occurred, in recent years there have appeared some scholars who are outspoken in pointing out the importance of vocabulary in learning/acquiring a foreign language. Besides acknowledging that "there is little research that speaks directly to the question of how vocabulary is best acquired [one of our research questions], and, most important, retained," Krashen (1982: p. 80) emphasizes that "while knowledge of vocabulary may not be sufficient for understanding all messages, there is little doubt that an increased vocabulary helps the acquirer understand more of what is heard or read."⁸³

To what degree increased vocabulary levels help ESL or EFL learners to comprehend spoken or written communication is a question that has not been studied or researched yet to any degree, as far as this writer knows. Such a basic question seems to have been overlooked, in Japan at least, because few teachers test to determine individual student vocabulary levels, much less try to determine correlations with subsequent levels of reading or listening comprehension. This is precisely what seems to be needed, which makes it a major aim of this study. To what extent does improvement in vocabulary level correlate with a

⁷⁹Ibid.

⁸⁰Yamamoto, "College Students' Retention of Vocabulary," 68.

⁸¹Celce-Murcia and Rosensweig, "Teaching Vocabulary in the ESL Classroom," 241-57.

⁸²Nation, Teaching and Learning Vocabulary, 192.

⁸³Yamamoto, "College Students' Retention of Vocabulary," 68.

student's subsequent development in other areas of general English proficiency? This final question was central in this study of Japanese college students' acquisition of English vocabulary.

According to Krashen, "more vocabulary should mean more comprehension of input, and [therefore] more acquisition."⁸⁴ Yamamoto also comments on this point, "It is easily understood, even from our own experience of teaching EFL, that an increase in vocabulary also serves to provide the learner with more clues to grammar. Vocabulary, therefore, seems to be highly correlated to the development of both linguistic and communicative competencies."⁸⁵

One of the reasons for the decline of conscious teaching of vocabulary was that the old, traditional method of rote memorization of word lists had proven boring or ineffective. In addition, the Audio-Lingual Language Lab approach "put more emphasis on mastery of the structures of a language,"⁸⁶ and attached less importance to the learning of specific vocabulary items. Of great relevance to this study are Yamamoto's findings and comments about junior college Japanese college students, since the present study also includes the same junior college. He puts the problem as follows.

In the Japanese settings of EFL learning, both junior and senior high school students are strongly encouraged to learn as many as possible of the new words provided in the contextualized reading materials. They also find it very essential to expand their vocabulary to meet the standards required to pass the entrance examinations for higher learning. However, once they have been admitted into college, they seem to almost forget the importance of increasing the[ir] vocabulary. THIS IS TRUE EVEN AMONG THOSE MAJORING IN ENGLISH. In the study reported by Celce-Murcia and Rosensweig . . . their own ESL students admitted that "THEIR PRIMARY PROBLEM IN ACQUIRING ENGLISH IS A LACK OF ITS VOCABULARY." THIS HAS ALSO BEEN FOUND TO BE TRUE AMONG JAPANESE COLLEGE EFL STUDENTS.⁸⁷ (writer's emphases)

⁸⁴Krashen, Principles and Practice in Second Language Acquisition, 80.

⁸⁵Yamamoto, "College Students' Retention of Vocabulary," 68. See Hatch, Shirai, and Fantuzzi's Figure 10 on "The Scope of SLA Research" to distinguish between different aspects of these two types of competence, 'Linguistic' versus 'Communicative.'

⁸⁶Celce-Murcia and Rosensweig's "Teaching Vocabulary in the ESL classroom," 241-57.

⁸⁷Ibid.

Yamamoto goes on to show from his study of junior "College Students' Retention of Vocabulary Learned during the Three Years of Senior High School" in Japan that "the length of time they were enrolled in the English Department made little difference"⁸⁸ in their scores. To put it bluntly, two years of junior college majoring in English was having very little effect on increasing their vocabulary levels, as assessed by their degree of retention of vocabulary that had already been previously taught in junior and senior high school for six years.

These tests were administered to students at the author's junior college five years before he began teaching there. Three different groups were tested in October 1984, and two other groups were tested in July of 1985. What were the overall results? Yamamoto reports that "both the first and the second year students were shown to maintain an average [of only] between 60% to 70%"⁸⁹ of words whose meanings they were supposed to have learned already in junior and senior high school! What accounted for the lack of increase in second year students' vocabulary or retention levels as measured by these tests? Yamamoto found that it was not necessarily due to the degree of relative abstractness or concreteness of the words, but rather "that the frequency with which EFL learners have encountered a particular word in the contextual frames of reading materials contributes more significantly to the retention of them than does the content of its meaning."⁹⁰

Yamamoto speculated on some possible reasons for the lack of development in second year English majors' vocabulary retention levels. Nevertheless, he concludes by admitting that "there is no accounting for the general tendency, revealed in this study, for the lack of vocabulary retention by Japanese junior college students who are majoring in English."⁹¹ He overlooks the fact that there did not seem to be any specific vocabulary training program in place at his college at that time, but rather only a general, so-

⁸⁸Yamamoto, "College Students' Retention," 74.

⁸⁹Ibid.

⁹⁰Ibid., 78.

⁹¹Ibid., 79.

called "Rapid Reading" course, with no particular vocabulary word list to cover during the first year of college, and no reading course per se at all in the second year. The effects should be obvious. This study attempts to help remedy this situation, and test the difference made by having some fixed word bank recommended for coverage by first year students, although teachers are free to use different methods and materials during early experimental years.

Finally, before comparing various strategies used by language learners for acquiring or retaining new vocabulary, it is helpful to examine Yamamoto's explanation for the obvious problems encountered by Japanese college students, including English majors, in retaining vocabulary which was supposed to have been learned earlier during junior or senior high school. He states that although

the second-year students were expected to gain higher mean scores than their counterparts [first-year students] in all of the tests. The results showed, however, that the former did not always differ in their vocabulary retention from the latter. One possible explanation for this result is that the second-year STUDENTS, despite their longer exposure to both written and spoken English, MAKE LITTLE OR NO EFFORT TO RETAIN THEIR [SO-CALLED] LEARNED VOCABULARY. In other words, they benefit very little from the fact that they have studied advanced English in a formal college setting almost one year longer than their counterparts. The length of time spent learning EFL at college does not serve as a reliable indicator in determining whether or not two-year college students (even English majors) have a sufficient stock of workable vocabulary to improve their English proficiency.⁹² (writer's emphasis)

Some research questions which still need to be examined more closely at this school, which are focused on in the present study, are: (1) Which teachers, of reading or other subjects, are expecting or requiring their students to develop their vocabulary? Also, how and to what degree are students encouraged or held accountable for doing so? (2) Is this lack of development found in the author's school eight years ago prevalent in other colleges in Japan, and is this lack of improvement still found here at present? (3) In particular, are different first-year Rapid Reading [first-year course name] teachers approaching the teaching of vocabulary more aggressively and systematically, and are there subsequently significant class differences in students' degree of improvement in their vocabulary levels as tested by standardized reading tests? (4) How do improvements in individual or class vocabulary levels affect their subsequent reading and listening comprehension development? (5) Finally, what is the so-called "threshold level," or "sufficient stock of

⁹²Ibid., 78.

workable vocabulary" necessary in order for Japanese college students to independently improve their own English proficiency? What sort of vocabulary learning strategies as well as comprehension strategies do they need to master in order to be able to develop their own vocabularies more effectively, and thus in turn learn the English language more rapidly and independently?

III. The Role of Vocabulary in Past Language Instruction Approaches

As Brown and Perry state, "the question is, how can students increase their learning power for new vocabulary?"⁹³ Celce-Murcia and Rosensweig present a good summary of major approaches to language instruction during the past century, in their article on "Teaching Vocabulary in the ESL Classroom."⁹⁴ Their report especially centers on how these approaches differ in their view of the role and importance of vocabulary development. Four major language teaching approaches are mentioned, namely:

(1) the Grammar-Translation approach, (2) the Reading Approach, (3) the Direct Method, and (4) the Audio-Lingual Method. These can be summarized as follows:

The 'Grammar-Translation' method, an old, traditional method that teaches languages bilingually with continuous translation, "was in vogue at the turn of the century."⁹⁵ It stressed the "recognition of written words (i.e., vocabulary) as well as an awareness of . . . grammar . . . [as] primary objectives of language instruction."⁹⁶

The 'Reading Method' exemplified by West's simplified readers, discussed in detail below, gave less attention to grammar, but assigned a leading role to the teaching of essential basic vocabulary. The

⁹³Thomas S. Brown and Fred L. Perry, Jr., "A Comparison of Three Learning Strategies for ESL Vocabulary Acquisition," *TESOL Quarterly* 25, no. 4 (Winter 1991): 655.

⁹⁴Celce-Murcia and Rosensweig, "Teaching Vocabulary in the ESL Classroom," 241-57.

⁹⁵*Ibid.*, 241.

⁹⁶*Ibid.*

primary objective of the Reading Approach was "the comprehension of written materials," written at a simplified level, "in the foreign language."⁹⁷

The main weakness of both of these approaches was that they failed to get students to use the language actively, so as to "understand and speak the foreign language they were studying."⁹⁸ Most recent models of language teaching have stressed more natural use of the Target Language ('TL') for more communicative purposes. These older approaches, on the other hand, had learners spending much time "looking up words in the dictionary and translating texts from the foreign language under study into their native language."⁹⁹

In reaction to the communicative failures of these earlier approaches both the 'Direct Method' and the 'Audio-Lingual (or Linguistic) Method' arose, popular from postwar years up until the present. These have both stressed listening and speaking, to the neglect of vocabulary development. Only recently has this "earlier neglect of vocabulary in theorizing and research"¹⁰⁰ begun to be replaced by a healthier and more vigorous interest in the role and importance of vocabulary development in second and foreign language learning.¹⁰¹

The 'Direct Method' can be characterized as follows. It does not allow use of the native language for explanations, but only uses the target foreign language (TL) in the classroom. This method assumes "that one learns a foreign language by active and meaningful use of it--especially by listening to it and by speaking it, with some [although limited] attention given to reading it and writing it . . . It is assumed that

⁹⁷Ibid.

⁹⁸Ibid.

⁹⁹Ibid.

¹⁰⁰Nation, Teaching and Learning Vocabulary, 192.

¹⁰¹Batia Laufer, "Possible Changes in Attitude Towards Vocabulary Acquisition Research," International Reading Association Letter 24, no.1 (1986): 69-75.

the students will acquire vocabulary in context as an integral part of each lesson."¹⁰² Unfortunately, often this is not the case, since listening and conversation approaches and texts tend to be rather limited as to vocabulary levels. Especially in Japan due to both large classes and the prevalence of the 'Grammar-Translation Method,' conversation ability levels are low even at a college level despite six years of previous study. Few schools seem to give specific pre- and posttest vocabulary level tests to better determine or help improve students' individual lexical abilities. In close to ten years of experience teaching at the college level in Japan, the author has only read of one teacher in Japan who assessed students' vocabulary levels individually by headword count. At the writer's initiative two colleges in his area have begun to assess such vocabulary levels.¹⁰³

IV. Choosing What Vocabulary Words to Teach

There are several ways of deciding which words are most important to teach second language learners. The most useful words for foreign or second language learners are obviously those which occur most frequently. The 3,000 most essential words for Japanese college students of English suggested below are based upon this approach, following a detailed statistical analysis. This study,¹⁰⁴ done at International Christian University in Mitaka, Japan, has relevance for all ESL/EFL adult or college level intermediate to advanced level English language learners because it is based on an extensive word bank, assembled from ten college texts written in English, from ten distinct academic fields.

At this point it is helpful to simply report that Nation also recommends a similar number of basic and academic vocabulary words, totalling 2,800.¹⁰⁵ These consist of 2,000 'high-frequency words,' and 800

¹⁰²Celce-Murcia and Rosensweig, "Teaching Vocabulary in the ESL Classroom," 241.

¹⁰³In Appendix A, see Table X for charts of Kyushu Institute of Technology students. Also see Tables I-V on author's home school, Seinan Women's Junior College.

¹⁰⁴ Setsuko Mizoguchi et al., "A Proposal for the Establishment of an EAP List and an Analysis of Its Appropriateness," in Japan Association of College English Teachers' *JACET Bulletin* 23 (1992): 77-96.

¹⁰⁵ Nation, *Teaching and Learning Vocabulary*, 16-21.

'academic vocabulary or headwords' from a 'University List,' which taken together would give language learners "coverage of 95 percent of the text[s]"¹⁰⁶ most commonly encountered.

The fact that Japanese college students have already learned many words during their previous six years of English study makes many simpler, high-frequency words unnecessary to learn. Here is where an advanced 'English for Academic Purposes' (or EAP) vocabulary list,¹⁰⁷ such as that designed by the International Christian University in Japan, becomes particularly helpful and essential for college English teachers. It is probably the best place to start for intermediate learners of English, which most Japanese college students are after much previous study.

Just as it is not worth spending time reviewing simpler words from junior or senior high school days, so too, low-frequency words are probably better to learn by either using a dictionary if available, or else just "guessing from the context, or using word parts to deal with these words as they occur."¹⁰⁸

Nation's table of word types shows the relative proportion of text that is made up by these different types of vocabulary. His table of "Word Types and Text Coverage"¹⁰⁹ shows that out of 128,000 words analyzed, 87% or 2,000 were called "High-frequency words," 8% or 800 were considered "University or academic words," 3% or 2,000 were infrequent "Technical words," and the final 123,000 words analyzed were also infrequently appearing in texts, and so are called "Low-frequency words." Different learning strategies are appropriate for these different types of words, as explained further below.

From this information (found in Table XIX) one can quickly see that about 2,800 high-frequency and university or academic ('E.A.P. Vocabulary') words make up roughly 95 percent of most typical texts. This university word list is found, ranked by both frequency and range of use, in Appendix 2 of Nation's

¹⁰⁶Ibid.

¹⁰⁷Mizoguchi et al., "A Proposal for the Establishment of an EAP List," 77-96.

¹⁰⁸Nation, Teaching and Learning Vocabulary, 16-17.

¹⁰⁹Ibid.

excellent text, Teaching and Learning Vocabulary.¹¹⁰ Thus the clear implications for language teaching are that teachers should spend much more time on these two groups of words, in order to make sure they are learned, so as to help language learners gain the most essential vocabulary, without which they cannot make maximum progress in other communication areas. This is especially true if language learners are "in upper secondary school or in tertiary education," according to Nation's Table 2.4, entitled "Types of Vocabulary, Their Features, and the Implications for Teaching and Learning."¹¹¹

In the case of special content areas with more technical vocabulary, learning the subject often equals or involves learning the vocabulary. Here Nation recommends that "subject teachers can deal with the vocabulary, but the English teacher can help with [teaching proper] learning strategies."¹¹²

V. Pacing of Vocabulary Instruction in EFL Training

A simplified and limited vocabulary should obviously be used in the beginning stages of foreign language instruction, just as children's language learning begins at a simplified level. Graded vocabulary lists, like West's *General Service List* (1953),¹¹³ are used by publishers for preparing simplified reading materials. Besides using so-called 'High-interest, Low-vocabulary' stories at beginning levels of foreign reading instruction, Twadell also recommends "the immediate development of strategies for the massive expansion of vocabulary at the intermediate and advanced stages."¹¹⁴ Because much of modern language education has short-changed the area of vocabulary instruction, he also urges a "much-needed massive

¹¹⁰Nation, Teaching and Learning Vocabulary, 235-39.

¹¹¹Nation, Teaching and Learning Vocabulary, 19.

¹¹²*Ibid.*

¹¹³Michael West, Teaching Reading in Difficult Circumstances: Teaching English as a Foreign Language with Notes on the Technique of Textbook Construction (London: Longman, 1960).

¹¹⁴Celce-Murcia and Rosensweig, "Teaching Vocabulary in the ESL Classroom," 241-42. Cf. Freeman Twadell, "Vocabulary Expansion in the TESOL Classroom," TESOL Quarterly 7, no. 1 (1973): 61-78.

vocabulary expansion program," which would teach ESL/EFL students "to skim reading materials and to guess at words in context."¹¹⁵

Celce-Murcia and Rosensweig also agree that vocabulary instruction should be seen as an important part of language education from beginning levels.¹¹⁶ Henning too contends that a person's "learning of the terms and expressions of a language (i.e., its vocabulary) is fundamental even in the earliest stages of the acquisition of that language."¹¹⁷

Both grammar and vocabulary instruction have tended to be downplayed by modern linguistic methods as too traditional, and Japanese grammar classes have generally been taught with Japanese explanations up until the present. However, as Celce-Murcia and Rosensweig clearly point out, "neither impoverished structure nor vocabulary is desirable."¹¹⁸ Rather, they recommend that

even at the initial level, both should be properly taught since . . . concentration on one . . . to the exclusion . . . of the other--has negative consequences . . . Furthermore, as has been generally recognized, VOCABULARY IS AN AREA THAT NEEDS CONTINUAL GROWTH AND DEVELOPMENT FOR BOTH NATIVE AND NON-NATIVE SPEAKERS long after grammar and pronunciation are under reasonable control . . . the factors of motivation and intelligence become important because, like monolingual speakers of English, advanced foreign learners will exhibit proportionately larger or smaller vocabularies even though they may share the same type and amount of instruction in the language.¹¹⁹ (writer's stress)

VI. Teaching Methods Relevant to Vocabulary Training

The focus of this study was to examine a contextual method of vocabulary training, using the same material but presented in three different formats. A contextual vocabulary instructional method was used, but the basic purpose was to examine whether there would be any significant difference in vocabulary

¹¹⁵Celce-Murcia and Rosensweig, "Teaching Vocabulary in the ESL Classroom," 241-42.

¹¹⁶Ibid.

¹¹⁷Ibid. Cf. G. H. Henning, "Remembering Foreign Language Vocabulary: Acoustic and Semantic Parameters," *Language Learning* 23 (1973): 185-96.

¹¹⁸Celce-Murcia and Rosensweig, "Teaching Vocabulary in the ESL Classroom," 242.

¹¹⁹Ibid.

learning rates due to the type of media being used. The three types of media used were (1) Audio-Lingual, or Language Lab-assisted, (2) Multi-sensory, Computer-Assisted language education media, and (3) Traditional text-based materials.

The use of these three types of vocabulary training materials were compared with each other, and although the media format was different, the basic content was exactly the same. This study examined the *Wordcraft* vocabulary building series, Books 1-3.¹²⁰ Book 1 is at the appropriate starting level for most first-year junior college students at Seinan Women's Junior College, whose average vocabulary level was at a fourth grade level (4.033), relative to American norms, at the start of college in April, 1993.¹²¹

VII. Previous Studies of Vocabulary Acquisition in L1 and L2

In recent TESOL Quarterly issues several new studies stressing the importance of vocabulary training have appeared.¹²² These seem to show a trend toward a renewed interest in this field, which had been much neglected. The importance of specific vocabulary development programs for ESL/EFL learners seems to have been slighted by many language schools. It seems that this oversight has been due to an overemphasis on developing delayed oral communication skills. Encouraging guessing at word meanings from the context has also tended to neglect the prior importance of first establishing a high enough vocabulary level to receive sufficient 'compre-hensible input' from what is read or heard. 'Comprehensible input' is now widely recognized as being essential for achieving basic understanding in a second or foreign

¹²⁰Bergen Evans, (ed.), Wordcraft is a product of Vocab., Inc., 1969.

¹²¹See Tables I-V of Seinan Freshmen classes, and Table V, second-year seminar class levels in Appendix. Tables and embedded graphs for Rapid Reading classes of Seinan's Freshmen classes should also be examined. Author's conclusions were based on results and analysis of reading tests given over a five-year term at Seinan Women's Junior College, in Kitakyushu, Japan, 1990-95.

¹²²Marianne Celce-Murcia, "Book Notices on the Role of Vocabulary in Language Teaching," TESOL Quarterly 25, no. 4 (1991): 715-28.

language, as well as being the foundation for making progress in it.¹²³ Adequate access or exposure to the Target Language (TL) now clearly seems to be a necessary condition for language learning to take place.

On the other hand, Ellis argues strongly that Second Language Acquisition may not be just a matter of getting enough 'comprehensible input' or exposure to L2 data. More important may be what language learners actually DO with Target Language input in actual fact. That is to say, rate and degree of second language development may depend even more on HOW language learners interact or participate in communicative activities. While degree of exposure or input are obviously important, HOW MUCH ONE ACTIVELY USES THE TARGET LANGUAGE may ultimately be shown to be the most important factor both in successful language learning and effective instruction.¹²⁴

One of the earliest attempts to construct a "Minimum Adequate Vocabulary List" was that done by Michael West, first in the 1930s,¹²⁵ then in 1953 with his "General Service List"¹²⁶ and later in 1960, in his text entitled Teaching English in Difficult Circumstances.¹²⁷ His theory of language instruction, however, goes back to his years of service in India when it was part of the British Commonwealth. As early as 1926 his ideas were enunciated in his report on "Bilingualism with special reference to Bengal,"

¹²³Stephen D. Krashen, "The Input Hypothesis and Language Education," in The Whole Language Catalog, ed. Kenneth Goodman, L. Bridges Bird, and Yetta Goodman (Santa Rosa, Cal.: American School Pub., 1991): 86. See also Krashen's The Input Hypothesis, (London: Longman, 1985); Inquiries and Insights, (Alemany Press, 1985); and Second Language Acquisition and Second Language Learning, (Oxford: Pergamon, 1981). For a glossary definition of Krashen's "Input Hypothesis" see Ellis, Understanding Second Language Acquisition, under 'comprehensible input,' 294-95.

¹²⁴Ellis, Understanding Second Language Acquisition, 12-13. Cf. ch. 6, "Input and Interaction," 127-63.

¹²⁵Michael West, New Method Readers (London: Longman, 1932); Michael West, Definition Vocabulary 4. (Bulletin of the Department of Educational Research, University of Toronto, 1935).

¹²⁶Michael West, A General Service List of English Words (London: Longman, 1953).

¹²⁷Michael West, Teaching English in Difficult Circumstances: Teaching English as a Foreign Language with Notes on the Technique of Textbook Construction (London: Longman, 1960).

published by the government of India at that time. West sees speech and reading vocabularies as being fundamentally different in use, and therefore requiring different instructional approaches.¹²⁸

It is quite obviously true that most people in ordinary conversation use a much more limited vocabulary, although with a greater variety of inflections, sentence patterns, and idiomatic phrases, than they do in their reading. As West states, "The main difficulty in reading is the enormous size of the vocabulary. We speak about relatively few things and employ a small range of conversational words in speaking about them: we read about a vast range of subjects, many of which we never talk about."¹²⁹

West's main claim in his 1926 report on "Bilingualism in Bengal" was that reading ability in English as a second language could be more easily and rapidly achieved if one were to emphasize reading skills in earlier stages of language instruction. He reported various experiments and experimental textbooks used to show that more rapid reading acquisition could be achieved, even without "any great measure of speech" development.¹³⁰ Of course this is possible because the skills, structures and vocabularies used for reading and speech are different. Many oral teachers of English in Japan complain that the reason most adult language learners still cannot speak much in English even after six or more years of instruction is the overemphasis on reading and writing skills, as well as the 'Grammar-Translation' methods of schools. While this is partly true, the lack of a truly integrated, four-skills approach to teaching English from junior high age or before is clearly still lacking in most schools in Japan. West wrote in 1960,

This so-called 'Reading Method' was widely used for English in various countries, and was imitated in the U.S.A. and in Canada for French, Spanish and German. With the . . . war there was a swing from the Reading Method to speech, and the tendency is now to concentrate upon speech and writing and let reading tag along as a poor relation, an accidental by-product of the active use of language.¹³¹

¹²⁸Ibid.

¹²⁹Ibid., 16-17.

¹³⁰Ibid.

¹³¹Ibid.

West goes on to suggest three minimum goals for a language program, to ensure that learners get something worthwhile as a "Surrender Value" for their language study, even if they do not continue to study. These are: (1) a 'Minimum Adequate Vocabulary,' (2) 'Minimum Adequate Pronunciation,' and (3) 'Minimum Adequate Behavior,' including an understanding of polite forms and cultural differences necessary in English surroundings. Although emphasizing the greater educational value of advanced reading ability, West's texts taught all four skills, with stated aims of the lesson being: "to teach pupils to 'read, understand [listening comprehension], speak and write English'."¹³²

West's 'Minimum Adequate Vocabulary' list contains 1,200 words, which he claims are "perhaps the smallest vocabulary of normal English which is reasonably contained." It is adequate for basic communication, whether in speech, reading or writing, and four published plays were written using only these words. In addition to this basic list, West suggested other words for a complete course covering a total of 2,080 words. His suggested this order and number of most 'BASIC VOCABULARY WORDS':¹³³

1. The Minimum Adequate List	1,200
2. Words in the General Service/ Dictionary List	360
3. Words in the Dictionary List only	60
4. Words in the General Service List only	<u>460</u>
<u>TOTAL:</u>	2,080

Clearly today most language teachers do not teach in lists, nor did West's texts do so. Such a list is intended as a clear goal for both early reading and speech instruction. As West stated, such a list is merely "a usable first stage. It can be added to later, but, even if it is not, it is complete and workable so far as it goes, and so is likely to be amplified in use"¹³⁴

¹³²West, Teaching English in Difficult Circumstances, 43.

¹³³Ibid., 95-7. See 98-134 for the "Minimum Adequate Vocabulary List," including suggested classifications under seven major areas.

¹³⁴Ibid., 38.

Thus West's studies and lists can give us a basic guideline when considering the questions of how much vocabulary is necessary for (1) Essential Conversation, and (2) Enjoying Reading in English. They fail to suggest what level or types of words would be necessary for advanced study in English of various content areas, such as that required for academic study abroad. For the study of 'English for Advanced Purposes' (E.A.P.), one must look at Nation's recommended levels¹³⁵ and at a vocabulary list (see Appendix D) recently generated by research at International Christian University,¹³⁶ in Japan.

First, the contrasting value which West sees many students receive in terms of these two areas of reading and speech communication should be further examined. He uses the analogy of a life insurance policy's "surrender value" to compare relative reading and speech gains for most language learners.

In Reading, the learner gets a very high and very early Surrender Value. He may have reading ability and enjoyment with a vocabulary of as little as 750 words, and he can go on learning by himself even if he leaves school then. If he acquires a reading vocabulary of some 2,500 words he can go on to read simple unprepared matter and use an English-English dictionary in doing so, and such a reading vocabulary is not a large or difficult achievement even in the most unfavorable circumstances.

In Speech it is far different. UNLESS THE LEARNER ACQUIRES REASONABLY FLUENT USE OF AN EFFECTIVE VOCABULARY, HE WILL NOT GO ON TALKING AFTER HE LEAVES SCHOOL; and if he does not go on speaking the language after he leaves school, HE WILL NOT GO ON LEARNING [THE LANGUAGE]: on the contrary he will soon forget that which he has learnt.¹³⁷ (writer's emphases)

Nation reports that although West's "General Service List" of English words is now old, not having changed since 1936, it is both the "most famous and most useful list of high-frequency words" available.¹³⁸ Furthermore, he states that it has "still not been replaced as a source of useful information about particular words and as a collection of the most important vocabulary for a learner of English

¹³⁵Nation, Teaching and Learning Vocabulary, 233-72.

¹³⁶Mizoguchi et al., "A Proposal for the Establishment of an EAP List," 77-96.

¹³⁷West, Teaching English in Difficult Circumstances, 37-38.

¹³⁸Nation, Teaching and Learning Vocabulary, 22.

West's (1935) definitive . . . vocabulary list was made to produce a dictionary where all the definitions were given in the smallest possible vocabulary."¹³⁹

There are various graded vocabulary lists used by publishers of simplified reading books. All of these arrange vocabulary words into different levels or steps, and some are available in published form, such as Longman's, MacMillan Rangers, and Collins' lists.¹⁴⁰

As Celce-Murcia and Rosensweig report, language education has gone from an early emphasis on the 'Grammar Translation Method,' to the 'Reading Method' as exemplified by West's Simplified Readers, to the 'Audio-Lingual Method' stressed by Language Laboratories in the 1950s and 1960s.¹⁴¹ Since the 1980s, more naturalistic or communicative approaches have become more popular. As Meara stated, "Most language teachers subscribe to communicative objectives. But have these changes made a real difference [in] the way languages are learned, or is it just a case of describing old, familiar things in a new terminology?"¹⁴²

The Reading Method was made popular especially by the use of West's "General Service List" vocabulary, which was used to produce "enormous quantities of simplified readers and other language learning texts."¹⁴³ Such readers as the Longman Simplified English Series, and the New Method Supplementary Readers were both based on this simplified vocabulary list of about 2,000 headwords, a list which Nation asserts, is "certainly tried and tested and will not easily be replaced."¹⁴⁴ The construction of

¹³⁹Ibid.

¹⁴⁰Nation, Teaching and Learning Vocabulary, 23.

¹⁴¹Celce-Murcia and Rosensweig, "Teaching Vocabulary in the ESL Classroom," 241-42.

¹⁴²Paul Meara, "What Do Students Do on [sic] a Language Course?" Language Learning Journal 8 (September 1993): 26.

¹⁴³Nation, Teaching and Learning Vocabulary, 23.

¹⁴⁴Ibid.

such vocabulary lists takes a huge amount of time and effort, with the purpose of making language learning more controlled, by reducing it to more gradual, regular, and easily manageable steps.

What does it really mean to learn new vocabulary words? Recent research into vocabulary development has found that several factors significantly influence students' vocabulary growth. These include (1) school and class climate, (2) home and community language settings, and (3) direct teaching efforts.¹⁴⁵

The Spaches found these recent vocabulary instruction trends: "Like many other facets of reading instruction, the task of vocabulary development is undergoing reexamination and reevaluation. The drill procedures, the dependence upon sheer repetition, even such criteria of success as word calling or matching words and definitions are being questioned."¹⁴⁶

Following these changes in reading theory, classroom practices of vocabulary development have also undergone much change in recent years. Among the new concepts about vocabulary is the realization that there are several different types of vocabulary in any language. These include one's speaking, listening, reading, and writing vocabularies. It is important to develop all of these in a balanced manner when trying to learn a foreign language. The Spaches state that "every teacher knows that pupils have these several vocabularies which differ in breadth, accuracy, and the fluency with which the children [can] use each."¹⁴⁷

In general terms, however, the Spaches refer to two types of reading vocabulary-- (1) sight, and

¹⁴⁵Spache and Spache, Reading in the Elementary School, chapter 13, "Building Sight and Meaning Vocabulary," 512-42.

¹⁴⁶Ibid., 514.

¹⁴⁷Ibid.

(2) meaning vocabularies. They distinguish these two as follows: (1) “the number of words they recognize without analysis or help--sight vocabulary.” versus (2) “words whose meanings they ultimately understand in reading--meaning vocabulary.”¹⁴⁸ They clarify these in further detail:

In the activity of reading, there are two basic vocabularies--sight vocabulary and meaning vocabulary. Sight vocabulary includes those words that primary-grade pupils recognize visually and by the aid of their auditory memories for each word. Their recognition is aided by their training in phonetics and structural and contextual analysis. Meaning vocabulary includes those words for which children have a number of meaningful mental associations.¹⁴⁹

The Spaches further explain that a word generally has multiple meanings, and a network of meaningful associations. They state,

Another basic concept beginning to influence vocabulary training is the recognition that words are not learned as of a certain date because of a certain number of repetitions. Rather, words are thoroughly understood only as a group of associations is built around each word, associations that include multiple meanings and visual, auditory, and perhaps kinesthetic imagery.

Accepting this concept of vocabulary growth makes the teacher's task one of providing multifaceted experiences with words--their meanings and their usage--in a variety of settings and contexts, rather than . . . providing drill and massive repetitions.¹⁵⁰

Thus, there are several different types of vocabulary which seem to require a variety of different educational experiences, both formal learning as well as informal acquisition, in order for language students to really learn a word and its multiple associations. The Spache's distinction may be likened to the passive versus active vocabulary distinction. Making a distinction between “active versus passive vocabularies” points out the fact that just learning to recognize a word's meaning is both easier and different than becoming able to use it expressively. Therefore, language teachers should seek to provide learning experiences which will enhance growth among these various kinds of vocabulary. The language classroom climate should be made more conducive toward verbal experimentation with new words, especially encouraging more active oral and written expression. It seems that without sufficient interaction and negotiation of new word meanings, that new vocabulary is not acquired. In addition, without enough

¹⁴⁸Ibid.

¹⁴⁹Ibid., 515.

¹⁵⁰Ibid.

chances to practice using new terms expressively, new vocabulary does not seem to transfer into a language learner's active vocabulary and long-term memory bank. This hypothesized process must be further studied.

Ellis, Tanaka and Yamazaki present a succinct summary of vocabulary acquisition research in their recent article, entitled "Classroom Interaction, Comprehension, and the Acquisition of L2 Word Meanings."¹⁵¹ In their words,

The main foci of vocabulary acquisition research have been the effectiveness of various strategies for memorizing new items (e.g. Cohen, 1990) and the extent learners are successful in inferring the meaning of new items from written texts (e.g., Li, 1989). In addition, some work has investigated the effects of listening to stories on vocabulary acquisition (e.g., Elley, 1989). Brown (1993) has also examined the effects of the frequency and saliency of words in oral input from a videodisk program. However, the role of oral input in L2 vocabulary acquisition has received very little attention . . . and . . . the role of interaction has not been considered at all.¹⁵²

Learning the full range of meanings and usages of any new lexical item is clearly a gradual and complex process. We may reasonably suppose, as Ellis, Tanaka and Yamazaki do, that

learners begin by ascertaining one meaning of an L2 item--by establishing its referent, by identifying an L1 equivalent or by some other means--and then gradually fill out their knowledge of the item as they subsequently encounter it . . .

The acquisition of a new lexical item . . . involves discovering the frequency with which the item is used in speech and writing, its situational and functional uses, its syntactic behavior, its underlying form and the forms that can be derived from it, the network of associations between it and other items, its semantic features and, of course, the various meanings associated with the item (Richards, 1976).¹⁵³

VIII. Recommended Lists and Methods of Vocabulary Acquisition

In 1977 Yoshida did a study of "a Japanese child's acquisition of English vocabulary."¹⁵⁴ He observed the child using these three major strategies for learning new words in English: "a) rote learning by

¹⁵¹Rod Ellis, Yoshihiro Tanaka, and Asako Yamazaki, "Classroom Interaction, Comprehension, and the Acquisition of L2 Word Meanings," *Language Learning* 44, no. 3 (September 1994): 457.

¹⁵²Ibid.

¹⁵³Ibid.

¹⁵⁴M. Yoshida, "A Japanese Child's Acquisition of English Vocabulary" (MA thesis in TESOL, UCLA, 1977).

imitation and repetition, b) cognitive learning by association and recall, and c) a mode of translation from his mother tongue."¹⁵⁵

In a larger and more detailed text on Second Language Reading ('SLR'), Sandra Silberstein and M. A. Clarke found the following three major strategies: (a) guessing or obtaining meaning from the context, (b) obtaining meaning by doing morphological or structural analysis of new words, and (c) learning the meaning of new words by using either monolingual or bilingual dictionaries.¹⁵⁶

Nida, on the other hand, saw student curiosity and interest as being major factors which would urge them on "to find the intended meaning."¹⁵⁷ Yamamoto concludes his summary study of the field of vocabulary learning or acquisition with the following excellent classroom suggestions.

In addition to a learner's interest and curiosity, his/her motivation also seems to be deeply involved in an intake of new words for future productive or receptive use. As is mentioned by Rivers (1983: p.131), EFL/ESL students have to be encouraged to 'SEEK THE MOST HELPFUL WAY FOR EXPANDING AND MAINTAINING THEIR VOCABULARY AND DISCOVERING THE SEMANTIC POTENTIAL OF A TARGET LANGUAGE.' In order to maintain their motivation, they also need to be cognizant of the fact that THE PROCESS OF ACQUIRING NEW WORDS CONSTITUTES AN IMPORTANT PART OF EFL CLASSROOM TASKS WHICH ARE DESIGNED TO DEVELOP LANGUAGE SKILLS. In this regard, motivation stimulated by teachers and peers is as significant as self-induced motivation which is interwoven with interest and curiosity.¹⁵⁸ (writer's emphases)

The most recent study regarding what vocabulary words should be included for students using English at a college level in Japan for advanced, academic purposes was done by a team of scholars at International Christian University in Japan, including Mizoguchi, Sano, Shiina, Thrasher, and Yoshioka. This article in the Japan Association of College English Teachers' publication is entitled "A Proposal for

¹⁵⁵Ibid.

¹⁵⁶M. A. Clarke and Sandra Silberstein, "Toward a Realization of Psycholinguistic Principles in the ESL Reading Class," in Reading in a Second Language: Hypotheses, Organization, and Practice, eds. R. B. Mackay, B. Barkman, and R. R. Jordan (Rowley, Mass.: Newbury House Publishers, 1979), 48-65.

¹⁵⁷Eugene A. Nida, "Selective Listening," in Teaching English as a Second Language: A Book of Readings, eds. H. B. Allen and R. N. Campbell (New York: McGraw-Hill, 1972), 145-52.

¹⁵⁸Ibid.

Establishment of an EAP Vocabulary List and an Analysis of Its Appropriateness,"¹⁵⁹ which is abbreviated as "EAP Vocabulary Study" meaning "English for Advanced Purposes."

The I.C.U. team has studied the "interplay between reading comprehension and vocabulary control in English as a second/ foreign language" before, as reported in their previous journals.¹⁶⁰ Their EAP Vocabulary List of 3,099 Advanced Level words is not a Word Frequency list, but rather was obtained by "focusing on the pattern of distribution of vocabulary over ten academic subjects," with the goal of "creating a list of vocabulary common to the majority of academic disciplines."¹⁶¹ These ten academic areas included the four Physical Sciences of (1) Biology, (2) Chemistry, (3) Mathematics, and (4) Physics, and six Social Science disciplines, namely (1) Anthropology, (2) Economics,(3) Education, (4) Linguistics, (5) Philosophy, and (6) Psychology.¹⁶²

This team of language scholars proceeds to first eliminate Junior High Vocabulary words which should already have been learned, as well as eight other unnecessary categories. From a total input of 255,495 words in the input data, they came up with 12,935 distinct entries. The original data was obtained by asking professors in these ten respective disciplines to recommend a suitable introductory textbook in their field for Japanese college students beginning work in their major field. The data base was obtained

¹⁵⁹Mizoguchi, et al., "A Proposal for the Establishment of an EAP List and an Analysis of Its Appropriateness," *JACET Bulletin* 23, (1992): 77-96. (This is a publication of the Japan Association of College English Teachers.)

¹⁶⁰Richard Linde and others, "An Analysis of the English Vocabulary Items Attained by High School Graduates in Japan—An Interim Report," *Annual Reports*, vol. 2, (Mitaka, Japan: International Christian University, 1977): 61-89; Richard Linde et al., "An Analysis of the English Vocabulary Items Attained by High School Graduates in Japan—The Second Interim Report," Richard Linde et al., *Annual Reports*, vol. 3, (Mitaka, Japan: International Christian University, Division of Languages, 1978): 85-114; and Richard Linde et al., "Factors Contributing to the English Reading Ability of Japanese University Students—Vocabulary," *Annual Reports*, vol. 5, (Mitaka, Japan: International Christian University, Division of Languages, 1980): 87-109.

¹⁶¹Mizoguchi, et al., "A Proposal for the Establishment of an EAP Vocabulary List," 77-8.

¹⁶²*Ibid.*, 78-90.

when about "200 pages from each of the recommended textbooks were inputted into the ICU Computer Center IBM 4341," and later was converted into alphabetical lists.¹⁶³

Upon subsequent analysis 874 words were found to occur in both a list of Physical Sciences common vocabulary words and a list of Social Sciences common vocabulary words. These were termed "Core Vocabulary." These would be the most important words to teach first for advanced academic study it seems. However, after that, Non-core Common Social Science (911) and Physical Science (341) vocabulary words should also be learned, a total of 2,126 entries in all. Another 973 words were added by selecting "entries that occurred in four of the ten subjects" which had not yet been selected, called the "Subject-based Four-way Common Vocabulary." This increased the total number of Social Science words.¹⁶⁴

Thus a total list of 3,099 words were found which are deemed both necessary and appropriate for the study of English for Advanced Purposes. These words were found to be appropriate as judged from four different viewpoints: (1) their percentage breakdown within each academic discipline, (2) their token-entry ratio, (3) their frequency of usage, and (4) their level of difficulty. Three levels of difficulty--A, B, and C--are given and were validated in their previous research. They are also substantiated by other authoritative word lists, namely the Zen Eiren list, and Kenkyusha's New Collegiate English-Japanese Dictionary (4th ed.).¹⁶⁵ The highest A level also closely parallels JACET's established list (1,790 words overlap).

Quoting their report:

The A level words are those included in the Zeneiren list, the B level words are those occurring with a single asterisk in Kenkyusha's New Collegiate English-Japanese Dictionary (4th ed.) . . . the EAP Vocabulary . . . total of 3,099 entries in our final list. . . is roughly the same as the number of entries in the Zeneiren and JACET lists . . . the EAP Vocabulary accounts for a very high percentage within each academic discipline. If it is reasonable to assume a close relationship between reading comprehension and knowledge of vocabulary, the findings presented above indicate that UNIVERSITY LEVEL READING SKILL DEPENDS TO A GREAT

¹⁶³Ibid., 79.

¹⁶⁴Ibid., 84-88.

¹⁶⁵Ibid.

DEGREE ON THE EAP VOCABULARY THAT HAS BEEN RECOMMENDED [and MASTERED].¹⁶⁶ (writer's emphasis)

This report by the I.C.U. Division of Languages seems to clearly establish the fact that there does exist such a category as "essential English for academic purposes," and clearly indicates more advanced vocabulary which can help ESL/EFL students succeed. Students who LEARN MUCH OF THIS ESSENTIAL VOCABULARY, will be much more likely to succeed in advanced academic study because they will "find a large portion of the vocabulary in their specialized field familiar."¹⁶⁷

The primary vocabulary-training materials which were tested in this study are called Wordcraft, Books 1-3. The above I.C.U. study recommending 3,099 words as most essential "English for Advanced (or Academic) Purposes" is very relevant to this study because the writer's analysis of these three Wordcraft vocabulary-training texts shows that Book 1 contains 190 of the E.A.P. words. Book 2 contains 110 E.A.P. vocabulary words, and Book 3 contains 89 of them. Moreover all three books also contain 365 additional cognate, or related, words which are also on the I.C.U. list of most essential words. This comes to a total of 754 out of all 3,099 E.A.P. advanced vocabulary words, or about one fourth of them (24.33%). Obviously learning all of these words in Wordcraft Books 1-3 would be highly beneficial to any foreign language learner who needs to master the most frequent and essential vocabulary for more advanced, academic study using English as their means of education, especially at a college level or above.

This I.C.U. English for Academic (or Advanced) Purposes vocabulary list is most useful and highly recommended as a basis for ESL or EFL instructors for several reasons. First, it is a most recent study. Second, it has a wide range of applicability. Third, it is based on representative texts that Japanese college students who study various content areas in English are using today.

Clearly, as Nation points out, "the most useful words for our learners are high-frequency words which have a wide range," such as that demonstrated in I.C.U.'s recommended list (found in Appendix D). In addition, such a recent list is needed because

¹⁶⁶Ibid., 88-91.

¹⁶⁷Ibid.

words with a wide range occur in many different kinds of texts and fields of study . . . the Thorndike and Lorge count is still used as a source of information about which words to teach, but it is based on a work done over 50 years ago. Roberts (1965, pp. 22-23) describes some of its weaknesses). More recent counts are those done by computers, namely, Kucera and Francis (1967) and Carroll et al. (1971). The Carroll . . . count gives detailed information about range and could be very useful in making lists of vocabulary for special subject areas. ¹⁶⁸

Jack Richards also lists seven criteria to consider when preparing word lists for learners of English. These are (1) frequency, (2) range, (3) language needs, (4) availability and familiarity, (5) coverage, (6) regularity, and (7) ease of learning, also known as 'learning burden.'¹⁶⁹ A particular word's 'learning burden' may be defined as the "amount of effort needed to learn and remember" that word, which depends on the following three factors: "1) the learner's previous experience of English and their mother tongue, 2) the way in which the word is learned or taught, and 3) the intrinsic difficulty of the word."¹⁷⁰ Teachers should become more aware of the various factors affecting the learning burden, and teach in ways that reduce it, working positively to help students master English vocabulary more easily.

Being able to pronounce a list of words correctly is not a true measure of reading, nor is it proof of comprehension. This is why Informal Reading Inventories are not good measures of whether a student can correctly interpret the same words in a reading context. As the Spaches remark, such performance is "evidence only that these words have become familiar visually and auditorially as printed symbols, not necessarily as meaningful ideas."¹⁷¹

Since most Japanese college students of English are reading at intermediate grade levels, relative to American norms, research findings based on U. S. elementary students are relevant. Most reading

¹⁶⁸Nation, Teaching and Learning Vocabulary, 20.

¹⁶⁹Jack C. Richards, "A Psycholinguistic Measure of Vocabulary Selection," in International Reading Association Letter, vol. 8, no. 2 (1970): 87-102.

¹⁷⁰Nation, Teaching and Learning Vocabulary, 33.

¹⁷¹Spache and Spache, Reading in the Elementary School, chapter 13, "Building Sight and Meaning Vocabulary," 516.

authorities seem to favor direct, inspirational teaching. As the Spaches point out, "direct teaching of vocabulary probably produces superior growth to incidental methods."¹⁷² They add,

Intensive emphasis at the primary-grade levels pays dividends in increased sight and meaning vocabularies and improved comprehension. In fact, at these early stages of development such training may appear to produce quite dramatic gains, insofar as these are measured by common vocabulary and reading tests. With older . . . pupils. . . intensive vocabulary programs show gains but usually of much less striking nature. Improvement is often linked to verbal intelligence, with the brighter pupils showing the greater gains . . . planned efforts probably produce more development and transfer to various language media than the incidental learning resulting simply from casual classroom word activities or general reading. Extensive or intensive reading undoubtedly also makes some contribution to reading vocabulary, but probably less than planned, direct teaching [of meaningful vocabulary].¹⁷³

Summarizing the Spaches' discussion of how native English language students learn new words can give some helpful guidelines even for foreign students of English. They found that the intellectual interests of students' families, children's first-hand multisensory experiences with words, and verbal intercommunication within the family all conditioned a child's "readiness for reading vocabulary growth."¹⁷⁴ Direct teaching of vocabulary seemed to produce greater growth than informal, incidental methods. They found these three foundations of vocabulary learning: "1) VITAL FIRSHAND EXPERIENCES, 2) DIRECT TEACHING THAT PROVIDES MANY MEANINGFUL ASSOCIATIONS, AND 3) INCIDENTAL LEARNING FROM CASUAL CONTACT WITH WORDS THROUGH ONE OR SEVERAL LANGUAGE MEDIA" (writer's stress).¹⁷⁵

Paralleling these three vital foundations for vocabulary learning are three common philosophies for teaching vocabulary. Anderson and Freebody pointed these out in their article on "Vocabulary Know-

¹⁷²Ibid.

¹⁷³Ibid.

¹⁷⁴Ibid.

¹⁷⁵Ibid., 518.

ledge.”¹⁷⁶ The first they called the “Instrumentalist Hypothesis,” where teachers see themselves as the instrument necessary to teach words through lists and drills of isolated words. In the second approach, called “Verbal Aptitude,” “teachers try to promote vocabulary development through wide reading and emphasis upon language development, . . . practicing . . . words in logical contexts, integrated with subject matter, not in isolation or in lists.”¹⁷⁷ The third approach to teaching vocabulary is the “Knowledge Hypothesis.” This theory holds that words represent a larger mass of related information. Its followers believe that each word’s network of interrelated associations should be taught using such strategies as Concept or Semantic Mapping.¹⁷⁸

Finally, S. Jay Samuels gives a fourth model of word recognition similar to Goodman’s popular psycholinguistic model of reading (see Figure 6). The Spaches characterize his approach thusly: “He believes that the process [of word and meaning recognition] occurs 1) by using the information contained in the reading passage; 2) by the reader generating hypotheses of what the next word will be; 3) by testing those hypotheses by cues that give at least partial perceptions of letters, word length or configuration . . . ; 4) by accepting or rejecting the hypotheses.”¹⁷⁹

Three simpler views of reading are shown in Figure 9, entitled “Three Models of the Reading Process.” These view reading alternatively as being either (1) Sound-centered, (2) Word-centered, or (3) Meaning-centered. Most linguists and language teachers seem to adhere to the third view. Clearly these various models of word recognition will generate different approaches to vocabulary instruction. Although

¹⁷⁶Richard C. Anderson and Peter Freebody, “Vocabulary Knowledge,” in Comprehension and Teaching: Research Reviews, ed. John T. Guthrie (Newark, Del.: International Reading Association, 1981), 77-117.

¹⁷⁷Spache and Spache, Reading, 526-27.

¹⁷⁸Ibid. For a specific example of the educational use of “Concept Mapping,” see Atsumi Hirumi and Dennis Bowers, “Concept Trees,” Educational Journal 85, no. 4 (March/April 1991): 24-27.

¹⁷⁹Spache and Spache, Reading in the Elementary School, ch. 13, “Building Sight and Meaning Vocabulary,” 527.

some methods are not productive, it seems that the Spaches are correct in saying that "until we have a universally acceptable model, we can expect to see both good and bad vocabulary teaching" continued.¹⁸⁰

IX. Vocabulary Studies of Native Readers

Rudolf Flesch writes in Chapter Ten of his sequel, Why Johnny Still Can't Read: A New Look at the Scandal of Our Schools,¹⁸¹ that after many years of study, Seashore of Northwestern University claimed that the average American six-year-old comes to school with an average speaking and listening vocabulary of about 24,000 words. This he said rose to over 150,000 words among most college graduates. Although linguists who denied the importance of intensive phonics instruction fumed and tried to deny Seashore's findings, other researchers who repeated his tests came up with the same results. These are enumerated by Flesch as including the Havighursts in 1947, Colvin in 1951, Bryan in 1952, and Templin in 1957. Then Shibles in 1959 replicated these studies but among bilingual students, comparing them with monolingual French-Canadian students at three schools in Maine. His findings were even higher than those of Seashore. Flesch reports that "his monolingual first-graders knew 26,363 words and even their bilingual classmates were not far behind with 17,847 English words."¹⁸²

Templin's findings also showed that, contrary to most expectations, there was only 1% difference, about 300 words, between the vocabularies of upper and lower-income children. Her findings were also "nowhere near the tiny vocabularies the look-and-sayers were working with."¹⁸³

Despite all of these findings, Chall attempted to disprove them and show a much lower level of vocabulary words in order to justify the slow pace of instruction used by most "Sight Word" teaching methods. In a strange footnote on page 203 of her work entitled Learning to Read. The Great Debate, Chall

¹⁸⁰Ibid.

¹⁸¹Rudolf Flesch, Why Johnny Still Can't Read: A New Look at the Scandal of Our Schools (New York.: Harper and Row, 1981), 100-103.

¹⁸²Ibid.

¹⁸³Ibid.

writes: "Estimates of the number of words first graders know vary from 2,000 to 25,000 . . . [but claims that] methodological errors . . . have resulted in the 25,000 figure."¹⁸⁴ Her evidence is not at all convincing. Yet she claims that "the average first grader can probably use accurately and/or understand about 4,000 different words."¹⁸⁵

Thus, despite the fact that Seashore's laborious research had been independently confirmed by at least five other studies, Chall single-handedly revised down radically all of their previous estimates for the educational establishment, which she represented at Harvard. She reduced the figure to only about 4,000 words, as Flesch puts it,

a figure even the most timid look-and-say educator can live with. Please note that this isn't just an amusing numbers game, but extremely serious. If a child knows only 4,000 words, there's some smidgen of justification for teaching him 350 words a year to read. If he knows 24,000, the whole look-and-say system stands naked before the world as an out-and-out intolerable sham, a device to destroy the education of a great nation's children. Seashore knew what he was talking about. Now, forty years later, his voice has long been stilled and his name is almost forgotten.¹⁸⁶

X. Setting Vocabulary-Training Goals

The main goal of using vocabulary lists in language education is to help make English instruction "more manageable by providing a tried and principled basis for vocabulary selection."¹⁸⁷ How many words do language learners need to learn? If their goal is attaining natively like proficiency, which is often necessary for those ESL learners who move to an English-majority country, the recommendations are as follows.

"The research on native speakers indicates that second language learners in the same school system as native

¹⁸⁴Jeanne Chall, Learning to Read: The Great Debate (N.Y.: McGraw-Hill, 1967), 203.

¹⁸⁵Ibid. See note on page 69 of her text.

¹⁸⁶Flesch, Why Johnny Still Can't Read, 105.

¹⁸⁷Nation, Teaching and Learning Vocabulary, 24.

speakers of English may have to increase their vocabulary by around 1,000 words a year, besides making up a 2,000 to 3,000 word gap, in order to match native speakers' vocabulary growth."¹⁸⁸

Learning goals for EFL learners such as college students studying English in Japan would differ, depending on the individual and their majors. In general, however, one must determine by pretesting the following areas in order to do effective ESL/EFL instruction in vocabulary: (a) learner's beginning vocabulary level, (b) vocabulary needed by end of course, and (c) number of words to be learned during the course of study ($c=b-a$). In addition, an EFL teacher must determine the number of hours available for this task, which depends especially on the number of classes, weeks, months and years of study available. By dividing (c) the total vocabulary goal by (d) the number of class hours available, one can arrive at e) the number of words per lesson or week which should be learned.¹⁸⁹

Nation has a very helpful chart, his Table 2.6 on "Vocabulary Learning Goals,"¹⁹⁰ which is useful to consult when setting vocabulary learning goals for various students depending on their own individual circumstances and aims. Each type of language learner's vocabulary expansion program may differ depending on these various circumstances, especially upon their initial level, education major, future goals, and length of study intended. Based upon these factors one must decide upon a vocabulary training program that is most appropriate for their learners from both academic content and language learning perspectives.

Two well-known Second Language Reading researchers, Celce-Murcia and Coady both write positive reviews of Nation's text in the *TESOL Quarterly* (Winter 1991).¹⁹¹ Stating that "Nation's book is important for all language teaching professionals who are concerned with vocabulary teaching and learning," Celce-Murcia adds:

¹⁸⁸Ibid.

¹⁸⁹Ibid., 25.

¹⁹⁰Ibid.

¹⁹¹Marianne Celce-Murcia and James Coady, "Two Reviews of Teaching and Learning Vocabulary by I. S. P. Nation," *TESOL Quarterly* 25, no 4 (Winter 1991): 705-10.

Based on Nation's belief that systematic, principled approach to vocabulary instruction results in better learning, this 12-chapter text introduces the ESL/EFL teacher to research findings and to pedagogical concerns in the area of vocabulary. This is important since vocabulary instruction is an area that has been neglected to varying degrees in both audiolingual and communicative language teaching.¹⁹²

Coady also recommends that since Nation's work is so important in this field, it "should be on the reference shelf of every ESL/EFL teacher who believes that attention should be paid to vocabulary as a significant variable in language learning."¹⁹³

A major hindrance to college English language learning in Japan seems to be the lack of an integrated, uniform program which systematically selects and develops vocabulary that is most needed by individual learners. Most college English classes and teachers are too independent, lacking an integration of learning objectives. Texts often teach too few unknown words, and English departments often lack any overall, unified vocabulary list which they believe all of their language learners need to master. In the case of non-English majors especially, English is usually taught as a liberal arts subject, as part of the general education required subjects. As such, it is usually taught by part-time teachers, each of whom teaches independently, with little or no coordination or communication as to overall language learning goals. For example, in almost ten years of teaching experience at ten different colleges or technical junior colleges in Japan, the author has never heard of a department seeking to have uniform goals for all of their students in terms of particular vocabulary levels or lists.

In a foreign language setting, such as Japan, most of the learner's contact with English is in the language classroom. Only about one third of English majors' classes are taught mainly in English, rather than in Japanese. This means that only about ten out of thirty hours of first year classes, and only five out of fifteen hours of second year class hours per week are taught completely in English. This makes for a low number of total hours of exposure to English over the whole school year, which averages just fifteen weeks per semester. Moreover, in many of these classes Japanese is also used to explain or translate even English grammar, or the meaning of English literature, following the old, outdated 'Grammar-Translation

¹⁹²Ibid.

¹⁹³Ibid.

Model.' Unfortunately, not all Japanese English teachers are comfortable using only English as the medium of instruction.

XI. Accepted Principles of Vocabulary Instruction

As Crow and Quigley pointed out, there is a widespread belief based on past studies that "vocabulary practice needs to be contextualized as much as possible," and also that "one's approach to vocabulary instruction must be based upon active or passive needs of the students."¹⁹⁴ Different methods are proposed for each type of vocabulary, and much more integration with other communication skills seems to be necessary before new terms transfer and become fixed in one's Active Vocabulary memory.

In addition, good dictionary skills need to be learned. In Japan this means overcoming students' dependence on Japanese translations, or failure to use any kind of dictionary at all. The use of computerized dictionaries is much more rapid and effective, and they are slowly coming into greater use as a result. Teaching word-analysis skills, such as knowledge of common prefixes, suffixes, and root words is also often advised, since such skills provide tools for the analysis of many other words. Broad, extensive reading is to be encouraged to build up language learners' Passive Vocabulary. Intensive reading of passages in class can stress many specific reading strategies, including speed and comprehension skills, as well as provide opportunities for concentrated vocabulary development in a variety of different interesting contexts. Jannuzi points out that

most foreign language teachers would agree that their students first need to acquire more vocabulary . . . then [they] need to revise and refine that vocabulary once acquired. In Japan, the traditional method for vocabulary study has been translation. There are [many] problems with this method . . . Fortunately, there exist new techniques for teaching, studying, and learning vocabulary in a foreign language. Once such technique that makes use of the insights of semantic field, reading and schema theories is SFA, an exciting, versatile activity that should find immediate applications to ELT [English Language Teaching] in Japan.¹⁹⁵

¹⁹⁴Crow and Quigley, "Semantic Field Approach to Passive Vocabulary Acquisition," 499.

¹⁹⁵Charles Jannuzi, "Semantic Feature Analysis and Vocabulary Acquisition," Language Teacher 18, no. 4 (April 1994): 30-33.

Many modern techniques for teaching vocabulary are informed by this relatively new field known as "Semantic or Schema Theory." Some other common names for this means of diagramming mental and linguistic networks of associations are the following: "Concept or Semantic Mapping," "Word-Mapping," "Brainstorming," "Word Bubbles," and "Clustering." Crow and Quigley pointed out years ago that research in several areas had shown that such an approach to vocabulary teaching, "based on the semantic organization of our universe might be productive. Learning theorists, working in the area of memory and recall, have shown the superiority of recall of data that have been organized into logical semantic categories."¹⁹⁶

Organizing words and ideas according to meaningful and logical patterns of relationship naturally can help students to understand and remember them more readily. Crow follows this method in his "Keyword Approach." Along the same lines, Jannuzi recommends the use of "Semantic Feature Analysis," or "SFA," for English language instruction.

SFA is, like semantic mapping, a graphic, nonlinear, schematic means of presenting, studying, revising, contextualizing and discussing vocabulary. But unlike semantic mapping, SFA takes the form of a table (or matrix) and assigns specific features (or components) of meaning to the vocabulary items under study. This tabular format facilitates the wholistic comparison and contrast of semantically-related words. Like semantic mapping, SFA can be presented bilingually: an important consideration in many Japanese EFL classes [where vocabulary levels are low]. And also like semantic mapping, it is adaptable to individual, pair, small group, or whole class work. Moreover, because of its neat tabular form, SFA lends itself well to computer-assisted instruction [CAI].¹⁹⁷

XII. The New Field of Computer-Assisted Language Learning

One of the computer's greatest strengths seems to be its ability to captivate students' interest and help to motivate their performance. The computer's usefulness is further amplified by its ability to give immediate feedback, and assist with the scoring and recording of performance levels or grades. Nevertheless, one must recognize that, as Mason, Smith and Traub assert in their article on "Language Arts and Microcomputers," "the art of using microcomputers in language arts is still in its infancy. Already the

¹⁹⁶Crow and Quigley, "A Semantic Field Approach to Passive Vocabulary Acquisition," 500.

¹⁹⁷Jannuzi, "Semantic Feature Analysis and Vocabulary Acquisition," 30.

microcomputer can serve as a tutor, a data analyzer, a drill master, a referee, and a catalyst for creativity. Its greatest strength lies in its ability to motivate students. Its future is limited only by our imaginations."¹⁹⁸

This great potential of computers to present basic concepts in a new and often more interesting format should be kept in mind by teachers and especially by curriculum designers. Educational computer software, being interactive by nature, can also be used to help students develop their reasoning abilities, while learning various facts and skills in an enjoyable and entertaining way.

Whereas some people think that students must motivate themselves, and others believe that part of a teacher's traditional role and responsibility is to motivate their students toward success, computers present a third option. Although Mason, Smith, and Traub state that computers' "greatest importance lies in their ability to motivate students,"¹⁹⁹ actually the computer is only a means or tool of instruction. The teacher or programmer who designs interesting and interactive software programs is the one who motivates indirectly, by means of an amazing machine tutor. The well-known "GIGO Principle," ("put garbage in and you'll get garbage out"), makes it clear, moreover, that only a well-constructed program will give good educational output and results. Young people are often motivated to play interesting or entertaining computer games. Having such motivation alone, however, does not ensure that any real learning is truly taking place.

What factors are necessary for good quality language learning software? Good CALL materials are still in rather short supply, since it is both a relatively new field, and also one which requires many technical skills for the construction and design of effective teaching materials. Two external devices which can be controlled by computers to aid in language instruction are videos and tape recorders. Most recent technology can input moving video images and digitized sound onto computer screen monitors, so that they look just like televisions, but may be programmed to be quite interactive.

¹⁹⁸Margie Mason, Howard Smith, and Kim Traub, "Language Arts and Microcomputers," in Microcomputers in K-12 Education, ed. Pierre Barrette (Rockville, MD.: Computer Science Press, 1982), 77.

¹⁹⁹Ibid.

Rex Last, in his book on Language Teaching and the Microcomputer, looks at the "feasibility and desirability of extending the role of the computer in modern language teaching in Scottish schools."²⁰⁰ Last's text summarizes both positive and negative advice to would be programmers or users of CALL materials. He states that such new, computerized multimedia technologies "demand the acquisition of a whole range of new skills by the unfortunate programmer."²⁰¹ He recommends the following:

- 1) Develop a program which . . . can operate on a wide variety of data . . .
- 2) Do not be either intimidated by the computer nor carried away by the beginner's enthusiasm
- 3) Do not be afraid to experiment
- 4) In all these applications it is critical that the appearance of the text on the screen causes no additional problems to the learner . . .
- 5) Exploit the full potential of the micro for attractive layout and, where possible, add colour.
- 6) Match input with the model answer, which forms the basis of the simplest kind of CALL, should be applied with great care
- 7) Consider the longer-term problems of portability of programs . . . [for a] multiplicity of different computers, operating systems, programming languages, and the like . . . portability (machine independence) is a key issue for those programs which have a general applicability.
- 8) Let the computer do what it can do well
- 9) The computer should be integrated into the teaching process, and not become a separate and unrelated activity. Not least because its strengths are highly specific, the micro is at its best as part of an overall teaching strategy . . . use it as an extension of existing courses
- 10) [The computer's role] as an information storage and retrieval device and especially as a means for the strengthening of general skills should not be underestimated, nor should its potential as an examining and marking!) device More attention has yet to be given to designing packages which extend the knowledge of the learner in particular areas of language acquisition.
- 11) Careful consideration should be given to the kinds of learners who are offered micro tuition [entrance to a CALL course], since much of the available CALL material is clearly designed to serve a remedial function . . .
- 12) A correct balance must be maintained in the flow of information to the learner. . . material should be properly introduced, then discussed and tested, and rounded off by a summary.
- 13) Software must satisfy certain minimum requirements . . . it must not get in between the learner and the subject.
- 14) An appropriate balance must be maintained between effort and reward.²⁰²

²⁰⁰Rex Last, Language Teaching and the Microcomputer, (Oxford: Basil Blackwell, 1984), x.

²⁰¹Ibid., 85.

²⁰²Ibid., 85-92.

XIII. Advantages of Computer-Assisted Instruction Restated

Once again it is helpful to review the advantages of Computer-Assisted Instruction, both technically and especially educationally. Computerized media must be used as tools that fit in properly with one's own educational principles and philosophy. Some of the many benefits of using computers to enhance instruction are as follows. According to Hergenhahn, "Not only can the computer be used to present instructional material, it can also evaluate how well that material has been learned. Thus, the computer not only provides immediate feedback during the learning process, it can also provide immediate results of achievement tests for both the students and the teacher."²⁰³

Because one can get such immediate feedback from a computer, students are helped by both (a) learning correct answers more quickly, and (b) being held more accountable on any given day. Teachers are greatly helped because they can immediately determine how well certain methods and materials are working, and then quickly modify their instruction as necessary for any particular student, or for the group as a whole. Teachers can often see from computerized test results if material needs more preteaching, review, application, or extension.

Hess and Tenezakis found that allowing students to use CAI was often such a motivating force that giving more or less time on the computer could even be used as a reward or punishment.²⁰⁴ Hergenhahn also states that CAI "motivates students to learn in ways that traditional education may not. . . providing immediate feedback, personal attention, exciting visual displays, and a gamelike atmosphere."²⁰⁵

XIV. Vocabulary-Training: Applications and Recommendations of CAI for Language Instruction

One can already see on the horizon a different form of language instruction arising—called either "C.A.I.," Computer-Assisted Instruction, "CAELL," Computer-Assisted English Language Learning, or

²⁰³Hergenhahn, An Introduction to Theories of Learning, 444.

²⁰⁴R. D. Hess and M. D. Tenezakis, The Computer as a Socializing Agent: Some Socio-Affective Outcomes of CAI, (Stanford: Stanford Center for Research and Development in Teaching, 1970).

²⁰⁵Hergenhahn, Introduction to Theories of Learning, 444.

more simply known as "CALL," meaning Computer-Assisted Language Learning. An excellent summary of this field, which compares various definitions of this new educational field and contrasts some of their differences in philosophy, is entitled: "CALL: Some Current Perspectives on and Possibilities of Computers in Language Teaching," written by D. Randall Terhune,²⁰⁶ based at Himeji Institute of Technology in Japan. In this work he examines arguments for and against using computers in the language classroom: human, pedagogic, economic and practical questions are raised as to their usefulness by Hirvela.²⁰⁷ On the other hand, many others, including Higgins,²⁰⁸ have shown that there are many positive and communicative uses for computers to enhance language instruction. Terhune explains:

The use of computers in education is expanding at a breakneck speed. Higgins reports that, because of financial conditions, 'until 1979, computer assisted language learning was virtually the exclusive preserve of universities and a few large industrial concerns' (1983, p. 102). With the development of the desktop microcomputer in the late 1970's, however, prices came down and the use of computers in schools and other places expanded, leading Keating to state that 'computers are now used for language learning purposes in a wide variety of educational establishments as well as by home learners working on their own' (1990, p. 67). Educators throughout the world, then, are quite possibly going to find themselves confronted with computers at one time or another in their careers, and they should be prepared.²⁰⁹

In America, many states have already recognized the importance of teachers having some basic "computer literacy," by mandating a computer course as necessary for receiving their state teacher's certification. In this modern age of increased global interdependence, rising refugee and immigrant movements, internationalization and global information transfer, more rapid methods and materials for learning English especially will be stressed. To reach and help such a growing number of English language

²⁰⁶D. Randall Terhune, "CALL: Some Current Perspectives on and Possibilities of Computers in Language Teaching," RON'EN (1991): 2-20.

²⁰⁷A. Hirvela, "Marshall McLuhan and the Case against CAI," System 16, no. 3 (1988): 299-311.

²⁰⁸J. Higgins, Language Learners and Computers, (New York: Longman, 1988).

²⁰⁹Terhune, "CALL: Some Current Perspectives," 2.

students, one should try to understand and be on the forefront of these developments in CALL. Helping them learn the necessary new language may well be the key to their hearts.

In the writer's situation, teaching at a women's junior college in Kyushu, Japan, an ever increasing number of students are going into computer-related fields, and into international businesses, such as foreign trade and the travel industry. This school only updated from typewriters to wordprocessor-computers in 1990. But most schools in the Tokyo area, such as the Tokyo Y.M.C.A. College of English, where the author worked for about three years, made the technological transfer to wordprocessors and Computer-Assisted Language Learning starting in the 1980's.

Most schools in Japan have mainly traditional-style Audio Language Laboratories. However, those which see the many advantages of using multimedia, Computer-Assisted Instruction have been updating their laboratories with computers which can use much more sophisticated software programs now available for all four skills. These CALL software programs are especially helpful for individual language learners to use to supplement and extend their skills in areas of interest or weakness. Some of these are examined later, along with research results when using them to enhance EFL instruction here in Japan.

The writer proposed to his school's English Department (on 2/7/92) that their traditional-style audio Language Lab be updated with computers. The rationale for this proposal was that if updated, our students would be able to use much excellent Language Learning Software which is now available, as well as other software which the writer and a colleague were in the process of creating. It was also proposed by the author that it was of foundational importance to the improvement of incoming students' language skills to design and provide them with an Intensive Listening and Vocabulary Development course, using CALL materials. This course would be designed by him and another teacher with more technical expertise.

This course, if piloted experimentally by these two teachers, would take 1-2 years to develop. The problem would come in its implementation, since the Computer Room is mainly used for Typing and Wordprocessing classes and practice. It would also be an expensive venture to update the existing Language Lab with computers. Nevertheless, this was strongly suggested since these two teachers believe that a school's Language Lab ideally used would become not merely a Listening-Pronunciation Lab, but a total

overall CAI Language Development Laboratory, shared by teachers and students who want to use computers to help increase their degree of proficiency and rate of language learning. Otherwise, they believed, another classroom should be set aside for helping students to increase their EFL skills, using the increased effectiveness of Computer-Assisted Instruction, to be named the "CALL Laboratory." Terhune gives some cautions and many good suggestions as to some possible uses of computers for language instruction,

When applying computers to education, Higgins, along with Underwood (1984), argues for the avoidance of past problems encountered in using language laboratories. The author then looks into some practical applications of computers with configurations currently available--namely using word processors and concordances in the teaching of writing and in research. Emerging hypertext programs are also examined. In conclusion, some of the future possibilities of CAI and CALL in the Japanese university situation are discussed.²¹⁰

This research also discusses the results of using some of these Hypermedia computer programs in language instruction at the Japanese college level. Other schools have demonstrated how amazingly versatile and useful computers can be in teaching foreign languages to children or adults. Hatch, Shirai & Fantuzzi mention such programs created for teaching Spanish and other languages at Brigham Young University, and go on to say that "Such programs. . . could be used to see if it is possible (as Horwitz, 1989, suggests) to lessen anxiety and fear of failure, and to change learner's beliefs about the learnability of second and foreign languages. In addition, they give us the opportunity to model various types of teaching and to test these with real learners."²¹¹

Two possible applications of the ability of computers to do such "Readability Checks" as mentioned earlier, would be as follows. (1) If vocabulary is taught using an integrated Computer-Assisted Instructional method, students' pre- and post-course writing levels can be more easily tested, corrected and compared by computer. This would give a long-term measure of the effectiveness of such an integrated CAI approach to teaching English as a Second or Foreign Language, as well as giving each student a clear

²¹⁰Ibid.

²¹¹Evelyn Hatch, Yasuhiro Shirai, and Cheryl Fantuzzi, "The Need for an Integrated Theory: Connecting Modules," *TESOL Quarterly* 24, no. 4 (Winter 1990): 712.

indication of how improving their individual vocabulary level helps them to improve in their other reading, listening, and writing skills as well.

(2) The second application flows from the ability of preprogrammed computers to determine the number of words in a passage, book, or course text that appear on a specific word list, such as the "English for Academic Purposes" university vocabulary list proposed recently in Japan.²¹² To more effectively design and evaluate the level of English textbooks as to their "vocabulary load" and learning potential, one could program their computer in such a way that all 3,090 of these university level advanced English vocabulary words are entered as a data base. Then such a program would be able to assess any proposed English college text as to its potential value in terms of important advanced, academic vocabulary to be gained from studying the course text alone.

Just as publishers of educational materials in Britain and America have long been guided by standardized, (i.e., most frequent), word lists of controlled vocabulary, high school and college materials being designed for use by Second Language learners should also be subjected to such clear and objective standards, but at a higher academic level, such as that recommended here by the use of International Christian University's "English for Academic Purposes Word List."²¹³ Otherwise much material that is either irrelevant, inappropriate, or otherwise inferior will continue to be produced, which does not serve to build up true academic knowledge, language skills, or quality of character.

Future Use of Multi-Media CAI Predicted

Since the late 1970s and early 1980s the Computer Revolution has gradually been changing the face of education in America. The two categories of usage referred to in the early literature applied to two different areas of teaching: (1) the study of actual computer skills or programming, and (2) the use of computers as a means to teach other subjects, using CAI. In the early years computers were mainly used for automated drill exercises, which could already be done by using workbooks or handouts. English,

²¹²Mizoguchi et al., "A Proposal for the Establishment of an E.A.P. Vocabulary List," 77-96.

²¹³Ibid.

however, was still considered a "non-computer subject area," around 1980. Bell stated that at that time there was "relatively nothing on the market for secondary English classes."²¹⁴ She summarized major advantages seen for using CAI at that time, however, with these words:

a primary advantage to using CAI even for automated drill is that one program on one computer can offer random access of up to 48,000 pieces of information. Thus, with a multi-level vocabulary development program and one computer terminal, a teacher could provide individualized vocabulary for all students in one location. In addition, the computer also scores the student's work, gives immediate reinforcement, and records the student's score in the personal record-keeping system available through computerized memory. Since many teachers refrain from using individualized instruction because of the time-consuming paperwork and record keeping involved, the computer system assists the teacher as well as the student. ²¹⁵

Nowadays, however, a mere 48 kilobytes of memory would be considered extremely small. In fact, such an old computer system is already referred to in computer jargon as an "extinct dinosaur!" Computer technology has advanced so far and so rapidly that one single optical disc can now hold up to 540 million (540 MegaBytes) bits of information! This is equivalent to about 385 High Density floppy discs, which contain 1.4 MegaBytes each. 'NeXT Computer System' (sic), developed by Steve Jobs, for example, "offers 256 MegaBytes of erasable optical disc storage, enough to store approximately 128,000 pages of data."²¹⁶ In the 1990s so called "Multi-Media CAI" has become available, and this will probably become the norm for language education in the future. The development of optical laser discs is like a "Quantum Leap" for CAI. These discs, known as "CD ROMS" or "superdiscs," are so superior in storage capacity that microfilm data is even being transferred onto them. For example, only one 540 MegaByte optical disc can hold the complete 30 volume set of Encyclopedia Britannica. Its 450 million characters would take 1,250 standard discs! ²¹⁷

²¹⁴Kathleen Bell, "Microcomputers in Title I Reading," English Journal (Dec. 1980): 88-89.

²¹⁵Ibid.

²¹⁶H. L. Capron, Computers: Tools for an Information Age, 2d ed. (Redwood City, Calif.: Benjamin/Cummins Publishing, 1990), 146.

²¹⁷Ibid., 144-45.

Another amazing example of the latest CAI technology available is Grolier's Multi-Media Encyclopedia. Its "Unique Timeline" has over 5,000 entries, including not only text, but also audio, video, photographs, maps and games. Its single optical disc holds more than all the information present in Grolier's twenty-volume encyclopedia set,²¹⁸ and it lists for only \$395.²¹⁹ More and more educational and entertaining software is inundating the market every day. Teachers must be able to evaluate this material educationally, and ethically, choosing only the best materials for school use. The use of home personal computers (PCs) will also continue to grow, offering promise for better Computer-Assisted Language Learning at home. As Bell envisioned correctly even in the early eighties:

As the market continues to grow, so, too, will personal home use of the microcomputer. This, of course, would be a dream answered for educators who constantly cry for the reinforcement of education in the home. But, unless the programming available for English receives some guided direction from English teachers, CAI may become meaningless or undermining [mere entertainment] rather than reinforcing. Whether or not the microcomputer becomes a standard component of the classroom, the influence of computer technology has already assumed a governing role in society. For this reason alone, we as teachers need to become more computer literate; the microcomputer provides that opportunity.²²⁰

It is most likely that Computer-Assisted foreign language education in Japan will become increasingly popular for the following reasons: (1) the growing prevalence of personal home computers; (2) the cultural stress on the importance of education, and the role English plays as part of the college entrance tests; (3) increased emphasis by the government on the importance of internationalization and English for global awareness and participation; (4) Japan's high level of technological skills; and finally (5) her economic power and ability to fund modern computer-mediated education, especially as software programs improve and research begins to show the greater effectiveness and enjoyment made possible by Computer-Assisted Language Learning.

²¹⁸Ibid.

²¹⁹Anonymous reader inquiry, "Letters," Technology and Learning (May/June 1992): 66.

²²⁰Bell, "Microcomputers in Title I Reading," 90.

Language teachers must honestly evaluate what their language students do that actually contribute to acquisition of the Target Language. A study done in Great Britain can serve as a guide to such an overall study. Paul Meara looked at the question of "What do students do on [sic] a language course?" in England. He tried to see whether language teaching methods had really changed much in recent years, despite the fact that "most language teachers subscribe to communicative objectives."²²¹ Meara found that

the Nuffield Modern Languages Inquiry . . . begun in 1985 . . . questionnaire (NSQ) was filled in by 586 students who were studying modern languages as part of their degree course in 1986 . . . NSQ used a carefully constructed sample which reflected the population of under-graduates at the time . . . it is possible to find some fixed points in the data as a whole. A major surprise is the stability of translation as a teaching method . . . The second surprise . . . is the very low proportion of time that the respondents spent using language laboratories . . . A third surprise is the lack of any clear move toward use of new technologies based on Information Technologies [CAI] . . . It is difficult to see departments spending serious money on computers until really good software becomes available at reasonable prices. Unfortunately, however, very little of the commercially available language software seems to meet these standards . . . The obvious temptation must be to replace real assistants by computers whose running costs are negligible once their initial start-up costs have been met. The data here suggests that moves in this direction [toward wholly computerized language education] would make modern language courses seem very much less enjoyable, and ultimately less effective.²²²

A more recent report in Great Britain done in 1992²²³ showed a low number of foreign language assistants with whom language learners could interact. Meara's study also included fifteen excellent figures showing the breakdown of class time on various language learning tasks. About 60% reported only 1-2 hours spent in talking with a native speaker. Less than 30% reported having 3-5 or more hours for actual communication with a native speaker. Another important chart shows the distribution of classroom activities spent using the Target Language (L2)--at most about 40%--rather than either translating or using the native language (L1) for explanation.²²⁴ Similar studies should be done in Japan, which would

²²¹Meara, "What Do Students Do on [sic] a Language Course?" 26-31.

²²²Ibid.

²²³A. Lodge, "Lectors in British University Language Departments," (Newcastle, England: Newcastle University, 1992), unpublished university report; cited in Meara, "What Do Students Do on [sic] a Language Course?" 26-31.

²²⁴Ibid., 29-31.

probably show much less use of English, the Target Language, than that. Another problem would appear-- that teachers do most of the talking rather than the language learners who need it!

Sixty-eight percent of all language students reported on by the Nuffield study mentioned above chose "talking in a foreign language with a native speaker" as the most enjoyable language-learning activity. This choice was also 26% higher than the nearest rival, "reading in a foreign language," chosen by only 42%. "Talking in a foreign language with a native speaker" was chosen more than twice as many times as any other language activity besides translating.²²⁵

Lyman-Hager evaluated the advantages and disadvantages of using Hypercard or hypertext computer programs for language education, stating that "More attention to design and development of a learner's perspective would help" to create better programs. She then pointed out that old behavioristic thinking has tended to limit the use and design of modern CAI technology. Instead, language teachers and new software program developers should stress the development of actual "Communicative or Strategic Competence" in second languages. Lyman-Hager criticized many early software programs of the seventies and eighties, which were limited by operant conditioning models, because from a pedagogical viewpoint, he did not

believe that listening to a series of unrelated, uncontextualized sentences is particularly rewarding to students, nor do I feel that it leads necessarily to enhanced student performance in any of the domains . . . Many of us who specialize in pedagogy and in technology feel the profession is calling for more than [mere] 'drill and practice' or 'tutorial' software . . . Computers are capable of much more . . . Underwood . . . offers some advice and encouragement for the future developments in software: 'In using computers for language practice, one runs the risk of merely mechanizing the least attractive aspects of what we already do. The "wrong--try again" approach, in which the computer asks all the questions, knows all the answers, and tosses students an occasional verbal reward to keep them going, will probably not go far toward helping them achieve real proficiency in the language. WHAT IS NEEDED IS PRACTICE THAT MORE CLOSELY RESEMBLES NATURAL CONTEXTUALIZED USE OF THE LANGUAGE AND THAT MAKES FULLER APPLICATION OF THE COMPUTER'S CAPABILITY FOR FLEXIBLE AND PERSONALIZED INTERACTION. IT CAN BE DONE.'²²⁶

²²⁵Ibid.

²²⁶Mary Ann Lyman-Hager, "MLJ Reader's Forum," *Modern Language Journal* 75 (1991): 473-

Concluding Comments on C.A.I.

With all of its great potential, Computer-Assisted Instruction is no panacea for educational problems. As an instructional tool, however, it has applications for most areas of education. CAI can also be applied, as Last points out, "across the whole range of language acquisition and related skills."²²⁷ When all is said and done, one must recognize that the computer with all of its great potential, is still just a tool in the hands of finite and very fallible men. Such a fine and powerful tool as the computer can be used, like other tools, for either evil or good. It may be used, on the one hand, to gain increasing governmental control over peoples' lives, whereas on the other hand it can help people to discover and develop both the physical treasures and resources of the earth, as well as the spiritual talents and riches of the full human potential.

Learning how to correctly use such God-given resources most effectively, ethically and efficiently has always been a major part of the true purpose of education, studied especially in the humanities. As Rex Last concludes, "The humanities have always been at the heart of our educational system, and there is no threat posed in the foreseeable future by the computer. The core of the humanities is not computer-izable [sic]: morality, art, and culture are not yet within the grasp of the machine. In the hierarchy of wisdom, knowledge, [and] information, computers are firmly in the third category."²²⁸

Incorporating Insights from Learner-Training

Davis in 1992, working at a Japanese Language Center for missionaries in Sapporo, began writing a series of very practical articles on processes and preferences involved in language learning. She summarizes present trends in foreign language learning research, which has focused on "trying to discover

²²⁷Last, Language Teaching and the Microcomputer, 92.

²²⁸Ibid., 101-2.

what strategies or techniques people employ in learning languages. This led to the concept of "learner training," i.e. the idea that by learning "how to learn" the efficiency of our learning is increased."²²⁹

Davis describes the aims of learner-training, which seem to be effective in enhancing foreign language learners' proficiency in most cases. Learner-training can also be applied and practiced more naturally if language learning is more individualized, something which is seldom done with Japanese college students learning English as a Foreign Language.

The widespread availability and use of computers in Japan, however, offers the ready vehicle of Computer-Assisted Instruction for increasing the individualization of EFL instruction according to language learners' particular skill levels and preferred learning styles, including preferred methods and materials. Of course, more precise measurement of individual student levels in various language skill areas will be required, since appropriately tailored individualized materials, like proper medical prescriptions, can only follow accurate educational diagnosis of a particular student's individual abilities, interests, and specific skill levels. Being much more individualized, learner-training's two-fold aims, according to Davis, are:

1. To develop an awareness of one's personal beliefs regarding language learning and to discover one's personal learning style and preferences--what works well for you. [Ideally] . . . The learner can make choices about how he studies and so learns to build on his strengths and not worry overmuch about his weaknesses.
2. To foster learner autonomy. This has two positive results: a) Where the learner is taking an active role in his learning . . . instead of a passive one . . . his [or her] learning will be more efficient. b) The learner is better equipped to continue his language study once he leaves the language classroom . . . assuming responsibility for one's own learning is a key to success.²³⁰

To some language learners and researchers, language learning seems to be a more unconscious process. Stephen Krashen,²³¹ for example, views 'language acquisition' as "the spontaneous process of rule internalization that results from normal language use, while 'learning' consists of the development of

²²⁹Miriam Davis, "How Successful a Language Learner Are You?" *Japan Harvest* 42, no.1 (Summer 1992): 22-23.

²³⁰*Ibid.*

²³¹Stephen Krashen, *Language Learning*, (Oxford: Oxford University Press, 1981).

conscious L2 knowledge through formal study."²³² These people tend to emphasize learning the 'natural way,' stressing communicative tasks or activities. Others, however, conceive of language learning as a more active and conscious process. Such people emphasize learning a language systematically, giving careful attention to the importance of vocabulary development and understanding grammatical patterns.

In addition a mixture of both beliefs is also possible, and people seem to learn languages with one or a mixture of both approaches. Davis's point is that one's beliefs about language learning will mold his language learning behavior and study habits, as well as his L2 communication attempts. In the same way, ESL/EFL teachers' beliefs about language learning or theories of acquisition tend to guide or predetermine their instructional methods. The problem is that all language students are not the same, and each one comes to us with a different set of language skills and preferred modalities of learning. These individual characteristics and preferences must be more respected in attempts to help guide students in their respective paths of language development. Individualized instruction would be more crucial in certain areas of language learning, especially in areas like vocabulary and listening development. Foreign language students also cannot be expected to be able to increase their English reading speed very much if the vocabulary burden of a reading passage is much above their proper instructional level. It is most important for both Reading and Listening class teachers to properly test and diagnose each student's individual level in these different language skill areas, so as to correctly tailor instructional materials to an appropriate level for each individual in each class.

Second Language Learning Styles and Strategies

"Learning Strategies" are defined by Rebecca Oxford, in her ERIC Digest article entitled "The Role of Styles and Strategies in Second Language Learning," as follows:

Language learning strategies are . . . conscious steps or behaviors used by language learners to enhance the acquisition, storage, retention, recall, and use of new information (Rigney, 1978; Oxford, 1990) . . . most successful learners tend to use learning strategies that are appropriate to

²³²See glossary definition of 'acquisition,' in Ellis, Understanding Second Language Acquisition, 292.

the material, to the task, and to their own goals, needs, and stages of learning. Most proficient learners appear to use a wider range of strategies in a greater number of situations than do less proficient learners²³³

Citing some of these research studies, which are numerous both inside (e.g., Brown, Bransford, Ferrara & Campione, 1983),²³⁴ and outside the field of language learning (such as Skehan, 1989; Oxford, 1989; Oxford & Crookall, 1989),²³⁵ one finds that they uniformly show that successful learners know how to use learning strategies appropriately. Such research is done by using methods such as diaries, think-aloud procedures, and informal observations or surveys. As Oxford reports: "Research indicates that language learners at all levels use strategies (Chamot & Kupper, 1989), but that some or most learners are not fully aware of the strategies they use or the strategies that might be most beneficial to employ."²³⁶

Future research in L2 Language Acquisition should attempt to discover and analyze foreign students' vocabulary learning techniques, or lack thereof, and seek to train them in using a wider variety of vocabulary acquisition media, methods, and strategies appropriate for different types of text material and content. Some types of learning strategies especially used by good language learners which could be taught more directly include the following areas: (1) Metacognitive, or internal mental thinking and organizing of knowledge, (2) Affective strategies, (3) Social strategies, (4) Cognitive strategies, (5) Memory strategies, (6) Compensation strategies (e.g. using guessing or gestures to overcome gaps in knowledge). Oxford explains further how these various learning strategies are used:

²³³Rebecca Oxford, The Role of Learning Styles and Strategies in Second Language Learning (Washington, D.C.: Center for Applied Linguistics, Clearinghouse on Language and Linguistics, Dec. 1989), 1, ERIC, EDO-FL-89-07.

²³⁴A. L. Brown et al., "Learning, remembering, and understanding," in Carmichael's Manual of Child Psychology I, ed. J. N. Flavell and E. M. Markham (New York: Wiley, 1983).

²³⁵P. Shehan, Individual Differences in Second Language Learning, (London: Edward Arnold, 1989); Rebecca Oxford, "The Use of Language Learning Strategies: A Synthesis of Studies with Implications for Strategy Training," System 12, no. 2 (1989): 235-47; and Rebecca Oxford and D. Crookall, "Research on Six Situational Language Learning Strategies: Methods, Findings, and Instructional Issues," Modern Language Journal 73, no. 4 (1989).

²³⁶Oxford, "Role of Styles," 2.

metacognitive techniques for organizing, focusing, and evaluating one's own learning; affective strategies for handling emotions or attitudes; social strategies for cooperating with others in the learning process; cognitive strategies for linking new information with existing schemata and for analyzing and classifying it; memory strategies for entering new information into memory storage and for retrieving it when needed; and compensation strategies . . . to overcome deficiencies . . . in one's current language knowledge.²³⁷

As Davis aptly points out, language teachers should try to create learning opportunities to match their students' individual learning styles.²³⁸ Clearly the prior condition for such individually tailored language instruction is to become more fully aware of each students' personal learning styles, strategies, and preferences. This is possible only by doing more individualized diagnostic testing, as well as more careful formal and informal assessment and comparison of individual student learning modalities, interest and motivation levels, when exposed to various language learning methods and materials. This is the central purpose of the following research regarding the development of English (L2) Reading skills among Japanese college students.

Whereas pronunciation and phonetic skills are more important to master at beginning levels of language learning, vocabulary and grammar knowledge continue to be of primary importance up through the five levels of language proficiency. Figure 10, entitled "Proficiency Assessment, Section A. Hypothesized Relative Contribution Model," shows the relative importance of building vocabulary skills at various levels of language learning, which are formally defined as levels of "Proficiency Assessment," from 0-5. (Levels are shown in Figure 10, Section B.) Level 5 equals natively like fluency or proficiency, the ideal goal of language learning or Second Language Acquisition.

Broad, General Recommendations from American Research

William Bennett and Dr. Chester E. Finn's What Works: Research about Teaching and Learning,²³⁹ is a practical distillation of much educational research showing that if children learn the basics

²³⁷Ibid.

²³⁸Davis, "How Successful a Language Learner Are You?" 22.

²³⁹Department of Education, What Works: Research about Teaching and Learning, by William Bennett and Chester E. Finn (Washington, D.C.: U. S. Department of Education, 1986).

of reading and math skills both in school and with parental support they can succeed much better. It is addressed to the American people, intending to provide accurate data about what really works and helps to educate their children. However, it is most useful to parents and school staff anywhere. Applications and recommendations will be made to Japan's educational system below.

Bennett and Finn showed that it was the U. S. federal government's recognized responsibility since an 1867 law was made to "promote the cause of education throughout the country,"²⁴⁰ to give reliable data about education to the American people. For each educational principle they found to hold true, they list many supporting research references which can be examined by anyone. Summarizing Bennett and Finn's findings regarding research in this field, one could say that there are many relevant, practical recommendations to the field of English Reading development found in this study. Some of these recommendations follow:

I. Parents are the first and most important teachers. What they do to help their children learn is more important to academic success than their economic status.²⁴¹ Success seems to depend more on hard work and habits of good self-discipline than upon having extraordinary intelligence. These qualities can be stressed both at home and at school by helping young people to develop their skills through constantly practicing over long periods with diligent effort and concentration. This implies that longer periods for language practice are absolutely necessary to help foreign students develop fluency in English. A few weekly classes are not enough to develop real communication skills.

In terms of English language skills, conversation in the home is very important. Children were found to learn to "read, reason, and understand" better if their parents did the following conversational activities: (1) read, talked, or listened to them, (2) told stories, played games, or shared hobbies together with them, and (3) discussed the news, television programs, and current or special events with them.

²⁴⁰Ibid., vi.

²⁴¹Ibid., 7.

Basically, what parents talk about with their children indicates what is important in life, and what matters in school. Parents can enrich this "Curriculum of the Home" by (a) paying attention to school matters, (b) showing more "affectionate concern for their children's progress," (c) providing books, supplies and a special place for studying [most Japanese parents do provide an individual student desk], (d) observing routines for meals, bedtime and homework, (e) carefully monitoring television, video, and computer game time as well as content, since any of these can have immoral material and be merely entertaining rather than educational at all. Finally, parents can also (f) discuss school life and events, problems and successes with their children, (g) help them to meet school deadlines, and h) not allow high school or college students to do too much part-time work ["Arbaito" in Japanese]. "Home efforts can greatly improve student achievement."²⁴²

Parents can help their children become better readers by reading to them from the time they are young. In the case of Japanese children, many are sent to afternoon 'Juku,' or preparatory classes, meant to help them do better on tests for higher education. These U. S. findings should be taken much more seriously by both the Japanese Ministry of Education, and also by Japanese parents who see the value of helping their children to become bilingual in today's very international world. They should push schools to start English at an earlier, more natural age, instead of waiting until junior high school. They can send their children to such afternoon prep classes, but it would be most advisable for them to also try to teach their own children more English at home. Their children can benefit most by being encouraged to read English aloud and "when they discuss stories, learn to identify letters and words, and talk about the meaning of [new English] words . . . At home, as at school, the more reading the better . . . [If parents] believe that reading is important and . . . seize every opportunity to act on that conviction by reading to [your] children [in English if you want them to become bilingual]."²⁴³

²⁴²Ibid., 7.

²⁴³Ibid., 9.

II. Children improve their reading ability by reading constantly. Reading achievement is directly related to the amount of reading children do in school and outside. Independent reading increases both vocabulary and reading fluency. These researchers found that

unlike using workbooks and performing computer drills, the reading of good books gives children practice in the 'whole act' of reading, that is, both in discovering the meanings of individual words and in grasping the meaning of an entire story. . . Research shows that the amount of leisure time spent reading is directly related to children's reading comprehension, the size of their vocabularies, and the gains in their reading ability. Clearly, reading at home can be a powerful supplement to class work. Parents can encourage leisure reading. . . making books easily available to children.

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III. The importance of early phonics instruction and early writing opportunities is well-supported.

Children in Japan should also be taught the English phonetic system earlier than the 7th grade, and it should no longer be necessary to teach it again in college after having at least six years (!) of prior instruction in English. If a foreigner were still learning the Japanese Hiragana syllabary system after six years they would be considered a dunce! Yet Japanese colleges still persist in offering courses in English Phonics. This clearly should not be still necessary if phonics were being taught properly from the start.

Concerning early writing attempts, researchers found that "children who are encouraged to draw and scribble 'stories' at an early age will later learn to compose more easily, more effectively, and with greater confidence than children who do not have this encouragement."²⁴⁵ These findings would suggest that not only having English at an earlier age, but also encouraging junior high school students to try to write out their own creative thoughts in English as soon as possible should have positive effects on their English language arts development. Too often instruction is kept passive. In addition, researchers have found that "a good foundation in speaking and listening helps children become better readers."²⁴⁶ This lends support to this study's recommendation that English education in Japan be more well-integrated using all four skills

²⁴⁴Ibid., 8.

²⁴⁵Ibid., 14.

²⁴⁶Ibid., 15.

together in a more harmonious way, rather than separating these skills artificially. Communication should be a real, whole process.

Research also found that such character qualities as knowing the value of hard work, personal responsibility, and gaining an education were often more important than just natural intelligence in determining future success. Indeed, the values and "ideals that students, their parents, and their peers hold are more important than a student's socioeconomic and ethnic background in predicting academic success."²⁴⁷ As Bennett and Finn's report stated: "A high IQ seems less important than specializing in one area of endeavor, persevering, and developing the social skills required to lead and get along well with others. Studies of accomplished musicians, athletes, and historical figures show that when they were children, they were competent, had good social skills, and showed versatility as well as perseverance in practicing."²⁴⁸

Bennett and Finn also found that the home can be a very important factor in determining a student's future academic success or failure. They call this the "Home Curriculum," which in Japan would relate to the degree of interest in education and sense of urgency communicated to children by "Education Mamas," or "Kyouiku Mama." It would seem obvious that more parental involvement would help one's children to learn more effectively. This is precisely what research supports. It has also been found that teachers who are successful at involving parents in their children's schoolwork are successful because they work at it. Class observations are practiced in Japanese elementary schools, but there is almost no accountability to parents for college learning. In fact, parents and students rarely know how their performance is going until the end of the academic year, since grades are generally given out only once at year's end! This is totally counterproductive from an educational point of view. No one is held accountable by such a system, nor are students given a chance to catch up, or parents allowed to know how their young adults are doing until it is really almost too late. This is a poor return for about a \$10,000 investment per year! A minimal improvement would be to send out grades twice a year to parents, and to also require mid-

²⁴⁷Ibid., 17.

²⁴⁸Ibid., 16.

term reports to parents of even college young people who are doing little work and in danger of failing. Many live away from home and without some system of accountability they cannot be helped by their parents or teachers.

IV. What Works' compendium of research studies also found that "children get more out of a reading assignment when the teacher precedes the lesson with background information and follows it with discussion."²⁴⁹ This would only be more true for foreign students reading material usually intended for an English-speaking audience. They will need either material which uses more familiar cultural and historical background, such as texts in English comparing aspects of Japanese history and culture with those of foreign countries, or will require more background explanation of the unfamiliar context before reading. Pre-Reading activities should develop new concepts and vocabulary to be aware of. This can be done in many ways, including some time of 'Concept-Mapping.'" Making such a schematic diagram of anticipated concepts will help students to have a mental road map to follow in the reading task. Such mental preparation has been found to be very helpful in enabling students to know what to look for and helps to guide and speed up their reading task. Following reading with oral discussion or written comprehension questions helps to clarify, reinforce, and extend students' understanding of the reading passage. As Bennett and Finn summarize the findings in this important reading field,

children who are well prepared remember a story's ideas better than those who are not. In the discussion after the reading lesson, good teachers ask questions that probe the major elements of the story's plot, characters, theme, or moral . . . These questions also lay the groundwork for later appreciation of the elements of literature such as theme and style. When children take part in thought-provoking discussion of a story, they understand more clearly that the purpose of reading is to get information and insight, not just to decode the words on a page.²⁵⁰

V. The Bennett study also made recommendations for "Integrated Language Development" by helping students to extend their speaking and writing skills. It is now an accepted principle in the teaching of writing, since Murray's concept of "Process Writing" became popular, that "the most effective way to

²⁴⁹Ibid., 22.

²⁵⁰Ibid., 22.

teach writing is to teach it as a process of brainstorming, composing, revising, and editing."²⁵¹ Many research findings referred to in the American study, What Works, could be applied to the field of Teaching English as a Second/Foreign Language to make learning more effective, especially among younger language learners at a beginning level. Not only reading stories, but also listening to or learning to tell stories, and writing summaries of them would be extremely helpful for most language learners. The research findings supporting this are as follows. "Telling young children stories can motivate them to read. Storytelling also introduces them to cultural values and literacy traditions before they can read, write, and talk about stories by themselves."²⁵²

Although this study refers to young children in the case of native speakers and readers of English, these principles would also seem to apply to young Japanese who are first starting to learn English. At beginning levels, usually in junior high school, English language skills should be taught in a more integrated way requiring active student participation, rather than the teacher doing most of the talking, with students passively listening or writing only. As researchers have found, "Storytelling can ignite the imaginations of children, giving them a taste for where books can take them. The excitement of storytelling can make reading and learning fun and can instill in children a sense of wonder about life and learning."²⁵³

VI. The most important characteristics of effective schools are as follows: (a) strong instructional leadership, (b) a safe and orderly climate, (c) school-wide emphasis on BASIC SKILLS, (d) high teacher expectations, and (e) regular, consistent assessment of student's individual progress. As this monumental study reported, effective schools are characterized as being places where principals, teachers, students, and parents agree on the goals, methods, and content of schooling. They are united in recognizing the

²⁵¹Ibid., 27.

²⁵²Ibid., 25.

²⁵³Ibid.

importance of a coherent curriculum, public recognition for students who succeed, promoting a sense of school pride, and protecting school time for learning.²⁵⁴

Parents in Japan need to be better informed about language education so that they can encourage and help their children to become more bilingual and international in their outlook. Most college teachers need to do a much better job of providing regular, continuous assessment of student's individual progress, particularly in different areas of language development. Many seem to lack adequate training, testing materials, or the necessary motivation to provide such essential individualized evaluation and feedback to their students and their parents. It should be done because, as many research findings show, "Frequent and systematic monitoring of students' progress helps students, parents, teachers, administrators, and policy-makers identify strengths and weaknesses in learning and instruction . . . [In addition,] Student motivation and achievement improve when teachers provide prompt feedback on assignments."²⁵⁵ These are some of the reasons why this study has recommended the use of both computerized instruction, but also of computerized testing equipment, such as the SONY Test Analyzer. In this way both teachers and students can get the most immediate feedback possible as to their teaching and learning effectiveness.

New computer programs can be used to help in the area of both language skill evaluation as well as in the teaching of various communication skills. A new field has developed, called "Computer-Adaptive Testing" (or CAT),²⁵⁶ which has already been used to test both listening and reading comprehension skills.²⁵⁷ Computer programs should be made to automatically test student's individual English Reading

²⁵⁴Ibid., 45.

²⁵⁵Ibid., 43.

²⁵⁶Patricia, Dunkel, ed., Computer-Assisted Language Learning and Testing: Research Issues and Practice (New York: Newbury House, 1991).

²⁵⁷Harold S. Madsen, Computer-Adaptive Testing of Listening and Reading Comprehension: The Brigham Young University Approach (Salt Lake City: Brigham Young University Press, 1990).

Levels in terms of both comprehension and vocabulary, as well as speed. A CAT, or Computer-Adaptive Test has been developed for measuring French reading proficiency.²⁵⁸

There is a huge volume of research to back up Bennett and Finn's well-researched principles of learning. They support common-sense traditional education and "Back to the Basics." Because it is a distillation of such a large body of educational research, these principles and their recommended applications to the English Language Education system in Japan should be most seriously considered by all teachers, schools, and departments of education wanting to foster real progress in all areas, and in foreign language learning in particular. Their final finding concerned foreign language learning, concluding that "the best way to learn a foreign language in school is to start early and to study it intensively over many years."²⁵⁹ These words, "to start early and to study it intensively over many years" have many important implications for English language learning in Japan. Two other findings follow:

VII. Schools contribute to students' academic achievement by establishing, communicating, and enforcing fair and consistent discipline policies.

VIII. Students read more fluently, with greater understanding if they have BACKGROUND KNOWLEDGE of the past and present called 'CULTURAL LITERACY.' Implications of this finding for instruction of English as a Foreign Language in Japan include the following. Material that is closer to their cultural and historical background should be used as much as possible, as well as materials of high-interest and low or limited vocabulary, especially at beginning and intermediate levels of instruction. Texts dealing with various aspects of Japan's history of modernization and development should be used,²⁶⁰ as well as those illuminating related Oriental and Asian cultures. These are much closer to the background knowledge of Japanese students, and therefore of natural interest to them. Many details of Japan's history

²⁵⁸Jennifer Austin, review of Computer-Assisted Language Learning and Testing: Research Issues and Practice, by Patricia Dunkel, In TESOL Quarterly 28, no. 4 (Winter 1994): 826-27.

²⁵⁹Bennett and Finn, What Works, 57.

²⁶⁰See, for example, Vivienne Kendrick's They Dared to Do It, (London: McMillan, 1980), Jack Seward's Human Bridges between East and West, (Tokyo: International Currents, 1993), and the author's Famous Leaders Who Influenced Japan's Internationalization, (Singapore: Campus Crusade, 1994), for examples of some texts that do provide culturally relevant material for Japanese college students, while simultaneously helping them to develop English language skills.

have unfortunately not been taught adequately. Past historical contributions and growth, as well as problems and conflicts, along with present and future opportunities for cooperation should all be taught as openly as possible.

Both successful vocabulary-learning skills and comprehension strategies need to be taught and modeled clearly to help language learners to improve their target language reading abilities. Since research has shown that “younger and less proficient students use fewer [of these] strategies, and use them less effectively in their reading comprehension,”²⁶¹ they need to be taught specifically. Clear, intentional focus on the development of the following skills can help students to build up their second language reading power. Better second language readers have been shown to have the following characteristics. They are “better strategy users (Carrell, 1989); Devine, 1987). Students who monitor their reading comprehension, adjust their reading rates, consider their objectives, and so on, tend to be better readers.”²⁶² Thus, it is vital to teach these essential reading skills to all language learners.

More emphasis must be put upon helping students of English as a Second or Foreign Language learn how to use monolingual book dictionaries, bilingual computerized dictionaries, and other such aids to actively develop their vocabulary levels in the target language (TL). It is now an accepted maxim that for best language development students also must be given maximum chances to actively use new phonetic, grammatical, lexical and idiomatic structures in a variety of settings, that are as close as possible to authentic communication in real situations. To provide and guide such language-learning tasks to greater levels of complexity and fluency is the job of any good language teacher.

²⁶¹Grabe, “Current Developments,” 392-93.

²⁶²Ibid.

CHAPTER III

METHODOLOGY

The basic purpose of this research was to design and test vocabulary-training computer software at the appropriate level of instruction for the average Japanese college student learning English as a Foreign Language. Such software programs were compared with traditional text-based reading and vocabulary instruction, as well as with the Language Lab's typical "Audio-Lingual Method."

The research design of this study included the following steps and procedures. There were three major objectives to this study: First, average English Reading vocabulary and comprehension levels of Japanese college students were assessed. Norms were computed for different majors and schools. These were computed and analyzed in three ways: (1) in detailed 'class profiles,' with individual student scores and 'class averages,' along with (2) graphs of each class, showing the relative levels of individual student 'Vocabulary, Comprehension, and Total Reading Levels,' as compared with other linguistic measures, and (3) a "Kyushu Colleges Summary Chart, 1991-95" Table XII, of average scores for various Japanese colleges and majors. All tables are based on numerical charts, and although space did not permit all of the data to be included, these graphs are actually known as "embedded graphs," created by using Microsoft Excel computer program which translates the mathematical tables of numerical data into graphic representations. As a result, they are actually summarized parts of numerical data tables, and as such are included under "Tables" in Appendix A, followed by the term "Embedded Graph" to clarify this.

Second, the following three vocabulary-training materials and methods were examined. Computer-Assisted lessons were developed by the author first from a series of workbooks known as

Wordcraft,¹ and second from Crow's Keyword Approach.² Third, a commercially available software program was used, named "Shinbun! Shinbun: Vocabulary Expansion through Newspaper Readings."³ Vocabulary lessons were taught based on these materials, but using three different educational media: (1) traditional text-based Sustained Silent Reading Method (TT/SSR); (2) Audio-Lingual Method (ALM); and (3) Computer-Assisted Instruction (CAI). These were then compared to determine which of these instructional media best motivate and help students to increase their vocabulary, reading, and listening comprehension levels. The relative importance of these three essential language skills for developing more general, overall English proficiency was also evaluated in this study, by comparing year-long pre- and post-test measures of students' subskills in Listening, Vocabulary, Comprehension, and overall Reading Level.

Third, the potential of Computer-Assisted Instruction (CAI) for providing more effective, individualized language learning opportunities was also considered. Evaluations and subsequent recommendations are based on the use of two author-designed vocabulary-training software programs, as well as one commercially available program known as "Shinbun! Shinbun!" All three of these were constructed using a "Hypercard" format. The author based one five-lesson program upon Wordcraft's original tape-workbook format. The second four-exercise program he designed based on Crow's Keyword or Semantic Field Approach.

These three vocabulary-training programs were compared using similar exercises that were designed for use in three different media settings. In the case of this research study, the media is not the message, but rather only the means or method of instruction. By comparing three different educational media and methods, one can better determine if one means of vocabulary instruction has greater effectiveness in helping students achieve more rapid and successful foreign language learning.

¹Wordcraft is a product of Vocab Incorporated, edited by Bergen Evans in 1969. Lessons 1-5 were programmed by the writer on Hypercard in 1993 for the purposes of this study.

²Crow, Vocabulary for Advanced Reading Comprehension: The Keyword Approach.

³Bob Moore, Shinbun! Shinbun! 1, 2, and Lite: Vocabulary Expansion through Newspaper Readings. (Himeji, Japan: ParaComm, 1991). These three software programs are now distributed through Seido Language Institute, 12-6 Funado-cho, Ashiya-shi, Hyogo 659.

The three settings examined were (1) vocabulary workbooks, or handouts used as traditional, "Sustained Silent-Reading" texts (SSR); (2) workbooks or handouts used in a computer or language laboratory with the Audio-Lingual Method (ALM); and (3) a computer program with the same material using author-designed Computer-Assisted Instructional (CAI) software in the computer lab. All three approaches used a contextual approach to teaching new words. In other words, new words were taught and learned in the context of interesting stories, and not out of context.

As mentioned in Hypothesis #3, this study sought to determine whether Japanese college students using CAI vocabulary development software would show a better rate of improvement or long-term retention, than those students using either an Audio-Lingual Method or a Sustained Silent Reading method of vocabulary acquisition. This was examined by using the first five lessons of Wordcraft referred to above, presented in three different media formats. Pre- and posttest measures checked students' memory of the fifty vocabulary words presented in Wordcraft Lessons 1-5. Improvement rates from pre-test to both short-term and long-term post-test situations were then compared by means of a 3 X 3 ANOVA for the three groups being studied: (1) Treatment Group 1, CAI (class 1F, A); (2) Treatment Group 2, ALM (class 1E, B); and (3) the Control Group, using a traditional Sustained Silent Reading approach, SSR (class 1F, B).

An ANOVA was run to determine whether there was any significant difference between the three groups shown in pre-test or base-line starting levels of original knowledge of Wordcraft vocabulary. The combination with the least difference in original knowledge of these words was groups FA, EB, and FB. Therefore, they were compared by means of a 3 X 3 ANOVA. One ANOVA compared pre-test Wordcraft levels with both their Short and Long-Term retention levels. A second ANOVA compared Short-Term improvement with Long-Term improvement rates for each of these three groups. No significant differences were found between these three different groups, however. These results are shown in Table XVI: Statistical Analyses, Part A, "Comparing Wordcraft Media Results by ANOVA," in Appendix A. Comparisons of Wordcraft vocabulary instruction results for all four sections of class 1E and 1F are shown graphically on Wordcraft charts in Table VI: "Wordcraft Study, Seinan, 1994-95" of Appendix A. However, only sections FA, FB, and EB of these two classes were the three groups focused on in the first short-term statistical study.

Ideal Teaching Methods and Areas of Integrated English

Integrated vocabulary instruction would ideally include the following steps: (1) First, as part of the overall strategy one should coordinate pre- and posttests with other Rapid Reading teachers. Then tentative comparisons can be made following one year of instruction. (2) Second, reading teachers should try to maximize the amount of "comprehensible vocabulary input," covered in their Rapid Reading classes. Whenever possible, both reading and listening skills, and even visual or computer skills should be combined. (3) Third, teachers who use more multi-media assisted instructional materials and methods seem to help students to better internalize new vocabulary and concepts. Treatment groups would be exposed to more Audio-Lingual and/or Computer-Assisted Instructional materials as software and computers are available. Control groups for a limited time period would use only a 'Sustained, Silent Reading' (SSR) approach. Many reading classes in Japan are taught in this traditional way, with little or no oral input, or with feedback limited to mainly Japanese translation.

One effective method for helping students to both expand and extend their vocabularies from passive recognition to more productive use was to have them write "Vocabulary Stories" (used with either Text-based, Audio-Lingual, or Computer-Assisted Approach). For any five lessons from *Wordcraft*, for example, students could be asked to write their own creative stories using the fifty new words correctly.

Another more multisensory approach used to help students acquire new vocabulary was with Computer-based and Assisted Instruction (CAI). They could watch and listen to Hypermedia-based⁴ computerized *Wordcraft*⁵ and *Shinbun, Shinbun*⁶ stories with new vocabulary presented in context.

Teachers can assist language learners to verbalize more, so as to encourage more "comprehensible output" through two common exercises:

A. First writing 'vocabulary stories.' encourages both semantic retention and syntactic processing. This is a technique devised by the author to get students to move new words from the receptive

⁴Hypercard and Hypertalk, Apple Computer, Inc. (Claris Corporation, 1989).

⁵*Wordcraft*, edited by Bergen Evans, is a product of Vocab Incorporated.

⁶Moore, *Shinbun! Shinbun! 1, 2, and Lite: Vocabulary Expansion through Newspaper Readings.*

or recognized vocabulary level to an expressive level. They must try to verbalize a personal story, using as many of the fifty words in one Wordcraft unit as possible. These then become a basis for grammar corrections and oral discussion.

B. Second, talking about the stories encourages students to verbalize a summary of the story in the target language with their partner. This exercise should include at least these two activities:

1. "Tell your Partner or Teacher about the story you read." (Basic Summary with personal reaction.)
2. "Tell your Partner or Teacher an original 'Vocabulary Story.'" (Use an assigned number of the words covered in the vocabulary lesson or unit.)

In foreign language instruction there is clearly a place for both direct and indirect means of vocabulary-training, known as decontextualized and contextualized methods respectively. However, regardless of whether one is studying new vocabulary directly in word lists, or indirectly in the context of stories for example, this research study is based on the following premise: "It is through active negotiation of the meaning of academic instruction that the new language is decoded and ultimately mastered."⁷

Active output or production of the Target Language (TL) in communicative interaction is clearly very important in second or foreign language learning. Much more research is needed to investigate how effective EFL instructors and ESL immersion teachers integrate academic content and language instruction. As Genesee recommended,

it could also be argued that using language productively is particularly important when studying academic material because talking about such material gives the learner an opportunity to analyze, manipulate, and evaluate it. Such linguistic-cognitive activities may be important for acquiring new information and skills (Piaget, 1959). Passive comprehension is probably insufficient for true assimilation and retention of new information . . . language is learned by taking part in discourse 'which gives due weight to the contribution of both parties, and emphasizes mutuality and reciprocity in the meanings that are constructed and negotiated through talk' (Wells, 1981, p. 115). The available evidence suggests that this is equally true for classroom second language learning (Ellis, 1984) . . . In summary, it is being suggested here that negotiation of meaning which entails both comprehensible *input* and *output* provides an interactional strategy by which students and teachers can actively pursue both second language learning and academic [or content area] achievement.⁸

⁷Fred Genesee, Learning through Two Languages: Studies of Immersion and Bilingual Education, (Cambridge, Mass.: Newbury House, 1987), 180-85.

⁸Ibid.

Using versus Recognizing New Vocabulary Words

Since actively using new vocabulary and structures in communicative interaction is so important in actually learning a Target Language, the following distinctions and procedures must be kept in mind. ESL/EFL teachers should help students to learn: (1) Unknown Vocabulary, and to use (2) Passive Vocabulary, in order to make it (3) Active Vocabulary.

These three types of vocabulary words can be distinguished as follows: (1) UNKNOWN VOCABULARY--completely unknown words, for which language learners need Vocabulary Acquisition instruction. (2) PASSIVE VOCABULARY--language learners have Vocabulary Recognition ability, and can understand the general meaning of these terms when they are read or heard in context. They need training in Vocabulary Application⁹ in order to produce written or spoken expressions using the most important and frequent of these terms. (3) ACTIVE VOCABULARY--these are words which language learners can use to produce their own original verbal expressions. They can use these terms correctly in context in written or spoken expressions. This ability can be evaluated through "Story Summaries" or "Vocabulary Stories," presented either orally or in written form, respectively.

Populations and Sample Selection

Most college classes in Japan meet only once a week for ninety minutes. Within these limitations four population groups were initially assessed to help determine average reading levels among college students in Kyushu, Japan. These studies also should help to determine the extent of the need for more intensive English vocabulary training in Japanese secondary schools and colleges.

Two Rapid Reading classes were the major focus of this study. Four formal measures of pre- and post-treatment language ability were given in the areas of reading and listening to evaluate students' progress. Names of these tests have already been given in the section on "Assumptions." Informal background and feedback data for this study were taken from teacher-designed informal surveys of students' English background, study habits, motivation and satisfaction (See Table XV, "English Reading Materials

⁹Allen and Allen, Language Experience Activities, 272. The author is indebted to the Van Allens for their clear distinction between four areas of Language Acquisition, as well as that between "Vocabulary Acquisition" and "Vocabulary Application."

Interest Survey," and "Vocabulary Training Methods and Materials Student Survey" in Appendix A.) Only three samples from Population 2 (two Treatment and one Control Group) receiving Wordcraft-based reading instruction were chosen for further analysis as follows.

Sample 1: This was a "Field Study," consisting of the writer's special second-year seminar class with about twenty-five students. These students were treated and taught as a whole, subjected to different treatments for each five-lesson unit, using Wordcraft 2.

Sample 2: consisted of the writer's two Rapid Reading classes of fifty-four students each. The first half of class 1F, A (27/54 students) was randomly assigned to Treatment Group 1, CAI Method. The second half of each class (27/54 students) was randomly assigned to two groups. Control Group 1F, B from the first class used mainly the Sustained Silent Reading Method with traditional reading of texts (TT/SSR). The second group, 1E, B, was the Treatment Group 2, ALM, using an Audio Lingual Method for Wordcraft Lessons 1-5. This study followed a quasi-research design.

For the central purposes of this research study it was necessary to limit sample size to one half of each Rapid Reading class for Lessons 1-5. This was due to unexpected software/hardware limitations. Computers in the Computer Room were too old to be able to read the software which was created on HD (High Density) discs. Voice and sound data could not be inputted and retained any other way. Lessons also had to be compressed to one third of their original size in order to fit even on High Density discs! Sound data takes a huge amount of memory space on both software discs and on computer Hard Drive memory. Unfortunately the classroom computers were too old and had neither the memory capacity nor the ability to read High Density discs. This very difficult situation could only be surmounted by setting up a small private computer room next to the author's office for the purpose of using and testing this specialized software. This was done in groups of four to six students at a time.

Because it was necessary to limit sample size to one half of each Rapid Reading class for Lessons 1-5, both halves of each class were averaged as to their pre-treatment Reading Levels. Classes were divided into two halves alphabetically by the school administration, with no regard for prior ability or level of knowledge in English. Their initial Reading Level averages are shown in Table VI: "Wordcraft Study, Seinan, 1994-95."

These extremely small differences in Reading Levels would not make much difference in foreign language learners' rates of vocabulary acquisition. Due to a lack of computers capable of reading author-designed software which require High Density discs, CAI method samples could include only half of each class, or 27 students times two classes= 54 students in total CAI sample. These fifty-four students, the first half of each Rapid Reading class, were each self-taught by using the newly devised CAI vocabulary software made for Wordcraft Lessons 1-5 (See nine Floppy Discs in Appendix). Only Class 1E, A was examined as the CAI Treatment Group, however. This was so that each Sample Group being examined would have the same number of students (27).

The following methods were used to control for and exclude experimenter bias. The experimenter was absent from the smaller CAI room so that, except for initial instructions, no subjective feelings of possible CAI favoritism or excitement on the researcher's part could be observed or felt by the students who were working alone. The CAI Treatment Groups 1 and 2, went to a separate, smaller CAI room to work in groups of five at a time since only those five computers could read Wordcraft lessons with sound on High Density discs. In this way, students had little or no interaction with the teacher while using computerized lessons, and therefore should never have detected if one particular method or media was preferred by him over another. Also minimal outside motivation was provided for all students to maintain more objectivity for this study. Students did not even know they were in a study. Since all classes were getting initial orientation to using computers at the beginning of the school year, no one should have suspected that they were in any "special group."

Sample 3: This consisted of various Rapid Reading classes not taught by the writer, for more objective comparative purposes. New Oral and Reading and Discussion classes were designed by the author's English Department at Seinan Women's Junior College. He recommended the implementation of an "Intensive Vocabulary and Listening Development" course as the first semester half of the former "Rapid Reading" course. The author was asked to help develop and supervise the reading courses, as coordinator beginning in January 1993, and to be overall testing coordinator from December 1993 on. He has also served as the oral coordinator for two years, also supervising the Area Studies course.

Sample 4: General education English classes for nonmajors, as well as English reading and writing courses for English majors at other Japanese colleges are also referred to in this study for broader, comparative purposes. Although these other schools are not equipped with Macintosh computers, one has a SONY Language Laboratory equipped with a computerized Test-Analyzer which can be used to get quicker results of Wordcraft Tests.

The Teaching Process and Materials to be Used

As Capehart summarizes the teaching-learning process, there are three basic steps to consider to help students achieve the best results. These are as follows: (1) "Isolate what the child is to learn," (2) "Classify each step of the process," and (3) "Refine the learning process."¹⁰ Keeping these three steps in mind, one must seek to isolate, classify and refine the EFL teaching-learning process in a way that best integrates the following areas in particular.

First, this study emphasized intensive and systematic instruction of vocabulary and listening skills in context, comparing three different methods and media of instruction, namely: (1) the printed page, using a 'Text-Based' approach, (2) text and tapes, using the 'Audio-Lingual' approach, and (3) Audio-Visual, interactive instruction, using 'Computer-Assisted (or Enhanced) Instruction,' (CAI or CAELL). This final method required the teacher and his colleague to build computer stacks, using the Macintosh computers and designing Hypercard software with digitized sound and synchronized image, voice, and screen text, whereby the student had to interact with all of these by using tactile-kinesthetic/ mechanical skills on the keyboard.

Sample selection usually had to use the whole class as a group. However with two large Rapid Reading classes, Computer-Assisted Instruction research was be done by randomly dividing both classes into control and treatment groups, and giving these two groups different types of vocabulary instruction using the same basic Wordcraft content. The isolated variable to be examined was the vocabulary-training methods and media being used with each group. Different halves of two Rapid Reading classes were first exposed to a total of three different media in research focusing on Wordcraft, Lessons 1-5 only. Whole

¹⁰Judy Capehardt, Cherishing and Challenging Children (Wheaton, Ill.: Scripture Press, 1991), 24.

classes were later exposed to several five-lesson units taught using different vocabulary-training methods, but focusing on a comparison of predominant educational media and methods being used.

The first half of class 1F (Treatment Group 1 used CAI materials for direct vocabulary instruction of Wordcraft Lessons 1-5 only, the second half of one class (1E, Treatment Group 2 used the Audio-Lingual Method, whereas the Control Group (the second half of 1F class) was exposed to the traditional Sustained Silent Reading Method for these same lessons. Rates of improvement were calculated for each student, as well as group averages for each method over five-lesson units. These percentages were then compared to assess relative effectiveness of various vocabulary-training methods. Each group began with twenty-seven students.

For all groups the most familiar text-based method was used first, teaching Lessons 6-10 by the Sustained Silent Reading approach before Lessons 1-5. This was in order to get a base-line comparison and develop student familiarity with the text procedure. In this way interference or slowness due to unfamiliarity with the materials should have been reduced or removed altogether. Control Group 1 first used the equally familiar ALM method. The least familiar CAI method was used second to teach both Control Groups Lessons 1-5, in order to offset or counterbalance any possible effects due to 'lack of familiarity or prior learning.' In any case, each five-lesson unit can be clearly seen as separate, completely independent, unrelated units of approximately the same difficulty level.

This was the basic approach, replicable in any college having a Macintosh Computer Room in Japan. Most colleges have about the same time schedule and class size. As long as a school has a Language Lab (most do), and a Computer Lab with someone who can develop similar language educational software, any school could test the materials which were developed in this research.

Wordcraft vocabulary training materials have not been computerized or tested before in this format. A comparison of "Shinbun! Shinbun!" materials, however, would simply be a replication of an earlier study done by its author, Bob Moore, with D. Randall Terhune at Himeji Dokkyo University in 1991.¹¹ A summary of their results and methodology, similar to those of this study, follows.

¹¹D. Randall Terhune, and Bob Moore, "Computer versus Paper: A Preliminary Study on Vocabulary Expansion," CAELL Journal 2, no. 3 (Fall 1991): 30-34.

Two similar groups were given the same vocabulary expansion material in two different formats: one group using a conventional paper format and the other group using Macintosh *Hypercard* format. The same paper-based test was given to both groups, with the computer group scoring somewhat better--although they had no chance to do homework--than their text-based counterparts. In addition, lower achievers were able generally to score better.

After only one unit, students stated that they felt the computer presentation was more enjoyable [93%] and more effective [82%] than paper text. On the other hand, 57% reported that half-time spent on paper text and half-time on computer was sufficient. Very few (10%) wanted to spend a majority of their time on the computer. Could it be that students want to replace their traditional texts and not their teachers?¹² [writer's emphasis]

The computer class Treatment Group examined in this initial "Shinbun! Shinbun!" study found law majors averaging 6% higher, and English majors averaging 5% higher than the Control Group.¹³ Terhune recognized that other research questions should be asked, and further study should be done to clarify this important area of language acquisition. Two important questions to pursue in this study would be as follows: (1) Does use of the computer for vocabulary expansion really result in consistently better rates of acquisition and retention for the average Japanese college English student?; and (2) Are initial feelings of enjoyment only the result of using a new and different type of learning environment, or are actual learning factors involved--such as increased interest, motivation, and concentration--which presumably could be measured by some type of psychological scale? Terhune and Moore recognized the need for larger samples and longer study, using "more computer material and pre- and post-testing."¹⁴ This research project aimed to be such a study, which included larger samples and a longer study time.

Experimental Treatment: Teaching Methods and Materials

Several vocabulary-training methods were developed and tested in this study. In particular, three types of vocabulary and listening development computerized materials were tested, designed so as to help foreign students improve first their vocabulary, and then simultaneously also their listening and comprehension abilities. Teaching lessons were based on (1) Communacad's "Wordcraft" vocabulary

¹²Ibid., 31-32.

¹³Ibid. Refer to their Figures 1 and 2, on page 31 of their study.

¹⁴Ibid., 32.

building program, (2) "Shinbun! Shinbun! : Vocabulary Expansion through Newspaper Readings," and on (3) Crow's Keyword Approach, all referred to above.

Data Collection

Pre- and posttest means of Gates Reading tests were calculated and individual and then class average improvement rates for the year were compared for statistical significance using the 't-test' for correlated means. In the Rapid Reading classes the control-group design was used for the Wordcraft short-term study, with two "Treatment Groups" of subjects and one traditional reading "Control Group," to control for extraneous factors. For the academic year-long study, just two groups with two Rapid Reading classes each were compared: (1) ALM/CAI-Assisted, versus (2) S.S.R., or traditional, text-based classes. Improvement rate percentages were examined to compare each of these respective groups.

Teaching Methods Relevant to Vocabulary Training

The focus of this study was to examine a contextual method of vocabulary training, using the same material but presented in three different formats. A contextual vocabulary instructional method was used, but the basic purpose was to examine whether there is any significant difference in Japanese college students' degree of new English vocabulary learning due primarily to the type of media being used. The three types of media used were (1) Audio-Lingual, or Language Lab assisted, (2) multi-sensory, Computer-Assisted language education media, and (3) traditional text-based materials.

The use of these three types of vocabulary training materials were compared with each other, but although the media formats were different, the basic content was exactly the same. This study started with the Wordcraft Vocabulary Building series, Book 1. Book 1 is appropriate for the starting level of most of the author's junior college students, about 58% of whom have an average vocabulary of between the fourth and sixth grade levels, relative to American norms, as tested by Gates-MacGinitie reading tests.¹⁵

¹⁵See Table V of "Seinan Seminar and 1F Pilot Studies, 1991-93," for their average levels in Appendix. Rapid Reading classes at Seinan Women's Junior College Freshmen classes, covering all 300+ students in 1993-94, and 200 Rapid Reading students in 1994-95, should also be examined.

Comparing Different Vocabulary-Training Approaches

Several different possible vocabulary-training approaches follow that were theoretically possible to use with the Wordcraft materials. Three educational media were examined in this study. Later four different 'Integrated Methods' for vocabulary development to be examined in the future are presented as part of the recommendations section. 'Integrated Methods' in some way integrate two to four communication skills in the process of teaching and learning new English vocabulary. When comparing these three media as to their relative effectiveness for vocabulary development, students and teaching media were divided in the following manner. Based on Wordcraft Lessons 1-5 (Book 1), these three media were used: (1) C.A.I.--Computer-Assisted Instruction (two CAI groups, one not in the final study); (2) S.S.R.--Sustained Silent Reading (text-based control group); and (3) A.L.M.--Audio-Lingual Method (one treatment group). Two Rapid Reading classes with 54 students each were divided in half randomly and assigned to one of these media of instruction. Sections FA, FB, and EB of these two classes were the three groups focused on in this study.

Detailed Description of Three Educational Media Tested

The three different educational media settings that were used and tested in this study were (1) C.A.I.--Computer-Assisted Instruction, using Wordcraft Book 1 throughout; (2) S.S.R.--Sustained Silent Reading (Text-Based); and (3) A.L.M.--Audio-Lingual Method. These may be described as follows:

1) Computer-Assisted Instruction (CAI)--stresses the use of computer-enhanced instructional language-learning software designed by the author for the purposes of this study. This method incorporates the use of self-paced, individualized instruction, with each student using lessons recorded on floppy discs at their own computer, along with interactive, digitized text and sound for simultaneous listening development.

2) Sustained Silent Reading (TT/SSR)--This text-based method uses the most common means of instruction used in large Reading classes in Japan, where students are simply expected to build up their reading skills on their own by the silent reading of language or literature textbooks. Most Japanese teachers use the Lecture Method, with explanation often predominantly in Japanese, or with direct

translation of main points of the English text. Usually there is little if any meaningful interaction or discussion on the part of the students in English. Their natural passivity is thus reinforced by this traditional method, giving little chance to develop any new English vocabulary.

3) Audio-Lingual Method (ALM)--This method stresses the use of taped scripts, so that the student is simultaneously hearing as well as reading new vocabulary in interesting story contexts. When using the Audio-Lingual Method in Language Labs, students generally all proceed at the same pace, since the lesson tape is usually played from the instructor's sound room, either through a public address system, or through students' individual earphones.

In a class of forty to fifty students, it is too costly and time-consuming to try to make individual tapes for each student to use separately in learning new vocabulary. This is also quite unnecessary, since students generally proceed at about the same rate in listening anyway. Their pace begins to differ when they are doing the quizzes, mainly due to a difference in reading speed. The teacher can adjust for this difference, however, since students using either the SSR or ALM approaches are taking quizzes from their own workbooks after reading and/or hearing the lesson.

CHAPTER FOUR: RESULTS

The results of pretesting the reading levels of over 1,500 first-, second-, and third-year college students at six different schools were as follows. Almost all of the students tested, with the exception of English majors at one of the best four-year colleges in Kyushu, showed rather low vocabulary levels as tested by the Gates C and F tests. Extensive tables of both individual Japanese college students' scores and also average class reading scores were constructed. Students tested originally between 1991 and 1993 are listed below, with a basic description of their average levels.

Sample 1: 84/137, or 61.31% of the students at a technical two-year school, Kitakyushu Shushoku Tanki Daigaku, were tested. Their average levels were (a) 3.85 in vocabulary, (b) 2.51 in comprehension, and (c) 3.16 in their total expected reading level (9/91 'R.L.'). Students tested in the same year at the largest school in Kyushu, with over 23,000 students included the following.

Sample 2: 37.27%, (41/110), of the third-year engineering students at Fukuoka University were tested. Their levels were as follows: (a) 3.61 average vocabulary level, (b) 2.06 average comprehension level, and (c) 2.75 average total reading level ('R.L.' as of 12/2/91).

Sample 3: 4.61% of the first-year law students at Fukuoka University were also tested, with the following results: (a) 4.09 average vocabulary level, (b) 2.97 average comprehension level, and (c) 3.53 average total reading level ('R.L.' as of 12/2/91).

Sample 4: Also tested on October 16 of 1991 were 40 freshman students out of a class of 51, at Seinan Jo Gakuin Women's Junior College in Kitakyushu. They took only the vocabulary section of the Gates-MacGinite Reading Test, Level F, Form 1. A percentage breakdown of their raw scores and vocabulary levels seems to be typical of a majority of many two-year English majors. The lower twenty-three of these forty students, or 57.5%, had a vocabulary level less than grade 6.0. The top seventeen out of these forty students, or 42.5%, however, were between a 6.0-8.0 vocabulary level. On the lower extreme, five out of forty, or 12.5%, had vocabulary levels less than 4.6 (ranging between 4.0-4.5). Only the top two students, or 5%, were at an 8th grade vocabulary level.

Sample 5: Tested in February of 1992 were forty-one, or 13%, of Seinan Jo Gakuin's first year students, after one year of college English instruction. Only their vocabulary was checked, and it was found to average 5.955, or roughly equivalent to that of an American student at the start of sixth grade. This measure was a measure of their reading ability, of course, and not of their speaking or listening ability.

In the spring of 1993, the author was also asked to assist in the testing of all first-year Engineering Department students at the largest and best four-year engineering college in Kyushu, known in English as Kyushu Institute of Technology. At that school 265 freshmen were tested as to their vocabulary levels only. Another 150 students in six different classes were also given the complete test, including comprehension, so that total reading levels could also be computed. The results at this school, known as 'K.I.T.' for short, were as follows.

Sample 6: 265 freshmen at Kyushu Institute of Technology were found to have an average vocabulary level of 4.24.

Sample 7: 150 K.I.T. freshmen who took both the vocabulary and comprehension sections showed the following averages: (a) 3.81 in vocabulary, (b) 3.16 in comprehension, and (c) an average total reading level of 3.46 ('R.L.' as of 4/93).

Sample 8: All 315 freshman students (n=100%) were tested at Seinan Women's Junior College in April of 1993. Their average scores were as follows: (a) 4.03 in vocabulary, (b) 3.66 in comprehension, and (c) 3.86 in average total reading level, as of that date. A posttest was given at the end of the academic year, in February, 1994 to determine the average increase in each of these levels, and to compare classes

which used different methods and materials. Only one of these classes used the Wordcraft materials, but only with either ALM or Silent Reading approaches.

Sample 9: Twenty second-year seminar students were tested, showing the following averages: (a) 4.375 in vocabulary, (b) 4.39 in comprehension, and (c) 4.37 in total reading level (data computed using Japanese Excel Program). These figures seem to show a clear and direct relationship between students' English language vocabulary level and both their L2 comprehension and total reading levels. In fact, the measurements in this class were so close that they seem to support the hypothesis that foreign language learners' vocabulary levels are so important that they tend to both limit and determine the rate of their second language development. This seems to be especially true in the area of reading comprehension, and is probably also true in the area of listening comprehension development. (See clear correlations of vocabulary, reading speed and listening improvement at Kitakyushu University, for example, when using Wordcraft and TOEFL Listening tests as teaching and testing materials.)

Samples 10-13: 120 first and second-year Kitakyushu University English Literature and Foreign Language Department students were also tested. Their results are divided by their respective class periods. All of these classes at this superior school showed average comprehension levels that were considerably higher than their average vocabulary levels. This is to be expected of adult language learners, whose knowledge of the world far exceeds their average vocabulary level in a foreign language. Sample 10, or 'KKD/Period 1' on the charts, showed the following results: (a) in vocabulary, an average of 4.73, (b) in comprehension, an average of 5.12, and (c) an average total reading level of 4.86. These were second-year students.

Sample 11, or 'KKD/Period 2' on the charts, showed an average of (a) 5.33 in vocabulary, (b) 5.47 in comprehension, and (c) 5.48 in their total reading level. These were freshmen.

Sample 12, of 'KKD/Period 3' on the charts, showed the following results: (a) an average vocabulary of 4.96, (b) an average comprehension level of 4.99, and (c) an average total reading level of 4.96. They recognized an average of 59.57% of the words listed in Nation's Headwords test, described earlier.

Sample 13, or 'KKD/Period 4', showed an average of (a) 5.1 vocabulary, (b) 5.6 comprehension, with a (c) total average reading level of 5.3. All of these were assessed in April, 1993. Further TOEFL Listening section test scores, and Wordcraft vocabulary 'Improvement Rates,' as well as Michigan Proficiency scores were compared in detailed tables with embedded graphs using Microsoft Excel.

Sample 14: Kitakyushu University, 1994-1995, three Rapid Reading classes for International Relations second-year students. These three classes were given only the Gates C Vocabulary pretest at the beginning of the year. Scores are compared with Gates F post-test in all three areas of reading, however. Also these students took a Michigan Proficiency Test A, and were assessed for improvement in their Reading Speed. This was done by taking three reading speed measures using the A Beka Adventures in Greatness text: (1) an Initial Reading Speed, (2) the Highest Speed reported on the Progress Record page, and (3) a Words Per Minute Improvement Rate was calculated by finding the difference between these two. Results for each of these three classes are shown both on graphs entitled "JPL Kitakyushu University Rapid Reading Classes 1 [2 or 3], Individual and Class Average Improvement Chart (1994-95)," and also on charts, both found in Table XI, "Kitakyushu University, 1992-95." Average starting vocabulary levels and improvement rates in reading are reported briefly by class in final chart. (See section entitled "Average Starting Vocabulary Levels and Improvement Rates in English Reading Levels by Class.")

Class average improvement rates in total English Reading Levels as calculated from these findings were very sizable. These three classes at Kitakyushu University improved an average of three grade levels in their measured "Reading Levels" (2.97), in ten months of instruction with the author. By class, improvement rates were as follows: (1) SR1-- 2.31 grades (relative to American school norms); (2) SR2-- 3.4 grades; and (3) SR3-- 3.21 grade levels.

Sample 15: Thirty-four technical college students were assessed as to their reading levels at Denki Daigaku, or Electrical College, in January of 1994. Their levels were distinguished into two categories, males and females, as follows. Males had an average vocabulary level of 2.76, an average comprehension level of 2.21, and an average reading level of 2.50 in English reading ability after one year in college. They had only four months of English instruction, stressing oral conversation. Females had similar levels,

having a 2.67 average vocabulary level, 2.43 average comprehension level, and similar average reading level, at 2.51.

Sample 16: Two thirds of all first-year students (n=215 or 67%) were tested at Seinan Women's Junior College in April of 1994. Their average pre-test scores are given below separately by class: (See Table IV, "Seinan 1994-95, Rapid Reading Classes C-F, Pre- and Posttests" in Appendix, comparing results in Yamamoto 1C & 1D classes, with Loucky's 1E & 1F classes. Comparative analysis follows.)

Average starting English reading levels were as follows: (a) about at grade three (2.965) in vocabulary, (b) 3.245 in comprehension, and (c) at about grade three (2.99) in average total reading level, as of that date. A posttest was given at the end of the academic year, in February 1995, to determine average improvement in each of these levels, and to compare classes which used different reading methods and materials, from those used in this study. Reading improvement rates are given later in this text.

Sample 17: Kyushu Institute of Technology, 1994-1995, 21 Engineering first-year students. During the 1994-1995 academic year, engineering students in a General English class taught by the author improved by an average of 1.38 grades, or showed about one year and four months growth in their vocabulary levels. The class vocabulary average at the start of English 101 was at about third grade level (2.99), relative to native norms. Loucky's class ended with a 4.37 vocabulary level, about a fourth-grade comprehension level (3.85), and their posttest total Reading Level was also at the start of fourth-grade (4.03).¹

In the previous 1993-94 academic year, however, results at K.I.T. were as follows. Nineteen engineering General English classes starting vocabulary levels were assessed with the Gates-McGinite Reading Test, Form C. Average vocabulary level for about five hundred engineering students was 4.24 grades. Six classes were also assessed as to their comprehension and total reading levels on this same test, at the beginning of the academic year. The averages for these six engineering classes at Kyushu Institute of Technology were (1) 3.8 in vocabulary, (2) 3.16 in comprehension, and (3) 3.46 in their total reading level. Wordcraft Book I, used only as a workbook, also was shown to be an effective tool for helping these

¹At that school, Kyushu Institute of Technology (Kyushu Kougyou Daigaku), only the Vocabulary section of the Gates-McGinite Test, Form C, was used by the administration. Six classes were given the entire test. Only Loucky's class used all three sections as a posttest as well.

students to improve their knowledge of English vocabulary. (See Table X, "Kyushu Institute of Technology," and Table XII, "Kyushu Colleges Summary Reading Chart," in the Appendix for details.)

Initial Results:

The intensive vocabulary-training methods and materials used in this study clearly seem to have been successful in teaching Japanese college students how to learn and remember new English vocabulary words. As expected and predicted by Hypothesis 1, student's comprehension also improved considerably as more vocabulary words were mastered. After initial testing of three vocabulary-training media, other lessons were done using Audio-Lingual Method tapes. Classes were divided into four different instructional media groups for only the first five lessons of Wordcraft, during the second month of school. When other texts or software were used, classes had to be instructed as a whole.

Students simultaneously read and listened to subsequent Wordcraft lessons 6-30, also learning these words first in the context of short, interesting cross-cultural and historical stories. New words were given in sentences first, then the sentence was repeated, substituting definitions for these new words. Three practice quizzes followed each lesson, each using new words in different whole-sentence contexts. Students were encouraged to listen actively, and write down new meanings on word cards for later review. They were also told to write down English definitions, and only if they needed to check the meaning in their native language, to wait and look up Japanese meanings at home later on. As students became familiar with this approach, they began to study and anticipate the meanings of new vocabulary words more quickly.

Although this study focused primarily on different areas of Second Language Reading skills development, experience shows that the development of these skills is often better done in an integrated manner, or simultaneously along with students' learning and development of other English communication skills (including listening, writing (including mechanical wordprocessing/keyboard skills), and speaking skills. Such a balanced, four-skills approach is also preferred by many students. "Vocabulary Stories," for example, encouraged students to develop their writing skills, which gave them more to talk about in class at a more complex level.

Improvements in many of their scores in the latter half of the first semester shows that students began to independently learn new words even before pretests or lessons, although not required to do so. In brief, STUDENTS LEARNED HOW TO LEARN NEW ENGLISH VOCABULARY MORE EFFECTIVELY. Although pretests showed little variance in initial difficulty, students naturally began to learn what was expected of them, and tended to know how to study new words better on later Wordcraft lessons. This was both an expected and hoped for result, showing that students learned how to learn new words, became better prepared or motivated, and thus performed better on later tests. Naturally both the “practice effect” and also summer vacation helped them to have time to improve their vocabulary as well.

Once students learned the Wordcraft approach to learning new vocabulary, they tended to do better on both pre- and posttests. At both Kyushu Institute of Technology and at Kitakyushu University, where MacIntosh computer rooms was not available to this researcher, Wordcraft lessons were taught with tapes, using the Audio-Lingual Method. At all three different Japanese colleges where Wordcraft lessons were used, it seems that the variety of Wordcraft’s stories and quizzes clearly helped students to develop stronger vocabulary learning strategies. Perhaps the primary strength of Wordcraft’s design is that its lessons give students five chances to learn each new word, four times using contextualized vocabulary in a variety of different settings.

Students in the author’s two Rapid Reading classes at Seinan Women’s Junior College, focal group of this study, did as follows in “LEARNING OF WORDCRAFT VOCABULARY.” The number of students assigned to each study group was twenty-seven each. Learning or “Improvement Rates” are shown computed from both short- and longterm posttests. Treatment groups 1) CAI 1 (1FA) and 2) ALM (1EB) had the following short- and longterm results on posttests:

	<u>Short-Term</u>	<u>Long-Term Posttest</u>
1) CAI 1 (1FA)	30.26%	30% (about the same)
2) ALM (1EB)	27.33%	31% (4% Better on LT)

The Control Group, SSR (1FB), had the following average improvement in their learning rate:²

3) SSR (1FB)	31.6%	30.94% (.6 less)
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An extra group, 1EA, not compared statistically in this study measured as follows:

CAI 2 (1EA)	23.56%	29% (5.44% Better)
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Sections FA, FB, and EB of these two classes were the three groups focused on in the one month short-term Wordcraft Study. Long-term comparisons of reading level changes were later made of four whole Rapid Reading classes (course name) over the course of the entire academic year.

Explaining Apparent Inconsistencies in Findings

Although both TOEFL and Michigan Proficiency Tests did not show measurable progress in these students on these tests, this cannot necessarily be taken to indicate a lack of clear progress. The intensive vocabulary-training methods and materials used in this study seem to have been fairly successful in teaching Japanese college students how to learn and remember new English vocabulary words. However, contrary to the researcher's original expectation, students' listening comprehension, as measured by the TOEFL, did not improve considerably as more vocabulary words were mastered. Students were only given two TOEFL Listening tests, one after three months of instruction, and another after ten months. Although these were about seven months apart, there was actually a decline in average TOEFL Listening scores on the second try. This can be explained in several ways.

Although TOEFL Listening and Michigan Proficiency Tests were first thought to be reliable measures of longitudinal progress for these students over one year of EFL instruction, they were shown by this study to be clearly inadequate indicators for the women's junior college students tested. Whereas TOEFL Listening sections were given seven months apart, Michigan pre- and posttests were given both at the beginning and end of the ten-month academic year. However, neither measure could show clear progress in the tested areas of English proficiency: (1) Listening, (2) Grammar, and (3) Vocabulary and Comprehension. In fact, post-test TOEFL class averages were about 10% lower on these tests for both classes!

²Improvement rates were based on subtracting Treatment or Control Group's average Pretest score from average Posttest scores on Wordcraft 1-5 Review Test.

This was in sharp contrast to very sizable improvement in Reading Vocabulary and Comprehension levels as measured more minutely by Gates-McGinite standardized tests, Forms C and F, used as pre- and posttests. Looking at Seinan Rapid Reading charts and graphs for 1993-94, one sees average gains of 1.3 grade levels in the total Reading Levels of 310 students. In terms of improvement in Vocabulary Levels, the average was also 1.3 grades. The posttest appeared too difficult for many students, however, so that two classes did not show measurable improvement in their Vocabulary during the 1993-1994 academic year. Nevertheless, all classes did show significant improvement in their comprehension levels. The average improvement was about two grade levels, or 1.92, to be exact. Even those two classes which did not show measurable gains in Vocabulary, improved by an average of 2.5 grades in their Comprehension Levels, relative to American native reader norms.

During the 1994-1995 academic year, two thirds of Seinan's first-year students' (a total of two hundred) reading levels were assessed, both at the beginning and end of instruction. Two classes were those of the author, Class 1E and 1F, and two classes were those of Hiroki Yamamoto, Class 1 C and 1D. His classes were all taught using a text-based approach, but also included a ten-minute listening quiz each week. His texts were Interactive Reading, a relatively easy text with only 122 pages, and Basic Idioms, a 100-page text covering 428 of the most common English idiomatic expressions. The author's texts were

- (1) Wordcraft, Book 1 (sometimes with CAI or ALM media assistance, depending on the research group);
- (2) A Beka's Adventures in Nature (eighty pages of timed readings with forty pages of comprehension drills), and Read and Think, Skill Sheets (Book 4, with forty-six speed and comprehension lessons); and
- (3) Graded Readers for extensive free-reading used outside of class. Students could choose any ten small books from one hundred high-interest, low-vocabulary graded paperback readers in the library, one per month. They could either do exercises in the back of the book, or a short book report instead.

The author's classes had far more variety in both quality of instructional media used, and also in terms of the quantity of required readings. In addition, three software programs were used by many students:

- (1) Wordcraft vocabulary lessons 1-5 done by half the students,
- (2) Shinbun, Shinbun vocabulary expansion through newspaper readings, and
- (3) Crow's Semantic Field Keyword Exercises, based on lessons 1-5 of his text's history chapter.

One can compare average class improvement in reading levels of the author's Rapid Reading classes included in this study, which used more ALM and CAI materials, with ordinary text-based Rapid Reading classes of Yamamoto. First, average improvement in each class's total reading levels is shown below. Then progress in each specific area can be compared in Table IV, Seinan 1994-95, Rapid Reading classes C-F, Pre- and Posttests," to better compare progress in all four classes. Average level gains follow:

- | | | |
|----------------------------|--------------------|--------------------|
| A. For Loucky's classes: | 1) 1E--3.17 grades | 2) 1F--3.15 grades |
| B. For Yamamoto's classes: | 3) 1C--1.8 grades | 4) 1D--2.31 grades |

Yamamoto's text-based 1C class averaged 1.8 grades improvement in their total reading level. This was made up of a (1) 1.89 grade level average improvement in their vocabulary levels, and (2) 2.02 grade levels average improvement in their comprehension levels. His 1D class, doing somewhat better, averaged a 2.31 grade level improvement in their overall reading level. This was comprised of a (1) 2.684 grade level improvement in students' average vocabulary levels, and a (2) 2.14 grade level improvement in their average comprehension levels.

Loucky's classes, which were exposed to a variety of all three media of instruction during the course of the year, clearly did significantly better in terms of improving their overall English reading levels. Based on a much more sizable increase in their English vocabulary levels, they showed about twice as much improvement in this area. This sizable improvement in their average vocabulary levels led to a significantly greater amount of improvement in their average total reading levels. Comprehension areas were not shown to vary greatly, but this may be due to the high level of difficulty of the reading passages, graded at a tenth-grade level, which would still be at a "Frustration Reading Level" for most of these students.

Loucky's class 1E showed an average improvement in their total reading level of 3.17 grade levels, comprised of a (1) 4.14 improvement in their average vocabulary levels, and (2) 2.15 grades of improvement in terms of comprehension. His Class 1F showed an average improvement in their total reading level of 3.15 grade levels, made up of a (1) 4.03 improvement in their average vocabulary levels, and (2) 1.86 grades of improvement in their average comprehension levels.

There seemed to be a sizable difference in the amount of improvement in vocabulary levels in both of Loucky's classes, when compared with Yamamoto's ordinary classes. Not only did the author's classes use more Audio- and Computer-Assisted instructional materials, but they were also taught with a more intensive stress on vocabulary development. This approach clearly seems to have worked well. In fact, both classes improved more than four grade levels (4.085 average) in their English vocabulary levels. This was about twice as much improvement in average vocabulary level as that found in Yamamoto's text-based classes, which also improved, but by an average of 2.3 grade levels instead. (See Table IV in Appendix A.)

As stated in Roscoe's Fundamental Research Statistics for the Behavioral Sciences, "The t-test for two independent samples is one of the most popular statistical tests. It is a very powerful test that lends itself to a wide variety of research problems."³ However, both determining and interpreting the results of any statistical test are not such a simple matter. Even when the findings seem to be statistically significant, one must then decide if the observed difference is really of any practical significance, or whether it can actually be attributed to differences in teaching methods or materials. In addition Roscoe states that:

The t-test does not directly address itself to the degree of relationship [which may exist] between the independent and dependent variables. [Nevertheless] . . . Assuming the investigator has some notion as to what constitutes practical significance, an examination of the sample means (which are unbiased estimates of the corresponding parameters) may enable him to arrive at some reasonable conclusion.⁴

In the case of this study, the media, and related methods and materials used specifically for vocabulary and Rapid Reading instruction can be seen as the independent variable. Subsequent changes in students' vocabulary, comprehension and total reading levels would then be seen as the dependent variables. A clear relationship can then be observed when viewing samples C and D taken together as traditional, text-based classes, as compared with classes E and F. When these two groups are studied separately as seen in the preceding chart, then the relationship first postulated in Hypothesis 1 becomes quite clearly evident.

³John T. Roscoe, "The t-Test for Two Independent Samples," chap. in Fundamental Research Statistics for the Behavioral Sciences, 2d ed. (Fort Worth, Tex.: Holt, Rinehart and Winston, 1975), 217-23.

⁴Ibid.

For each Rapid Reading class tested at both the beginning and end of the academic year, as their average vocabulary scores improved, they also showed a similar increase in both their comprehension and total reading level scores. These findings again lend support to Hypothesis 1. A simple comparison of SSR C and D classes with ALM/Computer-Assisted classes E and F's average improvement rates also gives clear support to Hypothesis 3. ALM/CAI classes improved over two grade levels more in vocabulary on average, and by 1.1 grades in their overall reading levels more than SSR classes did. Although students in all four Rapid Reading classes improved in their comprehension levels as their vocabulary ability increased, the ALM/CAI classes showed a much more marked improvement in both their vocabulary and overall reading levels than did classes using more traditional, text-based reading approaches. These findings especially seem to confirm the expectations of Hypothesis 3 in particular.

These clear indications of great improvement in English reading levels on a much harder and more detailed posttest may also be interpreted as strong evidence in support of a more varied, multimedia approach to Second Language vocabulary development for Japanese college students. Such Gates tests also seem to be far more valid measures for these students than TOEFL or Michigan tests, which are normally intended for much more advanced international students who attend or intend to enter American universities. Such tests have a different audience in mind, and therefore have very limited value for testing junior college students, who are only at a beginning to intermediate level in their speaking, listening and vocabulary skills. TOEFL and Michigan tests thus seem to be completely inadequate for measuring the gains made by lower level foreign students in English listening, grammar and reading improvement.

Students normally tested by TOEFL and Michigan tests are usually at a much higher level of English proficiency, or come from four-year colleges, than those in this study at Seinan Women's Junior College. In addition, this Seinan reading course was not meant to be a listening class, and students only experienced five to ten lessons which were accompanied with sound, provided either by using audio tapes or computerized sound. Such limited exposure in this Rapid Reading class could not be expected to improve students' listening skills very much. Although students have another listening class, it meets only once a week for ninety minutes, and uses conversational dialogues and videos that do not have much challenging new vocabulary in them.

Finally, the TOEFL tests are designed for examining much more advanced international students, who intend to study in the U. S. Almost none of our junior college young women even attempt to study overseas. Few have a high enough proficiency level to do so. Therefore, the TOEFL tests appear to be much too hard to be appropriate for measuring small changes in their abilities. On the other hand at Kitakyushu University, a more advanced four-year college, students start at a much higher level of English proficiency, and therefore their improvements can usually be detected by using TOEFL tests. (See charts and graphs for students of Kitakyushu University, TOEFL and Michigan Proficiency Forms A & P in Appendix.) Such tests, however, do not appear to be reliable measures of improvement in general English proficiency for junior college students in Japan. Their inter-test reliability is also questionable, as some test forms appear to be a good deal harder than others.

Andrade and Bremer compared these two tests recently in Japan. Their study of language placement, entitled "Can the Michigan Language Tests Predict TOEFL Scores? A Study of Language Placement at Nanzan University's International Management Program," found the following:

The correlations between the Michigan tests and TOEFL are modest, which means that the Michigan tests cannot predict scores on the TOEFL with great confidence. Japanese high school English marks are [also] poor predictors of TOEFL scores. Nevertheless, the Michigan tests can be useful for grouping. Grouping refers to placing students in groups of approximately equivalent English language ability to facilitate instruction suited to their language level. The Michigan tests' relatively high grouping power combined with availability and low cost make them a convenient placement tool . . . The relationship between the Michigan tests and the Institutional TOEFL became stronger in 1994: the MTELP [Michigan Test of English Language Proficiency] placed .40 of students in the correct groups and .79 in approximately correct groups⁵

Gates Reading Tests, on the other hand, have yielded very consistent results at six different institutions of higher education in Japan, when tested by the author on over 1,500 students. (See Appendix.) These are clearly much more helpful both in placing students according to reading ability, and also in diagnosing particular areas of strength and weakness in the reading skills of each individual student. Such tests should be used regularly, otherwise neither individual problems or progress, nor general annual trends can be clearly detected, proven or shown.

⁵Melvin Andrade and Marc Bremer, "Can the Michigan Language Tests Predict TOEFL Scores? A Study of Language Placement at Nanzan University's International Management Program," *JACET Bulletin* 25 (1994): 1-17.

Average Amount of Reading Improvement at Other Colleges

For comparative purposes, the average amount of Reading Level Improvement at other Japanese colleges in classes taught by the author can be shown. In each case, these students' Reading Levels were measured by standardized Gates-McGinitie Reading Tests and expressed in terms of American grade norms. When able to assess each student's degree of improvement, both pre- and posttests were given. Individual scores on various language tests, including the area of reading, are found on charts in the Appendix. There one can find a summary of Reading Level checks done on 1,500 students at six institutions of higher education in Japan.

Discussion of the Results: Effects of Computer-Assisted Vocabulary Training on Word Knowledge

This research began with a simple desire to compare three different media formats for helping Japanese college students in their English vocabulary instruction. It has helped to clarify the fact that multimedia instruction, though more enjoyable for most students, is not always automatically more effective. However, a more complex research design would be recommended for future studies which examines the factors which contribute to a software program's effectiveness. Specifically, what factors in the design, style, content, and application of any particular software cause it to be more or less growth-producing in terms of English vocabulary development? This is the central question which must be kept in mind when evaluating the degree of effectiveness of new language learning software.

As Kolich found in her study on the same topic, Research that has reported the effective uses of the computer in education, and more specifically in reading and vocabulary, has generally compared computer instruction with traditional instruction. The issue for the 1990s is not justifying the merits of computer-assisted instruction over traditional instruction through comparative studies (computers are here to stay); THE ISSUE THAT NOW DEMANDS OUR ATTENTION NOW CENTERS AROUND [sic] WHAT FACTORS CONTRIBUTE TO A SOFTWARE PROGRAM'S EFFECTIVENESS. ⁶ [writer's emphasis]

The ultimate conclusion of this study is that merely using more multi-sensory instructional media does not, in and of itself, necessarily guarantee that more language learning or vocabulary acquisition will

⁶Eileen M. Kolich, "Effects of Computer-Assisted Vocabulary Training on Word Knowledge," in Journal of Educational Research 84, no. 3 (Jan./Feb. 1991): 177-82.

automatically take place. A great deal depends on the type and quality of instructional programs, regardless of whether they be text-based, tape-based, or more multimedia computer-based materials and media of instruction. These findings coincide with Kohlich's study⁷ of Davidson's "Word Attack" software, mentioned just above. She stated that one must determine what specific aspects of any program of instruction make it more effective.

In the case of this study, three different computer software programs were compared as to their relative effectiveness for vocabulary training of Japanese college students in several different media settings. Two of these computer programs were designed by the author, using a Hypercard environment format, and two were examined in three different media settings. The research objective was to determine if a computerized instructional environment, per se, would tend to be more effective for second language vocabulary learning. Specific findings were as follows.

In the Seinan reading classes, the traditional Sustained Silent Reading Control Group (1F, B, second half of the class) had the highest average improvement rate on Wordcraft Lessons 1-5, with 31.6%. This may be explained by the fact that students are more familiar and comfortable with this method, and that they could concentrate more on the reading task, rather than being distracted by having to learn the new processes involved in using a new computer software program, or in listening to lesson tapes.

Second highest in its improvement rate was IF, A CAI Group, (first half of the class) with 30.26%. Third was IE, A CAI Group, (first half of the class, not included in the statistical study) with 29.12% improvement. The lowest learning rate was shown by the ALM Group, IE, B, (second half of the class) with 27.33% improvement. Whether these are significant differences, due mainly to a difference in instructional media used, or whether these differences are due to other factors is hard to say. Therefore, averages for each class were compared. In such a case, the differences were seen to be only 1.34% for IF class, and about 2% (1.79%) for IE class. These did not appear to be very significant differences. Indeed, statistical analysis did not show any either.

When a 3 X 3 ANOVA study was done of the Wordcraft results, no significant differences were shown statistically. ANOVA Subtable A compared pre-test base levels with both short- and long-term

⁷Ibid.

Wordcraft memory, factoring for both treatment method and time differences for Groups FA/CAI, EB/ALM, and FB/SSR. ANOVA Subtable B compared both pre-test, short- (after one month) and long-term memory (three months after instruction) Wordcraft scores with percentage of improvement rates shown for both short- and long-term memory tests. It considered the factors of both "A: Treatment," and "B: Time," for Groups FA/CAI, EB/ALM, and FB/SSR. (For details, see Appendix, Table XVI: Statistical Analyses, Part A, "Comparing Wordcraft Media Results by ANOVA.")

Clearly, a longer study with more improved vocabulary-training software would be necessary to ascertain whether CAI methods and materials are not in fact superior or more effective in the long-run for teaching a larger number of words more quickly with a higher rate of recall. Such a longitudinal study is highly recommended, using such a program as "Word Attack," which contains about 3,000 words at an intermediate to SAT level. For such a study, however, more memory would be required than the present computers have. Since these computers will be replaced next year, hopefully with computers having CD-ROM readers and ability to read High-Density discs, such a study may then be possible. Until then, one can only surmise based on the tendencies observed so far.

In order to further compare possible differences due in part to using different instructional media, both short-term memory and long-term memory post-tests were given. Students' memory of Wordcraft words from Lessons 1-5 were checked twice after the original pre-test, which had been given before any class exposure to these fifty words. The first post-test was given immediately after learning the words in one of the three media formats: (1) workbook text only, via Sustained Silent Reading; (2) audio plus text, via Audio Lingual Method; or (3) Computer-Assisted Instruction, via computers with sound input. The results are shown in Table VI of the Appendix, entitled "Wordcraft Study, Seinan, 1994-95." On a three-dimensional vertical bar graph each group's mean improvement rate is easier to view, entitled "Comparison of Three Instructional Media Used in Teaching Wordcraft Vocabulary Lessons 1-5 to Several Groups of Seinan Rapid Reading Students from 1994-1995." The average percentage increase for each of these class halves is also shown on a plain horizontal bar graph, entitled "Comparing Group Average Improvement Rates for Several Class Groups Using Three Different Wordcraft Vocabulary Instructional Media."

As explained above, when initial post-test scores for memory of Wordcraft Lessons 1-5 are compared on this last chart, the Sustained Silent Reading Group, 1F, B, showed the highest average improvement rate of 31.6% per student. Second was the 1F, A CAI Group, with 30.26% average. 1E, B, ALM Group had the lowest mean improvement, with 27.33%, still a sizable improvement.

Two outstanding educational features which appeared when using this Wordcraft vocabulary training material, regardless of the media used, seem to be a uniform improvement in students' long-term measure of memory. However, this is probably explainable by the fact that the second test came after a long summer vacation, which gave students two extra months to study! All groups also had a relatively high retention rate, as follows, for all three class groups. Three class group averages on the Wordcraft long-term memory posttest were 1) EB (ALM)-- 86.5%; 2) FA (CAD)-- 85.4%; and 3) FB (SSR)-- 85.38%.

The average long-term retention rate for all four class halves combined was 84.55%, a very good learning rate, especially considering they had an average knowledge of just 54% of these fifty words originally. This is an average learning or improvement rate of 30.55% for all class sections, quite respectable in any language! These students' high levels of word meaning retention would seem to indicate both the high quality of the vocabulary training materials used, ease of learning from them, and also good quality of study in these students, despite having eight weeks off from school. Because of this long vacation, students were informed that they would be tested again on some of the 300 vocabulary words from all 30 Wordcraft lessons. Which lessons or words they would be tested on was not specified, however. Therefore, this post-test of long-term memory seems to show very good quality in both vocabulary learning and retention of new English word meanings for almost all of the Japanese college students tested.

Similar results have been obtained on other Wordcraft tests using only an Audio-Lingual Method or only a text-based method (SSR), at both a four-year college, Kitakyushu University (See Table XI charts and graphs labeled "Kitakyushu University Rapid Reading Classes"), and at an engineering college, respectively (See Table X charts and graphs for "K.I.T. Engineering students" also in Appendix A). K.I.T. Engineering students in Loucky's classes in both 1993-94 and 1994-95 academic years showed steady improvement in learning the vocabulary from Wordcraft, Book 1. In 1993-94, for example, they had an average Improvement Rate of fifteen percent over all thirty lessons, covering three hundred words. In the

1994-95 academic year, only post-tests were given. Each time students achieved about 90% mastery, except for the last test. Then their average score was about 75%, showing a lack of study or preparation, which is sometimes typical at the end of a book or academic year.

Testing Specific Hypotheses

This study was designed and proposed to test three different hypotheses. Which of these were confirmed by the findings of this study will first be stated, giving supportive evidence next. First, restating these three hypotheses, originally given on page 16, in a positive form: (1) Ho 1: EFL students' tested level of Reading Comprehension will increase significantly in direct proportion to an increase in their English Vocabulary Level. (Sub-tests factors are capitalized.)

(2) Ho 2: EFL students' Listening Comprehension, as assessed by TOEFL Listening Sections, will increase significantly in direct proportion to an increase in their active Vocabulary Level, as shown on Gates-MacGinitie Reading Tests.

(3) Ho 3: Students using Computer-Assisted Instructional materials and/or an Audio Lingual Method to improve their English vocabulary will show a significantly higher rate of improvement over those students using a traditional, text-based Sustained Silent Reading method of vocabulary acquisition.

Each of these hypotheses will now be addressed in the light of the results reported above.

Research Hypothesis 1: The first hypothesis was that Japanese college students' tested levels of Reading Comprehension would increase significantly in direct proportion to increases in their English Vocabulary Levels. The following "Reading Improvement" chart shows that the naturally expected outcome of comprehension improving along with increased vocabulary ability occurred both in Loucky's classes involved in this study, as well as in Yamamoto's regular classes. However, if all four classes are looked at as a whole, it does not at first seem to be true that student comprehension scores increased "significantly in direct proportion to increases in their English vocabulary levels," as much as had been expected.

As students improved in their Vocabulary levels, their Comprehension levels did also improve. However, when all four classes taught by two different teachers were compared, all of these classes showed about two grade levels or more improvement in their comprehension levels after one year of EFL study. In

addition, if one looks at Loucky's and Yamamoto's classes separately, then a more direct proportional relationship can be seen. Since these two teachers used very different methods and materials in their Rapid Reading classes, it is better to view their class improvement rates separately as quite distinct samples. When doing so, the following can be observed.

In Yamamoto's classes C and D, one can see the following kind of relationship between the students' vocabulary and comprehension improvement scores. Class IC had an average improvement in their vocabulary levels of 1.89, and a corresponding increase in their average comprehension levels of 2.02 grades. Class D, which showed a somewhat better average improvement in vocabulary of 2.14 grade levels, also had about a seven month higher average comprehension score (2.7), or two thirds of an academic year in U. S. terms. Both visually and mathematically these findings support Hypothesis 1.

In Loucky's classes E and F the findings also supported Hypothesis 1. Class IF showed an average improvement in their vocabulary levels of 4.03 grades, and a corresponding increase in their average comprehension levels of 1.86 grades. An improvement of two grade levels was shown to be the average for all freshman students at this school during a pilot study in the previous school year (See results in Appendix, under 1993-94 Seinan Study).

Loucky's class IE, on the other hand, had an average improvement in their vocabulary levels of 4.14, slightly better than class IF. They also showed a correspondingly larger average improvement in their comprehension levels of 2.15 grades. This was about one third of a year (.29) more improvement in their average comprehension levels than that shown by the IF class. An easier level posttest would probably have shown an even greater amount of improvement in comprehension as their vocabulary levels increased. It was not available at the time this study was done in Japan, although it was ordered. Nevertheless, the tendencies shown in all four of these Rapid Reading classes do support Hypothesis 1 to a large extent, if these two teachers' classes are viewed as completely separate samples, which they were.

The amount of increase in both "Vocabulary" and "Total Reading Levels" differed significantly between these two teachers' classes, however. Although starting, base-line levels differed, their degree of improvement was always figured by subtracting pre-test from post-test levels. Thus class E and F's larger amount of improvement seems to have been mainly due to the use of a larger variety of vocabulary-training

instructional media, including ALM/CAI methods, and the use of more intensive and extensive reading materials. Subsequent statistical analysis comparing these four Rapid Reading class average gains supported Hypothesis 3. For the purposes of comparing gains statistically, both class 1C and 1D were combined as "Control Group," and classes 1E and 1F were combined as a "CAI Intensive Vocabulary Development Treatment Group." Their averages are shown in Table IV, "Seinan 1994-95, Rapid Reading Classes." Also see Table XVI, for "Statistical Analyses."

Statistical Analysis Comparing Different Reading Classes

Statistical analysis was done to see if rates of English reading improvement in "Audio-Lingual and Computer-Assisted" classes E and F differed significantly from those more traditionally taught, "Text-based" classes C and D. In fact, statistical analysis of the data confirmed both Hypotheses 1 and 3 above. In other words, the null forms of Hypothesis 1 and 3 (HO 1 and 3) were rejected by mathematical analysis of the data. This is shown in Table XVI: Statistical Analyses, Parts B and C. (See Appendix.)

In brief, first a t-test was done to compare Average Improvement Rates (AIR) of "Text-based" versus "ALM/Computer-Assisted" Rapid Reading classes. The latter group had significantly higher gains in both their Vocabulary and overall Reading Levels, as can be seen by comparing both their raw and t-scores (See Part B). In Part C, Pearson correlation coefficients were computed by a computer program to compare the same two types of Rapid Reading classes. Three correlation coefficients were first compared: those between the factors of Vocabulary, Comprehension, and total English Reading Level. In this case, a t-test was used to compare two of these correlations at a time. The three correlations considered were the following: (1) the relationship between Vocabulary and Comprehension, (2) that between Vocabulary and total Reading Level, and (3) that between Comprehension and total Reading Level [subtest/score names].

Individual student scores were all entered into a t-test software program (NEC). Correlations were then figured for the three relationships named above. The Pearson correlation coefficient between Vocabulary and total Reading Level was determined to be $r_{12} = .715$; that between Vocabulary and Comprehension was $r_{23} = -0.059$; and that between Comprehension and total Reading Level was $r_{13} = .573$.

There were one hundred students in the Text-based classes, and one hundred and two in the ALM/Computer-Assisted classes, for a total of two hundred and two students (N=202).

Thus, null Hypothesis 1 was: "There will be no significant difference between r_{12} (= .715) and r_{13} (= .573)." The t-test formula and calculations were as follows:

$$\begin{aligned}
 t &= (r_{12} - r_{13}) \sqrt{\frac{(n-3)(1+r_{23})}{2(1-r_{12}^2-r_{13}^2-r_{23}^2+2r_{12}r_{13}r_{23})}} \\
 t &= (.715 - .573) \sqrt{\frac{(202-3)(1-.059)}{2(1-.715^2-.573^2-(-.059)^2+2 \times .715 \times .573 \times (-.059)r_{23})}} \\
 &= .142 \times \sqrt{\frac{102.569}{.217}} \\
 &= 3.09 \quad (\text{df or degree of freedom} = 199)
 \end{aligned}$$

Ryan's procedure, a kind of multiple comparison test, was also done to double-check this result. In this, .0067 was the adjusted significance level. After calculation, $t=2.79$. Since $t= 3.09$ is greater than $t= 2.79$, one can say that, at $p= .01$; $df= 199$, r_{12} is significantly greater than r_{13} . This confirms Hypothesis 1.

Ryan's procedure is a comparative test with stricter parameters ($p=.0067$). Correlations were the same as the first t-test, also showing a significantly stronger correlation between students' Vocabulary and total Reading Level improvement scores, than between their Comprehension and total Reading Level improvement scores. Also when averaged, classes C and D improved an average of 2.35 in their Comprehension levels after one year of instruction. Classes E and F, improved 2.01 grade levels in Comprehension. These were not shown to be significantly different.

Therefore, one can reasonably argue that the significant differences shown in E and F students' improvement in their total Reading Levels over one year were probably due in large part to the greater degree of improvement in their respective Vocabulary levels. Differences in both quantity, quality and variety of vocabulary training methods and materials seem to have been responsible for helping these students to learn significantly more English vocabulary than that which appears to be learned in regular, more traditionally taught, text-based Rapid Reading courses.

Research Hypothesis 2: The second hypothesis was that students' Listening Comprehension, would increase significantly in direct proportion to an increase in their Vocabulary Levels. Unfortunately, the TOEFL tests proved to be far too difficult for these Japanese junior college students, and were shown to be insufficient measures of any gains in listening ability over just one academic year for the typical junior college student in Japan. It is highly recommended that easier, more fine-tuned tests of various listening skills be devised for use with lower level students, such as these in Japanese junior colleges. The author's English majors at a four-year college, Kitakyushu University, did however show about a 14% increase in their TOEFL Listening abilities after one year of instruction (See Kitakyushu University charts, 1993-94, in Table XI.)

At Seinan in April of 1995, 345 students took a TOEFL Institutional Test (ITP) as a kind of pre-test. Only about fourteen percent (14.3%) got a score higher than a 400 on that test. Several of the highest scores were obtained by students who had studied overseas for one or two years. On the Listening Section, moreover, the mean score was 38.09. This was equal to the 23rd Percentile Rank level compared with all students who took the test from July 1990 through June 1991. Average scores on the Structure and Reading Sections were about 37, which were between the 40th and 44th Percentile Rank on the July 1990 through June 1991 tests. The average score for these 345 students was 371.62. Clearly a more fine-tuned measure of listening is needed for students at such low levels, to detect their incremental growth.

Research Hypothesis 3: The third hypothesis was that Japanese college students using Computer-Assisted Instructional materials to improve their English vocabulary would show a significantly higher rate of improvement over those students using either an Audio-Lingual Method or just a traditional, text-based

Sustained Silent Reading method of vocabulary acquisition. From Table XVI, Part A of Wordcraft results by ANOVA shown in Appendix A, this was not clearly confirmed for the short term of that study.

However, by comparing long-term results of pre- and posttest Gates Reading tests for four Rapid Reading classes taught at Seinan by two different teachers using two different approaches, significant differences can be seen. Loucky's classes, which all used several CAI materials and more intensive vocabulary, speed and comprehension builders, clearly improved in both their Vocabulary and total Reading Levels much more than students in Yamamoto's two classes, which used more traditional text-based methods and materials. The following chart shows remarkable gains among the students in Loucky's classes, especially in their Vocabulary and total Reading Levels. First average "Improvement Rates" in each class are shown, then progress in each specific area to better compare improvement in all four classes.

Loucky's classes:	1) 1E--3.17 grades	2) 1F--3.15 grades
Yamamoto's classes:	3) 1C--1.8 grades	4) 1D--2.31 grades

Test-Based Classes' s Average Improvement Rates in Vocabulary, Comprehension, and Total Reading Level were

I. 1C--1.89	2.02	1.8
II. 1D--2.14	2.684	2.31

ALM/CAI-Assested Classes' Average Improvement Rates in Vocabulary, Comprehension, and Total Reading Level were

III. 1E--4.14	2.15	3.17
IV. 1F--4.03	1.86	3.15

Based on both objective results of these standardized reading pre- and posttests as well as statistical analyses thereof, one can reasonably conclude as follows. Differences in the teaching and learning of vocabulary, including the use of some CAI and ALM instructional media in classes E and F, seem to have contributed markedly to these students learning significantly more new English vocabulary than students in

the other two traditionally taught, text-based classes. Better average improvement in vocabulary skills on the part of these E and F class students, in turn, gave rise to significantly improved total English Reading Levels. While C and D class students also improved in both areas, the degree of improvement shown in both Vocabulary and total Reading Level test areas was significantly better among E and F class students. This was true despite the fact that the post-test was at a much higher reading level than the pre-test. In fact, E and F class students over the course of one year of study achieved an average of at least one grade level more improvement in both their Vocabulary and total Reading Level posttest scores, than an equal number of students at the same school in two traditional class settings (classes C & D).

These long-term findings, comparing Yamamoto's two regular classes combined as one S.S.R. Control Group, and Loucky's two classes combined as an ALM/Computer-Assisted intensive vocabulary development Treatment Group, strongly support this study's third hypothesis. These findings also reinforce subsequent recommendations of much more intensive and concentrated development of intermediate and academic vocabulary. They also support the claim that real expressive and communicative competence is best built up as teachers help foreign language students learn how to actively develop their own vocabulary levels, together with other areas of authentic communication and linguistic competence.

English Education Opinion Poll

When the more subjective opinion poll was given to these two classes, Computer-Assisted Instruction of new vocabulary words proved to be an enjoyable media for about a third of the students tested. It was also thought to be more effective for learning new Wordcraft vocabulary words by one third of the students. Later in the course, after completing all thirty Wordcraft lessons, students in each Wordcraft subgroup were allowed to use other software to be able to experience and compare computerized instruction. All students experienced some computer-assisted vocabulary instruction when using Shinbun! Shinbun! and Crow's Semantic Field computerized vocabulary exercises.

Reactions to these other two software programs were as follows. When asked which media they preferred to use, (a) 50% preferred using Computer-Assisted Instruction, (b) 33% preferred using audio

tapes (ALM), and (c) 12.25% preferred reading texts silently (SSR). When doing Crow's Semantic Field vocabulary exercises using the Keyword Method, (a) 28% preferred doing them with tape recordings (ALM), (b) 39.75% preferred doing them on paper (SSR), and (c) the same number, or 39.75% of all students also preferred to do them using a computerized software program. So 40-50% of all the Japanese students in these two Rapid Reading classes preferred using Computer-Assisted Instructional materials to help them improve their English vocabulary levels.

The results of this study essentially support the findings of Terhune and Moore's initial comparative study of "Computer versus Paper."⁸ They also show that interactive CALL or CAI methods and materials can help to keep students actively involved in the language-learning process far better than other traditional approaches tested. This seems to be true due to the fact that CAI requires each individual student to continually interact with the Target Language, by using both mechanical keyboarding and language skills in order to keep up the flow of information. CAI may well prove to be the MOST INTERESTING AND INVOLVING METHOD OF LANGUAGE INSTRUCTION in the future.

Detailed Analysis of English Interest Survey Results

Shown in Table XIX are the results of this "English Interest Survey," given to all four sections of the author's Rapid Reading classes at Seinan Women's Junior College in February of 1995. (See Table XV, Appendix for details.) The English Interest Survey was completed correctly by the following number of students in each group: 1) 1 EA-- 25; 2) 1EB-- 25; 3) 1FA-- 28; and 4) 1FB-- 26. Specific results and responses to each question are found in charts in Appendix E, entitled "English Interest Survey" (for 1E A & B Groups, and 1F A & B Groups), showing the percentage of students in each of these class groups choosing a particular answer. An analysis of responses to each question is presented below for each group. Then overall trends are given.

The first twelve questions dealt with various reasons students might have for learning English. These have been divided into two commonly accepted categories by Gardner and Lambert, namely

⁸Terhune and Moore, "Computer versus Paper: A Preliminary Study on Vocabulary Expansion," 30-34.

“Instrumental” versus “Integrative Motivation.”⁹ After these twelve questions, students were asked to add up their scores for these two separate types of motivation. In addition, they were asked to add these two scores together to give a measure of overall “Intensity of Motivation,” an author-designed term.

As Ellis defines these terms, he also adds another type of motivation, that is, “Task Motivation,” or “the interest felt by the learner in performing different learning tasks.”¹⁰ He states that “motivation in language learning can be defined in terms of the learner’s overall goal or orientation. Gardner and Lambert (1982) distinguish ‘instrumental motivation,’ which occurs when the learner’s goal is functional (e.g. to get a job or pass an examination), and ‘integrative motivation,’ which occurs when the learner wishes to identify with the culture of the L2 group.”¹¹ Naturally, “Integrative Motivation” is generally much stronger when the language learner is in an ESL situation, meaning that he/she is surrounded by people of the target language, making its mastery much more important for social acceptance and mobility.

In brief, the Japanese students in these two Rapid Reading classes who responded to this survey correctly and added up their scores showed the following general characteristics. Few students in class 1E either had or took the time to tally their answers to these first twelve questions on motivation. Most students in class 1F did, however. Their results are shown on the chart entitled “Intensity and Types of Motivation,” on the following page.

Averages for each type of motivation were as follows. For group 1F, A, 7.28 or 61% in their score of “Instrumental Motivation;” measured 8.86 or 74% in their measure of “Integrative Motivation;” and 15.38 or 64% in terms of their “Total Intensity of Motivation.” Group 1F, B, on the other hand, totaled 8.05 or 67% in their measure of “Instrumental Motivation;” 9.2 or 76.7% in their measure of “Integrative Motivation;” and 17.05 or 71% in terms of their “Total Intensity of Motivation.” Although these scores do not seem to be significantly different, the 1F B section of the class also had the author for

⁹Richard Gardner and William C. Lambert, Attitudes and Motivation in Second Language Learning (Rowley, Mass.: Newbury House, 1972).

¹⁰See glossary definition of “motivation” in Ellis, Understanding Second Language Acquisition, 300.

¹¹Ibid.

Grammar and Composition class. Their attendance was often poor, and a number of students often failed to do their homework on time. This lack of adequate attendance and effort on the part of several of these students could also help to explain why only their group had a low score on the total percentage of Crow's Key-words learned, almost 13% less than the other three class groups.

Other general findings from this survey can be mentioned here. Quoting five students who wrote out their own comments and impressions on the class one can get a better idea of their subjective attitudes and feelings toward learning English reading skills, and towards the materials that were used in class. One student replied: "Your Rapid Reading class was really difficult for me. I was tired. I thought I have few vocabulary. I have to study more." Another student wrote that "reading English articles was interesting for me. But I noticed it was difficult for me, if I found words I didn't know. So I felt I had to study more vocabulary." A third student commented: "We could use various texts in your class. I want to study using your text from now. Thank you for your skillful teaching. I think I must study more now."

Other students commented very positively on the use of computers to assist them in making vocabulary learning easier, and also more enjoyable and interesting. One said that "Read and Think and Adventures in Nature were interesting for me because there are many interesting tales. Shinbun, Shinbun was also interesting. Using computer is very good idea I think." Finally, another girl wrote, "I liked to use a computer, therefore I liked to play [the] Shinbun-Shinbun game."

Surveying general trends among all the students' answers, one can get a brief overview of their feelings and study habits regarding English. Questions 27-33 dealt with English study habits and materials or media used regularly outside of class. In answering how many hours they had spent studying English during high school (Question 27) , as compared with presently during junior college (Question 28), answers by four class groups are shown below. Average number of hours of English study for all groups combined was about four hours (3.98) during high school, and about three hours (2.93) during their first year of junior college at Seinan. Their "Average Hours of English Study during High School" were as follows:

- | | |
|---------------------------|---------------------------|
| 1) 1E, A--3.1 hours/week | 3) 1F, A--6.07 hours/week |
| 2) 1E, B--1.83 hours/week | 4) 1F, B--4.92 hours/week |

On the other hand, students' average "Hours of English Study during Junior College" (First Year) were self-reported to be as follows:

- | | |
|---------------------------|---------------------------|
| 1) 1E, A--1.95 hours/week | 3) 1F, A--3.32 hours/week |
| 2) 1E, B--3.54 hours/week | 4) 1F, B--2.9 hours/week |

Questions 29-33 asked how often students did the following language learning activities outside of class: (Percentages shown were averages for all four groups combined. Consult group surveys to see any differences.) 29) Listen to English language tapes or radio programs?

Answers: (a) Never--12.5%, (b) Sometimes--74%, (c) Often--10%;

30) Watch English TV, videos or movies?

Answers: (a) Never--14%, (b) Sometimes--59.5%, (c) Often--22%

31) Read English books, magazines or newspapers?

Answers: (a) Never--36.5%, (b) Sometimes--53.25%, (c) Often--5.5%

32) Sing English songs?

Answers: (a) Never--16.5%, (b) Sometimes--44.25%, (c) Often--34.5%

33) Study English by regularly:

- (a) using your dictionary? -- 62.25%
- (b) using an electronic dictionary or computer? -- 14.5%
- (c) watching English TV or videos? -- 19.25%
- (d) listening to English language tapes or radio? -- 8%

Questions 13-26 focused on types of reading materials and vocabulary learning methods used and preferred by students. Basically, one can view all answers by four separate class groups on charts in the Appendix, entitled "English Interest Survey," but it is easier to simply average and give general trends for both classes combined. They were all exposed to each of the three media at some point during the academic year, so that their preferences could be asked and compared at the end of the year. Questions 13 and 14 dealt with "Which media did you like more or prefer to use?" Average answers for all groups combined were as follows in percentages.

13. (a) 50% preferred using Computer-Assisted Instruction,

- (b) 33% preferred using audio tapes (ALM), and
- (c) 12.25% preferred reading texts silently (SSR).

In answer to Question 14, "Do you think the media you preferred helped you learn more words?" students answered: 14. (a) 23.75% said Yes, (b) 10.5 % said No, and (c) 61% said About the Same.

Questions 15 and 16 dealt with different vocabulary teaching approaches or methods. Students were asked, "Which methods did you prefer to use?" Answers were as follows:

- 15. (a) 47.5% preferred Wordcraft words in the context of stories,
- (b) 14.25% preferred Crow's Semantic Fields Approach, and
- (c) 33.25% preferred Moore's Shinbun, Shinbun game approach.

In answer to Question 16, "Do you think the method you chose (in #15) helped you learn more words?" (a) 37.5% said Yes, (b) 5.75% said No, and (c) 41.25% said About the Same.

Questions 17 & 18 dealt with vocabulary learning materials. Number 17 asked them, "Which materials did you prefer to use?"

- 17. (a) 40.5% chose Wordcraft materials,
- (b) 29.5% chose Shinbun, Shinbun materials,
- (c) 26.5% chose A Beka's Read and Think and Adventures in Nature comprehension and skill builders. Finally, only (d) 5% preferred Crow's Semantic Fields exercises.

In answer to Question 18, "Do you think the materials you preferred to use helped you to learn more words?" answers were: (a) 45.75% said Yes, (b) 20.25 said No, (c) 40.75% said About the Same.

Question 19 asked students, "When using Crow's Semantic Field Exercises, did you prefer doing them: (a) with audiotape, (b) on paper, or (c) on computer screen?" Responses were: (a) 28% preferred doing them with tape recording, (b) 39.75% preferred doing them on paper (SSR), and (c) the same number, or 39.75% of all students also preferred to do them using a computerized software program. This is an interesting find, showing that the same number of students, about forty percent each, enjoyed learning by using the traditional text-book method, as those who preferred learning new words with the help of computers. About thirty percent preferred the Audio-Lingual Method, or customary Language Lab approach.

Questions 20-23 dealt with texts used in these two Rapid Reading classes. In answer to Question 20, "How did you like using the regular A Beka reading texts?" (Read and Think and Adventures in Nature), students replied as follows: (a) 25.25% disliked them, (b) 64.5% said they were average, and (c) about 5% said they like them more than most other texts. Again, some students did not respond.

In answer to Question 21, "How did you like using the Wordcraft vocabulary text?" students responded by saying: (a) 9.5% disliked it, (b) 52.75% found it average, and (c) 34% found it more interesting than most texts. Most students (70-87%) were at least positive in their attitudes to all three of the main materials used, if one combines all students' answers b and c.

Question 22 asked students, "When using Wordcraft materials, do you think that you learned," to which students answered: (a) 5.75% said "Nothing Much," (b) 51.25% said the "Same as Usual," and (c) 40.25% said they thought they learned "More than Usual."

Question 23 asked students, "If you used Wordcraft lessons on computer [only the first half of each class did], do you think that you learned," which elicited the following responses:

- (a) 5% felt they learned less new words than usual,
- (b) 46.75% felt they learned about the same as using a tape or text,
- (c) 33.25% felt they learned more vocabulary than usual with CAI,
- (d) 10.25% also thought they could understand stories better when using computer-enhanced instruction,

(e) 2% felt they had both learned more new words, and also had better comprehension when using computers. In brief, over one third of all the students (35%) thought they could learn English vocabulary better with the aid of computers, when doing Wordcraft lessons. Only half of the students were exposed to these lessons on computer, however. Looking only at these two CAI groups, one sees a more positive response to Computer-Assisted Instruction. Sixty-one percent of CAI Group 1F, A, for example, and forty percent of 1E, A CAI Group thought that when they got to use computerized Wordcraft materials, they could either learn "more vocabulary than usual," "understand stories better," and/or "both learn more vocabulary/also have better comprehension" than when using only a text or tape-based method.

In addition, only 4% of CAI Group 1F, A, and none of the students in 1E, A CAI Group thought that they learned "less words than usual," when using Wordcraft lessons on computer. It is also interesting to note that the CAI Group 1F, A, which had a few extra class hours during the year (so that they could use computerized language-learning software about five hours more), had a much more favorable response to CAI. Consequently, 64% of the students in 1E, Section A CAI Group thought that they learned "about the same as when using a text or tape," but only 29% of the students in 1F, Section A CAI Group thought so. These results seem to show that greater exposure to and familiarity with CAI tends to produce more positive evaluations of its benefits. In the case of this study, increased use of CAI tends to produce more positive evaluations, as students become more aware of the computer's helpfulness as an aid in language learning.

Students in the two groups which were not exposed to computerized Wordcraft instruction, nevertheless also had positive answers about the benefits of using computers for learning Wordcraft vocabulary, even though they did not get to experience this software for themselves. CAI Groups went to a separate room when they did computerized Wordcraft lessons, so the only way that ALM and SSR Groups could learn about those lessons was if students from the CAI Groups told them of their experience. They seem to have done so, giving positive feedback and evaluations to their friends in other research groups.

Consequently, 44% of the students in 1E, Section B ALM Group thought that they learned "about the same as when using a text or tape," and 43% of the students in 1F, Section B SSR Group thought so. Their responses were much more similar, which might be expected since neither of these groups was exposed to any computerized instruction until after Wordcraft lessons were completed. Also their total of positive responses to questions regarding the benefits of doing Wordcraft lessons on computer, which for them had to be based on imaginary conjecture, were as follows.

Both of these non-CAI Wordcraft groups also had fairly positive response to Computer-Assisted Instruction. Sixty percent of SSR Group 1F, B, for example, and fifty-two percent of 1E, B ALM Group thought that if they had gotten to use computerized Wordcraft materials, they would have either learned "more vocabulary than usual," "understood stories better," and/or would have "both learned more vocabulary" and also could have "had better comprehension" than when using only a text or tape-based

method as they did with Wordcraft materials. Finally, 9% of the 1F, Section B, SSR Group thought that they “learned less words than usual,” when using Wordcraft lessons. None of the students in 1E, Section B, ALM Group thought so.

Questions 24 and 25 asked students which materials and methods did they think helped them more in their learning of new English words. In answer to Question 24, 80% of all the students combined from all four groups felt that the Wordcraft materials helped them to “learn more new vocabulary words” than the regular A Beka texts. On the other hand, 20% believed that these A Beka texts helped them to learn more new English words than the Wordcraft materials did. When asked related Question 25, “Which style of learning using Wordcraft materials do you think helped you to learn more new English words?” students answered as follows:

(a) 23% chose “Reading Wordcraft stories SILENTLY by myself,”

(b) 23.75% chose Reading Wordcraft stories ORALLY in class as a group together,”

(c) 26.25% Chose “Reading WHILE LISTENING TO TAPES of the story at the same time,”
using the Audio-Lingual Method,

(d) 23.5% chose “USING A COMPUTER to read and hear stories on a screen, while using the keyboard to choose new words and exercises at my own pace,” using the CAI Method.

Finally, about three to five percent also chose either Answer e or f:

(e) “Integrating Wordcraft materials with class ORAL DISCUSSION. Not only reading or hearing stories, but also discussing them together orally, before and/or after reading them.”

(f) “INTEGRATED FOUR SKILLS: Not only reading, hearing and discussing Wordcraft stories, but also writing our own creative Vocabulary Stories, using the same 50 new vocabulary words after completing each 5 Lesson Unit.” Among the five percent who chose one of these more integrated skills answers (e or f), were some of the best readers in the class.

The final question asked students to comment on whether Wordcraft vocabulary development materials seemed to be “suitable for your own interest and ability level.” Only 1% of all the students said that she felt these materials were “too easy, not interesting or suitable.” Three-fourths of all the students, or 74.25%, stated that Wordcraft materials were “about as good as any other reading materials for me.” Just

over one out of five students, or 21.25%, felt that Wordcraft materials were “better or more suitable for me than ordinary class materials.” This concludes the survey results.

The variety of learner styles, preferences, and other motivational factors seem to be so diverse that they would be hard to evaluate in any objective manner. This study’s “English Interest Survey,” showed a variety of opinions among students using three different types of software, when compared with traditional workbooks or using the aid of cassette tapes following the Audio-Lingual Method. “Instrumental, Integrative, and Task Motivation” types were also discussed. A very recent challenge to Gardner and Lambert’s two original types of motivation groups was given by Nakata, in his “New Goals for Japanese Learners of English.”¹² This was a study of advanced Japanese students studying English in Saint Michael’s College in Vermont, a graduate school master’s program in the Teaching of English as a Second Language. In his study of attitudes and language use among these advanced level Japanese English major students, Nakata did two surveys in 1992 and 1993. Nakata’s questions focused on their reasons for using English or Japanese in various situations. The results obtained in these surveys led him to question theories such as Gardner and Lambert’s, which “suggest that it is impossible to become a successful language learner while maintaining one’s L1 identity.” Thus he proposes a third model of Second Language Acquisition, “which places considerable emphasis on individual differences and changes in self identity,”¹³ which many language learners seem to go through in the process of acquiring a second language.

Nakata calls his model the “Internationalization Model of Motivation” (see Figure 11), which proposes that rather than complete accommodation to the culture of the target language country and people, “a better goal for SLA might be the development of an international outlook that allows the learner to see the strengths and weaknesses of both the target culture and [of his own native] L1 culture.”¹⁴ In his words,

I believe that the group of internationally-minded learners who did not use English with their countrymen, which my second survey discovered, may be indicative of the emergence of a new

¹²Yoshiyuki Nakata, “New Goals for Japanese Learners of English,” *Language Teacher* 19, no. 5 (May 1995): 17-20.

¹³*Ibid.*, 17.

¹⁴*Ibid.*

kind of Japanese language learner, and that such internationally-minded persons could possibly mediate between Gardner and Lambert's two groups . . . I suggest a number of ways in which teachers can help their students avoid the extremes of both of Gardner and Lambert's groups, and thus maintain the positive aspects of their L1 [first/ native language] identity, while acquiring a high degree of proficiency in their L2 [second or target language] . . . the language teacher . . . serve[s] as a role model to influence students' images of the L2 and enhance their motivation to learn it. Teachers can help that experience become one of increased cultural awareness and self-awareness for the learner (Valdes, 1986). Teachers can also act as therapists, helping learners to move through the stages of acculturation and achieve a healthy acculturation . . . We should eliminate their stereotypes about the L2 and enhance their cultural awareness of both their L1 and L2 cultures, while fostering their development of a new [international] identity which is flexible enough to accommodate any culture. ¹⁵

While a global worldview and concern is very valuable, and an important part of being a truly "world Christian," there is a clear difference between being flexible enough to understand aspects of any culture, and accommodating or compromising one's own beliefs and values. Personal loyalty and patriotism to one's own country are values to be upheld, and not derided in language teaching that is truly respectful of other cultures, rather than trying to propagate a new "one-world" ideology, as some language teachers do.

A Comparison of Vocabulary-Training Materials

Although Moore's CAI "Shinbun, Shinbun" vocabulary activities were judged to be fairly entertaining by about one third or thirty percent of these junior college students, the program's word lists were too limited and elementary to encourage rapid and extensive vocabulary development on the part of college English majors. In short, such materials do not teach enough new words, or have a heavy enough "learning burden" to challenge Japanese young adults who are already in their seventh year of English instruction.

Crow's "Semantic Field Approach,"¹⁶ on the other hand, does present a much heavier and more challenging learning burden. It is thus far more appropriate for Japanese college English majors. One unit from his book was taught using the three different media under consideration in this study: (1) Text-based, (2) ALM, and (3) CAI.

¹⁵Ibid., 17-18.

¹⁶Crow, Vocabulary for Advanced Reading Comprehension: The Keyword Approach.

Each unit of Crow's text, Vocabulary for Advanced Reading Comprehension: The Keyword Approach, contains 36 Keywords, divided into three groups of 12 Keywords each. Each Keyword is grouped with five other words having a similar or related meaning. This comes to a total of 180 words per chapter. There are about 15-17 Vocabulary Exercises per chapter. Each section of Unit Two on History terms was presented to both Reading class 1E and 1F as a whole, by using the three different media under consideration in this study. Keyword Groups 1-12 were taught using the ALM Method. Keyword Groups 13-24 were taught using the CAI Method. Finally, Keyword Groups 25-36 were taught using the Text-based Method.

In sum, although the Keyword Method is not magic, it does seem to improve students' retention of new vocabulary words over the long-term. As Crow and Quigley concluded from their study, "The long-range results . . . lend support . . . to the hypothesis that a semantic field approach is a more effective builder of passive vocabulary. In addition, student reaction to the Keyword Method was surveyed and found to be overwhelmingly positive." ¹⁷

Over three fourths of the students involved in their study preferred the Keyword Method to traditional vocabulary building. Students considered it to be both easier and better for learning more vocabulary than previous traditional methods to which they had been exposed. In the present study there was little time for a detailed testing of this approach. However, 110 Japanese college students (in Loucky's two Rapid Reading classes E and F) had the following results, when each of them used the Keyword Method to learn new groups of vocabulary words using the same three different instructional media.

Average learning rates using three instructional vocabulary-training media were as follows:

I. Keyword Groups 1-12 (using the ALM Method):

- | | |
|------------------------|------------------------|
| A. Class 1F, A--81% | B. Class 1F, B--61.04% |
| C. Class 1E, A--80.04% | D. Class 1E, B--79.7% |

II. Keyword Groups 13-24 (using the CAI Method):

- | | |
|------------------------|------------------------|
| A. Class 1F, A--70.83% | B. Class 1F, B--60.39% |
| C. Class 1E, A--69.54% | D. Class 1E, B--71.1% |

¹⁷Crow and Quigley, "Semantic Field Approach to Passive Vocabulary Acquisition for Reading Comprehension," 510.

III. Keyword Groups 25-36 (using the Text-based Method):

- | | |
|------------------------|------------------------|
| A. Class IF, A--64.04% | B. Class IF, B--58.7% |
| C. Class IE, A--71.73% | D. Class IE, B--69.46% |

Total average percentage of "Keywords" learned for each group were: A. Class IF, A--73.76%; B. Class IF, B--61.85%; C. Class IE, A--75.75%; and D. Class IE, B--73.48%.

Among added research questions suggested by Crow and Quigley, their fourth question seems most relevant to this study. "Is there a more effective way of teaching vocabulary by Semantic Field Associations than that emphasized in this study?"¹⁸ This present study has suggested that perhaps using computers as a major teaching medium could be a more effective means of teaching or learning new foreign language vocabulary. Such an approach would use a combination of (a) multimedia software, with which students can read, hear and see new vocabulary simultaneously, presented in (b) a variety of interesting new contexts, and using (c) a Semantic Field or Keyword Approach, such as that suggested by Crow.

Finally, of great interest to English Education in Japan is the question "How can students both learn new foreign language vocabulary more quickly, and also learn to more efficiently transfer it from passive into active use?" Improving one's rate of learning new words would include both increasing (a) one's rate of exposure and acquisition, and also (b) one's rate and range of retention of new word meanings. The findings of this extensive study encourage the author to strongly suggest the development and use of such extensive computerized vocabulary development programs.

Thus, a Semantic Field Approach to vocabulary training holds great promise, especially if it can be combined more systematically with both educationally and linguistically well-designed interactive CAI software. This seems to be one of the major challenges and tasks facing those involved in English Education today. As new vocabulary-training software is designed, it should build based upon these findings, using associative networks of meaning, just as the mind naturally works. Indeed,

Learning theorists have pointed out for years that long-term retrieval of information that has been organized into some type of cognitive categories is superior to retrieval of randomly presented material. This research lends tentative support to an approach that is more in keeping with our

¹⁸Ibid.

understanding of how the human mind works: [by using] a semantic field approach to passive vocabulary [acquisition].¹⁹

This research has been an attempt to isolate some factors necessary to consider and incorporate in order to design a beneficial and effective ESL/EFL Reading and Listening Program that can help language learners to maximize their vocabulary learning and use. Only by both isolating and then better integrating factors which will facilitate more rapid acquisition of essential target language vocabulary, idioms and phrases, can students be best helped along the road to more independent language learning skills and strategies, and thereby to greater maturity and fluency, which is the ultimate goal of Second Language Acquisition after all.

Unless Japanese students of English are helped to master the English phonetic system earlier and in a more systematic way, and unless they are also taught how to keep on adding to both their active and passive English vocabulary, comprehension, and speed-reading skills, relatively few will attain high levels of English fluency, particularly in the area of reading, but also extending to the other four communication skills as well. High levels of English fluency were earlier defined as "Level 5 Proficiency Level," or having the ability to attain high scores on such tests as the TOEFL, TOEIC, or EIKEN language tests.

In addition, the vast potential of CAI for both native and foreign language development must be recognized, learned, and used by teachers as much as possible. New teacher education programs generally include courses in computerized "Instructional Technology." Teachers need training from specialists in this field, so they can better use the benefits of modern technology for improving instruction, motivation and learning in every field, including language arts, reading and foreign language learning.

Shannon discussed new trends and procedures for "Using the Microcomputer Environment for Reading Diagnosis."²⁰ He thoroughly reviews both current and potential roles of computers for reading and language arts diagnosis and instruction, allowing students to engage in four language generating activities:

¹⁹Ibid.

²⁰Albert J. Shannon, "Using the Microcomputer Environment for Reading Diagnosis," in Reexamining Reading Diagnosis: New Trends and Procedures, ed. Susan Mandel Glazer, Lyndon W. Searfoss, and Lance M. Gentile, 150-68. (Newark, Del.: International Reading Association, 1990).

(1) drill and practice, (2) tutorial, (3) adventure/simulation, or problem-solving, and (4) composing/writing.

Each of these environments provides opportunities to diagnose students' language fluency, composing abilities, expression of self-concept, view of the world, and story sense. Each of these aspects is viewed as an important area of concern for reading diagnosis according to the model presented. [Shannon's] goal will be to define these settings, to offer practical guidelines for the observation and recording of language behaviors in these settings, and to provide instructional suggestions based on the diagnosis of language behaviors in these environments.²¹

Shannon also predicts and recommends future development of computers for better language/reading diagnosis and instruction by the use of (a) voice recognition, (b) voice synthesis, and (c) artificial intelligence systems. To these one should add the vast and varied potential of (1) computerized Instructional Technology (IT) using full fiber optic Internet access; (2) large-scale IT network systems; (3) real-time Distance Education (DE); (4) Multimedia and Hypermedia language environments; and (5) various other uses of modern telecommunications for education, such as image scanners, translators, and optical character recognition devices for exchange of information files between students, teachers, schools and countries.

Using multiple mediums of instructional delivery can certainly help to increase motivation and facilitate learning, especially when based upon sound learning theories and educational principles, and not just for entertainment. Innovative specialists in Instructional Technology can help other teachers learn how to better integrate the best resources available on Internet's international information highway into the curriculum, further enriching and enlivening classroom learning in all fields, including language education. Along with global issues of peace and the desperate need for better moral education, this will probably be the major educational challenge of the twenty-first century.

²¹Ibid., 151.

CHAPTER FIVE:
RECOMMENDATIONS

Pedagogical Implications

Pedagogical applications based on the findings of this study are quite clear, namely, that the following type of reading instruction appears to better help Japanese college students develop their English vocabulary and reading skills most rapidly. Reading instruction that helps to facilitate more rapid acquisition of English vocabulary and reading skills is more intensive, concentrated instruction stressing the areas of: 1) rapid vocabulary development skills, strategies, and multisensory methods and materials, as well as 2) intensive comprehension and speed-building exercises. In addition, intensive, well-integrated second language reading instruction seems to benefit from the addition and application of challenging and relevant CAI and ALM language-learning software, when it is at appropriate instructional reading and listening levels for the ESL or EFL students concerned.

Although the original Wordcraft study was a relatively short-term treatment, consisting of only five lessons learned over a period of two to four weeks, these four Rapid Reading classes were evaluated and compared based on pre- and posttests given at the beginning and end of the ten-month Japanese college academic year. The author's E and F Classes were also studied in much more detail throughout the year, using a variety of other reading methods and materials. These included other vocabulary-training materials, speed and comprehension exercise workbooks, and graded readers for extensive reading outside of class.

Wordcraft lessons 1-5 included stories on the following innovative people: (1) Charles Lindbergh, (2) Thomas Edison, (3) Louis Pasteur, (4) Dr. Elizabeth Blackwell, and (5) Dr. Dan Williams. Each lesson repeated story lines twice, giving vocabulary word definitions the second time. Sample lessons of instructional software used by the writer's Rapid Reading classes in this study are included in Appendix C of this work.

Class E and F students all got to use several other CAI software programs focusing on vocabulary development, namely "Shinbun Lite," "Shinbun! Shinbun!" and "Crow's Semantic Field Exercises." They also used ALM tapes for lessons 6-30 of Wordcraft, Book I, and for five other lessons from Crow's Vocabulary for Advanced Reading Comprehension, Chapter 2, "History," Exercises 1-5. Thus, they had much more varied input, as well as a larger quantity of words and pages assigned than did the mostly text-based classes C and D, which were mainly limited to their two shorter textbooks. One of these texts taught the correct grammatical use of basic English idioms. Although idiomatic expressions are a part of the field of vocabulary, such a text is more grammar-based, and does not seem to help extend and expand foreign language learner's knowledge of more word meanings as rapidly and broadly as possible.

The findings of this study are in line with currently accepted theories of Second Language Acquisition, especially both Krashen's (1980) Input Hypothesis theory,¹ which has more recently been modified by Long's theory of Negotiated Interaction (1981).² Krashen first claimed that comprehensible input is necessary for any new language acquisition. To this claim, Long added a second, namely that "modifications to the interactional structure of conversations in the process of negotiating solutions to communication problems help make input [more] comprehensible to the learner."³ Since Long argued reasonably that negotiated interaction is especially important in language acquisition, Ellis proposed to test this Interaction Hypothesis by examining two relationships of direct relevance to this study: (a) whether negotiated modification of conversation, or reading passage input leads to more comprehensible input, and (b) whether students having access to more comprehensible input leads to more rapid language acquisition.

¹Stephen D. Krashen, "The Theoretical and Practical Relevance of Simple Codes in Second Language Acquisition," in Research in Second Language Acquisition, ed. R. C. Scarcella and S. D. Krashen (Rowley, Mass.: Newbury House, 1980), 7-18.

²M. H. Long, "Input, interaction and second language acquisition, in Native Language and Foreign Language Acquisition, ed. H. Winitz (New York: Annals of the New York Academy of Sciences 379, 1981), 259-78.

³Ellis, Tanaka, and Yamazaki, "Classroom Interaction, Comprehension, and the Acquisition of L2 Word Meanings," 449-91.

Recommendations from Most Recent Studies in Japan

In Ellis's most recent study with Tanaka and Yamazaki,⁴ two schools in Japan were considered, one in Saitama and one in Tokyo. They sought to design a study to investigate whether giving language learners more opportunities to negotiate unknown meanings would help set up the conditions necessary for more language acquisition to take place. In particular, they studied the field of vocabulary learning, stating that although learners may not be aware of a grammatical source of incomprehension, "they are much more likely to recognize a lexical source and therefore seek clarification of its meaning. In fact, . . . the problem source is often lexical."⁵ Hence, more detailed studies such as these are needed to see how to encourage both new vocabulary learning, as well as more active use of new lexical items in other L2 communication.

Future Recommended Studies

Several important factors necessary for developing reading proficiency in a second language seem to be suggested by this study. These factors could also prove to be "predictors of success in Second Language Acquisition," upon further study. They include (a) ability to concentrate, (b) ability to anticipate contextually appropriate vocabulary and structure when reading or listening to discourse, (c) L2 vocabulary level, learning strategies and rate of both exposure and improvement or acquisition, (d) speed and accuracy of comprehension, (e) thinking and reasoning skills, (f) knowledge of English grammar and rhetorical organization of written discourse, (g) degree and type of language-learning motivation, (h) L1 or native language levels of skill or fluency in each area of communication. Reading skills are known to transfer more readily to a second language setting than do writing skills, often because discourse styles differ with different cultures and languages. In short, these reading skills and strategies need to be taught more (1) intensively, (2) explicitly, (3) interactively, and also (4) be integrated with other communication skill areas. Reading researchers tend to divide the complex component of skills used in reading into six areas:

1. Automatic recognition skills
2. Vocabulary and structural knowledge
3. Formal discourse structure knowledge

⁴Ibid.

⁵Ibid., 456-57.

4. Content/world background knowledge
5. Synthesis and evaluation skills/strategies
6. Metacognitive knowledge and skills monitoring⁶

Obviously critical to fluent reading in any language are one's knowledge of the language's vocabulary and grammatical structures. In Grabe's words,

Vocabulary knowledge has similarly come to be recognized as a critical feature of reading ability (Koda, 1989; McKeown & Curtis, 1987; Nagy, 1988; Nation & Coady, 1988; Stanovich, 1986; Strother & Ulijin, 1987). In first language reading, researchers have estimated recognition vocabularies of fluent readers to range from 10,000 words to 100,000 words (Anderson & Freebody, 1981; Chall, 1987; Nagy & Herman, 1987). Vocabulary discussions in second language reading argue for far lower total number of words, often positing 2,000-7,000 words (Coady, 1983; Kyongho & Nation, 1989; Nation, 1980; Swaffer, 1988). The need to read fluently, in a manner similar to a good L1 reader, would seem to require a knowledge of vocabulary more in line with the larger estimates for first language readers (Cf. Beck, McKeown, & Omanson, 1987; Goulden, Nation, & Read, 1990). The consequence of these arguments is that **FLUENT READERS NEED A SOUND KNOWLEDGE OF LANGUAGE STRUCTURE AND A LARGE RECOGNITION VOCABULARY.**⁷ [author's emphasis]

Since almost all second language reading researchers agree that "vocabulary development is a critical component of reading comprehension,"⁸ the educational issue then becomes how to provide academically oriented second language students with a large recognition vocabulary as rapidly as possible. This study has already recommended use of such advanced vocabulary lists as International Christian University's "English for Academic Purposes List," and the development of more intensive computerized vocabulary training programs at appropriate instructional levels to challenge and assist language learners build their target language lexicons as quickly as possible. New vocabulary should be both contextualized and integrated with other language skills as much as possible. Several computerized programs will be recommended later.

More studies of vocabulary acquisition should be done similar to the recent study of Ellis, Rod, Tanaka, Yoshihiro, and Asako Yamazaki, entitled "Classroom Interaction, Comprehension, and the

⁶Grabe, "Current Developments in Second Language Reading Research," 379.

⁷Ibid., 380.

⁸Ibid., 392-93.

Acquisition of L2 Word Meanings.”⁹ It investigated vocabulary learning at two Japanese high schools. Their study tried to find out if there was any advantage for students to receive premodified or interactionally modified input about new English vocabulary having to do with kitchen utensils and locations, over having no explanation, simplification or modification of new vocabulary input. They sought to determine if having more modified or explained input would help to improve students’ comprehension and vocabulary learning. Their main findings were that:

- a) interactionally modified input resulted in better comprehension than premodified input,
- b) interactionally modified input led to more new words being acquired than premodified input,
- c) learners who actively participated in negotiating meaning did not understand any better than those simply exposed to modified interaction, and d) the active participators did not learn more new words.¹⁰

Both premodified and interactionally modified groups performed significantly better on three vocabulary tests than nonmodified baseline groups. This study showed that students having access to modified input which clearly explained difficult items gave them an advantage in learning and remembering new vocabulary, over both the short and longterm. The comparisons between pre- and interactionally modified groups were not so clear, however, since “the group receiving interactionally modified input outscored that receiving premodified input in vocabulary acquisition, but only in the short term.”¹¹ This led these three researchers to conclude that “it appears that those learners who engaged in active meaning negotiation did not enjoy a clear advantage in either comprehension or vocabulary acquisition over those who just listened.”¹²

Since only seven students actively engaged in trying to negotiate new word meanings in the above study, it seems that such a small sample may not be sufficient to warrant broad pedagogical conclusions. Japanese students tend to be too passive, not being trained to speak out, and often they have little chance to

⁹Ellis, Tanaka, and Yamazaki, “Classroom Interaction, Comprehension, and the Acquisition of L2 Word Meanings,” 449-91.

¹⁰Ibid., 449.

¹¹Ibid., 472-73.

¹²Ibid.

do so in large classes of forty to fifty students. It seems that they need to be encouraged and trained how to ask more questions about a foreign language, in order to make it more comprehensible to them. More detailed studies such as that of Ellis, Tanaka, and Yamazaki should be done, but with larger samples and more words. Also English-English translation rather than native translation (L2 rather than L1) of new lexical items should be encouraged, since the goal is Second Language Acquisition, after all.

From the results of their two vocabulary studies, Ellis, Tanaka and Yamazaki speculated that interactionally modified input seemed to help facilitate new vocabulary learning in these five ways:

1. Learners were able to pinpoint precisely the source of their comprehension difficulty. Because of the way the task was described, this was almost invariably the target items.
2. The learners were given multiple opportunities to hear the new items, which may have helped them develop auditory images of the new items [which were all concrete object nouns].
3. The learners had ample time to process the new items.
4. The learners were able to identify the meanings of the new items by relating the spoken forms to their pictorial referents (Krashen, 1985).
5. The long-term storage of these items may have been facilitated by having the learners carry out an action involving the items (Asher, 1977). That is, the act of responding nonverbally to a directive may help to 'fix' new items associated with the action in memory.¹³

Just as the researchers in the above study made no claim that the learners involved had fully acquired new vocabulary items, neither does the author of this study do so. This research study did find, however, that repeated exposure to unknown vocabulary in a variety of different contexts and with a variety of instructional media whenever possible, was sufficient to give these Japanese college students a knowledge of their word meanings. Although short-term studies did not always show a significant difference that could be attributed to the use of computerized media, over the long-term, students in classes using a greater variety of vocabulary instructional methods, media, and materials improved at a significantly higher rate than did students in traditional text-based classes.

¹³Ibid., 478-79.

Based on these findings, the following factors should be considered in any future studies attempting to isolate factors which help facilitate more rapid learning of second language vocabulary:

1. Student's initial reading levels, as well as both their vocabulary and comprehension levels relative to native reader norms;
2. Level of instructional materials, to be sure they fit the individual student's actual English reading instructional level;
3. Rate of presentation, number of presentations in different contexts, variety of instructional media and manner in which vocabulary-learning strategies are taught and practiced;
4. Students' degree of familiarity with the background knowledge necessary to understand the context of given reading passages;
5. Students' ability to anticipate and concentrate on the task of learning new word meanings;
6. Students' reading speed and knowledge of various reading strategies and reasoning skills, as well as patterns of textual organization needed to comprehend correctly;
7. Which words should be targeted for Active Vocabulary use versus those which may be only learned and added to Passive Vocabulary;
8. What teaching and learning practices help to better integrate words learned in second language reading or listening classes into more active use in other communication skill areas?
9. What types of dictionaries and dictionary skills do students need, use and possess? What percentage of the words taught in junior and senior high are still remembered by students upon entrance into college? How can this percentage and number of words be increased, and put to more communicative use earlier in Japanese students' educational experience? Finally,
10. How can more CAI software and CD-ROM English data banks and activities be brought into wider and more extensive use across the country to help students to become more bilingual, and the country to become more internationalized at a faster pace than at present?

All of the above are very important factors to consider, not only when doing research studies, but also when designing and evaluating the vocabulary component of any ESL/EFL Program. In addition, Nation suggests these seven guiding questions to consider:

- 1) Does the teacher know what the learners' vocabulary level [s] and needs are?

- 2) Is the program focusing appropriately on the appropriate level of vocabulary?
- 3) Is the vocabulary helpfully sequenced?
- 4) Are the skill activities designed to help vocabulary learning?
- 5) Is there suitable proportion of opportunities to develop fluency with known vocabulary? [are there chances to transfer new words into active use]
- 6) Does the presentation of vocabulary help learning? [of content areas]
[Finally, is there enough individualized immediate feedback, or]
- 7) Are the learners excited [and informed] about their progress? ¹⁴

Many excellent suggestions are given by Nation for vocabulary training activities, as well as ways in which teachers can better look for and include these important factors in ESL/EFL learning.

Language teachers must become more aware of the importance of helping language learners to rapidly develop specific reading and listening strategies along with expressive skills, and aim to use CAI for more innovative and intensive vocabulary and language education.

Specific Recommendations Concerning Vocabulary Training Methods,
Materials and Fruitful Areas for Future Research

Based on the findings of this study, EFL students seem to benefit from using a variety of media, with balanced, well-integrated, four-skills instruction to expand their target language vocabulary. Other research shows that giving “written input to speaking tasks can have a major effect on vocabulary learning.”¹⁵ It is also important to remember that vocabulary acquisition involves several steps. Figuring out or getting the meaning of unknown words does not mean one will automatically remember that new word’s meaning. Nation points out that three important processes can lead to a new word being remembered long-term, or actual vocabulary acquisition. These include (1) Noticing, (2) Retrieving, and (3) Generative Processing.¹⁶

When students can be observed actually searching for or negotiating the meaning of unknown words, this shows they notice a particular word or phrase, and realize that there is a gap in their knowledge. Nation has found that “items which were negotiated had a much greater chance of being learned than items

¹⁴Paul Nation, New Ways in Teaching Vocabulary (Alexandria, Va.: TESOL, 1994), vi.

¹⁵Paul Nation, “Vocabulary Learning through Spoken Use,” (Eighth Japan Association of Applied Linguistics, JACET National Research Meeting, Tokyo, 3 December 1994, mimeographed).

¹⁶Ibid.

ly, "when learners interact with native speakers or other learners, they often experience considerable difficulty in communicating. This leads to substantial interactional efforts by the conversational partners to secure mutual understanding."¹⁸ This communicative interchange is often called the 'negotiation of meaning.'

Teachers can greatly influence which vocabulary items are noticed by intentionally preteaching new words before a reading activity, or by guiding students to search for or negotiate the meaning of unknown vocabulary while reading. Simply training language learners to underline and ask for unknown meanings seems to be more communicative than just referring them to a dictionary alone. Many Japanese students either do not bring or do not use a dictionary, and even when they do it is often not an English-English dictionary, or is limited to going only one way, either from English to Japanese or vice versa. Encouraging and training language learners to seek new word meanings actively and orally would help both students and teachers to communicate more effectively. Negotiation of meanings between partners, within a group, or directly with a teacher are all possible means of deriving new word meanings, which can help encourage more interactive communication. This seems to aid in recall, especially if language learners are encouraged to immediately write down these meanings, preferably in the Target Language (L2).

Further research should be directed at identifying and analyzing specific factors which help to increase both a) amount and manner of negotiation of new word meanings, b) rate of new vocabulary acquisition, and c) degree of subsequent recall. Specifically, how many previously unknown words are actively negotiated by each student, and what means are provided by teacher, or instructional materials to encourage such learning to take place? CAI software can be designed to record how often a particular student asks for clarification or feedback on meanings.

The second factor to be considered and compared is how word meanings are retrieved. Nation points out that whether word meanings are retrieved receptively or productively during a communicative task, the memory of that word will be strengthened thereby. To compare, receptive retrieval involves perceiving a word's form and meaning when the word is met in listening or reading, whereas "productive retrieval involves wishing to communicate the meaning of the word and having to retrieve its spoken or

¹⁸Ellis, Understanding Second Language Acquisition, 301.

written form as in speaking or writing.”¹⁹ In agreement with this study’s original assumptions, Nation also recommends an integrated, four-skills approach to teaching and learning new vocabulary. He states:

Teachers can design retrieval into speaking activities by making it necessary for the learners to reuse the words that occurred in the textual input. This can be done by making the task involve a procedure whereby the same material has to be discussed or presented several times through a change in group membership . . . or by making the solution to the task involve considerable discussion of the information provided in the textual input as in a problem-solving discussion.²⁰

The central purpose of this research concerned examining the development of English (L2) Reading skills among Japanese college students, looking specifically at the area of vocabulary training methods and materials and how these can be improved. With this objective clearly in mind, both general and specific factors to consider when developing the vocabulary component of a language course will now be given.

Five Major Components Crucial to Consider for any ESL/EFL Vocabulary Development Program

According to one of the latest TESOL texts, New Ways in Teaching Vocabulary, the vocabulary component of a language course should be carefully planned ahead of time for the following reasons.

Firstly, because different vocabulary gives greatly different returns for learning, it is important to make sure that the learners have good control of the high frequency words of the language before moving on to the less frequent vocabulary . . . Secondly, most language teaching courses make vocabulary learning more difficult than it should be as a result of the way vocabulary in the course is sequenced. [or due to lack of any intentional, naturally sequenced development of vocabulary!] . . . Thirdly, vocabulary learning opportunities and the quality of vocabulary learning can be greatly increased through the careful design of both vocabulary and other skill activities . . . ²¹

New vocabulary can be met in various communicative activities, but most likely will come to language learners’ attention when new words are met either in listening or reading contexts. The written explanations of these language activities become very important channels for vocabulary instruction. Teachers must therefore carefully consider how to best represent new vocabulary input so as to make it most

¹⁹Nation, “Vocabulary Learning through Spoken Use.”

²⁰Ibid.

²¹Paul Nation, (ed.), New Ways in Teaching Vocabulary. (Alexandria, Va.: TESOL, 1994), iv.

easily remembered in terms of visual representation (both graphic and schematic arrangement, known as "Concept Mapping"), and also in terms of auditory memory cues.

With today's "multimedia power personal computers," the use of moving video pictures as well as still graphic images can help to make learning much more vivid and memorable. Also students can use computers to record or hear digitally recorded sound representations of any text simultaneously. They can even be taught how to record their own voices to compare them with native intonation and pronunciation, seeing their own voice's wavelengths! This is done when creating individual student Reading Profiles, such as the Grady Profile does.²²

When evaluating the vocabulary component of an ESL/EFL program, three areas should be considered: (1) what to look for, (2) how to look for it, and (3) how to include it in a more effective vocabulary instruction and learning program. Figure 12 can be a good basis for such evaluation, to help teachers develop a more effective ESL/EFL Vocabulary Development Program. This figure's suggestions were first presented in Nation's 1994 text, entitled New Ways in Teaching Vocabulary.²³

Although there are many other important areas to consider when one contemplates vocabulary development in an ESL/EFL program, these five major components are crucial: "1) Meeting new vocabulary for the first time; 2) Establishing previously met vocabulary; 3) Enriching previously met vocabulary; 4) Developing vocabulary strategies; and 5) Developing fluency with known vocabulary."²⁴ These are summarized below.

1) Meeting new vocabulary for the first time--Besides meeting new words in formal class presentations, language learners most often meet new vocabulary through extensive reading and extensive listening activities. Some listen to English tapes, music, radio or T.V. programs, or English news or movie videos even outside of class. Extensive Reading by definition encourages broader reading for pleasure. As Nation characterizes this, "During extensive reading, including reading of simplified texts or

²²Grady Profile, Aurbach & Associates Software, Kansas City, Mo., 1991.

²³Nation, New Ways in Teaching Vocabulary, vi.

²⁴Ibid., v.

graded readers, new words should not be met at a rate greater than one or two new words per hundred known running words if learners are to gain pleasure from reading" [similar to their Independent Reading Level].²⁵

One can combine this recommendation with Betts' three reading levels to design three "Reading Level Guidelines for ESL/EFL Students," namely: I. Independent Level--Only 1-2 new words per 100 words of text; II. Instructional Level--Only 3-5 new words per 100 running words; and III. Frustration Level--Avoid more than 5 unknown words per 100.

Elley found that students often enjoy learning new words through the context of listening to stories.²⁶ Such an enjoyable activity can be a "useful means of vocabulary learning, particularly if the person reading aloud or telling the story gives the new words a little attention such as briefly explaining them or noting them on the board without interrupting the story too much."²⁷

2) Establishing Previously Met Vocabulary--Beyond first meeting with new words, language learners especially need repeated meetings with new words both in order to fix the new meanings into their Passive Vocabulary memories, and also to add these new meanings to their Active Vocabularies through actual expressive use. The teacher or vocabulary materials developer needs to build 'spaced repetition of target vocabulary' into the course materials. They need to make sure that such target vocabulary is established, so that time and effort originally spent on presenting new words in the first place is not "wasted through the absence of later attention,"²⁸ as Nation cautions. He also gives three excellent practical suggestions any teacher can use to improve their teaching of new vocabulary words. These are

²⁵Ibid., vi-vii.

²⁶W. B. Elley, "Vocabulary Acquisition from Listening to Stories," Reading Research Quarterly 24, no. 2 (1989): 174-87.

²⁷Nation, New Ways in Teaching Vocabulary, vii.

²⁸Ibid.

"1) by setting aside class time for revision [review], for example reviewing learners' vocabulary notebooks;
2) by periodically and systematically testing previously met vocabulary and following up on the results; and
3) by planning the recycling of previously met vocabulary through pair and group activities."²⁹

3) Enriching previously met vocabulary--Because there are so many things to learn about any new word, teachers need to help students distinguish between infrequent, less important words that can be guessed from context or given in a note, and frequent, important new words to learn by preselecting them for study or review. A variety of new contexts is best for learning and fixing important new word meanings.

4) Developing vocabulary strategies--From the time students begin to learn a new foreign language, they should be taught both word-decoding skills and also vocabulary recognition skills. It is only upon these foundational building blocks that any comprehension and critical reasoning skills can be built. Far too many Japanese students have not developed fluent phonetic skills or sufficient vocabulary necessary to be able to read orally with any degree of natural expression or fluency, or silently with an adequate speed or rate necessary for comprehending academic English. As Nation suggests, language learners need "to be able to use strategies to cope with unknown vocabulary met in listening or reading texts, to make up for gaps in productive vocabulary in speaking or writing, to gain fluency in using known vocabulary, and to learn new words in isolation."³⁰

5) Developing fluency with known vocabulary--The key to developing fluency in another language seems to be to MAXIMIZE OPPORTUNITIES FOR ACTIVE AND MEANINGFUL USE OF NEW VOCABULARY IN ACTUAL COMMUNICATIVE TASKS. These language learning tasks should stress the exchange of actual meaning in active communication, but not be too difficult intellectually. Finding the proper balance between language learning goals and course content objectives is a constant challenge for those teaching English for academic or special purposes. Nevertheless, the level, interest, and ability of each student must first be ascertained, and then always kept in mind to help them make maximum progress. In the end, even vocabulary learning is an individual thing, with each student having a different word bank

²⁹Ibid., vii-viii.

³⁰Ibid., viii.

and level of reading and vocabulary strategy skills. But unless teachers actively teach and test these skills, language learners will continue to be deprived of the most important tools for language development.

Nation states:

Vocabulary learning is not an end in itself. A rich vocabulary makes the skills of listening, speaking, reading, and writing easier to perform. Learners' growth in vocabulary must be accompanied by opportunities to become fluent with that vocabulary. This fluency can be partly achieved through activities that lead to the establishment and enrichment of vocabulary knowledge, but the essential element in developing fluency lies in the opportunity for meaningful use of vocabulary in tasks with a low cognitive load.³¹

Thus, beyond using the benefits of Computer-Assisted Instruction to help ESL/EFL students to more rapidly expand their Target Language vocabulary, ACTIVE, PRODUCTIVE, AND EXPRESSIVE USE of new terms and phrases must be stressed. Since the key to developing fluency in another language involves using the Target Language in actual communicative tasks, language teachers should emphasize learning tasks which stress the exchange of actual meaning in active communication as much and as often as possible. This step of vocabulary learning is called "generative processing," which, as Nation points out, can be either receptive or productive.³² By definition, a word is used "generatively" when there is some creative verbal production, which involves "producing new ways of using the wanted vocabulary in new contexts."³³ In other words, the new word or phrase is used generatively in a productive manner if "it is used in speaking [or writing] in a way which is different from its use in the textual input. Receptive [generative] use [on the other hand] involves meeting the word in new contexts,"³⁴ as students did with Wordcraft lesson words, seeing them in three new settings on A, B, C Quizzes in different contexts.

³¹Ibid.

³²Nation, "Vocabulary Learning through Spoken Use," 1.

³³Ibid.

³⁴Ibid.

Joe found that students' degree of productive generation of new vocabulary in new contexts was closely related to their amount of learning gained from retelling tasks.³⁵ These findings, as well as those of this study, suggest that teachers can encourage more productive use of new vocabulary by "requiring retelling of the written input from a different focus [for example, by using a different grammatical tense or person], by distributing the information in a way that encourages negotiation [of new meanings], and by requiring learners to reconstruct what was in the text rather than [merely] repeat it."³⁶

Tinkham compared Japanese and American students' "Rote Learning, Attitudes, and Abilities."³⁷ He was trying to investigate any differences in their attitudes toward rote learning and more creative learning styles, by comparing their performances on similar rote learning tasks. He found significant differences in Japanese and American high school students' attitudes and performances relative to rote learning. Simply stated, he concluded that

Japanese students also perform significantly better both recalling and recognizing new words in a new language. The attitudes of Japanese students towards the free production of a short description in a new language, while averaging less positive than those of the Americans, were not significantly different. In light of the above, this writer believes that ESL/EFL teachers and curriculum developers should realize that many students are very good at rote learning and even appear to enjoy it. Consequently, instead of designing and teaching materials that reflect only culturally bound strengths and attitudes, educators should take into consideration the strengths and attitudes of their students and take advantage of what those students bring into the classroom.³⁸

Although rote learning is still popular and effective at times in helping students to learn a fairly large number of words rapidly, Manginn points out that "rote learning seems unlikely to provide the deeper-level semantic processing which would commit most lexical items to long-term memory."³⁹ In support of

³⁵A. Joe, "The Effect of Text-based Tasks on Incidental Vocabulary Learning" (M. A. thesis, Victoria University of Wellington, New Zealand, 1994).

³⁶Nation, "Vocabulary Learning through Spoken Use," 1.

³⁷Thomas Tinkham, "Rote Learning, Attitudes, and Abilities: A Comparison of Japanese and American Students," TESOL Quarterly 18, no. 2 (June 1984): appendix.

³⁸Ibid.

³⁹Steven Manginn, "Vocabulary--From Meaning to Meaningful," Language Teacher XIV, no. 7 (July 1990): 15-17.

this opinion, Gairns and Redman claimed that learning mere lists of translation equivalents might even “delay the process of establishing new semantic networks in a foreign language.”⁴⁰ They cited an experiment which gave thirty words to three groups of language learners, who were told to do different things with the words. It concluded that; “1) The intention to learn does not itself ensure that effective learning will occur. 2) Students are more likely to retain vocabulary if they are actively involved in a meaningful task that involves some kind of semantic processing and provides a unifying theme to facilitate organization in the memory.”⁴¹ [writer’s stress]

There are a broad range of activities which can be done to help language learners to develop their own English reading skills. In particular, both vocabulary development and comprehension learning strategies should be taught as much as possible. Research is starting to show that

such explicit training does indeed enhance ESL reading comprehension. . . Clearly a comprehensive instructional program in ESL [or EFL] reading comprehension should also include work in schema availability and schema activation (Carrell and Eisterhold, 1983), metacognitive training (e.g., inference-awareness, analogy), comprehension monitoring skills, decoding skills, and so on . . . Teaching the prototypical patterns of different texts would be inappropriate unless such instruction occurs in conjunction with helping students, in a number of ways, to acquire meaning from the text. ⁴²

Ellis, Tanaka, and Yamazaki also pointed out that merely “comprehending output does not guarantee the acquisition of new word meanings, as the processes of comprehension and acquisition are not identical. However, negotiated comprehension may facilitate acquisition because it induces learners to notice unknown items in the input.”⁴³

Clear pedagogical implications for ESL/EFL vocabulary development based upon this present study, as well as these other recent findings, would be that a variety of multi-media assisted instructional

⁴⁰R. Gairns and Michael McCarthy, Vocabulary and Language Teaching. (London: Longman, 1988), 93.

⁴¹Ibid.

⁴²Patricia L. Carrell, “Facilitating ESL Reading by Teaching Text Structure,” TESOL Quarterly 20, no. 1 (1986): 727-51.

⁴³Ellis et al., “Classroom Interaction,” 477.

materials, and a broader range of both interactive and communicative learning activities can certainly help to develop language learners' vocabulary more intensively, rapidly, effectively, and enjoyably. Supporting the use of a variety of such vocabulary-training activities, Manginn recommends that

... in classroom practice, vocabulary learning should be seen as a skill in its own right, involving a number of sub-skills, and that rather than rote memorization of word lists or noting synonyms, **STUDENTS NEED TO ENGAGE IN MEANINGFUL TASKS AND DO THINGS WITH WORDS.** Learner engagement in such activities will come through self-discovery, peer-learning, and enjoyable practice of vocabulary. ⁴⁴

Principles of Vocabulary Acquisition Summarized in Five Essential Steps

In 1988 Payne studied the vocabulary learning strategies of one hundred ESL students.⁴⁵ Based on an analysis of his study, Brown and Payne together found that their word-learning strategies seemed to fall into a model consisting of the following five essential steps (comparable to Nation's five steps earlier):

(1) having sources for encountering new words, (2) getting a clear image, either visual or auditory or both, for the forms of the new words, (3) learning the meaning of the words, (4) making a strong memory connection between the forms and meanings of the words, and (5) using the words.⁴⁶

Each of these essential steps to vocabulary learning represent what language learners must do at some level to develop a fully productive knowledge of new words which they encounter. These five steps are also well summarized by Hatch and Brown, in one of the latest summaries of this field of learning, entitled Vocabulary, Semantics, and Language Education.⁴⁷ There they thoroughly discuss all areas of vocabulary learning in a text of almost five hundred pages. Part V of their text is a summary section of

⁴⁴Manginn, "Vocabulary--From Meaning to Meaningful," 15.

⁴⁵M. E. Payne, "Vocabulary Learning Strategies Used by ESL Students and Their Relationship to Perceptual Learning Style Preferences," (M. A. thesis, Linguistics Department, Brigham Young University, Provo, Utah, 1988).

⁴⁶C. Brown and M. E. Payne, "Five Essential Steps of Processes in Vocabulary Learning," Paper presented at the TESOL Convention, Baltimore, 1994.

⁴⁷Evelyn Hatch, and Cheryl Brown, Vocabulary, Semantics, and Language Education (Cambridge: Cambridge University Press, 1995).

both vocabulary learning and teaching, consisting of two practical chapters on (1) general vocabulary learning and learner strategies, and (2) vocabulary pedagogy and teacher strategies which they encourage.⁴⁸

The core of their findings is the same. These five steps are essential to learning any new words or phrases in any language. Since they are such important steps, they should be known and practiced by language teachers and students as much and as often as possible. The more new vocabulary phrases and language forms one can move through each of these steps, the more one will learn and remember! These five steps rephrased are (1) encountering new words or phrases, (2) understanding the new word's form, (3) understanding the word's meaning(s) (which of course vary with different contexts and collocations), (4) remembering or consolidating a new word's form and meaning(s) in one's memory, and (5) using the word actively, especially in one's speaking or writing. These "Five Essential Steps to Learning New Words" are shown in Figure 13, adapted from Hatch and Brown's text.⁴⁹

Since one major goal of empirical science is to quantify in mathematically precise terms principles that are observed or discovered, the following operational definition of how new vocabulary learning seems to take place can now be offered: "Total Vocabulary Acquisition" (one may use TVA for short) Equals Maximization of Steps 1-4 above. Therefore one may also suggest that maximum TVA can be achieved by helping language learners to master and use as intensively as possible this total process, which seems to be present in all new vocabulary learning. In short, MAXIMIZE NEW WORDS FUNNELED THROUGH STEPS 1-4 TO ACHIEVE MAXIMUM TVA (Total Vocabulary Acquisition or new words learned).

Finally, this is most significant for both linguistic theory and educational practice, since the following general principle would seem to summarize how to help maximize vocabulary development for new language learners. Maximizing a student's TVA= [or can be best accomplished by] Maximizing Steps 1-4 shown in Figure 13. This means or entails more specifically that a language learner can best maximize his TVA by increasing the total amount of new words, phrases and structures that he can funnel through each of these steps of vocabulary acquisition given above. If language teachers were to really focus and

⁴⁸Ibid., 368-400.

⁴⁹Ibid., 374.

capitalize on the implications of this principle, it could help to create revolutionary gains in their students' vocabulary acquisition rates and levels both individually, and also in the field of foreign language education as a whole!

CAI's Potential for Future Success

CAI's potential for future success seems to depend on the following **FOUR MAJOR FACTORS**: (1) on the creativity of English language software developers, (2) on the willingness of ESL/EFL teachers to learn to use this new computer software, (3) on financial constraints limiting availability of computerized language software, and (4) on the motivation levels of students to use these new methods and materials.

Terhune and Moore's study suggested a balance of instructional approaches between Computer-Assisted and traditional classroom or text-based methods. This study found that a similar balance was preferred by this researcher's students at Seinan, where such a balanced Intensive-Extensive Reading approach also seemed to be more educationally effective. This balance was between traditional texts used: (1) Intensively--especially when students were reading for information, speed, and comprehension development, and outside, free-reading done (2) Extensively--encouraging outside reading for enjoyment.

Just as Personal Digital Assistants (PDAs)⁵⁰ are becoming increasingly indispensable tools for a multimedia age, so too Computer-Assisted Instruction (CAI) will become increasingly prevalent in the years to come. As the potential benefits and functions of Computer-Assisted Language Learning (CALL) become more well-known and perfected, it will be used increasingly in the teaching and learning of foreign languages, especially in more technologically advanced countries such as Japan.

Portable computerized dictionaries and various other language learning software and CD-ROM programs should become more widely used in language education. In only about ten years student use of computerized dictionaries in the author's classes has gone from zero to about fifteen percent. Some computerized dictionaries today have as many as fifteen different languages inputted into them, with over

⁵⁰Personal digital assistant is a concept first advocated by Apple Computer, Inc. In Japan, it is used almost generically to refer to personal communicators and personal intelligent communicators (PICs) and the like. Personal information management refers to functions for managing personal schedules, contact files, and reminder information. (Cf. Toshiro Ikehara, "Industrial Trends: Personal Digital Assistant: Rising Star in the Multimedia Age," in Dai-Ichi Kangyo Bank Economic Report 25, no. 3 [March 1995]: 6-7.)

150,000 total words available at one touch! Along with computerized translators, these kinds of dictionaries and software are becoming increasingly important tools not only for language education, but also for international trade, cooperation and communication. Computerized multimedia telecommunications will continue to enhance and quicken international communication, exchange and understanding between the over 6,000 different language groups existing around the world.

Recommended Software for Future Use in Interesting and Intensive
Rapid ESL/EFL Vocabulary Development Programs

For beginning English readers a good program to use is Talking Schoolhouse/Orange Cherry's "Talking Vocabulary Builders."⁵¹ They began making software in 1980, and their programs have some of the most advanced technology available in software designed for the latest Apple, IBM, MacIntosh and Tandy computers. Talking Vocabulary Builders uses high-resolution graphics and animation plus digitized human voice to reinforce educational principles. Such talking software programs bring the "reassuring voice of a human being into the computer learning environment,"⁵² which seems to be especially helpful for young or early learners of a second language. Its entertaining "Word Defenders" versus "Dropouts," who try to destroy proper grammar, help to strengthen both vocabulary and grammar skills simultaneously by providing "immediate positive feedback in the form of animated sequences, colorful illustrations, sound effects, and the power of human speech."⁵³ Its user-friendly format allows a language learner to proceed through the program at his own pace, as many times as he wishes.

The updated form of Davidson's "Word Attack"⁵⁴ is much improved. Recognizing the great importance of having a good vocabulary for both academic and professional success, it is designed to help

⁵¹Talking Vocabulary Builders, Talking Schoolhouse/Orange Cherry, Multi Dimensional Communications. (For software or support write or call them at: Box 390, Westchester Ave., Pound Ridge, N. Y. 10576, 800-672-6002).

⁵²Ibid.

⁵³Ibid.

⁵⁴Word Attack 3, Davidson & Associates, 1993. (For software or support write or call: P. O. Box 2961, Torrance, CA. 90509, 800-556-6141 or 800-545-7677.)

students increase their vocabularies so as to become more effective writers, more confident speakers, as well as more fluent readers. It is considered to be the world's best-selling English vocabulary software program, and contains over 3, 200 words. "Word Attack 3" is also adjustable according to an individual's learning needs, containing seven levels or areas. These are (1) Beginning, (2) Intermediate, (3) Advanced, (4) Challenge, (5) SAT words, (6) Roots and Prefixes, and (7) Special Interest words. These Special Interest areas include much important content-specific vocabulary, in the following areas: (a) Architecture and Engineering, (b) Arts, (c) Business, (d) Computers, (e) Environment, (f) Geography, (g) Government, (h) Literature, (i) Math, (j) Medicine, (k) Music, (l) Science, (m) Sports, and (n) Foreign Phrases.⁵⁵

Davidson's vocabulary software is well-organized for foreign language learners, having language characters available for Spanish, German, and French. It can also be run from DOS prompts or within a Windows environment. In addition, to help teachers a record-keeping function to track individual progress is also available. To maintain students' interest there is a wide variety of different word games, including printable crossword puzzles, word search puzzles, sentence completion tests, and flash cards, all with high-resolution graphics, words read aloud to help with proper pronunciation, and exciting sound effects. One can also create customized word lists with an easy-to-use editor function.⁵⁶

To be able to use such excellent vocabulary development software, however, it is necessary for a school or home computer to have adequate memory, preferably ability to use CD-ROMs, and ability to read both High Density as well as Low Density discs. This is because sound requires much memory. Davidson's Word Attack 3, for example, has the following requirements: at least System 6.0.5 or higher. With System 6.0.5, two megabytes of RAM are required. For System 6.0.7 or higher, four megabytes of RAM are required. To use the text-to-speech function one must have at least System 7.0 on a Classic Macintosh or better. Five megabytes must be available on one's hard drive in order to use the program, it

⁵⁵Ibid.

⁵⁶Ibid.

is so large. Another writing program with great potential for ESL/EFL use is "Kid's Studio."⁵⁷ This is a program available on CD-ROM in both MacIntosh and IBM Windows formats (4 megs). Students using it can produce, direct, and star in their own stories, using over one thousand pictures, their own drawings, and recorded voiced sounds.

Further development and testing of the practical effectiveness of these kinds of vocabulary development software programs is most highly recommended, providing enough memory is available on a school's computers. Surely there is great promise here for helping language learners to build up vocabulary in their target language (L2) much more quickly, and with greater enjoyment!

A Futuristic Language-Learning Proposal for Using
More Computer-Assisted Instruction

It is most likely that Computer-Assisted Instruction will become an increasingly popular medium for English language learning in Japan within the immediate future due to several national trends:

(1) the growing prevalence of personal computers, and a stress on the importance of both
(2) education, (3) internationalization, and (4) English for more global understanding and increased participation in world affairs. Thus this new form of English language instruction--called either "C.A.I.", or Computer-Assisted Instruction, "CAELL", or Computer-Assisted English Language Learning, or more simply known as "CALL", meaning Computer-Assisted Language Learning--will become increasingly used and important in the years to come.

More nationwide comparative research should be done in Japan, to see why Japanese English language education seems to produce such relatively poor results, especially when compared with other countries in Asia in particular. Naturally one must be careful to distinguish between countries where English is being taught as a foreign language rather than as a second language in a society where English is in predominant use and students have the benefit of continual exposure due to almost complete immersion.

⁵⁷"Kid's Studio," on CD-ROM, is available from Scholastic Magazine. It comes in either Mac or IBM Windows format.

A Brief Flow-Chart for Computer-Assisted Language Education
Software Evaluation

Some major factors to check before investing in any Computer-Assisted Language Learning (CALL) software would be the following:

1. Cost--for both individual disc or CD versus for site license
2. Effectiveness--Does any published research support its use?
3. Instructional Level and Language Skill Areas Addressed
4. Volume and Variety of Activities or Exercises--How many are included? At how many different levels of difficulty? How much computer memory is required to run the program? For example, can your school's computers use CD-ROMs and High Density discs, or only Low Density? A CD-ROM with 600 megabytes of language activities offers much more than almost any low memory disc software can.
5. Integration of Communication Skills and Multiple Sensory Input--Is Multimedia being used for instruction addressing various sensory modalities? Are the four communication skills addressed, or only one or two? The higher the degree of integration of physical senses and communication skills achieved, the better for the language learners involved. Thus, Multimedia Power PCs have great potential!
6. Means and Speed of Evaluation--Can the program itself make and record individual and class performance profiles and progress records? If so, this asset can greatly assist the teacher in administration and evaluation of the program and of each student's progress.
7. What are the program's printing capabilities? Can students see and submit their work in published form or on separate discs?
8. Can one's school use programs only individually, or also as a class via a "Local Area Network," or LAN, such as Ethernet? Can files and letters be exchanged with other schools via electronic mail and Fax/Modem services, such as via Internet or America Online?
9. What is the general student response and reaction to CAI/CALL? Students' responses should be evaluated both subjectively as to their satisfaction and motivation levels, and also objectively, in terms of their actual average rate of learning or degree of improved performance when using particular software programs.

10. Do the above considerations, including both informal observations and more formal research studies or test results, support such an investment of time and money in the proposed computer hardware or software programs? If so, how can a language education school or department afford not to investigate the potential benefits of CAI/CALL for their program's students? Just consider how much more language students could learn if traditional Language Labs were revamped, equipped with more language-learning software and CD programs, and kept open and available for students to use outside of class hours as well!

Eleven Specific Recommendations for English Education

The findings of the Nuffield Modern Languages Inquiry also supports the recommendations of this current study that English Education in Japan should stress the following "Eleven I's."

Vocabulary and English education in Japan should be more:

1) Interactive--a. with native speakers, b. between students with one another, and c. using interactive, multi-media CAI or ALM. It is most likely that Computer-Assisted Instruction will become an increasingly popular medium for English language learning in Japan within the immediate future due to several national trends. These are the growing prevalence of personal computers, and a stress on the importance of education, internationalization, an accumulation of capital to invest in high tech equipment, with simultaneous development of better language learning software and hardware (such as Multi-Media Power PC's with ever-increasing memory), and the increased importance of understanding English for more global understanding and participation in world affairs (such as the U.N. Security Council and world peace-keeping initiatives). Thus this new form of English language instruction--Computer-Assisted Language Learning--will become increasingly used and important in the years to come.

2) Intensive--stressing active, daily use in all four skills. Some methods must be found to overcome the deadening effects of the college routine of only one ninety minute class per week to work on particular, isolated language skills. One obvious recommendation is to insist on an OPEN DOOR POLICY for all Language and Computer Labs, run FOR THE STUDENTS' MAXIMUM LANGUAGE DEVELOPMENT, and not kept closed for class or teacher use only. The use of computerized electronic dictionaries with phrase cards, as well as of personal computers equipped with Computer-Assisted Language

Learning software and bilingual dictionaries, is most essential to bridge this barrier of a great lack of exposure time to the Target Language in an EFL country.

3) Integrated--Using all four communication skills in a balanced, complementary manner will help to build up all skills together. Here the stress should be on developing actual communicative competence, by activating areas of linguistic knowledge through more expressive use. Both Content-based and Task-based Language Learning are current healthy trends in this direction.

4) Intentional--There must be definite, measurable language learning objectives in each of these four communication skill areas, including clearly set vocabulary learning goals and strategies.

Olive Niles and other reading specialists recommend that meaningful vocabulary training should include the following aspects. It should

1) be interesting and challenging to pupils; 2) provide positive reinforcement for learning; 3) be self-pacing or otherwise individualized to pupil needs; 4) stress a wide variety of activities with words, most frequently in contextual settings; and 5) emphasize words of permanent value [e.g. those in the List of EAP Vocabulary mentioned above and listed in the Appendix]. These authors also stress the need to teach the multiplicity of meanings of most words, the need to provide for application of the learning in other language activities such as writing and speech, and the need to teach word meanings by a variety of visual, auditory, and kinesthetic experiences [the "VAKT Approach"⁵⁸] with each word. ⁵⁹

5) Individualized--Students must either be tested or be able to test themselves using pre-programmed material. Unfortunately most teachers in Japan do not seem to be willing to spend the time to do such detailed, diagnostic and pre- or posttesting. Without it, however, students will tend to remain passive, unmotivated, and make little measurable progress. Frequent individual testing clearly does both correct, reinforce and encourage greater motivation in language learning, as shown by this study of vocabulary, reading and listening comprehension development.

Individualized, diagnostic testing is educationally necessary, because without it one cannot find out which students need special help or remediation in their reading. This problem seems to have been

⁵⁸Ekwall, Diagnosis and Remediation, 232-34. The Visual-Auditory-Kinesthetic-Tactile Approach is similar to the Fernald Approach, first described by Grace M. Fernald and Helen Keller in 1921. Fernald's text was Remedial Techniques in Basic School Subjects (New York: McGraw-Hill, 1943).

⁵⁹Olive S. Niles, "Improving General Vocabulary," High School Journal 39 (Dec. 1955): 147-55.

completely overlooked by the English teaching establishment in Japan, where there seem to be many EFL students who need remedial instruction in English reading skills, sometimes still at the phonetic level, and often at the semantic/vocabulary level. As the Van Allens report on "Extending Vocabularies," "Studies from reading clinics and other sources offer strong support for the emphasis upon [teach-ing] word analysis skills. Difficulties of poor readers are frequently attributed to weaker skill in word attack, rather than to less exposure to lists of words. Weaknesses in phonic, structural, and contextual analysis are often the basic explanation of the poor sight and meaning vocabularies of these pupils."⁶⁰

More national and international comparative research should be done in Japan, to see why Japanese English language education seems to produce such relatively poor results, especially when compared with other countries of Asia in particular. Naturally one must be careful to distinguish between countries where English is being taught as a Foreign Language, rather than as a Second Language in a society where English is in predominant use and students have the benefit of continual exposure to the Target Language with varying degrees of immersion. Finally, language teachers must honestly evaluate what their language students DO that actually CONTRIBUTES to a better acquisition of the Target Language. It is time to hold both teachers as well as students more accountable for actual progress in measurable language development! The following problem areas must be faced and addressed more positively, actively and practically by developing and using more effective individualized language educational measurement and instruction tools. Three major barriers faced by Japanese English students are (1) low level of English vocabulary; (2) poor listening skills; and (3) lack of exposure to English, or few opportunities to hear or speak the target language (almost no degree of immersion whatsoever.)

6) More Immersion or Exposure--to native, natural English is needed. Acknowledging these barriers, foreign language learners need to be given more chances to receive regular daily English input.

7) More International Content--with greater historical depth of insight, and breadth of cross-cultural exposure, especially in the Target Language, and about English-speaking countries.

8) More Internalization--of new concepts and vocabulary by requiring more active use of the Target Language in a greater variety of content-based, language-learning tasks. ESL/EFL learning should always

⁶⁰Van Allen, Language Experience Activities, 528.

balance content objectives with language-learning goals, considering the following three types of vocabulary:

- a) ACTIVE/PRODUCTIVE VOCABULARY--Frequent/Daily/Basic/Essential
- b) RECEPTIVE/RECOGNIZED VOCABULARY--known but seldom used.
- c) INFREQUENT/UNIMPORTANT/TECHNICAL VOCABULARY

Over-anxiety about these less frequent words slows reading speed, interferes with one's thought processes, and therefore hinders fluent comprehension. ESL/EFL students should be encouraged to actively learn, develop and use basic, essential vocabulary, but learn how to use "Context Clues" to guess at the meaning of less important words or phrases. Reading material must be carefully chosen and tailored to students' actual tested Independent or Instructional Levels, so as not to be too overwhelming, which means at their Frustration Level.

Students should also be encouraged to do "Free or Extensive Reading" at or near their Independent Reading Levels. Classroom work should be harder, more concentrated Intensive Reading, at students' Instructional Reading Levels, since a teacher is there to help explain new terms. Extensive Exposure to language through varied reading and listening contexts is the only way to broaden one's vocabulary. Language learners need to be taught that Reading Strategies for learning new vocabulary vary with the Frequency and Type of words. Since foreign language learners have a hard time distinguishing which words are important to learn, teachers should select and preteach most important terms and concepts prior to reading if at all possible. Unfamiliar cultural or historical background information should also be explained, so students can better anticipate the reading contexts to be encountered. In this way their degree of comprehension will improve.

Research shows that ESL/EFL teachers should use culturally closer or more familiar material to enhance both student interest and degree of comprehension. They should also seek to remove barriers due to lack of cultural, historical or situational background whenever possible before assigning new reading.

9) More Immediate Feedback--tends to improve both students' performance and motivation levels. Here CAI and computerized test analyzers can greatly help to speed up teacher evaluations, and hence also feedback about individual student results or needs.

10) More Interdisciplinary Learning--not only the four communication skills need to be better integrated. Also subject areas can be better blended to support one another's content and language-learning goals and course objectives. Here greater departmental communication and sharing in curriculum development is needed, requiring more honest and humble communication and learning among colleagues from one another. Unfortunately, most college teachers are known more for their extreme independence, rather than for cooperative planning and team-teaching or joint course development. This is a great barrier to educational progress.

11) More Innovation--Finally, English Education in Japan should become much more open to innovative ideas at all levels. There is much more potential for creative variety in teaching by using the new and exciting media becoming increasingly available in today's modern world. Besides Television and video, more interactive multimedia power computers have the greatest capabilities for helping to teach and learn a language in a more interesting and engaging way. Learners can proceed at their own natural pace, and interact with computerized sound and graphics programs, often including moving video on their computer, if it can read CD-ROMs.

As recent pilot programs showed, early elementary English instruction in Japan (whereas most do not begin until junior high) was unanimously believed by participating teachers to be beneficial.

Yamaguchi reported that after a two-year experiment in Osaka,

introducing English education into primary schools, teachers unanimously said that the earlier exposure to the English of a native speaker was good news. The Education Ministry introduced the pilot program in 1992 as part of a preliminary investigation into future possibilities of introducing the teaching of English into primary schools . . . Though it has not yet decided when English education will be formally introduced into primary schools, the Education Ministry is continuing to increase the number of schools taking part in the pilot program. Two schools joined the pilot program in 1993 and 12 more were added last year, bringing the total number of schools participating in the program to 16 nationwide.⁶¹

However, these elementary students were not always participating very well, since they knew they would not be graded. It should be easy to show that student levels of motivation and performance in

⁶¹Akirako Yamaguchi, "Good Ear' for Language Instilled at an Early Age," Daily Yomiuri (Tokyo), 1 January 1995, 20.

Japanese elementary schools would go up significantly if some more concrete type of grading, assessment, or reward were promised to students, instead of the present vague non-graded approach.

Recent Trends and Recommendations in Japan's English Education System

Many good trends can be seen in English language education in Japan in recent years. Stoda has pointed out some of them below.

- 1) Many JTLs [Japanese Teachers of Language] now have a much more positive attitude towards team teaching;
 - 2) Many students have been enjoying 'communicative JET [native English speakers serving as Japanese Exchange Teachers] oriented visits and no longer view English as a dead language or [merely as] an academic subject;
 - 3) Some teachers are using more and more authentic English in the classroom—even when JETs are not present; and,
 - 4) A few even teach reading strategies rather than grammar translation, etc.
- On the other hand, . . . far too many new JTLs are leaving the university without having learned [how] to teach reading and learning strategies, nor how to implement communicative teaching in their classrooms on a regular basis in all of the various skill areas. ⁶²

In agreement with Stoda's observations, one must recommend better training in language testing for all teachers involved in English language education, both native and nonnative ESL/EFL instructors. In addition, classrooms need to be made more "communicative," giving language learners more chances to try out their English in real communicative settings. In the past Japan's English language education system has largely been driven by the demands and style of its college entrance tests. These tended to be too literary and formal, and thus hindered the development of real communicative competence in English. As a result, it seems that the following requirements would need to be met in order to produce more Japanese students and citizens who are actually fluent and communicatively competent in English:

- 1) the use of tests that measure all of the major skill areas related to a 'communicative classroom,' [including all four skills;] and/or 2) an increase in the value of classroom participation to something around 50% of the student's grades, while decreasing class size radically . . . I prefer increasing both the value of classroom participation and using internationally standardized exams to measure competence regularly . . . the development, the introduction, and the use of communicative oriented tests is probably the easier goal to achieve . . . When tests with beneficial backwash are in use, even the jukus [afternoon and evening training schools] will mobilize behind them. In this same way, the textbook companies and parents in Japan can see

⁶²Stoda, "A Burning Issue," 36.

clearly where FL [foreign language] education in Japan is going, and they may orient themselves accordingly in supportive roles.⁶³

Although it is difficult and time-consuming to test individual language learners' speaking, listening and writing skills, appropriate test instruments for Japanese students in these areas need to be developed. Reading skills are easier to measure, and there are hundreds of tests that can be used, many of them standardized on native English-speaking populations. Knowing where an individual student stands in his vocabulary and comprehension abilities relative to normal grade level development of these skills in America, for example, can provide a much better basis for appropriate instruction and evaluation of progress than the present system, in which most Japanese schools have no idea where any particular student's levels are in terms of specific linguistic or communicative abilities in English.

To help remedy this sad state of affairs, more communicative teaching and testing needs to be introduced into the Japanese English Education system from the very beginning, presently at the junior high level. An Education Ministry official stated at a recent conference that at least forty universities were including 'Listening Tests' as part of their entrance tests in 1994.⁶⁴ Such a trend should help to make junior and senior high school English instruction more communicative than before.

Finally, both native and nonnative teachers of English need to be given better testing instruments, as well as training in how to use them to test and evaluate students' pre- and postlevels in the four areas of English communicative ability. To support good teaching, teachers should try to specialize in at least one of these areas, reading about recent developments and new methods and materials available in the field. Better diagnosis always tends to produce better prescription and remediation of language difficulties.

⁶³Ibid., 36-37.

⁶⁴Ibid., 37.

Specific Recommendations for Each Communication Area

For the field of Second Language Reading, many standardized English reading tests may be used. Twenty-five of these are listed in Ekwall's Appendix.⁶⁵ For the field of ESL/EFL Writing, the use of computerized grammar checks should be encouraged as much as possible, helping both language learners and instructors to get less threatening and more immediate feedback and correction of writing errors than is possible with detailed manual correction.

Oral testing has always been a difficult and time-consuming job, with much difference in evaluation depending on the instructor's personal bias or area of emphasis. To reduce this weakness due to instructor's subjectivity and often a lack of time or training in official assessment of specific areas and levels of language proficiency, it is recommended that English departments consider the use of a computerized evaluation tool. The Oral Language Analyzer and Feedback System (OLAF N73 or OLAF .5) can give objective testing of spoken language, as determined by research. It is a small hand-held, custom-built computer which can give a

simultaneous evaluation of a person's spoken language of a foreign language, as the person speaks. It renders in two minutes the same information that would take a committee of examiners up to 3 man-hours. Three displays show overall level of expression, fluency and correctness . . . OLAF provides a reliable and economical method of testing oral language proficiency while adapting to the existing scale used by NP [National Petroleum] and FT [Federal Telecommunications].
 . . . Due to the enormous saving of time and guarantee of precision it offers, OLAF is of great interest to any public or private language-teaching organization. An evaluation of the spoken performance of a testee takes in the order of 5 minutes. OLAF is based on a mathematical theory of language adapted from Shannon (1958). The same software is valid for all human languages and is integrated into the calculator. It is produced in Switzerland. ⁶⁶

Whereas the OLAF 73 model tests both listening comprehension and also oral skills, the newer OLAF .5 model gives three readings: (1) one for Expression in Normalized Hours [of ESL/EFL study],

⁶⁵Ekwall, Diagnosis and Remediation, Appendix B, "Reading and Reading Related Tests and Inventories," 436-41.

⁶⁶"Computerized Testing of Spoken Expression and Correspondence with Results of Oral Interview Testing," Language Learning Technology, (Geneva, Castle Publications, 1993). Anonymous brochure.

(2) one for Fluency in tone groups per minute, and (3) one for grammatical Correctness as a percentage.

There are four general uses for such OLAF tests. They can be used for: (a) placement, (b) confirmation that the language learner can continue to the next level of the course, (c) better diagnosis of problems, and (d) measurement of the degree of individual progress, which can also help to evaluate a language program's degree of effectiveness.⁶⁷

There have been some studies done of factors and types of verbal input, instruction and interaction that most help to facilitate language learning. Far more specific skill area studies need to be done, investigating competing theories and claims based upon actual research in the field of Second Language Acquisition (SLA). One such study of verbal interaction was done by Berducci at the University of Pennsylvania in 1993.⁶⁸ Since 52% of the thirty-six students studied were Japanese, his research questions and findings are of direct relevance to the present study.

Berducci interviewed three ESL/EFL teachers at his college concerning their types of teaching activities used in second language classes for foreign students. Berducci analyzed all opportunities for interaction in three classes, examining the amount and types of practice provided and encouraged there. Classroom verbal behavior was observed, and also informal teacher interviews were done. He also asked what kinds of chances these students were given for both mutual interaction between themselves, and also negotiated interaction (NI) with these teachers. 'Negotiated interaction,' or 'NI,' occurs when

speakers negotiate meanings to reach mutual understanding by clarifying, modifying, and repeating spoken utterances, while attempting to resolve communication breakdowns. NI could be a crucial SLA component, since it may provide NNSs [Non-Native Speakers] with opportunities to comprehend second language input, to receive feedback from others on the NNSs' own comprehensibility, and to adjust the NNSs' interlanguage production.⁶⁹

⁶⁷"Placing students from test N73 levels," Castle Newsletter (Geneva: Castle Publications, Januray 1993). Anonymous brochure.

⁶⁸Domenic Berducci, "Inside the SLA Classroom: Verbal Interaction in Three SLA Classes," Language Learning Journal 8 (Sept. 1993): 12-16.

⁶⁹Ibid. The term 'interlanguage' here means the foreign language learner's stage of linguistic development in the target language. Coined by Selinker in 1972, this terms refers to one's level of systematic knowledge of a second language.

Berducci tried to determine whether there was more teacher talk or actual student talk taking place. To do this he analyzed the amount and types of interaction taking place. The author of this study has also been involved in such a study in previous Oral classes. It is helpful to record and then reflect on one's classroom instructions and interactions, to see how much actual communication is being done by the language learners themselves! This type of study is heartily recommended for all Oral English classes.

Since all three teachers involved in Berducci's study were trained ESL teachers, his first hypothesis expected that a majority of class time would be spent using participation structures in which actual 'Negotiated Interaction' could take place, such as Di (interaction between teachers and students); Dyad (between student pairs); and Group Interaction. Percentage of time spent on these activities, versus time spent on activities that don't seem to contain 'Negotiated Interaction' (i.g., lecture, repetition, and individual speaking) were compared. For two out of three classes his expectation was confirmed, showing that most class time (80-86%) was spent on such 'Negotiated Interaction' activities which encouraged communicative language learning. Pedagogically,

since so called 'communicative language teaching' has come onto the scene, a more active and process oriented syllabus has begun to replace the traditional-structure oriented syllabus. In other words, the emphasis of the classroom content has shifted from teacher's lecturing to interactional activities . . . (Futaba, 1991) . . . According to the current belief in SLA research, that NI may be necessary for SLA, students in these classes seem to be in an appropriate position for SLA [to take place].⁷⁰

In seeking to determine how communicative these three classes really were, Berducci also thought that more class time would be spent in interaction between students, than between teacher and students. This second hypothesized expectation was not realized for any of the classes studied. Rather, in two classes, "student/student interaction was virtually nonexistent (3% in both cases). [Also] . . . The percentage of time spent in teacher/ student participation structures (80%) . . . far outweigh[ed] the amount of time spent in the student/student participation structures (20%), therefore Hypothesis 2, part B is not realized."⁷¹

Listening comprehension also is a very difficult skill to master in another language, and Japanese college students' levels of listening in English are usually lower than their knowledge of English structure

⁷⁰Ibid., 13-15.

⁷¹Ibid., 15.

or reading ability. Takefuta gave several good suggestions as well as a system for both learning and teaching better English listening skills in his article entitled, "How to teach listening."⁷² He recommends three good approaches for improving one's listening: "1) Predict what the speaker is going to say; 2) Enlarge your working vocabulary; and 3) Increase the amount of speech you recognize as individual units of meaningful groups of words."⁷³

More systematic and intensive language education programs are needed, but often college classes are just too short (ninety minutes) and infrequent (weekly) for students to achieve significant progress in their language learning. Here more systematic approaches with computerized assistance should be used, and be made available to students as much as possible. Takefuta recommends such an approach:

A theory has been developed at Chiba University to create a system to teach listening effectively. It is called "The Three-step Auditory Comprehension Approach" in English. While this approach focuses on the development of listening skills, it also helps improve learners' speaking and reading proficiency. The system works by teaching one unit over three sessions . . . divided into three units to reduce the burden of learning difficult material by spreading the load . . . It facilitate[s] learning through the established principles of information processing--top-down, bottom-up, and interactive.

Takefuta's method incorporates several principles of three major learning theories--classical conditioning, operant conditioning, and cognitive theory. It also offers students several types of assistance, which are also often built into language learning software such as in the Shinbun series used by Classes E and F in this study. The five categories of assistance given in the "Three-step Auditory Comprehension Approach" are as follows:

prelistening information, dictionary information, clues to doing tasks, summary of grammar information, and additional information for extended studies . . . Under experimental conditions, four different groups of learners at different proficiency levels improved their TOEIC [Test of English for International Communication] scores by 100 points in only 20 hours of study. And the highest group of learners achieved an average TOEIC score of 731 (roughly equivalent to a TOEFL score of 550).⁷⁴

⁷²Yukio Takefuta, "How to Teach Listening," Daily Yomiuri (Tokyo), 2 October 1994, 9.

⁷³Ibid.

⁷⁴Ibid.

Some final recommendations for developing better reading comprehension skills in English can be added here, along with suggestions for helping students to improve their target language vocabulary-learning and reasoning skills. "Text-reconstruction tasks"⁷⁵ can be used to help students to improve their ability to reason, and to anticipate what words and concepts fit into various reading passages. "Text-reconstruction," and how it can be used to help in language learning, is well explained and defined by Brett.

TR [Text Reconstruction] involves the complete, on-screen replacement of a short text by dashes or blobs, each of which represents a letter. The learner's task is to restore the original text by typing in the missing words. Each time a word from the text is typed in correctly, all instances reappear on the screen . . . *Eclipse*, for example, allows the display of certain grammatical items. Different programs also allow a variety of other ways to exploit texts: *Fun with Texts*, for instance, includes a concordancer . . . although . . . use of TR activates linguistic knowledge, it is a task detached from any communicative context or purpose. The use of TR as one in a sequence of communicative tasks is designed to resolve these problems . . . The criteria for the selection of all learning materials should apply equally to TR texts . . . they should be interesting, relevant to learning objectives, motivating, useful and usable, of educational value, and appropriate to learners' needs. For the communicative use of TR, selected texts should be authentic . . . Real-world texts are more interesting and motivating to learners.⁷⁶

Many students appear to be more interested and motivated when using a computer to complete enjoyable language learning tasks. They seem to enjoy the puzzle of reconstructing reading texts, although "Cloze or Dictation Procedure" listening texts are often too difficult for many foreign language students to handle, and can therefore be demotivating. ESL/EFL students should be given time and encouraged to discuss or summarize reconstructed stories, so that they become a source for more communicative language learning. In this way, newly acquired passive vocabulary can move more quickly into the active mode via expressive verbalization.

Text reconstruction tasks seem to call upon a wide range of language skills, and they also help to activate students' prior background knowledge so that they learn how to better anticipate textual information. As Davies emphasized, TR encourages "intensive reading, and gives the student valuable

⁷⁵See Paul Brett, "Using Text Reconstruction Software," in *ELT Journal* 48, no. 4 (Oct. 1994): 329-36, for more details on how "Text Reconstruction" may contribute to language learning.

⁷⁶*Ibid.*, 330.

insight into language redundancy and the way words tend to combine and suggest what is coming next.”⁷⁷

Some of the different language skills which Text Reconstruction encourages students to use are how to apply their knowledge of the target language grammar and vocabulary, and how to reason logically. In Davies’ words, “they encourage learners to think, work out their own strategies, and to search and use their store of linguistic knowledge.”⁷⁸

In text reconstruction, learners typically use three types of strategies: (1) Text-independent strategies, (2) Text dependent strategies, and (3) Memory strategies. (See Figure 14 for a list of possible language task sequences which include text reconstruction.)⁷⁹ There are many potential language learning benefits to be gained from the proper use of either oral, written, or computerized “Text Reconstruction.” It should be used in an integrated manner, within a sequence, along with other more communicative language learning tasks such as listening or discussion. Brett provides a good rationale for the use of “Integrated Text Reconstruction” tasks as an aid in language learning. He suggests many of its benefits, stating

... that the language learning opportunities it creates are maximized if TR forms one in a logically sequenced series of communicative tasks ... Future research may perhaps reveal more about how TR stimulates language acquisition ... the TR exercise may next reappear as one of a large battery of tasks inside multimedia [language] learning packages ... The aim of pre-TR tasks, just as with conventional pre-reading activities, is to activate both ‘formal’ schemata, or background knowledge of the formal organizational structures of different texts, and content schemata, or background knowledge of the content area of a text.⁸⁰

Text reconstruction tasks can also focus on vocabulary development, such as many of L. A. Hill’s workbooks do (see sample in Figure 15). Three of his older, out-of-print works, Contextualized Vocabulary

⁷⁷G. Davies, “Authoring CALL Courseware: A Practical Approach,” in Computers in English Language Teaching and Research, ed. G. Leech and C. Candlin (Harlow: Longman, 1986).

⁷⁸G. Davies, “CALL Software Development,” in Computers in Applied Linguistics and Language Teaching: a CALL Handbook, ed. U. O. H. Jung (Frankfurt: Lang, 1988).

⁷⁹L. Legenhausen, and D. Wolff, “CALL in Use--Use of CALL: Evaluating CALL Software,” System 18, no. 1 (1993):1-13.

⁸⁰Brett, “Using Text Reconstruction Software,” 333.

Tests 1, 2, and 3,⁸¹ should be put onto computer discs, or a CD-ROM. These can help language learners build up their target language vocabulary as follows. Books 1 and 2 take the student up to the author's 500 word and 1,000 headword levels respectively. Book 3 covers his 1,501 to 2,075 headword level. All are fully illustrated, with words all contextualized in interesting stories. Thus, one could scan the pictures onto a computer screen by using an image scanner. The text could be inputted onto Hypercard, with or without sound. These exercises usually have about thirty sentence stories, which can all fit on one computer screen, long enough to create an achievable task. Such materials as these, and Davidson's "Word Attack 3," should definitely be installed into as many ESL/EFL computer rooms as possible.

CALL Recommendations for Rapid, Contextualized Vocabulary Development

These kinds of computerized programs can help language learners immensely with rapid, contextualized vocabulary development. Word Attack 3, for example, can help students to build a larger and stronger vocabulary quickly by helping them to master the definitions, spellings and pronunciations of thousands of new words. It is also adjustable to different levels to meet different learning needs, with over 3,200 words grouped into many categories according to both difficulty level and subject area. Students or teachers can choose lists that are most appropriate, or even add customized word-lists with an editing function. There are five exciting gamelike activities to choose from, offering students a variety of enjoyable ways to learn. It is also available for a Windows format, and can run from either Macintosh or Windows icons, or from a DOS prompt. There are even foreign language characters available for French, German, and Spanish-speaking users.

As their vocabulary increases, language learners will gain more confidence to try to use more English expressively. Thus they can become more effective speakers, listeners and writers, while also improving their reading comprehension abilities.

⁸¹L. A. Hill, Contextualized Vocabulary Tests 1, 2, and 3 (London: Oxford University Press, 1970).

Implications for English Reading Instruction in Japan

James Dean Brown recently completed a large survey⁸² of the reading levels of passages included in twenty-one prestigious Japanese college entrance tests. They averaged between 9.6 and 11.6 on the Flesch-Kincaid and Fog scales, respectively. However, the writer found, in the course of this present study, that average English reading levels at six colleges and junior colleges in Kyushu were only about half that--between grades 3-6, relative to American norms. For such adults developing English reading skills in a second language the problem is clearly not so much a lack of ability to decode sounds, as it is a lack of sufficient target language vocabulary necessary to encode and comprehend meaning in reading texts.

To stress that an understanding and mastery of the grammo-phonetic system of English is of foundational importance does not mean that one must hold to a simplistic sound-centered view of reading as merely "word-calling." Rather, as Harste and Burke (1977) showed in their "Three Models of the Reading Process" (see Figure 9), some may view reading as "Sound-centered," others as "Word-centered," and most probably see it as "Meaning-centered." Yet the reading process involves all three aspects at the same time. When one focuses on vocal aspects, he or she is being sound-centered. When focusing on visual morphological aspects, definitions and etymologies, one is being more word-centered. When fluent readers read beyond the grapho-phonetic and syntactical systems for ideas underlying these sounds and symbols, they are truly being meaning-centered and are reading for meaning.

Changing emphases in how language learning has been viewed have also changed the focus of reading instruction throughout educational history. Some of these changes are shown in Figure 16, entitled "Varying Approaches to Teaching Reading through History," Sections A-C. Section A chart illustrates the changing focus of reading instruction up through the mid-1970s. Linguistic and Language Experience approaches have been continued by the Whole Language approach. Strengths of the more recent "Managed Language Reading" approach are that it uses a wide variety of methods and materials, and encourages a personal, individualized approach to reading instruction, along with the benefits of sequential skill development. Modern computerized methods tend to often use a more behavioral programmed method of

⁸²James Dean Brown, and Sayoko Okada Yamashita, "English Language Entrance Examinations at Japanese Universities: What Do We Know about Them?" *JALT Journal* 17, no. 1 (May 1995): 7-30.

organization. As Section C of Figure shows, such a programmed method would fit the old "Sequential Reading Approach," with logically organized steps of prepared materials. Unless a variety of language activities and skill levels are made available by a particular computer program, however, it could be lacking in interest and personal variety or appropriateness. Computer programs which combine strengths of individualized instruction and the Language Experience or Whole Language approach may be found to be more interesting and rewarding by students. Thus a computer-managed reading and vocabulary development system would need to combine the strengths of each of these various approaches for their maximum benefit. The computer can also be programmed to keep student language profiles in each of the communication skill areas being learned, combining samples of student work, teacher and peer feedback, and test scores for easier personal evaluation and educational record-keeping.

To help ESL/EFL students be better able to process and comprehend reading materials in a second language at increasingly higher levels of difficulty, they must be taught how to rapidly and effectively develop their target language vocabulary. Based on the findings of this study, and considering the fact that college entrance tests typically feature reading passages at levels much higher than that of average Japanese college students, quick and efficient methods and materials must be used. This reality further supports the preceding recommendations that students be urged to use the following vocabulary-training tools:

(1) portable electronic bilingual dictionaries as often as possible, (2) multimedia CAI software, (3) text reconstruction workbooks or software, and (4) more interactive and communicative language learning activities. All of these tools can help them to build up both more Passive Vocabulary, used primarily in the receptive tasks of reading and listening, as well as more Active Vocabulary, used more expressively in actual language production. Thus more rapid Second Language Acquisition can be encouraged, along with increasing levels of language fluency in all four communication skills.

Recent CAI Studies Directly Related to English Education

Recent studies of CAI applications to English Education are becoming increasingly specific and better focused on analyzing particular language skill areas, to see if they are actually being developed more effectively with the use of these computerized aids.

One most recent example in the field of first language reading will suffice. Researchers compared thirty-one fourth-graders in two classes at Ball State University's lab school in Muncie, Indiana.⁸³ For two months half of them studied seven books, using a text-based method. The other half used CAI materials on CD-ROMs, both reading and interacting with the same story materials on computer screens. Presumably the texts were both interactive and multimedia software, as most CDs generally are.

Commenting further on this study, Carroll noted that these fourth graders seemed to "learn more by clicking a mouse than by turning a page," and to "comprehend more using interactive computerized CD-ROM than by reading a book."⁸⁴ This finding held true, however, only at more advanced levels of text material. These students were tested after reading and/or interacting with each book or CD disc. Researchers at Ball State lab school found that: "... those reading on computer consistently scored higher when reading longer, more difficult narratives. There was no difference with easier stories. . . 'This justifies teachers buying difficult narratives on CD-ROM.'"⁸⁵

This significant finding is also supported by the writer's own observations that easier level software does not necessarily produce any better results. CALL software must be better tailored to the individual language learner's level of instruction, in order to be both challenging and more effective in producing more language or vocabulary learning than older, traditional methods of instruction. For this reason, software evaluation guidelines have been given in some detail.

Among the advantages of using CD-ROM materials are those found with the readers in the above study at Ball State. Some of these educational advantages were that [With a CD-ROM]: "You can click on a word and the word can be pronounced, defined, or used in context . . . Children don't have to call on the teacher . . . Reading isn't interrupted, and children don't have to raise their hands and admit they don't know

⁸³Nicole Carroll, "CD-ROMs May Give Kids an Edge from Reading," USA Today, 18 July 1995, p. 1.

⁸⁴Ibid.

⁸⁵Ibid.

a word”⁸⁶ Reading researcher Marilyn Moore stated that they would try to do a similar test at Ball State using “at-risk kids” in September of 1995.⁸⁷

The results of this CD-ROM study at Ball State are directly in line with the findings of this current study, although it studied fourth graders whose native language is English (L1), whereas this thesis covers the development of English reading skills among college students in Japan, where English is only used as a foreign language (L2). Multimedia CD-ROMs are becoming increasingly prevalent in Japan, although not yet used by many English or engineering departments for language education. This situation should change in the near future for reasons cited earlier. In the U. S. in 1995, on the other hand, about 48% of all schools had CD-ROM drives, according to Denver firm, Quality Education Data, as compared with only 29% in 1994. A similar trend can surely be predicted in advanced, technological societies such as Japan as well, even though the pace of change seems to be much slower due to traditional hierarchical social structures, resistance to change, and long, drawn-out decision-making styles.

Current CAI Software Evaluation Guidelines

In addition to the guidelines given above, Hashimoto’s recent “Evaluation Criteria for ESL/EFL Software”⁸⁸ should be carefully considered. In less than ten pages he succinctly reviews literature relevant to the development of reliable standards for ESL/EFL CAI software evaluation.

Although many software programs exist, since CALL (Computer-Assisted Language Learning) is a relatively new field, systematic evaluation criteria have not yet been agreed upon. Language teachers need to have some kind of well-organized guidelines to independently evaluate CALL software as the CAI field grows and more materials become available. While CALL is in a stage of growth and transition, some journals are available to help, “journals such as CALICO Journal and the CALL-IS Newsletter must work

⁸⁶Ibid. This Ball State study will eventually be published in Reading Psychology.

⁸⁷Ibid.

⁸⁸Eiji Hashimoto, “Evaluation Criteria for ESL/EFL Software,” JALT Journal 17, no. 1 (May 1995): 75-83.

together to develop evaluation criteria that are narrow and informative. Without such an effort CALL programs will continue to be difficult to assess and evaluate."⁸⁹

Many language teachers looked to CALL to meet the needs of learners more efficiently with the aid of modern computerized technology. Although Stolurow and Cubillos⁹⁰ found more than five hundred ESL/EFL programs available in 1983, results so far have not been as positive as anticipated.⁹¹ Hashimoto suggests that a major reason for this is the lack of generally accepted evaluation standards, and the difficulties associated with software evaluation itself.⁹² Five of these difficulties which are associated with software evaluation were analyzed by Hubbard, including (writer's paraphrase):

1. Lack of computer knowledge or literacy hinders many teachers from adequately assessing CALL materials and methods.
2. More time is required to adequately evaluate software than traditional textbooks.
3. Many teachers have difficulties in deciding on proper pedagogical use of various software.
4. Different learner preferences and learning styles make it difficult to determine whether visual and auditory dimensions actually enhance or detract from a lesson.
5. There are difficulties in assessing whether students are actually learning or not from mere outward observation.⁹³

Hashimoto asks many important questions which software users and evaluators should carefully consider, including the following:

⁸⁹Ibid., 81.

⁹⁰W. Stolurow and K. Cubillos, Needs and Development Opportunities for Educational Software for Foreign Language Instruction in Schools. (Center for Educational Experimentation Development and Evaluation, University of Southern Mississippi, 1983). ERIC ED 242 204.

⁹¹P. Hubbard, "Language Teaching Approaches, The Evaluation of CALL Software, and Design Implications," in Modern Media in Foreign Language Education: Theory and Implementation, ed. W. Smith (Lincolnwood, Nebraska: National Textbook Co., 1987), 227-52.

⁹²Hashimoto, "Evaluation Criteria for ESL/EFL Software," 75.

⁹³Ibid.

who should evaluate CALL software? . . . [Since] every software program has different pedagogical objectives, formats, and content . . . How, then, can evaluators establish common criteria to evaluate different types of software? . . . How can evaluation criteria be set? [when different learners have different] learner preferences and learning styles . . .? [Cf. Hubbard, 1992; Pederson, 1987] . . . To what extent do students control the computer lesson and vice versa? . . . How intelligently does the software program evaluate students? . . . How does the software evaluator determine how much interaction and what kind of interaction is necessary to improve the student's language proficiency? (Garrett & Hart, 1985) . . . Publishers and distributors tend to overlook the student's perspective of language learning . . . because they are not language specialists . . . they seem to have a difficult time obtaining reliable feedback . . . [Finally educational theory] calls forth two important questions: 1) What theoretical aspect should be adopted as a base? 2) Can the theories, approaches, and language learning and teaching principles derived from mainstream ESL/EFL research apply to CALL? ⁹⁴

Each of these questions should be seriously considered before adopting any software or purchasing expensive hardware for language education. Another helpful list to consult would be the CALL IS Software List, put out by TESOL in the U. S.⁹⁵

Four Characteristics of Software Evaluation Checklists

A number of different groups and individuals have published software evaluation checklists in various forms. In 1985 the International Council for Computers in Education created one such form, called the MicroSIFT form, to be used for evaluating CAI software in any field.⁹⁶ Most such software evaluation checklists seem to have the following four common characteristics, however.

According to Hashimoto's brief survey, usually

First, the evaluation sheet consists of a check list where the evaluators are asked to circle the number or item which best reflects their judgment on a particular question. This is usually followed by a summary sheet for personal comments and overall assessments of the software. Second, questions are divided into 5 to 10 categories . . . It is suggested here that questions concerning the technical aspect of problems can be classified into five categories.

First, evaluation sheets should include questions about teaching objectives and the skill area(s) that the software aims to cover. Second, target students should be defined and their language proficiency levels listed. Third, evaluations should have questions about hardware requirements. Fourth, the content . . . should be stated on the evaluation sheet. Finally, there

⁹⁴Ibid., 76-77.

⁹⁵CALL IS Software List (Alexandria, Va.: TESOL, 1995).

⁹⁶D. M. Johnson, Using Computers to Promote the Development of English as a Second Language (New York: Carnegie Corp., 1985), ERIC, ED 278 211.

should be one overall quality rating involving how all of these factors fit together to make a final product. ⁹⁷

Hashimoto then discusses the third characteristic common to software evaluation checklists, namely that they seem to lack clear evaluation criteria as to educational methodology. Miller and Burnett complain that such checklists often focus “mainly on technical rather than learning and educational issues.”⁹⁸ As Hubbard pointed out, if a certain language learning theory or approach is chosen as a standard for evaluation, “it automatically establishes criteria of the overall lesson structure and the role that graphics, sound, screen layout, etc. will play.”⁹⁹

Thus, one’s evaluation of CALL software will partly depend on their chosen method of language teaching, or their preferred theory of Second Language Acquisition. In the same way, an individual student’s evaluation of software may be strongly influenced by their preferred learning style. As Hashimoto points out, “Consequently, a single piece of software might require more than one evaluation depending upon what theory, method, or approach is embedded in the criteria. An outstanding CALL program designed within an audiolingual approach . . . may be a poor communicative competence software program.” ¹⁰⁰

Thus, more clear and basic educational standards are needed for evaluating language learning software. Also, one’s evaluation may vary markedly depending on whether the software has been used in a “stand-alone fashion,” versus in an integrated manner in conjunction with other aspects of a more communicative language lesson. CALL software needs to be made as interactive and communicative as possible. In addition, good language teachers must learn how to help students to use well-designed CALL software to supplement and extend specific communication skill areas, where such CAI software can give them more helpful and intensive practice than can be obtained in limited classroom time. Specific Computer-Assisted Language Learning tasks, vocabulary and structure should be as supportive and well-

⁹⁷Hashimoto, “Evaluation Criteria for ESL/EFL Software,” 75-77.

⁹⁸L. Miller and D. Burnett, “Theoretical Considerations in Selecting Language Arts Software,” *Computers and Education* 10, no.1 (1986): 159-65.

⁹⁹P. Hubbard, “Language Teaching Approaches,” 251.

¹⁰⁰Hashimoto, “Evaluation Criteria for ESL/EFL Software,” 78-79.

Computer-Assisted Language Learning tasks, vocabulary and structure should be as supportive and well-integrated with normal classroom and homework assignments as possible. Various language competence levels, as well as listening, vocabulary and reading levels need to be written into well-designed, broadly-based CALL software programs.

Usually such a large volume of memory is required for these kinds of multi-level programs so that only CD-ROMS are capable of holding such a massive amount of sound-text/video data. Thus, old Audio-Lingual Labs should be replaced with new CALL Labs, with Multimedia, Power PCs, having such CD-ROMs and large memory.

Advantages and Future Potential of Computerized Testing

Just as there is now a new Computer-Adaptive Test (CAT) for the graduate Record Exam (GREs),¹⁰¹ so too computer programs can and should be written for adaptive language testing in various communication skill areas. Since those taking Computer-Adaptive Test receive different test items tailored to their own level of ability, which the software program can determine and adjust to, no one needs to waste time with questions that are too hard or too easy. As defined by Dunkel, a Computer-Adaptive Test is simply "one in which test items are selected to be appropriate for the individual examinee" (e.g., and ESL CAT would adapt to the proficiency level of the test taker).¹⁰²

In the area of English reading, such Computer-Adaptive Test can and should be developed to automatically test and place students in reading materials which are appropriate for them according to their demonstrated vocabulary and comprehension ability levels. Thus, readability formulas will have already assessed reading passages which are included in software programs. Students' individual skill levels will still need to be assessed ahead of time, so that can be given appropriate CDs or software discs that are at their own correct instructional reading level.

¹⁰¹ M. Winerip, "No. 2 Pencil Fades As Graduate Exam Moves to Computer," New York Times, 15 November, 1993, p.1.

¹⁰² Patricia Dunkel, "Using the Computer to Assess Listening Comprehension Proficiency in English as a Second Language: An Update," TESOL Matters (April/May 1994):11.

In the area of listening, software developers have made a program which can use an ESL listening comprehension CAT on a Macintosh platform. They have also designed and tested 144 prototype test questions, using "testing-and-measurement experts, as well as ESL content specialists; and . . . Item Response Theory (IRT), the underlying psychometric model of assessment."¹⁰³ Characterized by Dunkel, this listening Computer-Adaptive Test

developed on a Macintosh II platform uses digitized speech to deliver the 144 prototype test items. The basic structure of the CAT is designed to evaluate the listener's ability to understand short utterances (words/phrases), short dialogues, and monologues within the framework of four listener functions identified. . . in Lund's taxonomy (1990) . . . The taxonomy's four listener functions include a) identification, b) orientation, c) main idea comprehension, and d) detail comprehension . . . Items involving the[se] four listener functions . . . , the two types of language (monologue vs. dialogue), and the three response formats (text, graphic, and element in a graphic choice) were written for each of the nine levels of listening proficiency [three novice, three intermediate, and three advanced levels]. This approach to development of the item bank (n=144) was taken to insure that the test developers and potential users would have a clear understanding of which types of language, listener functions, and listening tasks were targeted for assessment.

The process of developing a valid and reliable CAT is an extremely arduous and time-consuming (and expensive) task, but it is hoped that early-stage efforts such as those under development at Penn State can help inform future development efforts.¹⁰⁴

Final Pedagogical Considerations for CALL Software

As Hashimoto pointed out, there are some problems with adopting a pedagogical perspective as a basic evaluation criteria for CAI software. Among these are the fact that

. . . a number of theories and approaches exist in the field of TESL. Concepts and findings from recent research continue reshaping present theories and approaches. Therefore, relationships between theories and approaches are often unclear and their definitions are still arguable (Hubbard, 1987) . . . Miller and Burnett (1986) conclude that a two-level hierarchy for evaluating software will solve this problem; the first level provides a theoretical orientation, and the second level focuses on various technical issues. Under the technical umbrella, technical concerns are evaluated. This hierarchical model can [help us to] avoid confusion and inconsistency in the assessment of software.

While Miller and Burnett's two-level hierarchy model is theory based, Hubbard (1987:231) suggests three categories of approach as fundamental pedagogical criteria: Behaviorist, Explicit Learning, and Acquisition. He claims that 'these three categories reflect useful distinctions for

¹⁰³Ibid.

¹⁰⁴Ibid.

materials development and CALL software evaluation, since they reflect major components of specific theories and models of second language acquisition.' 105

The fourth and final characteristic common to software evaluation checklists is that they usually do not include a category for learner strategies, styles, and preferences. Hashimoto suggests that this should be included as one category to help judge the educational effectiveness of any CAI software. In closing, the following seven specific software evaluation areas, as suggested by Hashimoto, are recommended by this researcher to help narrow the field and provide more valid and reliable standards for the assessment of CAI software, especially for use in language education:

- 1) What criteria do users of CALL programs consider important in evaluations?
- 2) What aspects of CALL programs do users believe make them good?
- 3) What features of CALL programs do users find make them poor?
- 4) What features of CALL programs do students like best?
- 5) What special features of CALL programs should be included in an evaluation form?
- 6) What physical features, such as format and price, should be included in an evaluation?
- 7) Should a program's theoretical format be evaluated? If so, how? [and by whom?] . . . The establishment of valid and reliable criteria is essential for the future [effective] use of CALL in ESL/EFL education. 106

Both language skills and concepts and vocabulary which need to be developed within one's course content need to be constantly considered when designing any lesson, whether in the classroom or for Computer-Assisted Instruction. Foreign language students need to spend time learning both areas as simultaneously as possible when they reach higher academic levels. Students seem to prefer a balance of their language-learning time divided about fifty-fifty between Computer-Assisted and regular, Communicative Classroom Instruction. A principled, well-integrated EAP or ESP (English for Academic/Specific Purposes) approach should be applied to the development of any CALL courseware which purports to teach specific subject or content beyond mere language skills alone.

Suggested guidelines have been given above for the evaluation of computer software in general, and also for improving the teaching of ESL/EFL teaching, particularly in Japan. In conclusion, the benefits of CALL and CAI should be kept in mind and incorporated as much as possible for the develop-

¹⁰⁴Hashimoto, "Evaluation Criteria for ESL/EFL Software," 79-80.

¹⁰⁵Ibid., 82.

ment of more intensive and well-integrated language instruction. In this way more rapid and effective programs will be designed to enable language learners to master second languages much more efficiently than in the past, when only text-based or limited Audio-Lingual Methods were used. Flowerdew says,

CALL is an ideal medium for self-access learning, as tasks can be worked through without the supporting presence of a teacher. The program replaces the teacher, interacting with the student by providing feedback on both correct and incorrect responses." Of course real communicative activities and partners are also needed to develop actual linguistic abilities. ¹⁰⁷

Language teachers need to have a clear theory of Second Language Acquisition, and be actively examining and modifying it based upon their actual observation and experience. It is hoped that this study has helped to indicate some of the areas necessary to consider in order to develop an effective ESL/EFL Program. Its findings seem to put special emphasis on the important benefits of including as much rapid, intensive and Multimedia, Computer-Assisted Instruction as possible.

Four More Integrated Vocabulary-Training Methods

As time permits, especially when vocabulary training is being done over the entire school year (as is both necessary and recommended for foreign language students), the following four methods of vocabulary development can and should be tried. Besides straight use of the three educational media listed above, the following four methods can be used to better integrate all four communication skills when students are learning new vocabulary either in a Computer or Language Laboratory. Four Integrated Vocabulary-Training Methods recommended for future testing with Treatment/ Control Groups are:

- A. Oral Repetition and Discussion
- B. Writing Vocabulary Stories
- C. All Four Skills Integrated in Audio-Lingual Language Laboratories
- D. All Four Skills Integrated in Computer-Assisted Language Laboratories

Method A stresses adding Oral repetition as a prereading activity, and postreading discussion of stories when using the Audio-Lingual Method in the language lab. The teacher would have students repeat

¹⁰⁷Lynne Flowerdew, "Designing CALL Courseware for an ESP Situation: A Report on a Case Study," English for Specific Purposes: An International Journal 14, no. 1 (Oxford: Pergamon, 1995): 19-35.

each sentence after the tape, stopping it after each line for them to repeat. This should cause them to both focus on the syntax and pronunciation of unknown words, as well as give them more time to internalize, assimilate and remember the meaning of these new words. Students could also be given a few minutes to discuss the story's basic meaning, content, and main points after hearing and repeating each lesson. In this way students would be encouraged to improve their Oral and Listening skills.

Method B stated simply may be called the 'Vocabulary Story Approach.' Here students are asked to write their own personal, creative story using all ten of the new vocabulary words in one lesson, or a certain percentage of all fifty as a 'Unit Review.' They are encouraged to put these new words in a new, more personalized context, and to avoid copying the same sentence patterns from the model story. This approach requires language learners to extend and expand their own vocabulary, by applying these new concepts and meanings to their own written expression.

In a Computer Lab, students may use wordprocessing programs to do this writing, further developing their own keyboarding and computer skills at the same time. This gives them a double educational and employment preparation benefit. In such a case they may also be allowed to use a 'Spelling and/or Grammar Checker' program. This can both help students to improve their own foreign language writing skills more quickly and also reduce the teacher's correction or evaluation time for such written assignments.

Method C seeks to integrate all four communication skills--reading, listening, writing and speaking--in a Language Lab setting, by extending Method B's writing approach as follows. When using Method B in a Language Lab, written 'Vocabulary Stories' can later be read or summarized by one student to another. Again brief 'Oral Discussion' time can be allowed to encourage their verbal development, and to reward further verbal expression.

Method D would seek to integrate all four communication skills in a Computer Lab setting. CAI software materials would be used as much as possible for each language skill area, but in an integrated manner. If computerized multi-media programs and equipment exist, they would be used more. If not, some of the traditional classroom or group oral discussion could be added instead. The main point educationally and linguistically is to stress the use of all four skills, so that both knowledge about language

and ability to actually communicate can develop together in a balanced manner. (See Hatch, Shirai & Fantuzzi, "The Scope of SLA Research: Linguistic versus Communicative Competencies," Figure 1.)

It is important for all researchers to consider how their findings can help to improve future educational practice. In order to continue to improve instruction, more efforts must be made to relate research and practice. Relevant findings need to be further tested in the classroom, as well as at home and in society. A useful model to consider when designing language education curriculum is Mark's "Global Education Model for Language Teaching."¹⁰⁸ Beyond matching language components with rich and meaningful textual and situational contexts, such a global model suggests integrating three facets of education. These are (1) Language Learning--including a. Thematic Content, b. Learning Processes, and c. Linguistic Skills and Knowledge; (2) Individual Learner's Identity, and (3) Channels of Experience. In brief, a global educational approach to language teaching would imply looking at the meaningfulness of what is 'communicated' in terms of "a) the 'hidden curriculum' of teacher and course writer assumptions and values; b) the impact on students of the learning processes; c) the type of content and the way content is structured; d) the way these three interact with each other."¹⁰⁹ (Mark's "Global Education Model for Language Education" is included and summarized in Figure 17.)

Conclusion: Implications for Future SLA Research

Larsen-Freeman selected ten observations from SLA research which are relevant to language teachers, and suggested their implications for teaching in her excellent summary of this field called "Second Language Acquisition Research: Staking Out the Territory."¹¹⁰ These observations for language teachers' reflection are listed below.

1. The learning/acquisition process is complex.
2. The process is gradual.

¹⁰⁸Kevin Mark, "A Language Teaching Model for the 21st Century," The Language Teacher XIV, no. 5 (May 1990): 11-16.

¹⁰⁹Ibid., 13.

¹¹⁰Diane Larsen-Freeman, "Second Language Acquisition Research: Staking Out the Territory." TESOL Quarterly 25, no. 2 (Summer 1991): 315-50.

3. The process is nonlinear . . . it is not uncommon to find backsliding occurring when new forms are introduced, presumably due to an underlying restructuring (McLaughlin, 1990) which is taking place.
4. The process is dynamic. The factors that influence the learner and the cognitive strategies the learner adopts change over time Teachers should know that what works for learners at one level of proficiency may not do so when learners are at a later stage of proficiency.
5. Learners learn when they are ready to do so.
6. Learners rely on the knowledge and experience they have.
7. It is not clear from research findings what the role of negative evidence is in helping learners to reject erroneous hypotheses they are currently entertaining (Carroll & Swain, 1991). . . a deliberate focus on the formal properties of language or 'consciousness raising' (Rutherford & Sharwood Smith, 1988, p. 3) does seem to promote accuracy, at least (Lightbown & Spada, 1990).
8. For most adult learners, complete mastery of the L2 may be impossible . . . teachers . . . be realistic in . . . expectations.
9. There is tremendous individual variation among language learners. Teachers need to take into account these differences and learn to work with them in the classroom--herein lies the interpretive artistry of teaching.
10. Learning a language is a social phenomenon. Most . . . learners seek to acquire a second language in order to communicate . . . Much of what happens in the classroom . . . is attributable to . . . social needs of the participants . . . (Breen, 1985; Prabhu, 1991). 111

Finally, the relationship between research into theories of Second Language Acquisition (SLA), and beneficial backwash effects in the actual teaching of English as a Foreign or Second Language should be more clearly examined and encouraged. It seems to this researcher that a more wholistic view of second language development would seek to examine and account for students' variable competence by looking more closely at their degrees of interest and types of motivation. Language researchers also need to examine the relationship between both individual and group factors, types of instruction, and subsequent levels and rates of vocabulary and general English acquisition.

The degree of effectiveness of various Computer-Assisted Language Learning methods and materials undoubtedly will gradually increase along with improvements in modern technology. These new language learning tools need to be continually evaluated by professionals, and the benefits of good programs should be publicized and explained clearly to language teaching practitioners. Both internal and external learning factors need to be examined, mental as well as environmental, cultural and social, as well as differences in learners' styles and teachers' instructional strategies. Hatch, Shirai, and Fantuzzi give perhaps

¹¹¹Ibid., 335-38.

the clearest Flowchart of SLA Research,¹¹² showing both its scope to date, and also categorizing general theories of Second Language Acquisition. They divide language development into the two basic areas of

I. Linguistic Competence (knowledge of Phonology, Morphology, Syntax, and Lexicon), and

II. Communicative Competence (consisting of the two areas of productive ability or verbalization--

A. Oral and B. Written Expression). Such a theoretical framework has fit this research design and subsequent findings very well.

Models of language teaching and learning need to be examined and related to a more general, well-integrated model of Second Language Acquisition, which includes all the various modules of SLA research and yet sets up clearer definitions of terms and standards for the evaluation of competing theories. This has not been done as yet, and may be rather difficult to agree on. Perhaps the computer will also be useful for the testing of SLA theories. As Hatch, Shirai and Fantuzzi conclude, "We have already seen that AI (Artificial Intelligence) researchers can model much of discourse structure (rhetorical structure, script structure, conversational structure, and so forth).¹¹³ Thus they suggest that computers can be used to

test our ideas about teaching . . . Given our present technology, all kinds of experiments could be carried out to test our hypotheses about both teaching and learning, about how learning is generalized, and about how findings change once the effect of another "module" of language or communication is changed and new parts added. If we can combine a neurally plausible theory of learning with a pedagogically plausible theory of teaching, producing an integrated theory that is broad in scope, we could not only get back 'on track,' but also advance our understanding of second language acquisition in exciting new ways.¹¹⁴

In addition, two other fountainheads of recent reading research should be mentioned for further guidance as to what actually works in the teaching of native English reading skills, much of which would probably also apply in the field of second language reading. These are (1) Becoming a Nation of

¹¹²Evelyn Hatch, Yasuhiro Shirai, and Cheryl Fantuzzi, "The Need for an Integrated Theory: Connecting Modules." TESOL Quarterly 24, no. 4 (Winter 1990): 697-716.

¹¹³*Ibid.*

¹¹⁴*Ibid.*

Readers,¹¹⁵ and (2) Preventing Reading Failure.¹¹⁶ Also for better understanding the issues and status of reading and literacy in the United States one should refer to the National Center for Education Statistics' NAEP 1992 Reading Report Card for the Nation and the States,¹¹⁷ and to The National Right to Read's brochure, entitled A Guide to Understanding the Issues.¹¹⁸ Recommendations of such well-organized summaries of reading research should be considered before constructing any English reading or vocabulary curriculum.

Final Recommendations Summarized

New technology can help to make language learning more fun, informal, and accessible at any location where bilingual broadcasts, multilingual videos or CDs, computerized software, electronic dictionaries, or electronic mail exist. These kinds of equipment and facilities will make language learning increasingly more effective, efficient, and hopefully also more enjoyable in the years to come. However, before constructing any English reading or vocabulary curriculum, especially for learners of English as a Second or Foreign Language (TESOL/TEFL), the following summary of recommendations based upon this extensive study in Japan should be carefully considered.

Students who become motivated enough to learn another language well seem to master L2 vocabulary acquisition skills as well as reading and listening comprehension strategies along their rough, spiraling climb to language mastery. Fluent L2 readers, in turn, appear to gain the following essential language development skills: (1) ABILITY TO PROCESS L2 TEXTS using Intensive Reading skills, such

¹¹⁵Richard C. Anderson, Elfrieda H. Hiebert, Judith A. Scott, and Ian A. G. Wilkinson, Becoming a Nation of Readers: The Report of the Commission on Reading. (Washington, D. C. : National Institute of Education, 1985.)

¹¹⁶Patrick Groff, Preventing Reading Failure: An Examination of the Myths of Reading Instruction. (Portland, Oreg. : National Book Co., 1987).

¹¹⁷Ina V. S. Mullis, Jay R. Campbell, and Alan E. Farstrup, NAEP 1992 Reading Report Card for the Nation and the States (Washington, D. C. : U. S. Department of Education, National and Trial State Assessments, Sept., 1993), Report No. 23-ST06. Prepared by ETS under contract with the National Center for Education Statistics.

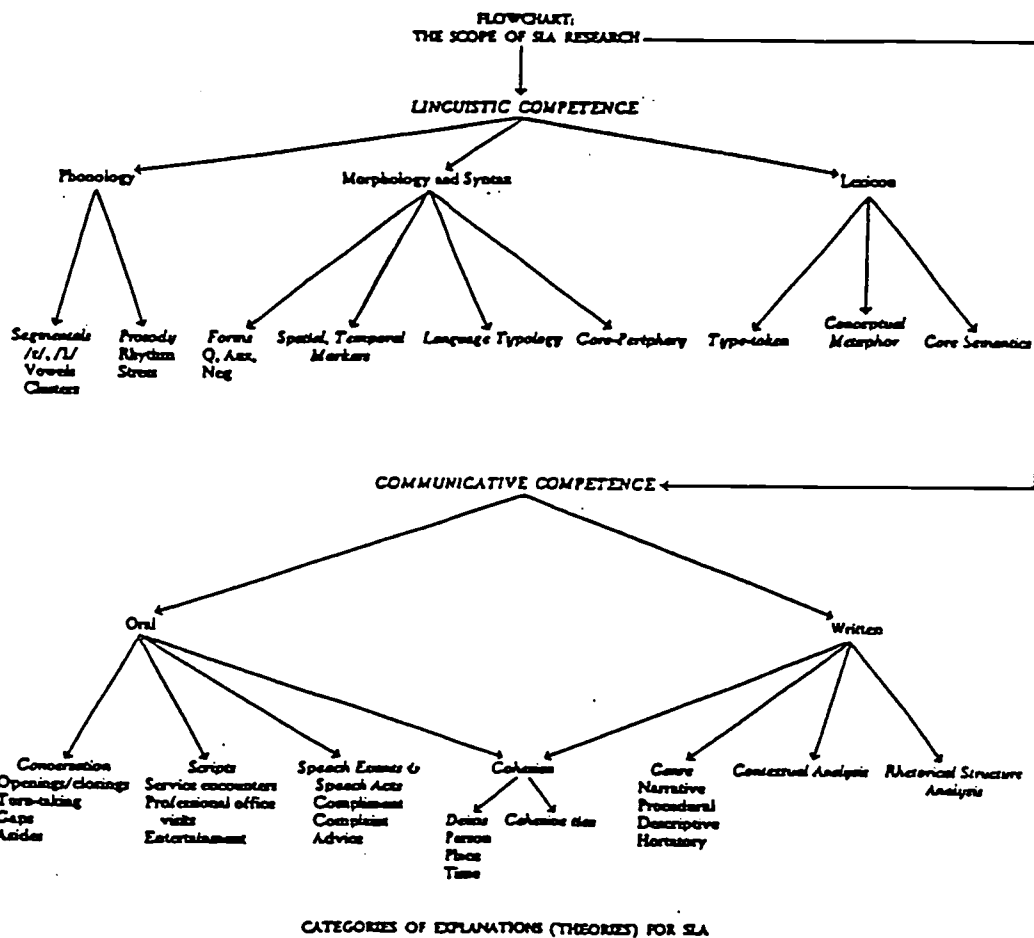
¹¹⁸James B. Jacobson and Patrick Groff, A Guide to Understanding the Issues (Washington, D. C.: National Right to Read Foundation, 1994.)

as skimming, scanning, and speedreading strategies successfully; (2) EXTENSIVE READING SKILLS, which enable them to enjoy reading in another language as a life-long habit; (3) INCREASINGLY HIGHER LEVELS OF COMPREHENSION of both reading and listening contexts; (4) GROWING LINGUISTIC COMPETENCY, giving greater ability to process semantic, syntactic, and contextual relationships within texts at increasing levels of speed and accuracy; (5) HIGHER LEVELS OF SECOND LANGUAGE ACQUISITION OR FLUENCY, which are needed for both (a) more advanced academic learning in English, (b) better balanced bilingualism, which is the ultimate or ideal goal of SLA, (c) better ability to translate between L1 and L2, and (d) a broader and richer vocabulary, which becomes the strong foundation upon which higher levels of communicative competence can be built naturally. This can be done as these areas of linguistic ability are integrated with the more productive language skills of speaking and writing through active use. These seem to be the essential steps by which SLA is attained.

Future research in Second Language Acquisition should focus on each specific area of language development, just as this study has begun to focus on the vital role that mastering vocabulary learning skills and strategies plays in Second Language Acquisition (SLA) among Japanese college students. It seems clear that one of the best ways to help students learn a foreign language can be represented by the formula "MVA+IFSA=MSLA." This means that "Maximizing Vocabulary Acquisition," together with "Integrated Four Skills Activation" of new language forms and meanings, can help language learners to in turn "Maximize (their) Second Language Acquisition" of the target language (L2). More studies like this should be encouraged, because they can help us both to better refine our knowledge, and also to inform and improve our practice in the field of English language education.

ILLUSTRATIONS

- GOALS OF SLA RESEARCH**
1. Predict what is learned and in what order (i.e., acquisition as stages of accomplishment)
 2. Demonstrate changes during acquisition and/or use (i.e., processes used in performance)
 3. Explain why goals 1 and 2 obtain



1. L1 and language typology transfer/interference
2. Naturalness (marked-unmarked, core-periphery)
3. Parameters and parameter setting
4. Learner and social group characteristics
5. Instruction, "assisted performance"

Figure 1: The Scope of SLA Research

(Taken from Hatch, Shirai and Fantuzzi, TESOL Quarterly 24, no. 4, 1990: 700-701. Used with Permission.)

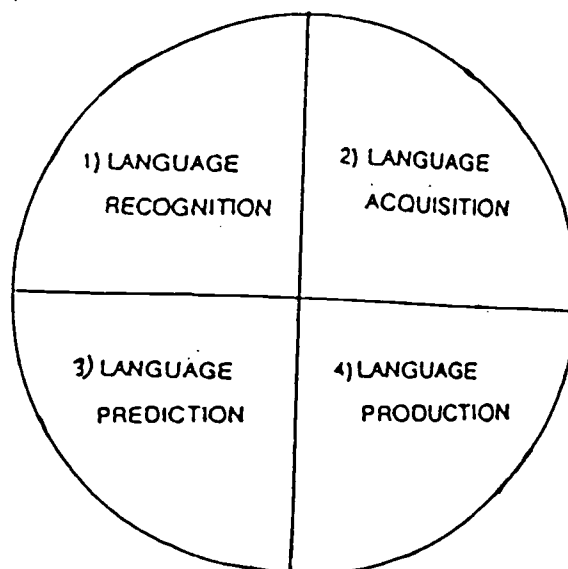


Figure 2: Four Major Types of Language-Learning Activities
 (Based on Roach Van Allen's Language Experience Approach.
 Designed by the author.)

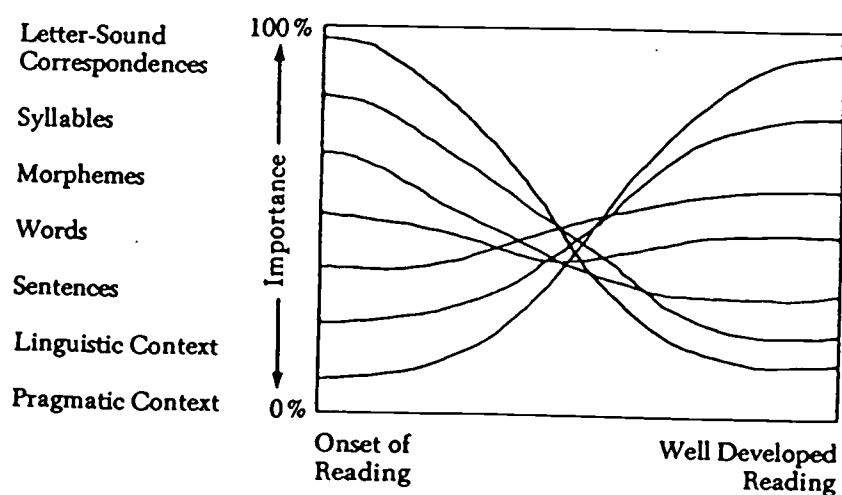
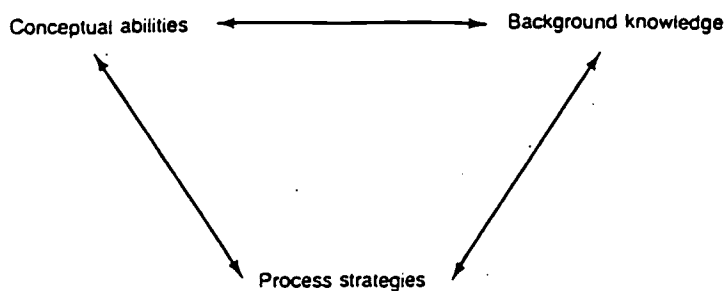


Figure 3: A Schematic Diagram of the Role of Language Accesses in Beginning Reading and Well-Developed Reading. (From *Linguistic Theory: What Can It Say About Reading?* Edited by R. Shuy, Newark, Del., International Reading Association, 1977, viii.)



**Figure 4: Schema Theory in ESL Reading Pedagogy
(Coady's Model)**

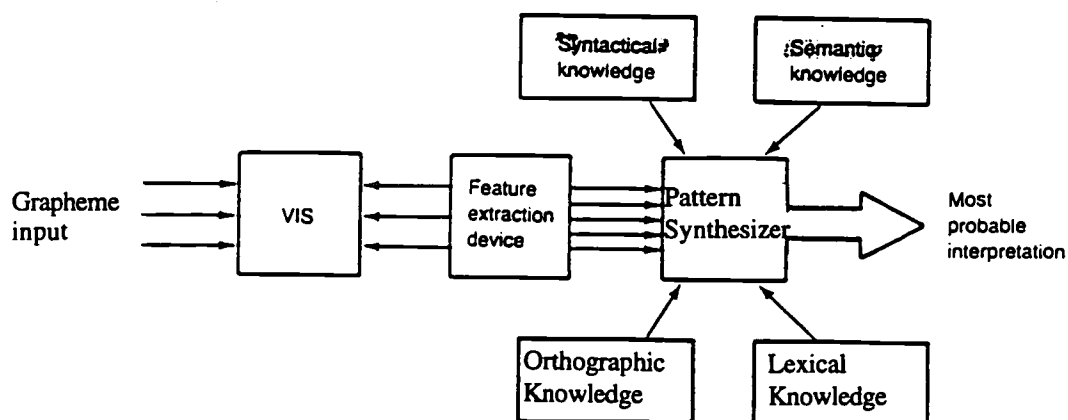


Figure 5: Rumelhart's Interactive Model of Reading

(From D.E. Rumelhart, 1977, Toward an interactive model of reading, in "Attention and performance," Vol. VI, S. Dornic (Ed.), p. 588. Hillsdale, N.J.: Erlbaum.

<i>Cycles</i>	<i>Inputs</i>	<i>Output</i>
Start Recognize task as reading known language.	Graphic display Memory: recognition-initiation Activate strategies in memory	Optical scan cycle
1. <i>Optical</i> a) Scan in direction of print display.	Start: Memory: strategies for scanning appropriate to graphic display. Adjust speed of scan to processing speed.	Optical fixation cycle To memory: predict relation of information to direction of display.
b) Fix-focus eyes at point in the print.	Light reflects from graphic display. Visual field includes sharp and fuzzy input. Memory: prior prediction of meaning, structure, graphic redundancy, expectation of locus of key graphic cues.	Perception cycle To memory: cues for image formation.
2. <i>Perception</i> a) Sample-select. Choose cues from available graphic display.	Fix: cues available in sharp and blurred input. Memory: sampling strategies. Prior predictions and decodings to meaning.	To memory: selected cues. To feature analysis
b) Feature analysis. Choose features necessary to choose from alternate letters, words, structures.	Sampled features: From memory: Assign allosystem(s) (type style, cursive, etc.). Prior predictions.	Confirm prior prediction. Correct if necessary by return to scan, fix. If no system available, try best approximation or terminate; otherwise proceed to image formation.
c) Image formation. Form image of what is seen, and expected to be seen. Compare with expectations.	From: feature analysis, cues appropriate to allosystem(s) chosen. From memory: graphic, syntactic, semantic constructs. Prior predictions.	If no image possible, return to feature analysis or prior cycle for more information. Confirm prior predictions. If correction needed

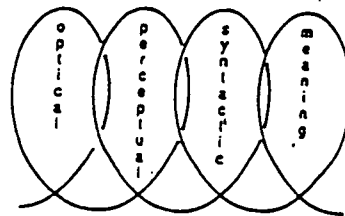


Figure 6: Goodman's Cyclical View of the Reading Process

Cycles	Inputs	Output
	Cues from parallel phonological system (optional)	return to prior cycle, scan back for source of inconsistency. If image formed, store in memory and go to syntactic cycle.
3. Syntactic cycle a) Assign internal surface structure.	From image formation From memory: rules for relating surface display to internal surface structure. Prior predictions and decodings.	If no structure possible, recycle to perception or optical cycles. If inconsistent with predictions, try alternate or correct by recycling and scanning back to point of mismatch. If structure is possible, go to deep structure.
b) Assign deep structure. Seek clauses and their inter-relationships	From: internal surface structure. From memory: transformational rules for relating surface and deep structures. Prior predictions and decodings.	If no structure possible try alternative. If still no structure, recycle. If inconsistent with prediction, correct by recycling. If deep structure possible, predict graphic, semantic, syntactic features. Go to meaning. If oral reading, assign appropriate intonation contour. Terminate if no success.
4. Construct meaning a) Decode	From: deep structure From memory: stored experiences, conceptual constructs, lexicon. Prior predictions.	If meaning not acceptable, recycle to point of inconsistency. If no meaning possible, try alternate deep structure or recycle to seek more information. If still no meaning, hold all information in memory and return to scan. Terminate if no meaning results.

Cycles	Inputs	Output
		If acceptable meaning, go to assimilate/accommodate
b) Assimilate/ Accommodate If possible, assimilate. If not possible, accommodate prior meaning.	From: decode From memory: prior predictions, prior meaning. Conceptual attitudinal constructs.	If no assimilation possible and no accommodation possible, recycle to correct or obtain more information. If still not possible, hold and return to scan for possible clarification as reading progresses. Accommodations possible; modify meaning of story/text to this point modify predictions of meaning modify concepts modify word definitions restructure attitudes If task complete, terminate. If task incomplete, recycle and scan forward, predict meaning, structure, graphics.

Figure 6: Goodman's Cyclical View of the Reading Process
(Continued)

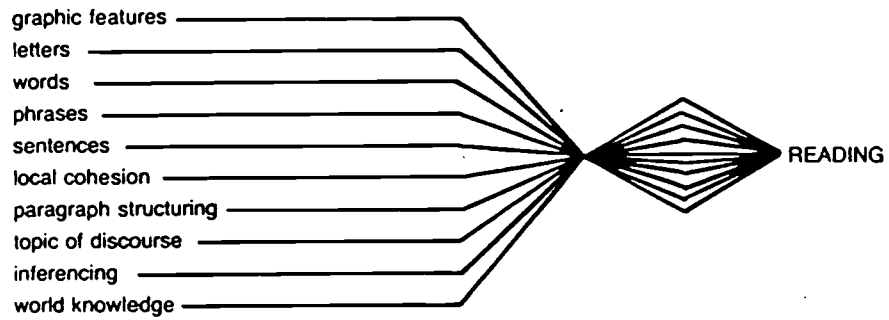
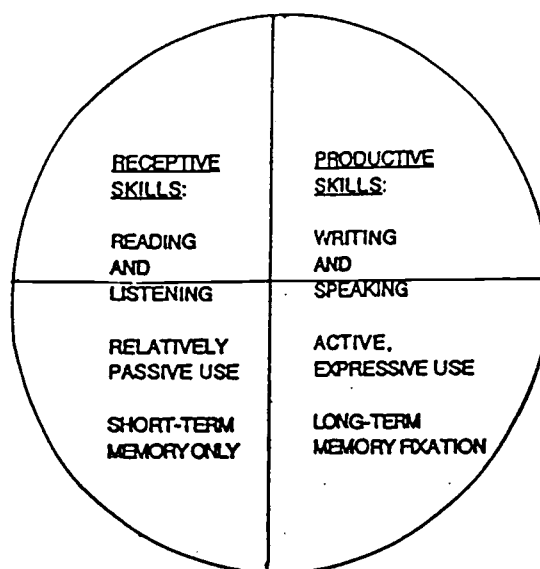


Figure 7: A Simplified Interactive Parallel Processing Sketch

(From William Grabe's "Reassessing the Term 'Interactive' " Chapter 4 In Interactive Approaches to Second Language Reading, ed. Patricia Carrell, Joanne Devine, and David E. Eskey, 56-70. Cambridge: Cambridge University Press, 1988.)



WELL-BALANCED AND INTEGRATED FOUR-SKILLS APPROACH NEEDED

EMPHASIZE THE ACTIVE USE OF EXPRESSIVE SKILLS PRODUCTIVELY

EVEN BEFORE READING, LISTENING OR WRITING, ORAL BRAINSTORMING DISCUSSION SHOULD BE ENCOURAGED TO ACTIVATE OR DEVELOP NECESSARY BACKGROUND KNOWLEDGE. POST-READING, LISTENING OR WRITING ACTIVITIES (PEER-SHARING/FEEDBACK) SHOULD ALSO BE DONE ORALLY AS MUCH AS POSSIBLE TO DEVELOP STUDENTS' GENERALLY WEAK CONVERSATION AND ORAL DISCUSSION SKILLS.

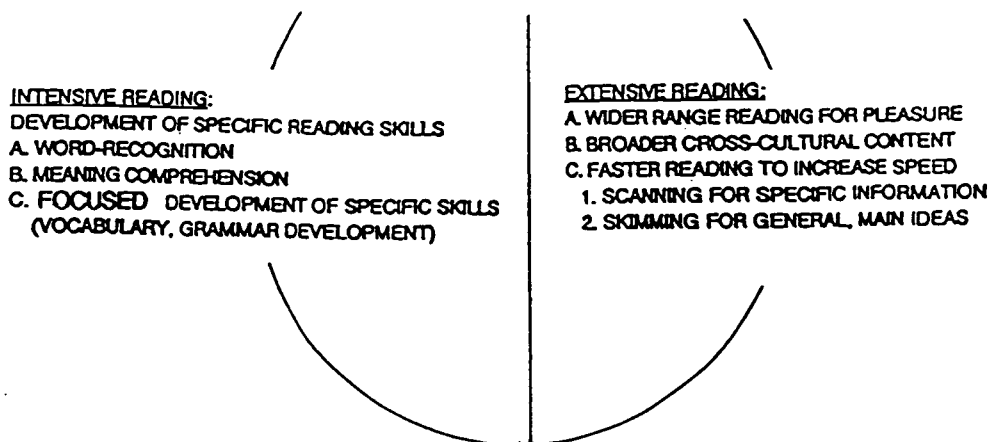


Figure 8: Eskey's Intensive/Extensive Reading Distinction (with author's interpretation and application to an integrated, four-skills language education approach)

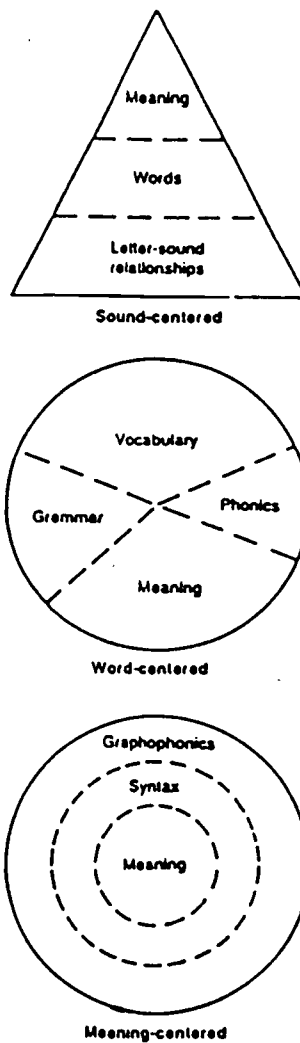


Figure 9: Three Models of the Reading Process
 (From Harste and Burke, 1977: 32, 37-38.
 The National Reading Conference.)

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ILR Scale	ACTFL/ETS Scale
5	Reading & Listening / Speaking & Writing
4+	
4	Distinguished
3+	Superior
3	
All Skills	
2+	Advanced Plus
2	Advanced
1+	Intermediate-High
1	Intermediate-Mid
	Intermediate-Low
0+	Novice-High
0	Novice-Mid
	Novice-Low
Absolute Zero	

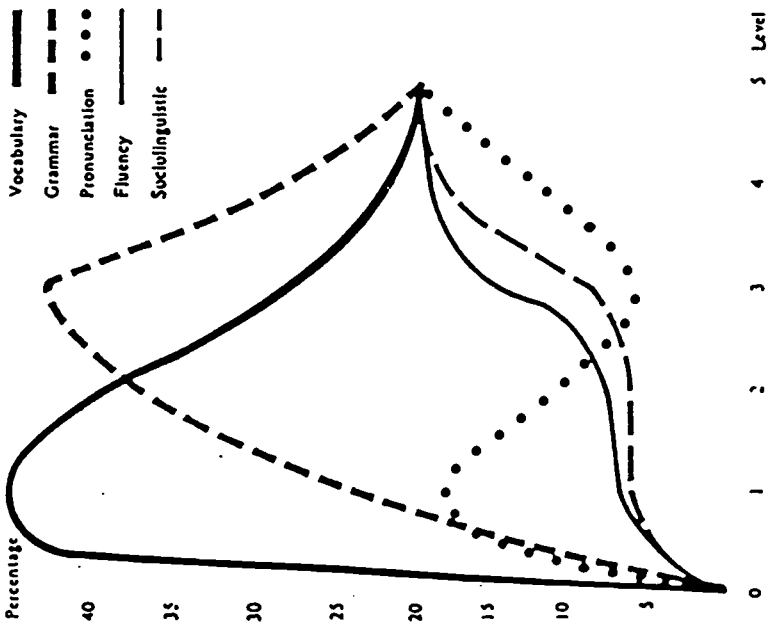


Figure 10: Proficiency Assessment

Section A. Hypothesized Relative Contribution Model

Note. From "The Push Toward Communication" (p. 69) by T.V. Higgs & R.T. Clifford in T.V. Higgs (Ed.), *Curriculum, Competence, and the Foreign Language Teacher*, 1982, Lincolnwood, IL: National Textbook Co. Copyright 1982 by National Textbook Co. Reprinted by permission.

Section B. Relationship of ILR Scale to ACTFL/ETS Scale

This figure shows the relative importance of vocabulary at various levels of language learning, which are formally defined as levels of "Proficiency Assessment," from 0-5. Level 5 equals native-like fluency or proficiency.

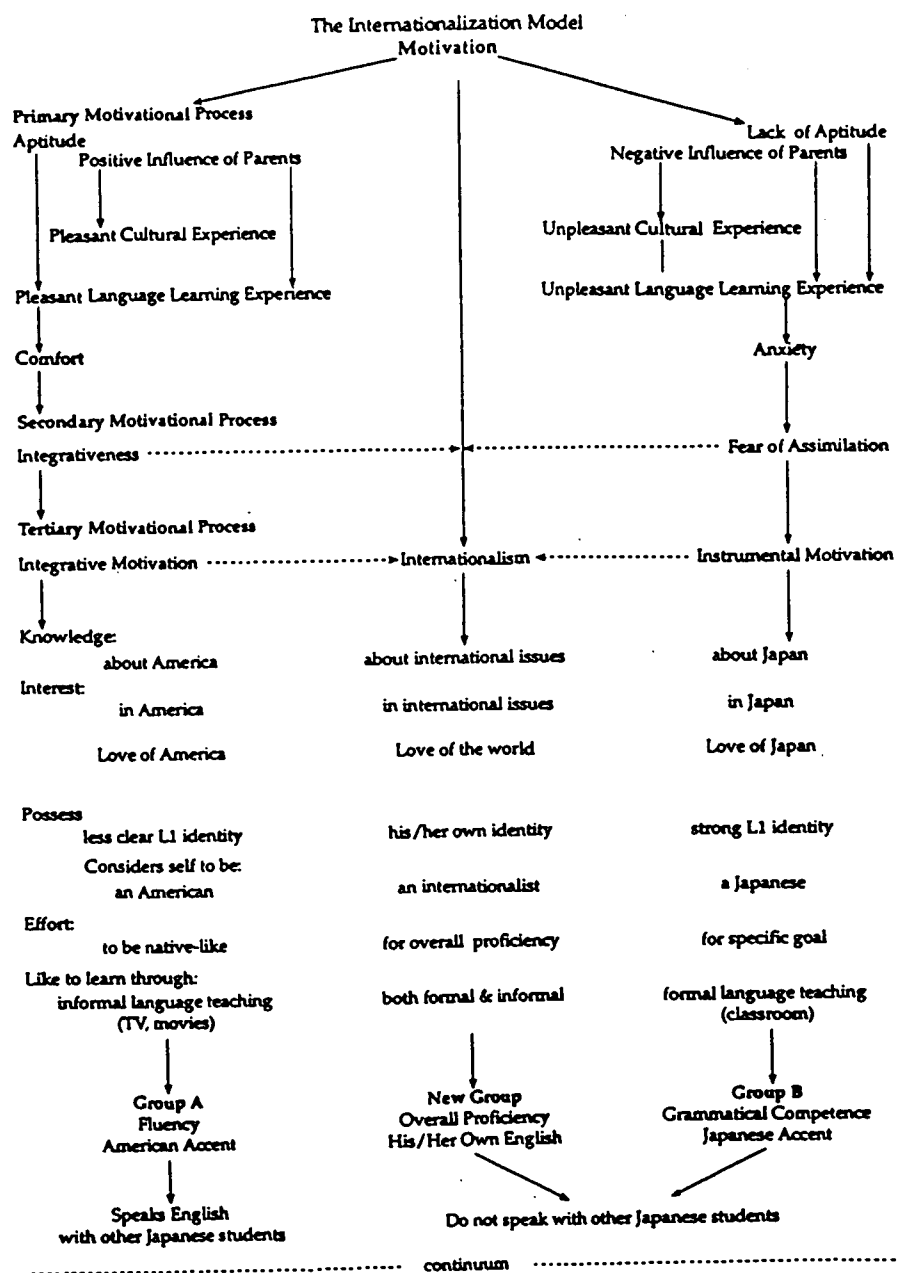


Figure 11: Internationalization Model of Motivation

Nakata, "New Goals for Japanese Learners of English," *Language Teacher* 19, no. 5, (May 1995): 20.

What to Look For	How to Look for It	How to Include It
Does the teacher know what the learners' vocabulary level and needs are?	Ask the teacher	Use the levels test (Nation, 1990) Interview the learners
Is the program focusing appropriately on the appropriate level of vocabulary?	Look at what vocabulary or strategies are being taught	Decide whether the focus is high, academic, or low frequency vocabulary
Is the vocabulary helpfully sequenced?	Check that opposites, near synonyms, lexical sets are not being presented in the same lesson	Use texts and normal use to sequence the vocabulary
Are the skill activities designed to help vocabulary learning?	Look at the written input to the activities Ask the teacher	Include and monitor wanted vocabulary in the written input
Is there a suitable proportion of opportunities to develop fluency with known vocabulary?	Look at the amount of graded reading, listening to stories, free writing and message-based speaking	Use techniques that develop well-beaten paths and rich maps
Does the presentation of vocabulary help learning?	Look for deliberate repetition and spacing Rate the activities for depth of processing	Develop teaching and revision cycles Choose a few deep processing techniques to use often
Are the learners excited about their progress?	Watch the learners doing tasks Ask the learners	Set goals Give feedback on progress Keep records

(from Nation, 1994, vi.)

Figure 12: Evaluating the Vocabulary Component of an ESL Program

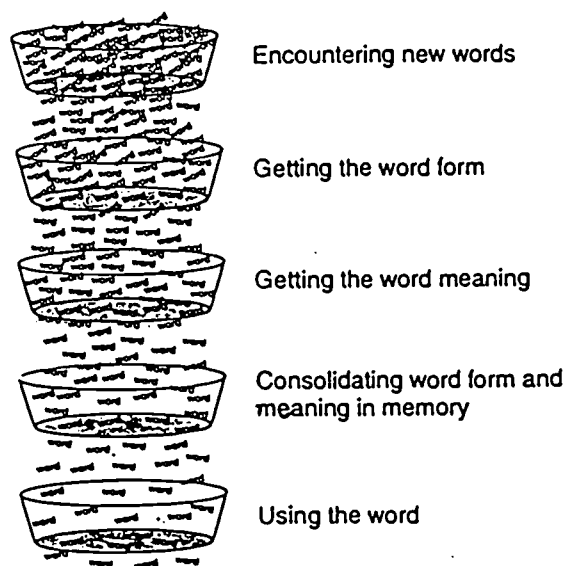


Figure 13: Five Essential Steps to Learning New Words

(From Hatch, Evelyn, and Cheryl Brown, Vocabulary, Semantics, and Language Education, Cambridge: Cambridge University Press, 1995.)

Test types	Pre-text reconstruction tasks	Help used during IR	Follow-on tasks (LA = language awareness tasks)
Narratives	a. Reorder pictures of story b. Fill in story orally c. Check order with text story	Pictures	LA (Whatever in text)
Newspaper story	a. Discuss current news story b. Watch TV news report and make notes c. Compare notes with IR text	Notes	a. Compare reports in different papers b. LA (Whatever in text)
Abstract	a. Read 3 summaries of 3 research articles b. Match abstract with summary c. Discuss differences abstract v. summary	Summary	a. Write abstract from another summary b. LA (Past, 3rd persons, passives)
Letters of complaint	a. Reorder letter of complaint b. Match letter with reply c. True/false statements	Reply	a. LA (Process of complaint) b. Write a letter
Instructions (e.g. Lego model)	a. Reorder sets of pictures next to picture b. Write appropriate verbs c. Instruct friends, who make model	Completed model	a. LA (Prepositions of place) b. Write instructions on how to make another model
Descriptions of people, places, things	a. Look at a picture and pick 5 adjectives b. Read description, match with picture c. Describe picture to friend	Picture	a. LA (Adjectives) b. Write a description
Newspaper article	a. Use headline to predict main points b. Compare these with article c. Note main points in own words	Notes of main points	LA (Whatever in text)
Directions	a. Read set of directions b. Choose the appropriate map from 3 c. Plot route on map	Plotted route	LA (Prepositions of place)
'Day in the Life' (Sunday Times)	a. Discuss habits/routines of person b. True/false statements checked against text c. Look up 5 new words	5 new words	a. LA (Present simple) b. Write about morning routine
Processes	a. Discuss possible steps of process b. Read and complete flow diagram c. Order simple sentences for a job d. Retell story using linkers/connectors e. Read job and note down all linkers	Use flow diagram	a. LA (Passives) b. Use another flow diagram to write about a process a. LA (Linkers) b. Write own job and tell to class
Joke	a. Discuss content of holiday postcard b. Order sentences of a postcard c. Pick out all adjectives	Adjectives	Write a postcard
Postcards			
Patterns of text organization	Pre-text reconstruction tasks	Help used during IR	Follow-on tasks (LA = language awareness tasks)
Situation/ problem solution/ evaluation	a. Discuss problem in text b. Label and order parts of pattern c. Notes about problem	Notes about problem	a. LA (Verbal signals patterns) b. Write own text
Compare/ contrast	a. Discuss pros/cons e.g. TV b. Read text; what pattern is used? c. Note main arguments	Pattern and notes	a. LA (Comparing/ contrasting) b. Write text using pattern
Cause and effect	a. Discuss causes of a tooth decay b. Complete cause and effect boxes	Completed boxes	a. LA (Degrees of certainty) b. Write similar text
General to specific	a. Discuss topic b. Note generalizations and specific examples in text	Notes	Write own text using pattern
Given/new	a. Introduce, read, understand text b. Complete table with given/new information for each sentence in text	Completed table	LA (Anaphoral)
Time based text	a. Organize events into a time sequence b. Complete table with notes of events and times	Completed table	a. LA (Time expression text) b. Produce time based text

Figure 14: Task Sequences which Include Text Reconstruction (From Paul Brett's "Using text reconstruction software," in ELT Journal, Vol. 48/4 (Oct. 1994) (London: Oxford University Press) 329-336.

1

bitterness, cookery, cream, crush, essence, fat, fatty, flavour, flesh, frozen, juice, juicy, milky, mixture, onion, paste, pastry, raw, rawness, roast, spirits, steam, sweet, sweeten, sweetness, tasteless, tender, tenderness, thicken, watery

1 Mary is going to cook lunch today. She enjoys — very much. These are —. She has not cooked them yet: they are still —. She is going to make them into a sauce. First she is going to — them until they are quite —.

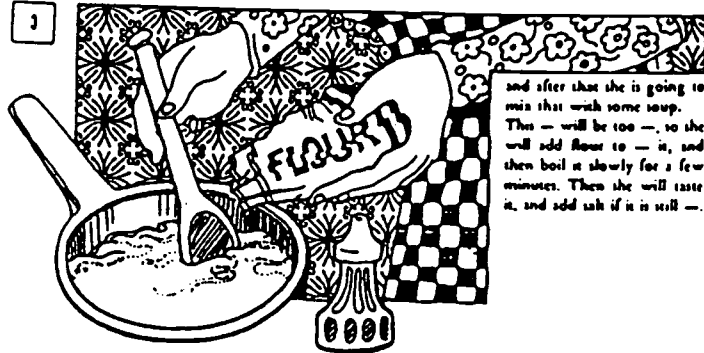


2



then she is going to — them with a fork until they are like a —.

3



and after that she is going to mix that with some soup. This — will be too —, so she will add flour to — it, and then boil it slowly for a few minutes. Then she will taste it, and add salt if it is still —.

Figure 15: Sample of L. A. Hill's Contextualized Vocabulary Tests

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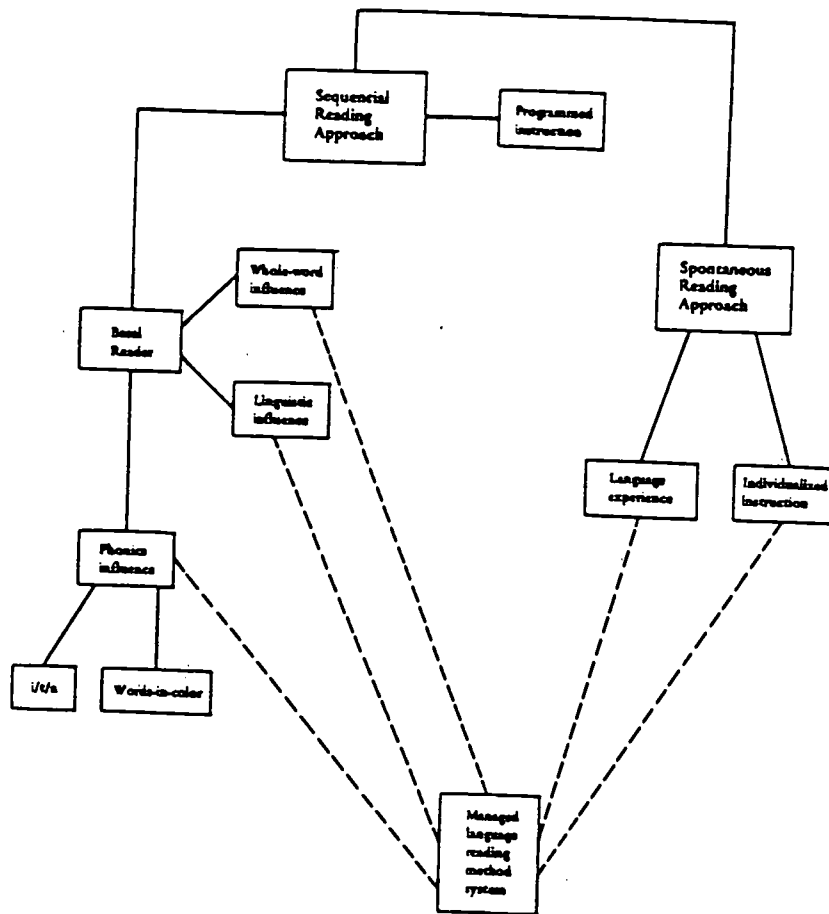
The following chart illustrates the changing focus of reading instruction:

Approximate date	Learning system	Materials	Characteristics
1600-1800	Alphabet spelling system	<u>Hornbook</u> <u>New England Primer</u>	Oral reading Memorization Recitation
1800s	Whole-word method		Silent reading Oral reading Reading for comprehension
	Controlled repetition	<u>McGuffey Eclectic Readers</u>	Silent reading Controlled repetition of words
Late 1800s	Artificial phonics system	Basic readers containing tales and excerpts from classics	Word-analysis emphasis
Early 1900s	Look-and-say		Sight-word emphasis Testing initiated
1900s	Silent reading method		Elaborate testing and measurement Silent reading emphasis
1930s	Basal method	Student and teacher workbooks <u>Dick and Jane</u> <u>Alice and Jerry</u>	Controlled vocabulary Oral and silent reading, phonics influence
1950s and 1960s	Phonics strongly emphasized Words-in-color Individualized instruction Programmed instruction Language experience method	SRA materials	Individualization Individual Language patterns Personalization
Late 1960s	Linguistic influence	<u>Let's Read</u>	Patterned word units
Mid-1970s	Managed language reading	Use of a variety of methods and materials <u>Ginn 720</u> <u>Macmillan R</u>	Personalization Individualization Sequential organization

Figure 16: Varying Approaches to Teaching Reading through History

Section A (From Diane Lapp and James Flood, *Teaching Reading to Every Child*. N.Y.: Macmillan, 1978, p. 436.)

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The strengths and weaknesses of each of the two basic approaches are readily apparent, and they can be explained in the following way:

Approaches	Sequential reading development	Spontaneous reading approach
Strengths	Prepared materials Logically organized	Personalized Emphasizes language base
Weaknesses	Lack of personalization	Too time-consuming Lack of manufactured materials Elaborate record keeping

Figure 16: Varying Approaches to Teaching Reading through History

Section B (From Diane Lapp and James Flood, Teaching Reading to Every Child. N.Y.: Macmillan, 1978, p. 438.)

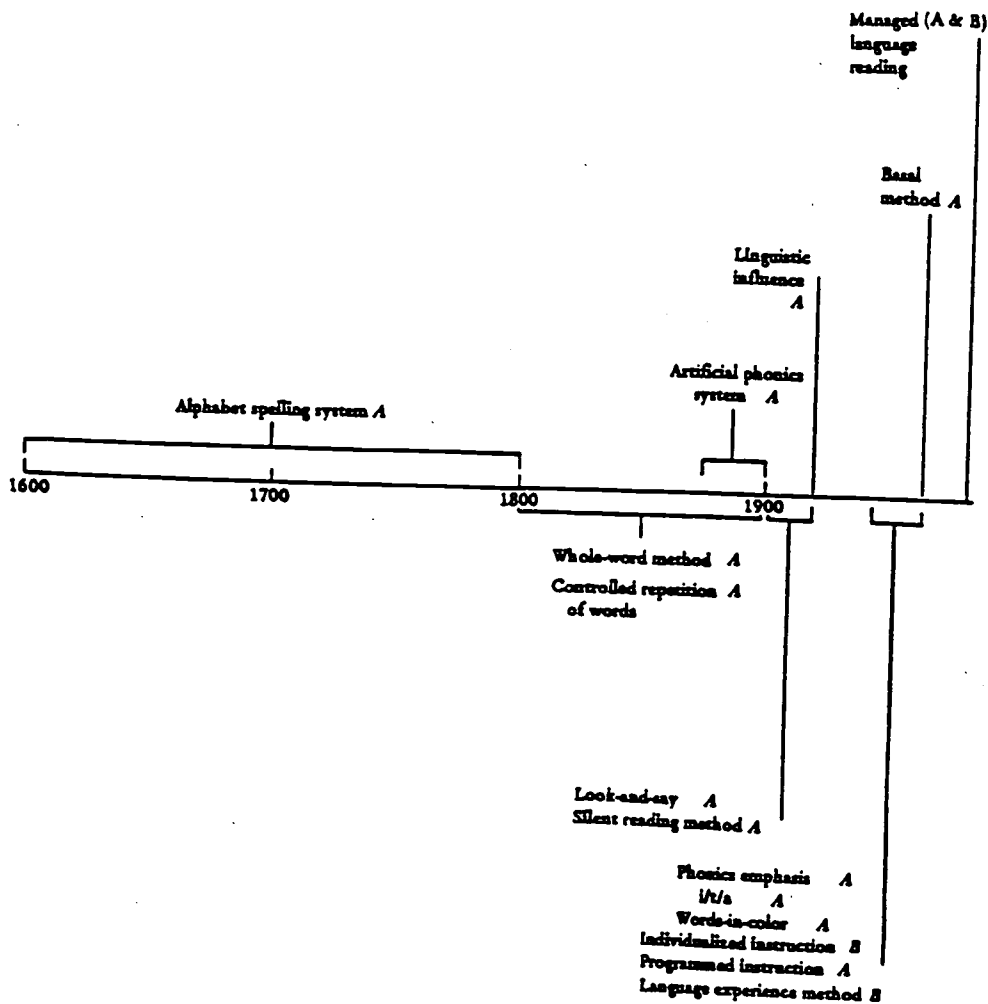
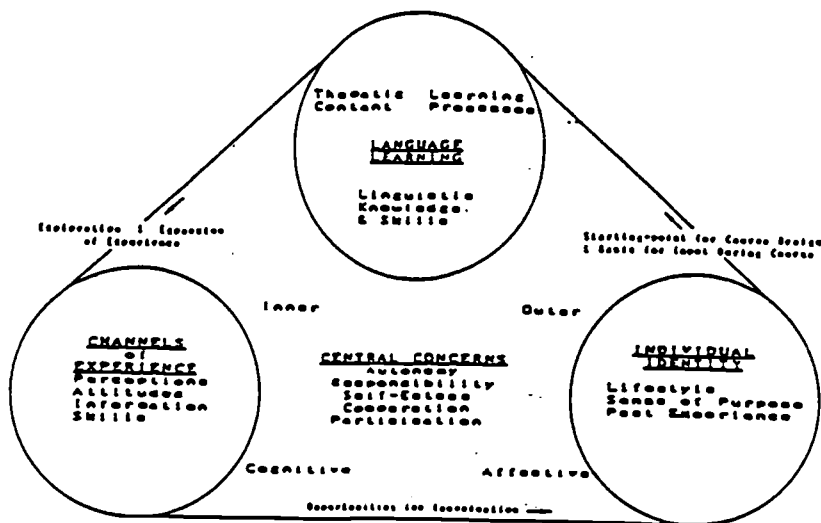
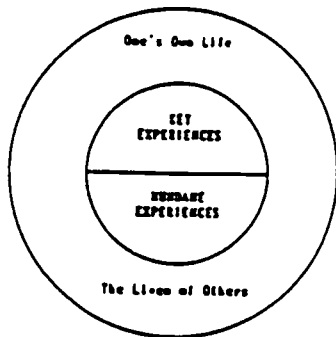


Figure 16: Varying Approaches to Teaching Reading through History
 Section C (From Diane Lapp and James Flood, Teaching Reading to Every Child. N.Y.: Macmillan, 1978, p. 439.)

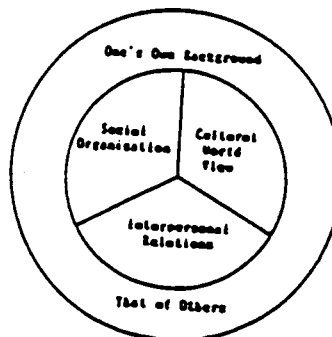
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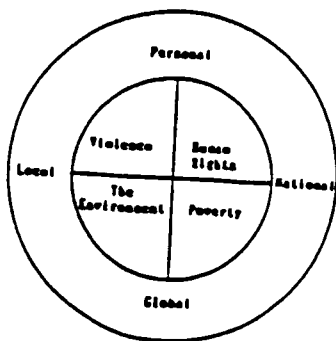
Section A
A Global Education Model for Language Education



Section B
PERSONAL IDENTITY



Section C
HUMAN INTERACTIONS



Section D
GLOBAL PROBLEMS

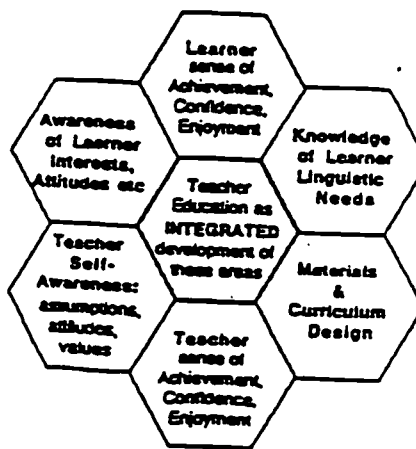


Figure 17: Global Educational Model for Language Education
 (From Kevin Mark, "A Language Teaching Model for the 21st Century," in The Language Teacher, Vol. XIV, No. 5, May 1990, 11-16. "Integrated Teacher Education," from Teacher Talking to Teacher, Newsletter of the JALT Teacher Education N-SIG, Vol. 3, No. 1, Feb. 1995, 13.

APPENDIX A
TABLES OF JAPANESE COLLEGE
STUDENTS' READING LEVELS
AND INTERESTS

Table 1.--Seinan 1993-94 Pre-Test Scores (Continued, With Embedded Graph Showing Total Rapid Reading Class Averages on Gates C)

ID	Voc Ave	Comp Ave	Rdg Lev Ave	1E Voc Ave	Comp Ave	Rdg Lev Ave	1F Voc Ave	Comp Ave	Rdg Lev Ave								
	4.12	3.79	3.98	4.12	3.76	4.02	4.01	3.51	3.76								
<p>Seinan Freshmen '93 Pre-Test Average Reading Levels</p> <table border="1" style="margin: 10px auto;"> <caption>Seinan Freshmen '93 Pre-Test Average Reading Levels</caption> <thead> <tr> <th>Category</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>Total Voc Ave</td> <td>3.4</td> </tr> <tr> <td>Total Comp Av</td> <td>3.5</td> </tr> <tr> <td>Total RL Ave</td> <td>3.6</td> </tr> </tbody> </table>										Category	Average	Total Voc Ave	3.4	Total Comp Av	3.5	Total RL Ave	3.6
Category	Average																
Total Voc Ave	3.4																
Total Comp Av	3.5																
Total RL Ave	3.6																
n=	306	Total Voc Ave	4.033	Total Comp Av	3.66	Total RL Ave	3.8566										

Table II.--Seinan 1993-94 Posttest Scores (With Embedded Graph Showing Average Final Reading Level of Each Class on Gates F Test)

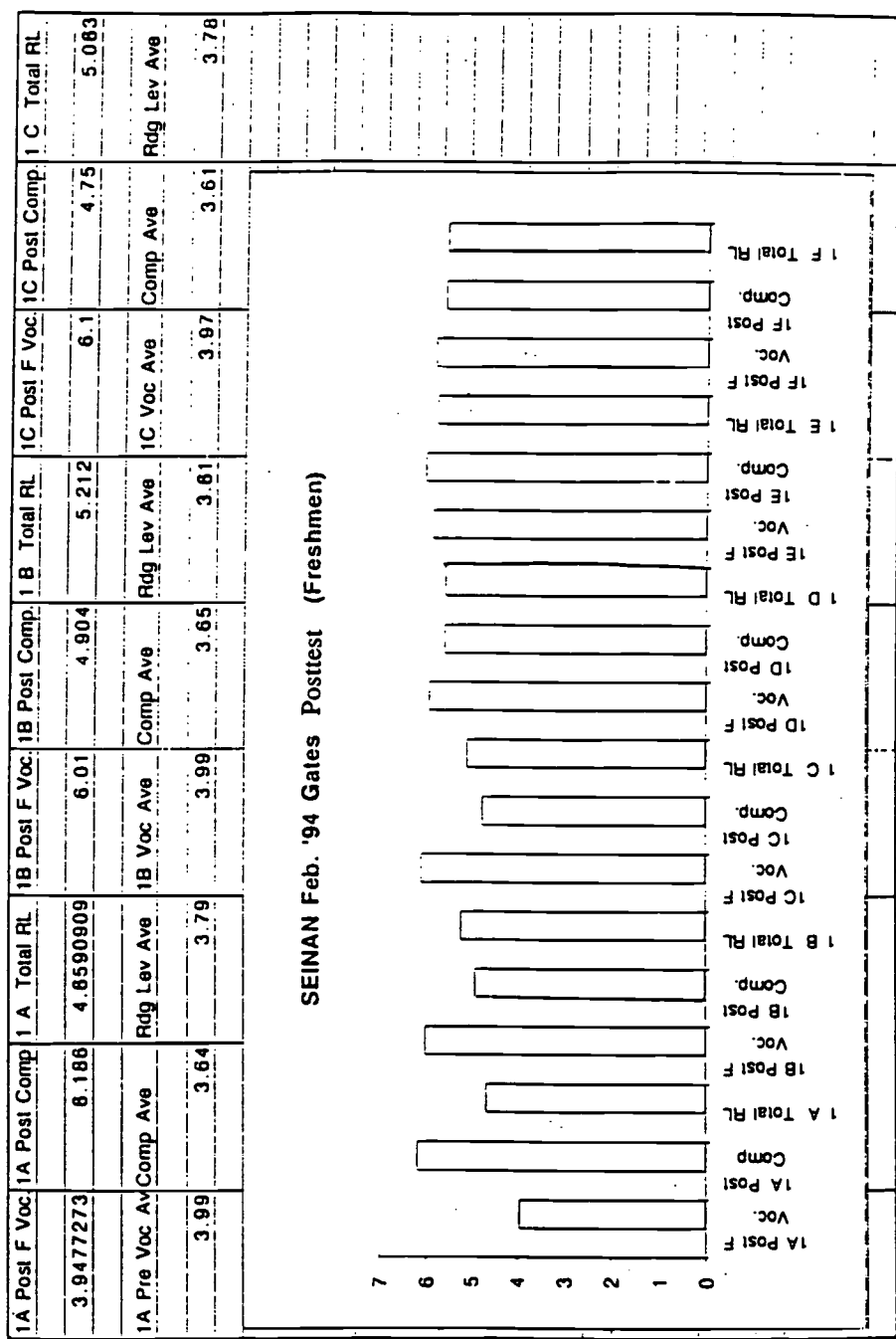
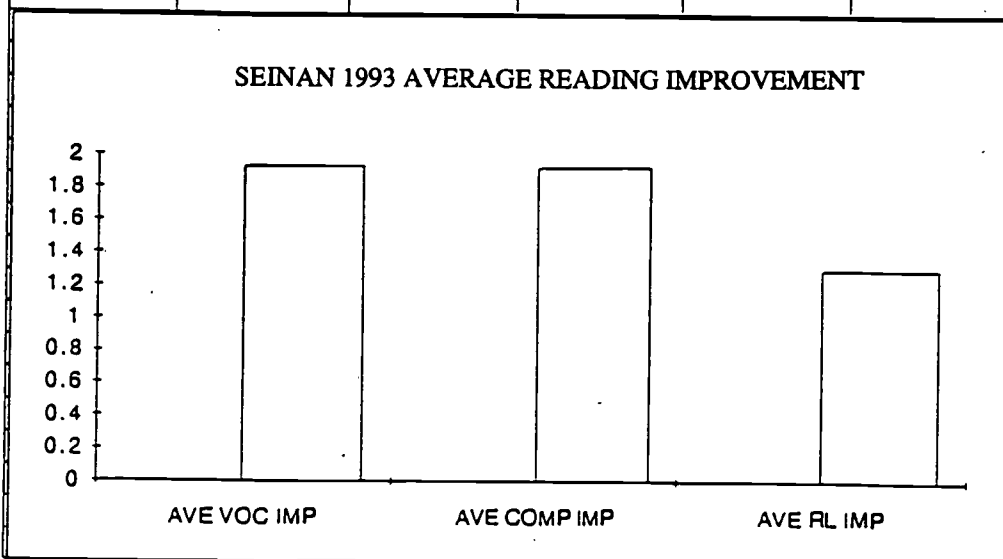


Table III.--Comparing Seinan 1993-94 Pre- and Posttests (With Embedded Graph Showing Total Average Reading Level Improvement)

1A VOC IMP	1A COMP IMP	1A RL IMP		
NONE SHOWN	2.48	0.87		
1B VOC IMP	1B COMP IMP	1B RL IMP		
2.02	1.25	1.4		
1C VOC IMP	1C COMP IMP	1C RL IMP		
2.13	1.14	1.3		
1D VOC IMP	1D COMP IMP	1D RL IMP		
1.81	1.81	1.6		
1E VOC IMP	1E COMP IMP	1E RL IMP		
1.76	2.3	1.77		
1F VOC IMP	1F COMP IMP	1F RL IMP		
NONE SHOWN	2.55	0.87		
AVE VOC IMP	AVE COMP IMP	AVE RL IMP		
1.93	1.92166667	1.30166667		
(1.3 for ALL Classes Incd.)				



**Table IV.--Seinan 1994-95 Rapid Reading Classes C-F,
Numerical Data (from which embedded graphs were generated)**

(Comparing C Pre-test in Yamamoto 1C & 1D Classes, with Loucky's 1E & 1F Classes.)

<u>CLASS NAME:</u>	<u>VOCAB. LEVEL</u>	<u>COMP. LEVEL</u>	<u>READING LEVEL</u>
1C	3.93	3.22	3.58
1D	3.83	2.99	3.42
1E	2.05	3.17	2.44
1F	2.05	3.6	2.52

COMPARING AVERAGE CLASS IMPROVEMENT IN TOTAL READING LEVELS

Loucky's	1) 1E-- 3.17 grades	2) 1F-- 3.15 grades
Yamamoto's	3) 1C-- 1.8 grades	4) 1D-- 2.31 grades

TEXT-BASED CLASSES' IMPROVEMENT IN:

<u>VOCABULARY;</u>	<u>COMPREHENSION;</u>	<u>READING LEVEL;</u>
I. 1C-- 1.89	2.02	1.8
II. 1D-- 2.14	2.684	2.31

ALM/CAI-ASSISTED CLASSES' IMPROVEMENT IN:

<u>VOCABULARY;</u>	<u>COMPREHENSION;</u>	<u>READING LEVEL;</u>
III. 1E-- 4.14	2.15	3.17
IV. 1F-- 4.03	1.86	3.15

Table IV.--Seinan 1994-95 Rapid Reading Classes C-F, Continued Numerical Data (from which embedded graphs were generated)

T-Test Comparing Class Means for 4 Rapid Reading Classes:
Yamamoto's C & D versus Loucky's E & F Rapid Reading Classes Combined, year-long study. Mean Improvement in Reading Areas:

*p< .001	<u>Text-Based ALM/Comp-Assisted</u>	<u>t-Score</u>
	(n = 100)	(n = 102)
		(df = 200)
Vocabulary:	2.02	4.10
Comprehension:	2.35	2.01
Total Reading:	2.06	3.16
		12.89*
		1.68
		7.64*

LEARNING OF WORDCRAFT VOCABULARY:

<u>TREATMENT:</u>	<u>Short-Term</u>	<u>Long-Term Posttest</u>
1) CAI 1 (1FA)	30.26%	30% (about the same)
2) ALM (1EB)	27.33%	31% (4% Better on LT)
<u>CONTROL GROUP:</u>	<u>AVE. IMPROVEMENT/LEARNING RATE</u>	
3) SSR (1FB)	31.6%	30.94% (.6 less)

Improvement rates were based on subtracting Treatment or Control Group's average Pre-Test score from average Posttest scores on Wordcraft 1-5 Review Test. An extra group, 1EA, not compared statistically in this study measured as follows:

CAI 2 (1EA)	23.56%	29%	(5.44% Better)
-------------	--------	-----	----------------

Table IV.--Seinan 1994-95 Rapid Reading Classes C-F, Continued
Numerical Data (from which embedded graphs were generated)

Also see Table XVI, for "Statistical Analyses."

PRE-TEST (Gates, Form C)

	<u>CAI Intensive Vocabulary Development Control Groups</u>		vs. <u>Treatment Groups</u>	
	<u>1C</u>	<u>1D</u>	<u>1E</u>	<u>1F</u>
I. VOC.--	3.93	3.83	2.05	2.05
II. COMP.--	3.22	2.99	3.17	3.61
III. R. L.--	3.58	3.42	2.44	2.52

(R. L. = Total Reading Level averages.)

POST-TEST (Gates, Form F)

	<u>1C</u>	<u>1D</u>	<u>1E</u>	<u>1F</u>
I. VOC.--	5.82	5.97	6.19	6.08
II. COMP.--	5.24	5.67	5.32	5.46
III. R. L.--	5.38	5.73	5.61	5.67

For the purposes of comparing gains statistically, both class 1C and 1D were combined as "Control Group," and classes 1E and 1F were combined as a "CAI Intensive Vocabulary Development Treatment Group." Their averages are shown in the following chart:

Table IV.--Seinan 1994-95 Rapid Reading Classes C-F, Continued 240
Numerical Data (from which embedded graphs were generated)

<u>Control Group</u>	<u>CAI Intensive Vocabulary Development</u>	
	<u>Treatment Group</u>	
<u>Average of 1C & 1D:</u>	<u>Average of 1E & 1F: PRE-TEST (Gates, Form C)</u>	
I. VOC.--	3.88	2.05
II. COMP.--	3.11	3.39
III. R. L.--	3.5	2.48
 <u>Average of 1C & 1D:</u>	 <u>Average of 1E & 1F: POST-TEST (Gates, Form F)</u>	
I. VOC.--	5.90	6.14
II. COMP.--	5.46	5.39
III. R. L.--	5.56	5.64

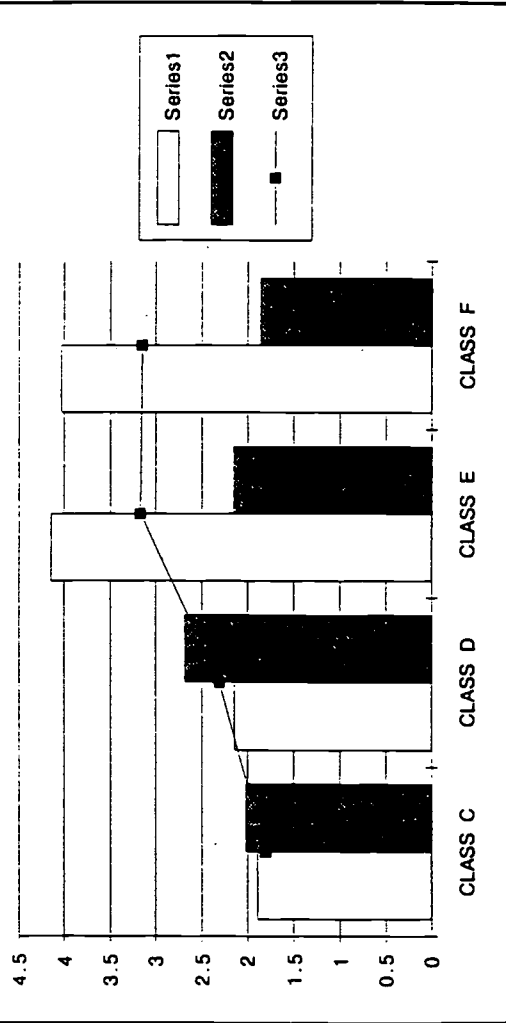
T-Test Comparing Class Means for 4 Rapid Reading Classes:
 Yamamoto's C & D versus Loucky's E & F Rapid Reading Classes
 Combined, year-long study. Mean Improvement in Reading
 Areas:

*p < .001	<u>Text-Based ALM/Comp-Assisted</u>	<u>t-Score</u>
	(n = 100)	(n = 102)
		(df = 200)
Vocabulary:	2.02	4.10
Comprehension:	2.35	2.01
Total Reading:	2.06	3.16
		12.89*
		1.68
		7.64*

Table IV... Continued.
 Embedded Graph A.--Average Reading Level Improvement Per Class

Class Ave. Imp:	CLASS C	CLASS D	CLASS E	CLASS F
VOCABULARY	1.89	2.14	4.14	4.03
COMPREHEND	2.02	2.684	2.15	1.86
READING Level	1.8	2.31	3.17	3.15
Correlations:		0.74557951		0.99557119

COMPARING VOCABULARY, COMPREHENSION AND TOTAL
 READING LEVEL IMPROVEMENT OF FOUR RAPID READING
 CLASSES (SEINAN, 1994-95)



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Table IV.-- Continued.
Embedded Graph B.--Yamamoto's 1C Pre- and Posttests
(Shown on 3-D Bar Graph)

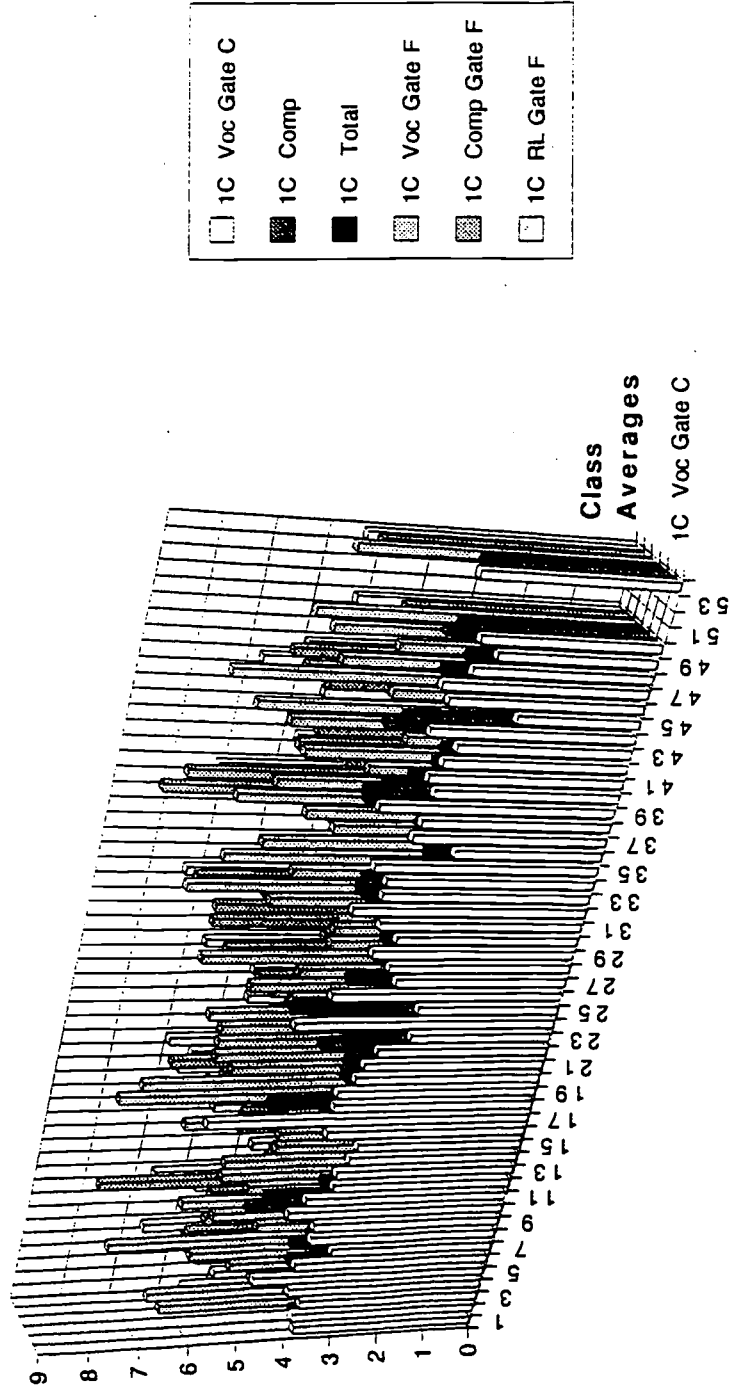


Table IV.-- Continued.
Embedded Graph C.--Yamamoto's 1C Pre- and Posttests
(Shown on Line Graph)

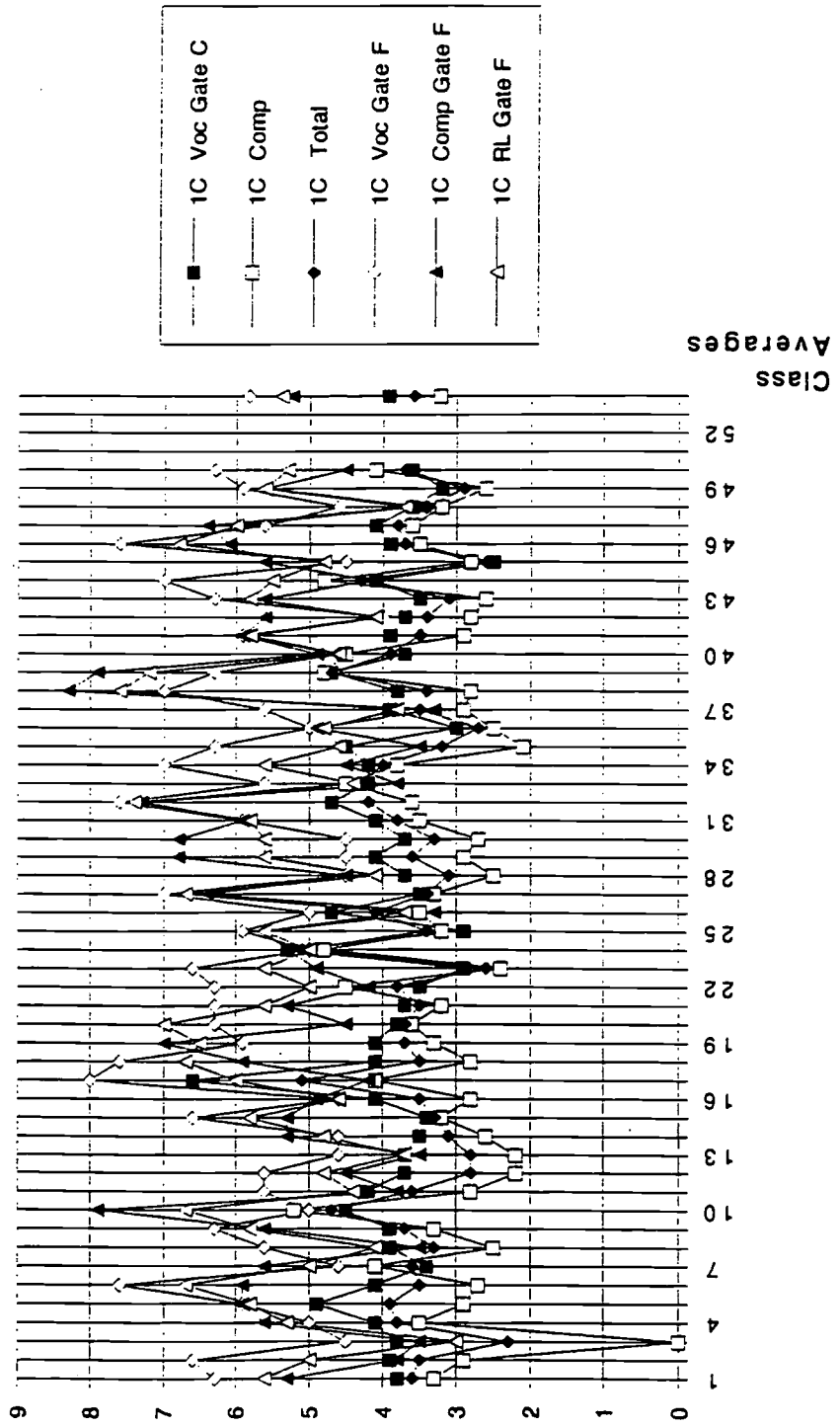


Table IV.--Continued.
Embedded Graph D.--Yamamoto's 1D Pre- and Posttests
(Shown on 3-D Bar Graph)

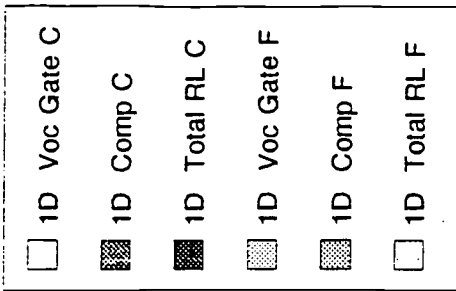
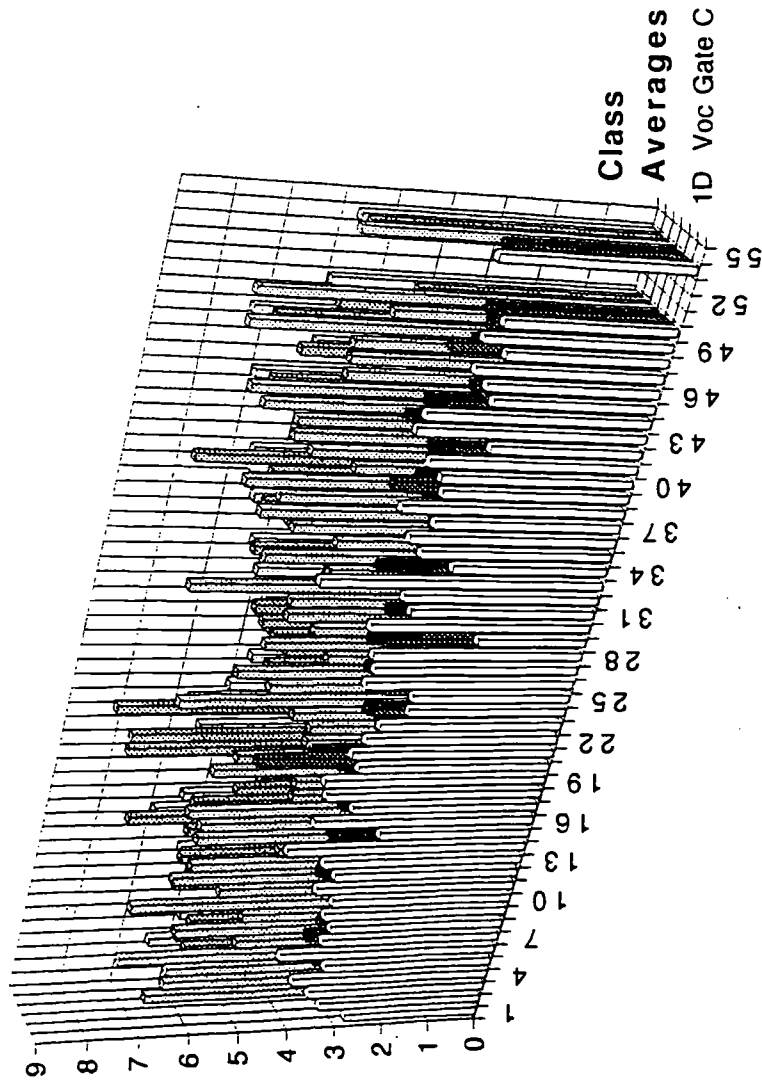


Table IV... Continued.
Embedded Graph E...Yamamoto's 1D Pre- and Posttests
(Shown on Line Graph)

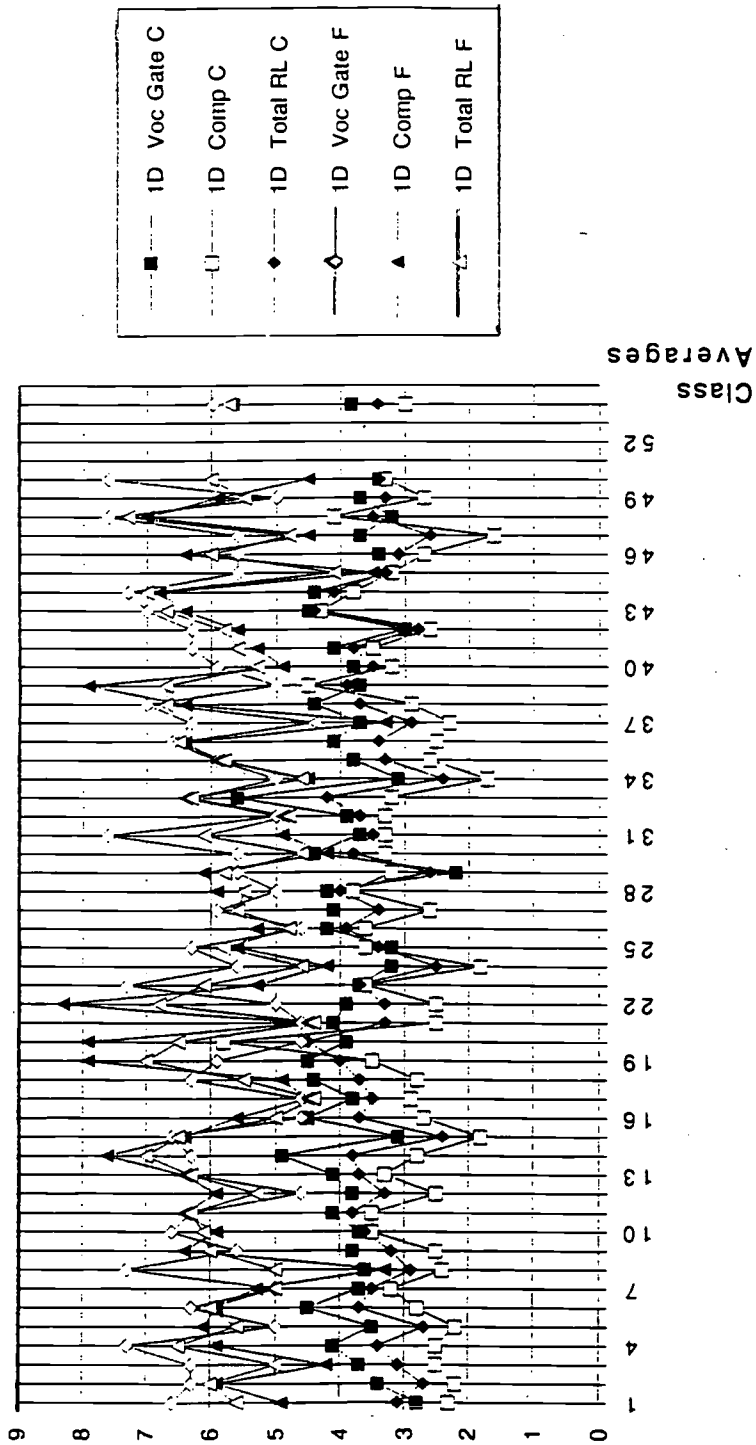


Table IV.--Continued.
Embedded Graph F.--Loucky's 1EA, CAI Group Improvement
(Shown by Comparing Pre- and Posttest Reading Averages)

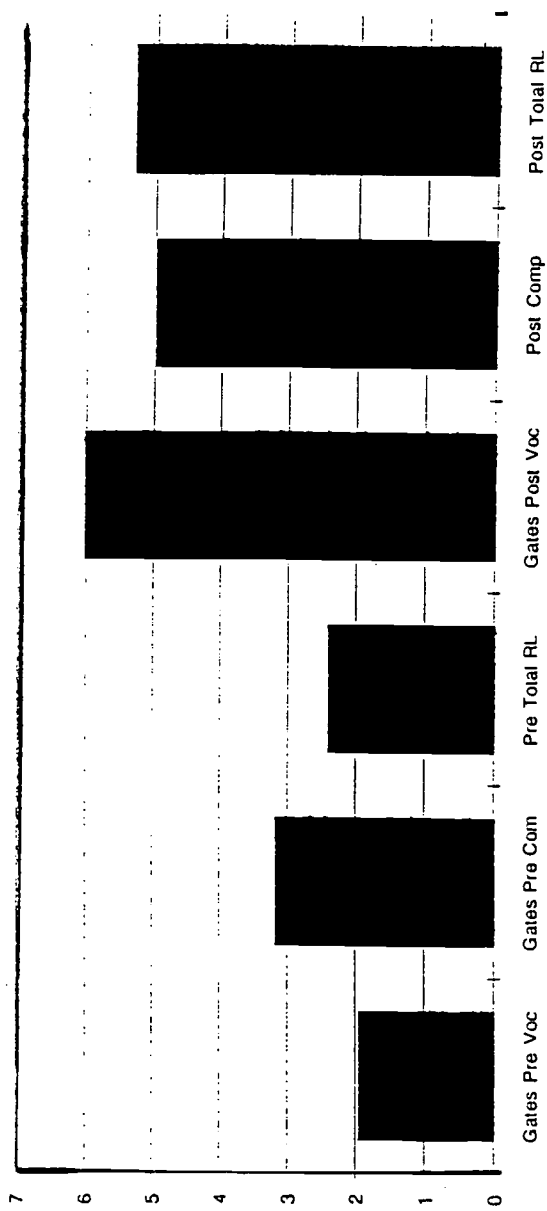
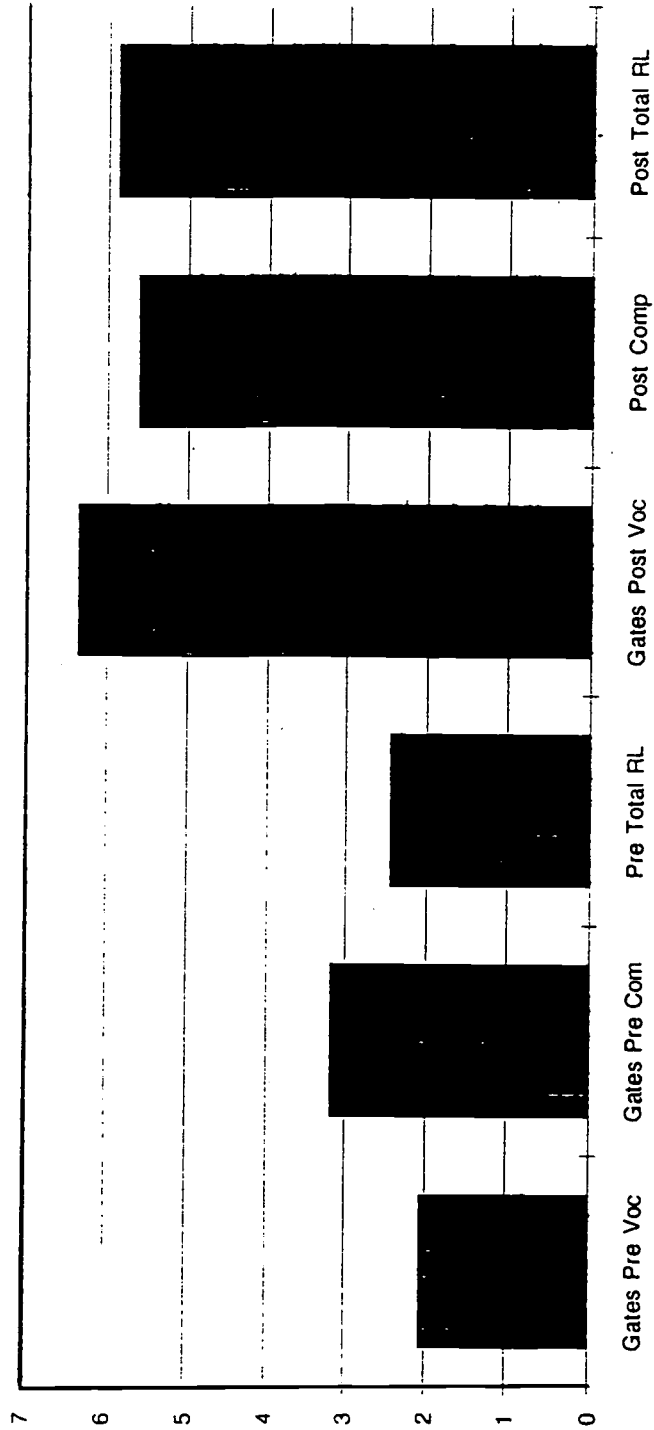


Table IV---Continued.
Embedded Graph G---Loucky's 1EB, ALM Group Improvement
(Shown by Comparing Pre- and Posttest Reading Averages)



**Table IV.--Continued.
Embedded Graph H.--Loucky's 1E Total Class Improvement
(Shown by Comparing Pre- and Posttest Reading Averages)**

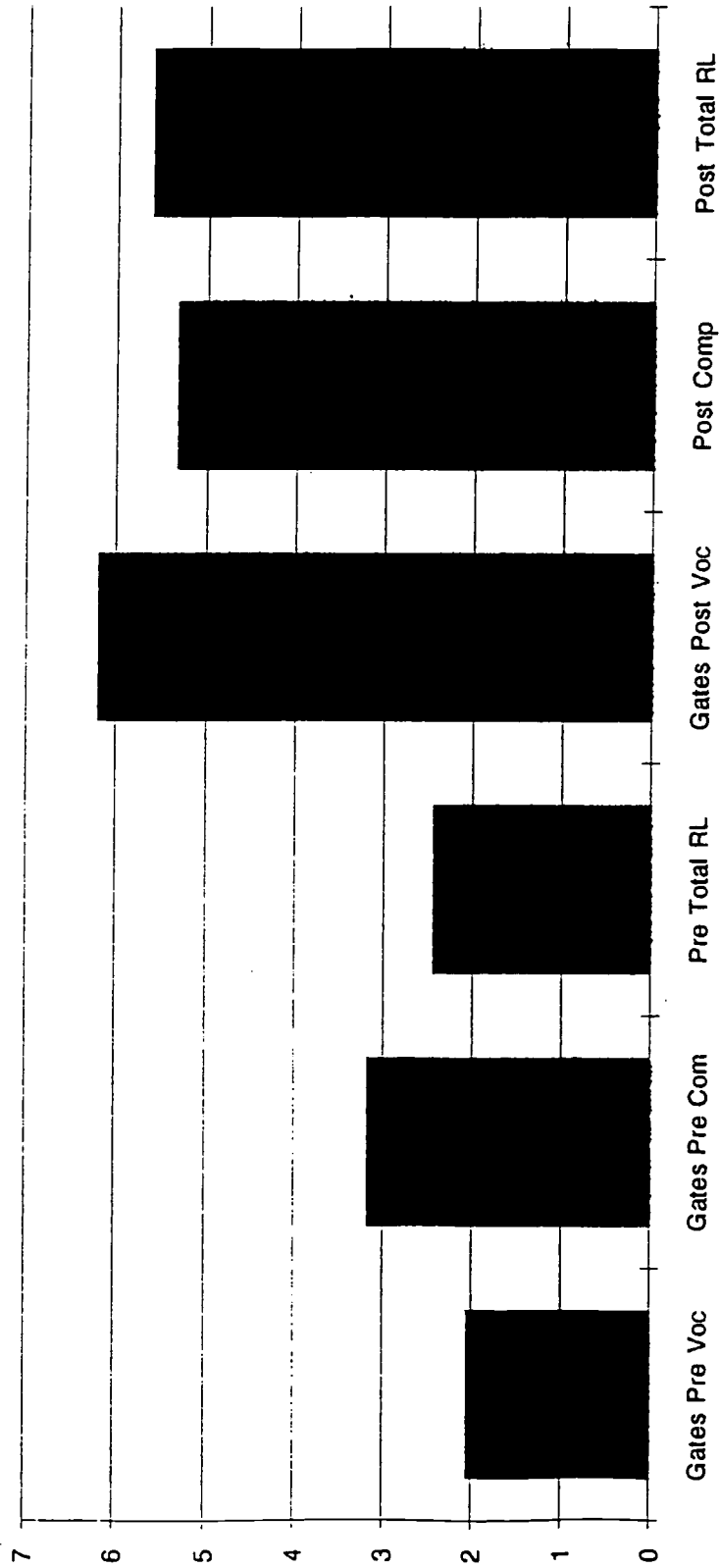


Table IV... Continued.
Embedded Graph I.--Loucky's 1E Individual and Total Class Improvement
in Reading Speed

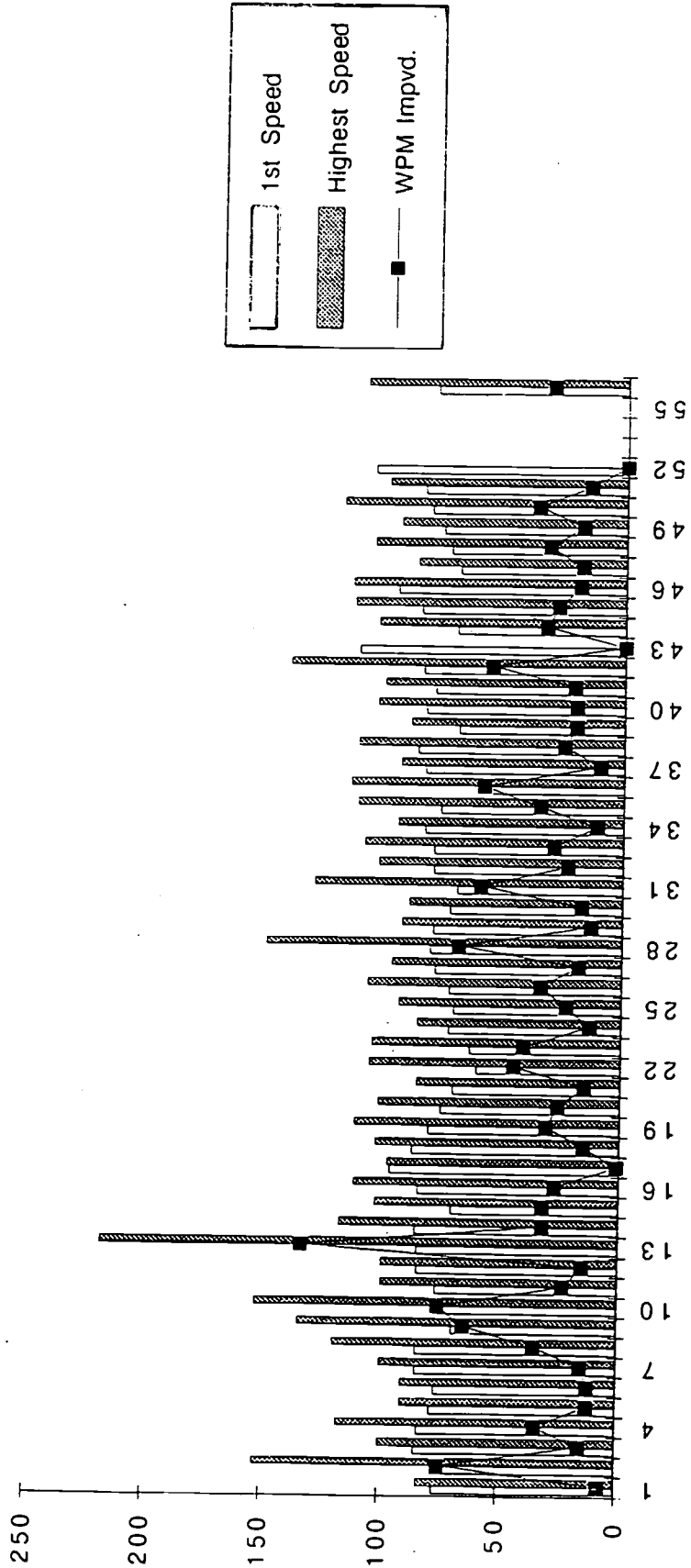
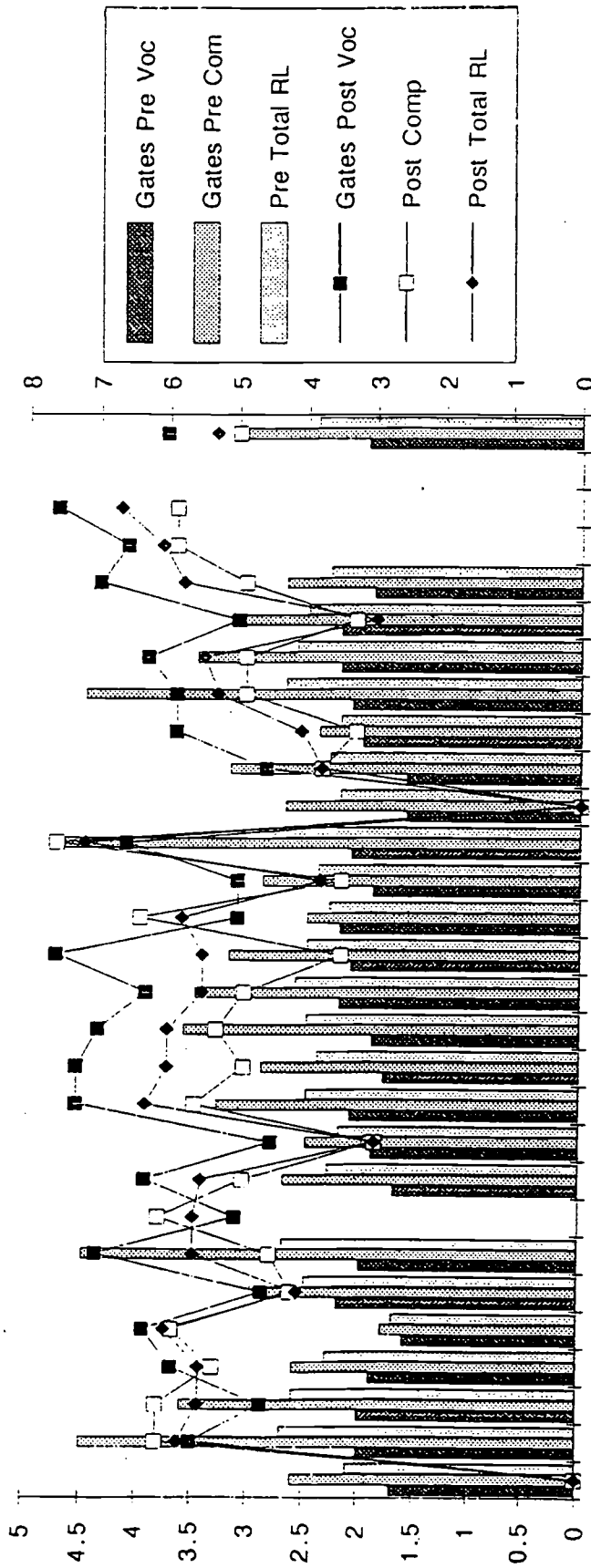
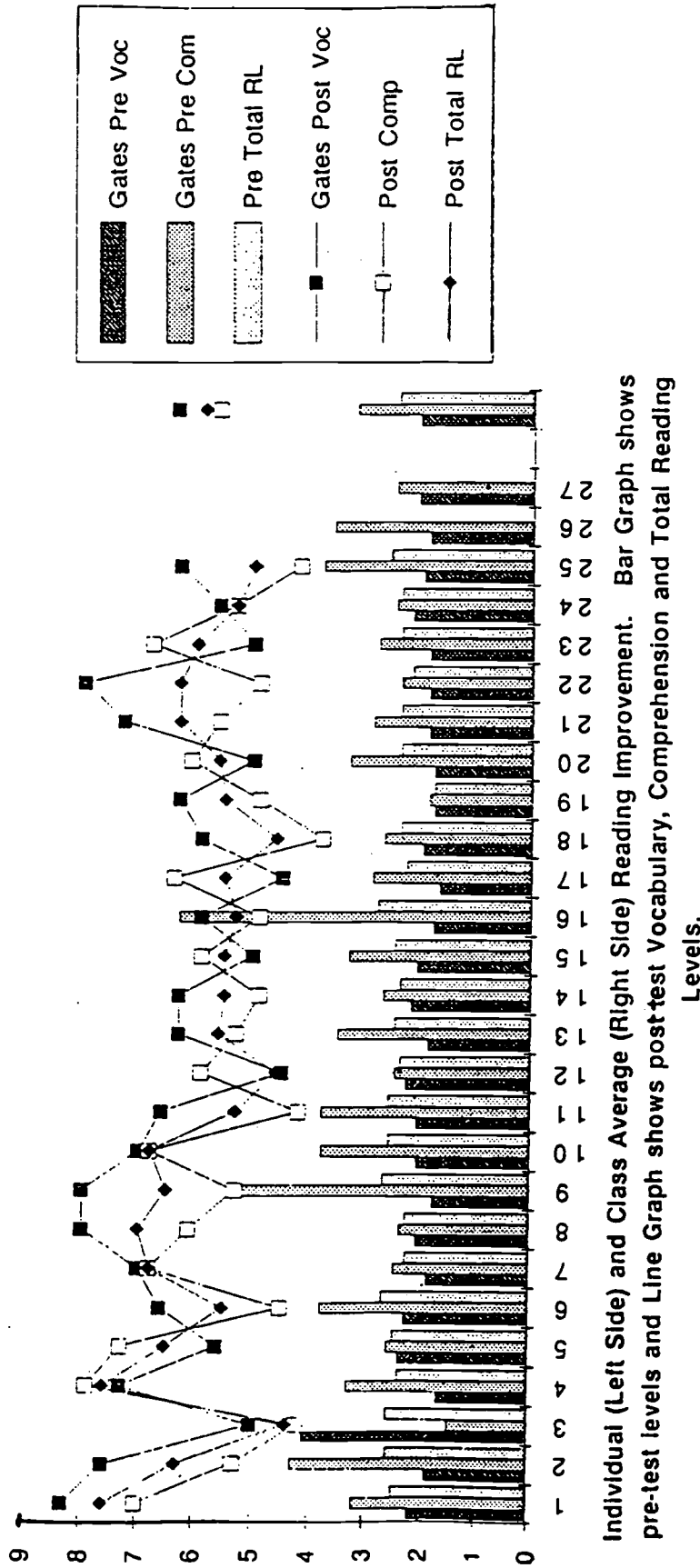


Table IV.--Continued.
 Embedded Graph J.--Loucky's 1EB, CAI Group Improvement
 in Reading Averages (Bar Graph Shows Pretest Scores,
 whereas Line Graph Shows Posttest Scores)



Bar Graph Individual (Left Side Key) & Line Graph (Right Side Key) of Pre- & Post Test Class
 Reading Averages (Voc, Comp, TRL)

Table IV.--Continued.
Embedded Graph K.--Loucky's 1EB, ALM Group Improvement
in Reading Averages (Bar Graph Shows Pretest Scores,
whereas Line Graph Shows Posttest Scores)



Individual (Left Side) and Class Average (Right Side) Reading Improvement. Bar Graph shows pre-test levels and Line Graph shows post-test Vocabulary, Comprehension and Total Reading Levels.

Table IV.-- Continued.
Embedded. Graph L.--Loucky's 1F Total Class Improvement
(Shown by Comparing Pre- and Posttest Reading Averages)

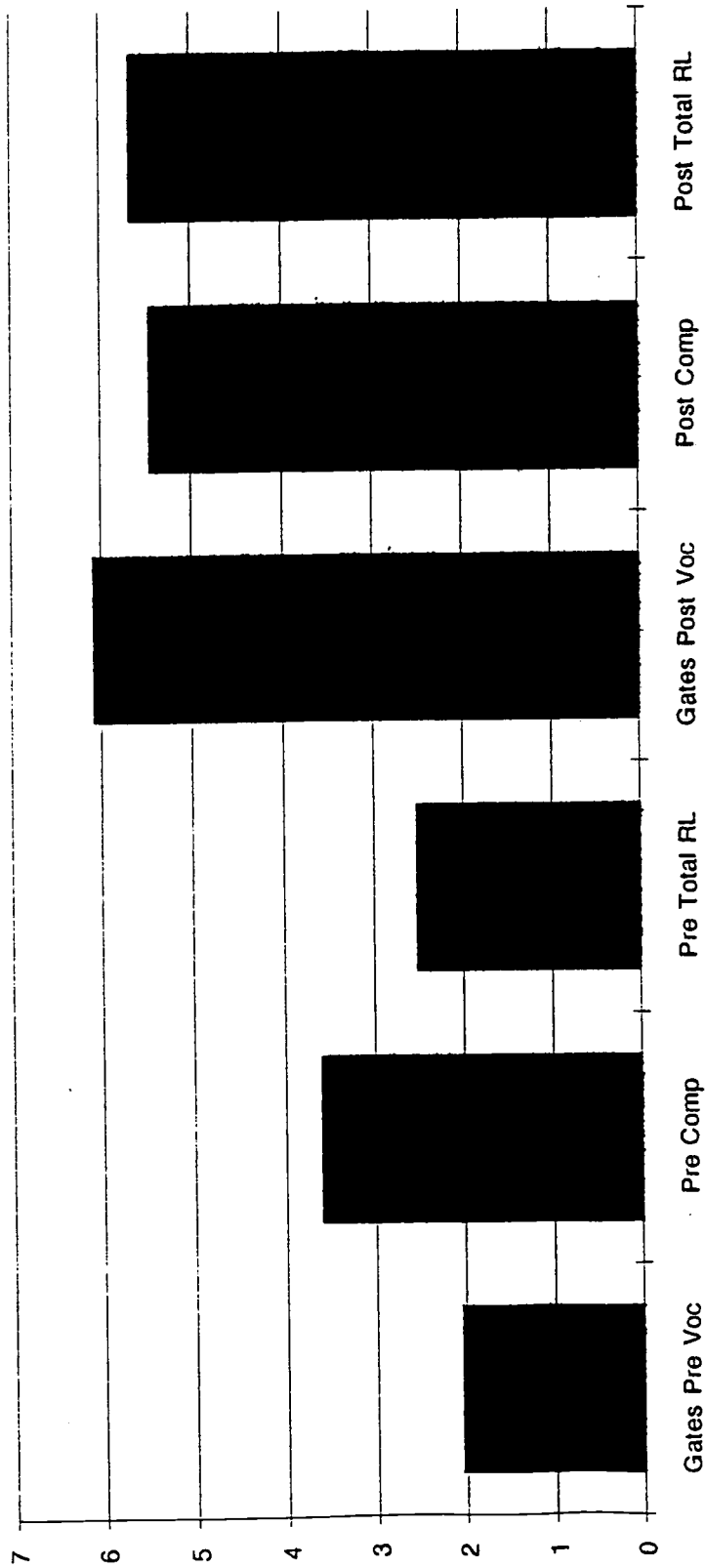


Table IV.--Continued.
Embedded Graph M.--Loucky's 1F Individual and Total Class
Improvement in Reading Speed

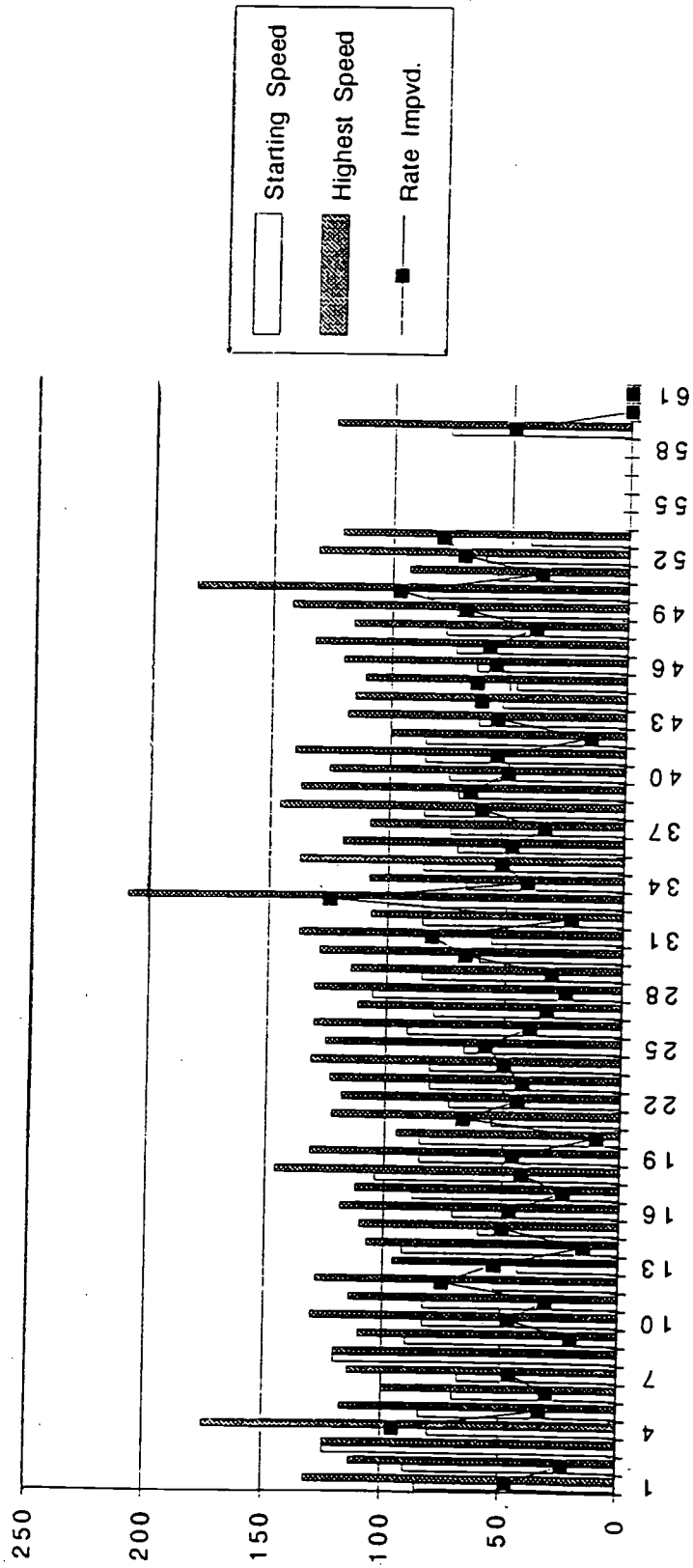


Table IV... Continued.
 Embedded Graph N...Lucky's 1F Free-Reading and
 Comprehension-Speedreader Text Averages

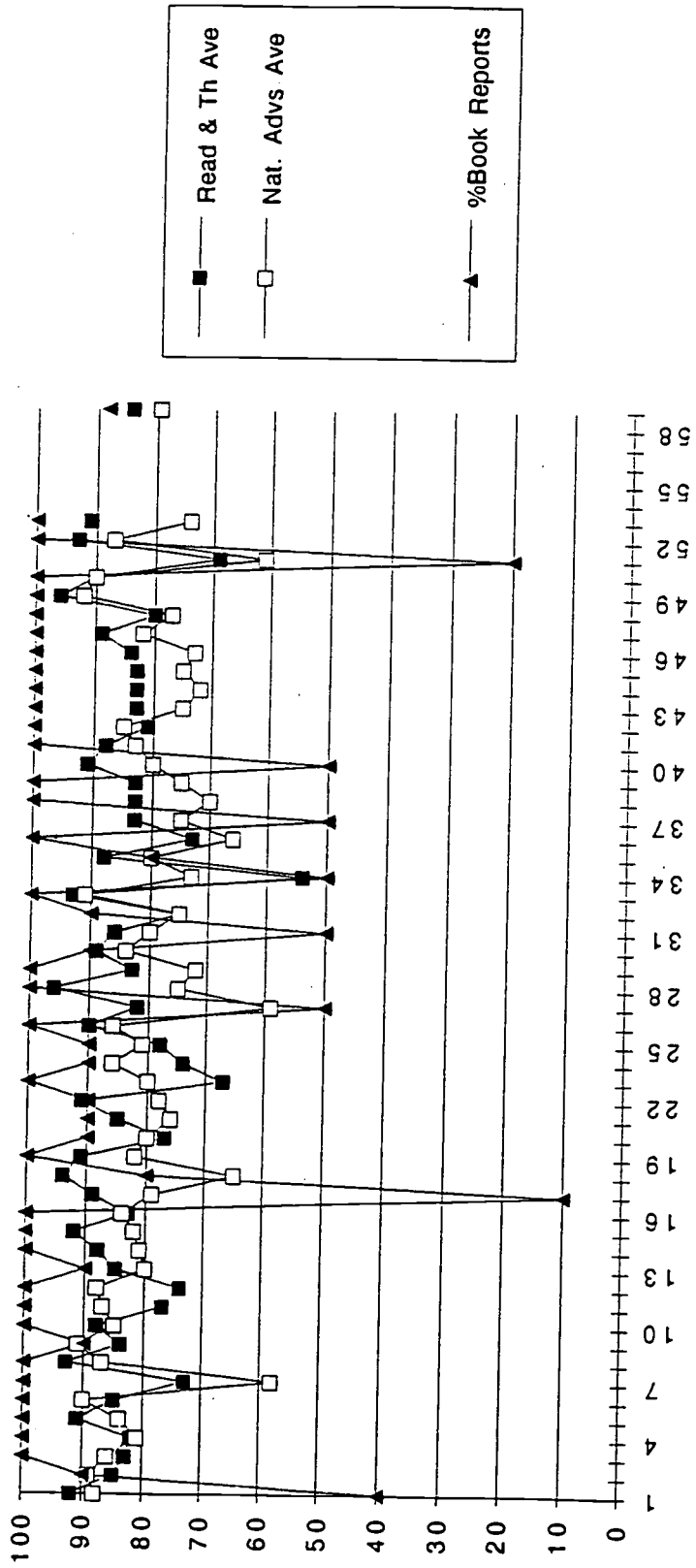


Table IV---Continued.
Embedded Graph O---Loucky's 1FA, CAI Group Improvement
in Reading Averages (Bar Graph Shows Pre-test Scores,
whereas Line Graph Shows Posttest Scores)

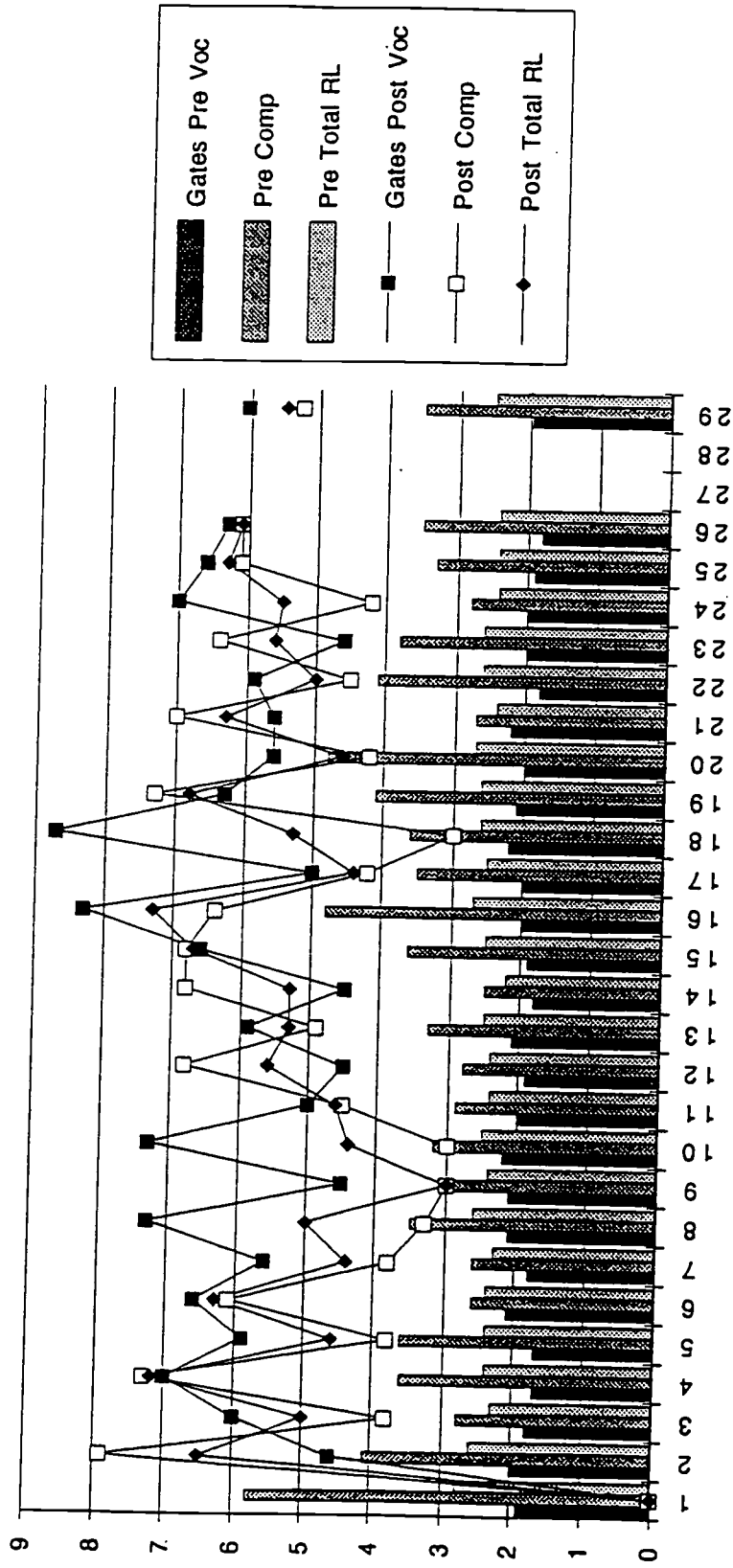


Table IV.--Continued.
Embedded Graph P.--Loucky's 1FB, SSR Group Improvement
in Reading Averages (Bar Graph Shows Pre-test Scores,
whereas Line Graph Shows Posttest Scores)

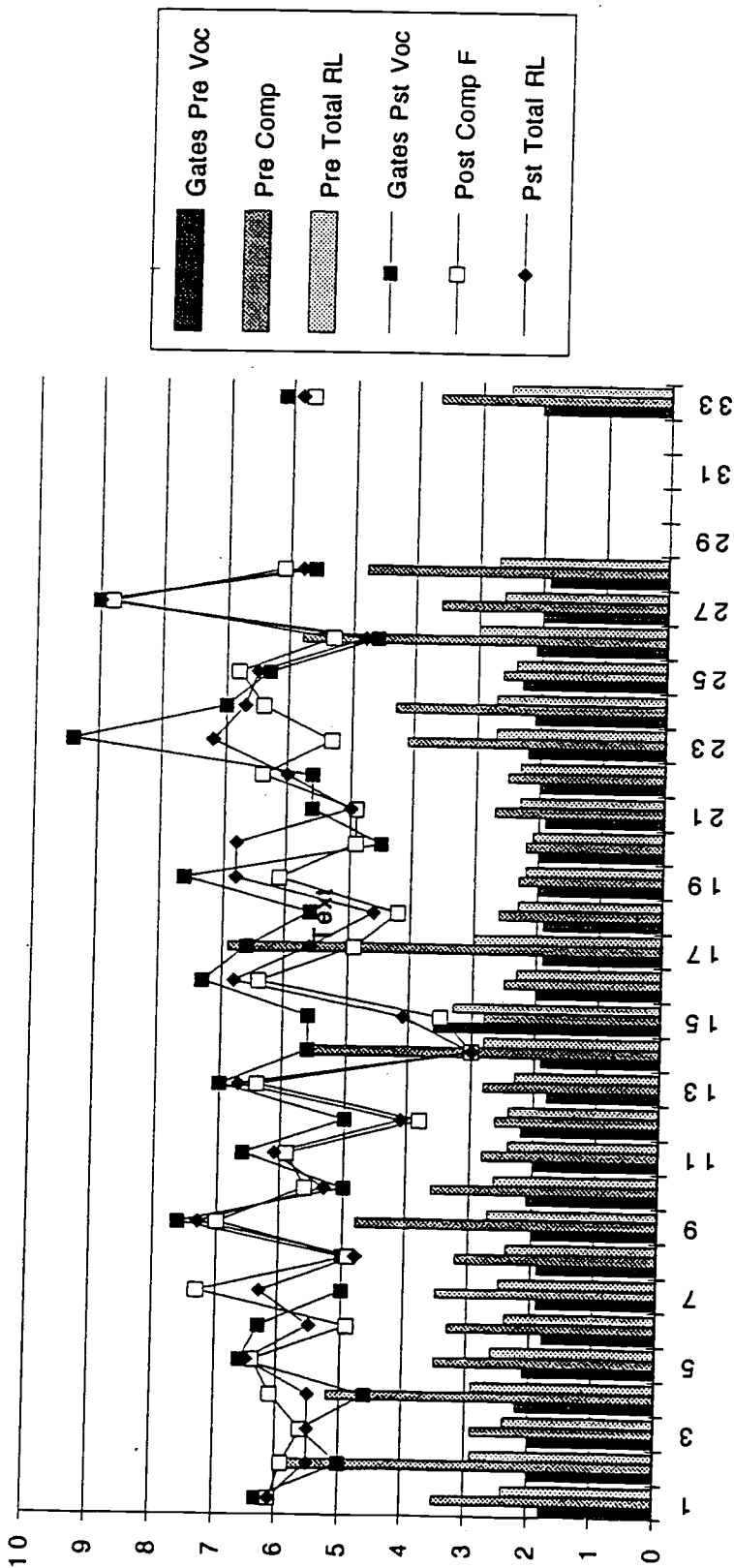


Table IV.-- Continued.
Embedded Graph Q.--Pre-and Posttest Summary Chart
(Showing 1C Class Scores as Sample on 3-D Bar Graph)

S.S.R. CONTROL GROUPS

ALM/CAI-ASSISTED TREATMENT GROUPS

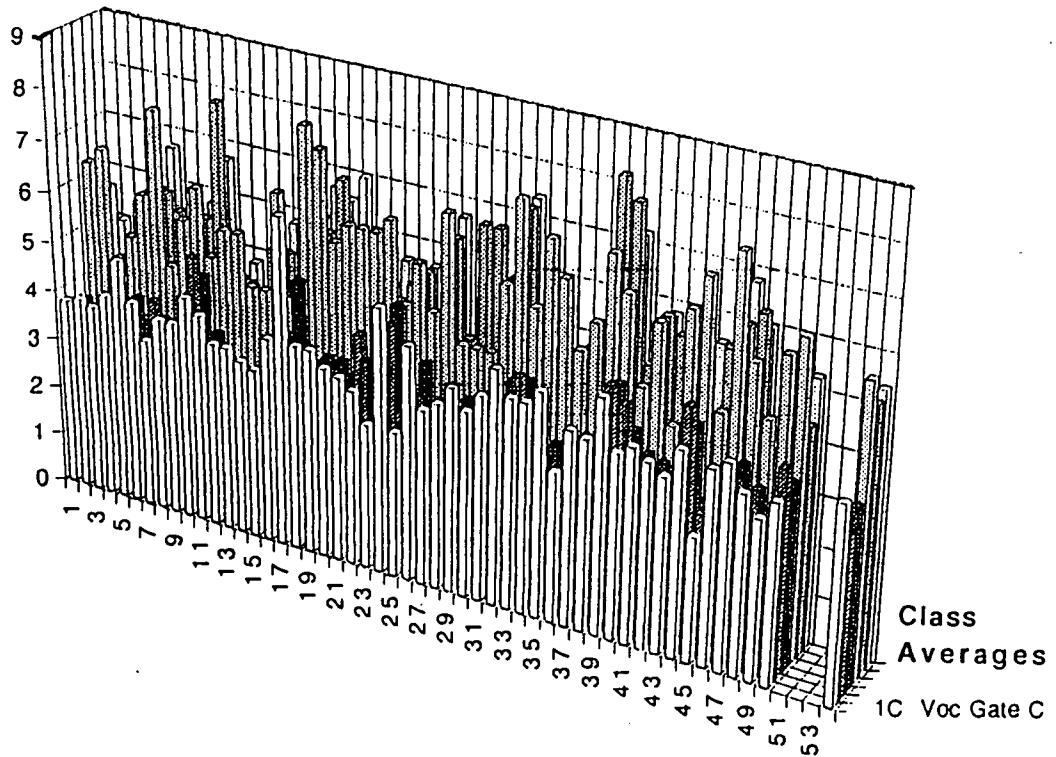
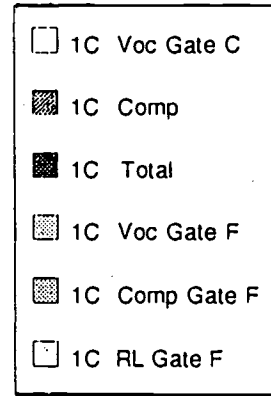
PRE-TEST (Gates, Form C):

(More Intensive Vocabulary Development)

	<u>1C</u>	<u>1D</u>	<u>1E</u>	<u>1F</u>
I. VOC.--	3.93	3.83	2.05	2.05
II. COMP.--	3.22	2.99	3.17	3.61
III. R. L.--	3.58	3.42	2.44	2.52

POST-TEST (Gates, Form F):

	<u>1C</u>	<u>1D</u>	<u>1E</u>	<u>1F</u>
I. VOC.--	5.82	5.97	6.19	6.08
II. COMP.--	5.24	5.67	5.32	5.46
III. R. L.--	5.38	5.73	5.61	5.67



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**Table V.--Seinan Seminar and 1F Pilot Studies 1991-93
(Embedded Graph of Vocabulary Scores of 1F Reading Class)**

	A	B	C	D	E	F	G	
1	4.5							
2	4.5							
3	4.5							
4	4.5							
5	4.5							
6	4.6							
7	4.6							
8	5							
9	5							
10	5							
11	5.6							
12	5.6							
13	5.6							
14	5.6							
15	5.6							
16	5.6							
17	5.6							
18	5.6							
19	5.6							
20	5.9							
21	5.9							
22	5.9							
23	5.9							
24	6.3							
25	6.3							
26	6.3							
27	6.3							
28	6.3							
29	6.3							
30	6.6							
31	6.6							
32	7							
33	7							
34	7							
35	7							
36	7.3							
37	7.6							
38	7.6							
39	8							
40	8							
41	5.955							
42	VOC.AVE.=	5.955 or roughly 6.0	Vocabulary Level for 1F class of English Majors at Seinan					
43	Women's Junior College	after one year of instruction, from 4/91-2/92, when test was given.						
44	This Sample represents about 13% of all 1st year students in the English Dept. at Seinan, n= 40/310.							
45							12.90%	
46								
47								
48								
49								
50								

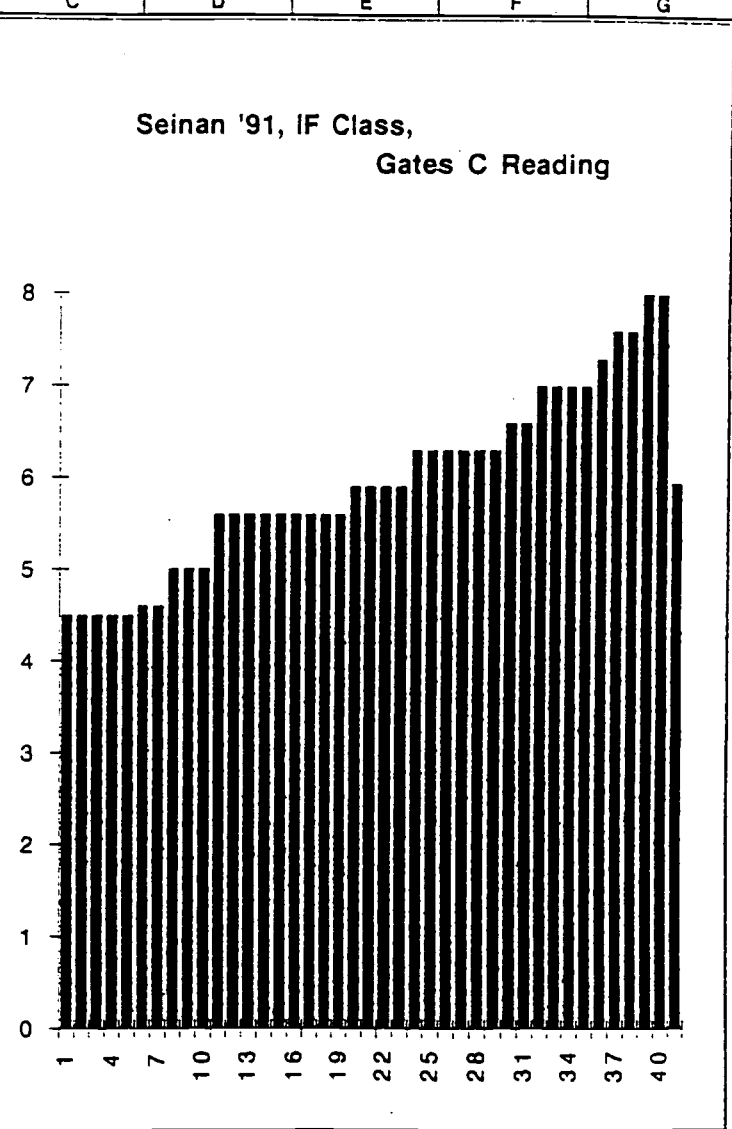


Table V.--Seinan Seminar and 1F Pilot Studies 1991-93 (Continued,
Showing Breakdown of 1F and Seminar 1992 Reading Scores)

	A	B	C	D	E	F
1	3.9	6.3	4.6			
2	5.3	7.4	6.2			
3	4.9	4.8	4.9			
4	4.1	3.8	4			
5	4.7	3.8	4.3			
6	3.7	4.3	3.8			
7	3.8	5.5	4.3			
8	4.5	4.3	4.4			
9	4.9	5.2	5.1			
10	4.9	5.8	5.1			
11	3.7	5.2	4.1			
12	4.2	3.8	4			
13	4.9	4.1	4.5			
14	4.1	5.8	4.6			
15	4.7	5.5	5.1			
16	4.5	6.9	5.4			
17	4.1	3.3	3.7			
18	4.7	5.5	5.1			
19	4.5	5.8	5.1			
20	4.4	2.9	3.7			
21	3.6	2.8	3.3			
22	4.2	3.6	3.9			
23	4.37727273	4.83636364	4.50909091			
24	(As assessed by Gates-MacGinite Reading Test, Form C, on 4/23/92).					
25						
26	10/16/1991					
27	In 1F Class, 40/51 took Vocab. Section of Gates MacGinite Reading Test, Level F, Form 1.					
28	A Percentage Breakdown of Raw Scores and Vocabulary Levels (rel. to U.S. Rdg.Ex.) follows:					
29						
30	RAW SCORE:	VOC. LEVEL:	#STUDENTS:	PERCENTAGES:		
31						
32	5	-4.5		1 5/40 or 12.5%		
33	6	-4.5		0 had Voc.Levels		
34	7	-4.5		2 less than 4.6		
35	8	-4.5		2 (-4.0-4.5)		
36	9	4.6	2			
37	10	5	3	Lower 23/40		
38	11	5.6	9	or 57.5%		
39	12	5.9	4	less than 6.0		
40	13	6.3	6			
41	14	6.6	2	Top 17/40 or		
42	15	7	4	42.5% were		
43	16	7.3	1	b/w 6.0-8.0		
44	17	7.6	2			
45	18	8	2	Only Top 2 or		
46				5% were at an	TOTAL/AVERS.	
47	11.5	5.955	40 Students	8th Gr.Voc.Level		
48		or -6.0 Voc.L.	as of 10/16/91.			

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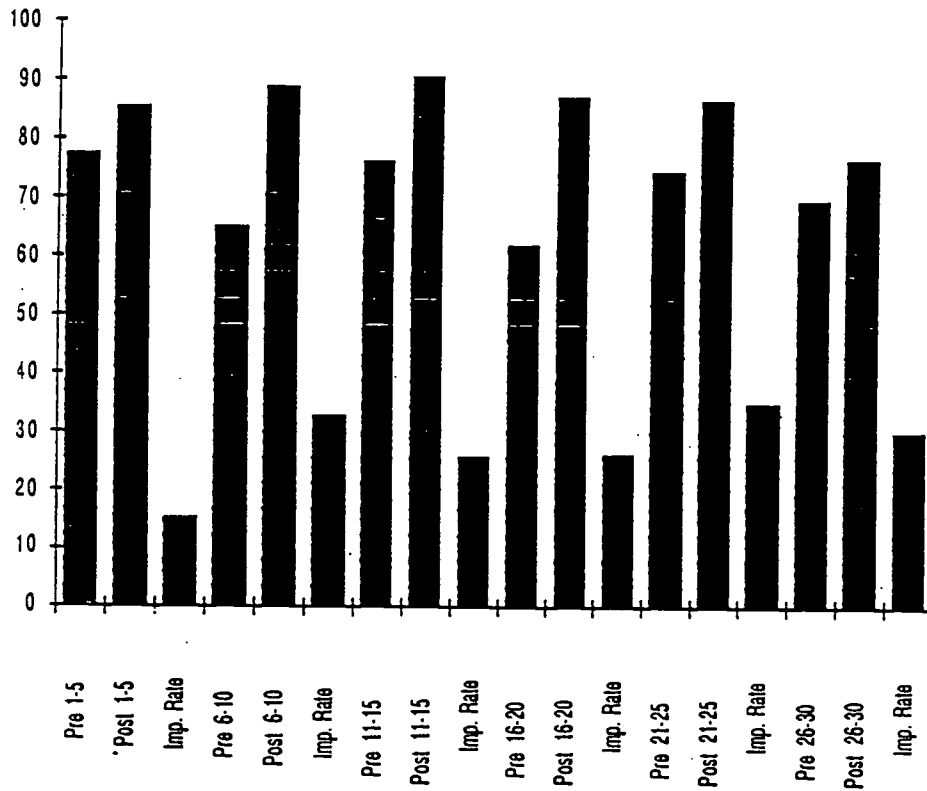
**Table V.--Seinan Seminar and 1F Pilot Studies 1991-93 (Continued,
Showing Breakdown of Seminar 1993 Reading Scores)**

	A	B	C	D
1	6	7.4	6.9	
2	4.5	4.5	4.5	
3	4.2	3.3	3.8	
4	3.7	4.1	3.8	
5	3.7	3.6	3.7	
6	4.1	5.2	4.4	
7	4.9	5.2	5.1	
8	4.7	5.2	4.9	
9	4.5	4.8	4.6	
10	3.1	4.1	3.5	
11	4.1	3.5	3.8	
12	4.1	3.5	3.8	
13	4.4	4.3	4.3	
14	4.1	4.3	4.1	
15	4.2	4.5	4.3	
16	4.7	3.3	4	
17	4.9	4.5	4.7	
18	5.3	5.8	5.6	
19	4.1	3.5	3.9	
20	4.2	3.2	3.7	
21	VOC.LEVEL =	COMP.LEVEL =	TOT.RDG.LEV.	
22	4.375	4.39	4.37	
23				
24	NOTE: These figures seem to show a clear			
25	and direct relationship between student's			
26	L2 Vocabulary Level, and both their			
27	Comprehension and total Reading Levels.			
28	The measurements in this class are so close			
29	that they seem to strongly support the			
30	hypothesis that foreign language learner's			
31	vocabulary levels are so important that			
32	they tend to both limit and determine			
33	their language development, especially in			
34	the area of reading comprehension, and			
35	probably also in the area of listening			
36	comprehension development as well.			

Table VI.--Wordcraft Study, Seinan, 1994-95

1F Wordcraft Chart, Pre-Test Variance

Pre 1-5	Post 1-5	Imp. Rate	Pre 6-10	Post 6-10	Imp. Rate
77.7391304	85.4651163	15.5	66.8333333	85.7	30
Pre 11-15	Post 11-15	Imp. Rate	Pre 16-20	Post 16-20	Imp. Rate
78.2495274	85.9177934	16.2045455	67.4027778	85.27	30



Pre 21-25	Post 21-25	Imp. Rate	Pre 26-30	Post 26-30	Imp. Rate
76.089878	86.1879394	13.8822314	61.0295139	89.3283333	28.4

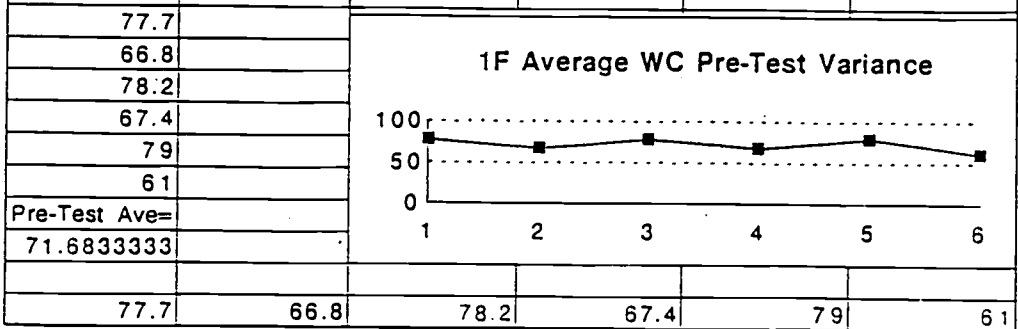


Table VI-- Continued.

Embedded Graph --WORDCRAFT STUDY, SEINAN, 1994-95

COMPARING GROUP AVERAGE IMPROVEMENT RATES FOR FOUR GROUPS USING THREE
DIFFERENT WORDCRAFT VOCABULARY INSTRUCTIONAL MEDIA

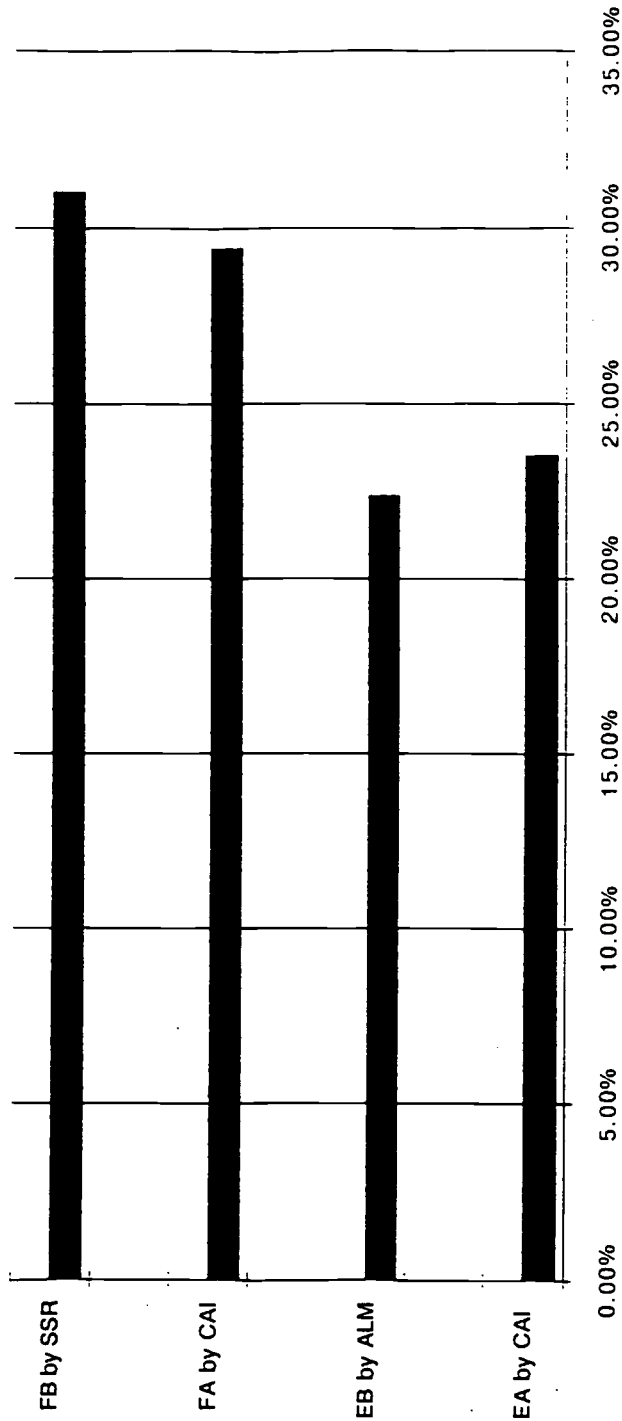


Table VI.--Wordcraft Study, Seinan, 1994-95, Continued.

<u>1E</u>	<u>Michigan Proficiency</u>	<u>Reading Level</u>
First-Half:	45.6	2.41
Second-Half:	47.3	2.45
Difference:	1.7%	.04%

<u>1E</u>	<u>Michigan Proficiency</u>	<u>Reading Level</u>
First-Half:	46.3	2.48
Second-Half:	47.6	2.61
Difference:	1.39%	.13%

LEARNING OF WORDCRAFT VOCABULARY:

<u>TREATMENT:</u>	<u>Short-Term</u>	<u>Long-Term Posttest</u>
1) CAI 1 (1FA)	30.26%	30% (about the same)
2) ALM (1EB)	27.33%	31% (4% Better on LT)
<u>CONTROL GROUP:</u>	<u>AVE. IMPROVEMENT/LEARNING RATE</u>	
3) SSR (1FB)	31.6%	30.94% (.6 less)

Improvement rates were based on subtracting Treatment or Control Group's average Pre-Test score from average Posttest scores on Wordcraft 1-5 Review Test. An extra group, 1EA, not compared statistically in this study measured as follows:

CAI 2 (1EA)	23.56%	29%	(5.44% Better)
-------------	--------	-----	----------------

Table VI: Continued.

<u>Control Group</u>		<u>CAI Intensive Vocabulary Development</u>
		<u>Treatment Group</u>
<u>Average of 1C & 1D:</u>		<u>Average of 1E & 1F: PRE-TEST (Gates, Form C)</u>
I. VOC.--	3.88	2.05
II. COMP.--	3.11	3.39
III. R. L.--	3.5	2.48
 <u>Average of 1C & 1D:</u>		 <u>Average of 1E & 1F: POST-TEST (Gates, Form F)</u>
I. VOC.--	5.90	6.14
II. COMP.--	5.46	5.39
III. R. L.--	5.56	5.64

Table VII.--Denki Daigaku (Kyushu Electrical Junior College)

	A	B	C	D
1		Gates C Voc	Comp.	Total RL
2	933005	2.8	1.9	2.4
3	933009	2.8	2.2	2.5
4	933011	2.5	2.5	2.5
5	933013	3.2	3.5	3.4
6	933016	3.1	2.4	2.7
7	933017	2.6	1.8	2.3
8	933018	2.5	2.2	2.4
9	933021	2.4	2	2.2
10	933026	2.8	2.6	2.7
11	933031	3.1	2.1	2.6
12	933033	2.6	1.7	2.3
13	933036	2.4	2.3	2.4
14	933038	2.1	2.5	2.3
15	933040	2.4	2.1	2.3
16	933043	2.7	2.5	2.6
17	933050	3.1	1.5	2.4
18	933060	3.4	1.6	2.4
19	933061	3.5	2.5	2.9
20	933062	2.4	2.1	2.3
21	AVERAGES	2.75789474	2.21052632	2.50526316
22				
23		Gates C Voc	Comp.	Total RL
24	932105	2.6	2.5	2.5
25	932118	3.1	2.3	2.6
26	932130	3.6	3.6	3.6
27	932140	2.4	1.9	2.2
28	933020	3.6	2.3	2.8
29	933110	2.8	2.4	2.6
30	933111	2.5	2.5	2.5
31	933116	2.6	2.6	2.6
32	933120	1.8	2	1.8
33	933125	2.6	2.7	2.6
34	933129	1.8	1.5	1.5
35	933135	2.8	2.7	2.7
36	Y. Nakagawa	2.5	2.6	2.6
37	Averages	2.66923077	2.43076923	2.50769231

Table VIII.--Polytechnic Junior College, 1991
(Kitakyushu Shushoku Tanki Daigakkou)

	A	B	C	D	E	F
1	VOC. 3.4	COMP. 3.2	TOTAL 3.8	3.4	1.8	2.5
2	4.5	2.6	3.6	3.6	2.4	2.9
3	4.4	2.8	3.7	4.5	2.2	3.3
4	4.2	3.8	4	3.8	2.2	2.9
5	3.7	3.8	3.7	3	2.2	2.6
6	3.5	2.7	3.2	3.7	2.8	3.4
7	3.5	2.4	2.8	4.1	2.5	3.3
8	3.2	0	2.2	3.7	1.9	2.6
9	3.4	2.5	2.9	2.7	2	2.4
10	4.4	2.6	3.5	4.2	1.8	2.8
11	4.1	4.3	4.1	3.5	2.4	2.8
12	4.2	3.3	3.8	3.9	2.6	3.4
13	3.8	2.5	3.2	4.9	4.3	4.6
14	4.7	3.2	3.9	3.9	2.8	3.5
15	4.4	2.2	3.3	4.4	2.5	3.4
16	2.9	2.3	2.6	3.8	2.5	3.2
17	4.1	3.2	3.7	4.5	3.5	4
18	3.8	2.7	3.4	4.2	2.5	3.4
19	3.6	3.2	3.4	4.2	2	2.9
20	3.6	2.5	3.1	3.5	2.1	2.6
21	6	2.4	3.7	2.8	1.6	2.3
22	3.7	2.5	3.1	4.5	2.7	3.7
23	2.7	1.9	2.4	3.5	2.2	2.7
24	3	2.2	2.6	4.1	3.6	3.8
25	3.7	2.1	2.7	4.5	6.3	5.2
26	4.1	1.6	2.6	3.9	2.8	3.5
27	3.5	2.5	2.9	3.8	2.4	3.1
28	2.7	0	2.1	5.6	5.2	5.4
29	3.1	1.7	2.4	4.5	4.1	4.3
30	3.5	1.7	2.5	4.5	4.1	4.3
31	4.5	2.3	3.4	3.9	2.8	3.5
32	3.9	2.2	3	3.7	2.2	2.8
33	3.7	2.1	2.7	4.4	2.5	3.4
34	3.6	2	2.6	3.5	2.3	2.8
35	3.2	1.7	2.4	3.7	2.7	3.3
36	3.5	2.1	2.6	4.4	3.2	3.8
37	3.6	2.5	3.1	3.84578313	2.51204819	3.16385542
38	4.1	2	2.8	VOCAB.	COMP.	Reading Level
39	3.7	1.9	2.6	9/91 Gates-MacGinitie	Reading	Test
40	4.1	2.2	3			
41	3.5	2.6	3.1	AVERAGES FOR POLYTECHNIC JR. COLLEGE		
42	3.8	2	2.7	(2/91) Post-Instruction		
43	2.6	1.9	3.5	(Kitakyushu Shushoku Tanki Daigakou)		

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Table IX.--Fukuoka University, 1991, Law and Engineering

	A	B	C	D	E	F	G
1	6	2.4	3.7	2.8	1.6	2.3	
2	3.6	2.5	3.1	4.2	2	2.9	
3	3.6	3.2	3.4	3.5	2.2	2.7	
4	3.8	2.7	3.4	3.5	2.1	2.6	
5	4.1	3.2	3.7	2.7	2	2.4	
6	2.9	2.3	2.6	4.2	1.8	2.8	
7	4.4	2.2	3.3	4.1	2.5	3.3	
8	4.7	3.2	3.9	3.7	1.9	2.6	
9	3.5	2.3	2.8	3	2.2	2.6	
10	3.8	2.5	3.2	3.7	2.8	3.4	
11	4.1	3.6	3.8	3	2.2	2.6	
12	4.9	4.3	4.6	3.8	2.2	2.9	
13	3.5	2.4	2.8	4.5	2.2	3.3	
14	3.9	2.6	3.4	3.6	2.4	2.9	
15	3.9	2.8	3.5	3.4	1.8	2.5	
16	4.4	2.5	3.4	3.9	2.2	2.9	
17	3.8	2.5	3.2	3.8	1.6	2.6	
18	4.5	3.5	4	3.5	2.2	2.7	
19	4.2	2.5	3.4	3.8	2.2	2.8	
20	4.5	2.7	3.7	3.6	1.9	2.6	
21	4.5	6.3	5.2	3.5	1.9	2.6	
22	3.9	2.8	3.5	3.8	2	2.7	
23	3.8	2.4	3.1	3.5	2.6	3.1	
24	5.6	5.2	5.4	4.1	2.2	3	
25	4.5	4.1	4.3	3.7	1.9	2.6	
26	3.9	2.8	3.5	4.1	2	2.8	
27	3.7	2.2	2.8	3.6	2.5	3.1	
28	4.4	2.5	3.4	3.5	2.1	2.5	
29	3.7	2.7	3.3	3.2	1.7	2.4	
30	4.4	3.2	3.8	3.6	2	2.6	
31	4.5	2.6	3.6	3.7	2.1	2.7	
32	4.4	2.8	3.7	3.9	2.2	3	
33	4.2	3.8	4	4.5	2.3	3.4	
34	3.7	3.8	3.7	3.5	1.7	2.5	
35	3.5	2.7	3.2	3.1	1.7	2.4	
36	3.5	2.4	2.8	2.7	1	2.1	
37	3.2	1	2.2	3.5	2.5	2.9	
38	3.4	2.5	2.9	4.1	1.6	2.6	
39	4.4	2.6	3.5	3.7	2.1	2.7	
40	4.1	4.3	4.1	2.7	1.9	2.4	
41	4.2	3.3	3.8	3.7	2.5	3.1	
42	4.08780488	2.97317073	3.52926829	VOC. AVE.=	COMP. AVE.=	Reading Level=	
43	VOC.AVE.	COMP.AVE.	TOTAL AVE.	3.6097561	2.06097561	2.74878049	
44							
45	(As Assessed by use of Gates-MacGinite Re(As Assessed by use of Gates-MacGinite Reading Test)						
46	Level C. Form 1						
47	Fukuoka University, Law Students			Fukuoka University, Engineering Students, 12/2/91			
48	Sample n= 41/110 3rd Year Eng. Students						
49	0.3727						

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Table IX.--Continued.

FUKUOKA UNIVERSITY

ENGIN. VOC AV	COMP. AVE.	TOTAL RDG AV	Sample n=	LAW VOC. AV	COMP. AVE.	TOTAL RDG AV	Sample n=
3.6097	2.0609	2.7487	41/110	4.0878	2.9731	3.5292	41/889
			3rd Yr. Engrn.				1st Year Law
			37.27%				4.61%

ENGIN. VOC AV

COMP. AVE.

TOTAL RDG AV

LAW VOC. AV

COMP. AVE.

TOTAL RDG AV

Table X.--Kyushu Institute of Technology, "KIT,"
(Kyushu Kougyou Daigaku) 1993-95

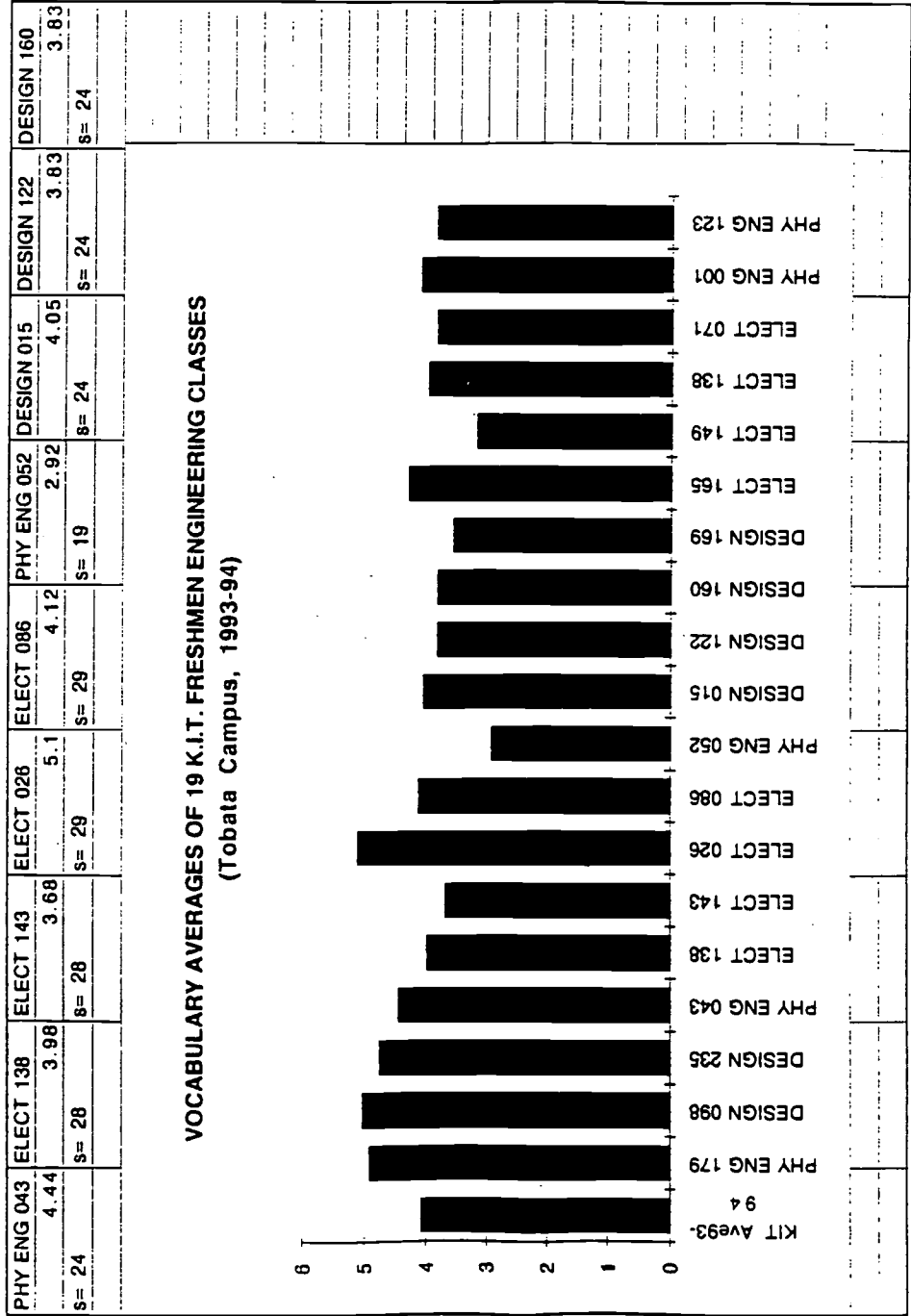


Table X--Continued.

19 Classes KIT Voc Graph

	J	K	L	M	N	O	P	Q	R
1	DES 015	DES 122	DES 160	DES 169	EL ENG 165	EL ENG 149	EL ENG 138	EL ENG 071	P ENG 001
2	4.05	3.83	3.83	3.56	4.3	3.17	3.98	3.84	4.1
3									
4									
5									
6									
7	P ENG 023		TOTAL KIT		PL PER 1VOC	COMP AVE	TOT RDG AVE	PL PER 2 VOC	COMP AVE
8	3.85		4.24		4.43	3.86	4.08	4.46	3.63
9									
10									
11					n= 24			n= 29	
12									
13									
14									
15									
16	TOT RDG AVE	RUSS 1 VOC	COMP AVE	TOT RDG AVE	RUSS 4 VOC	COMP AVE	TOT RDG AVE	LP 1 Voc Ave	Comp Ave
17	4	3.67	3.24	3.44	3.72	2.85	3.32	3.09	2.6
18									
19									
20		n= 25			n= 24			n= 24	
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

Table X.--Continued.

6 Classes KIT Voc Graph

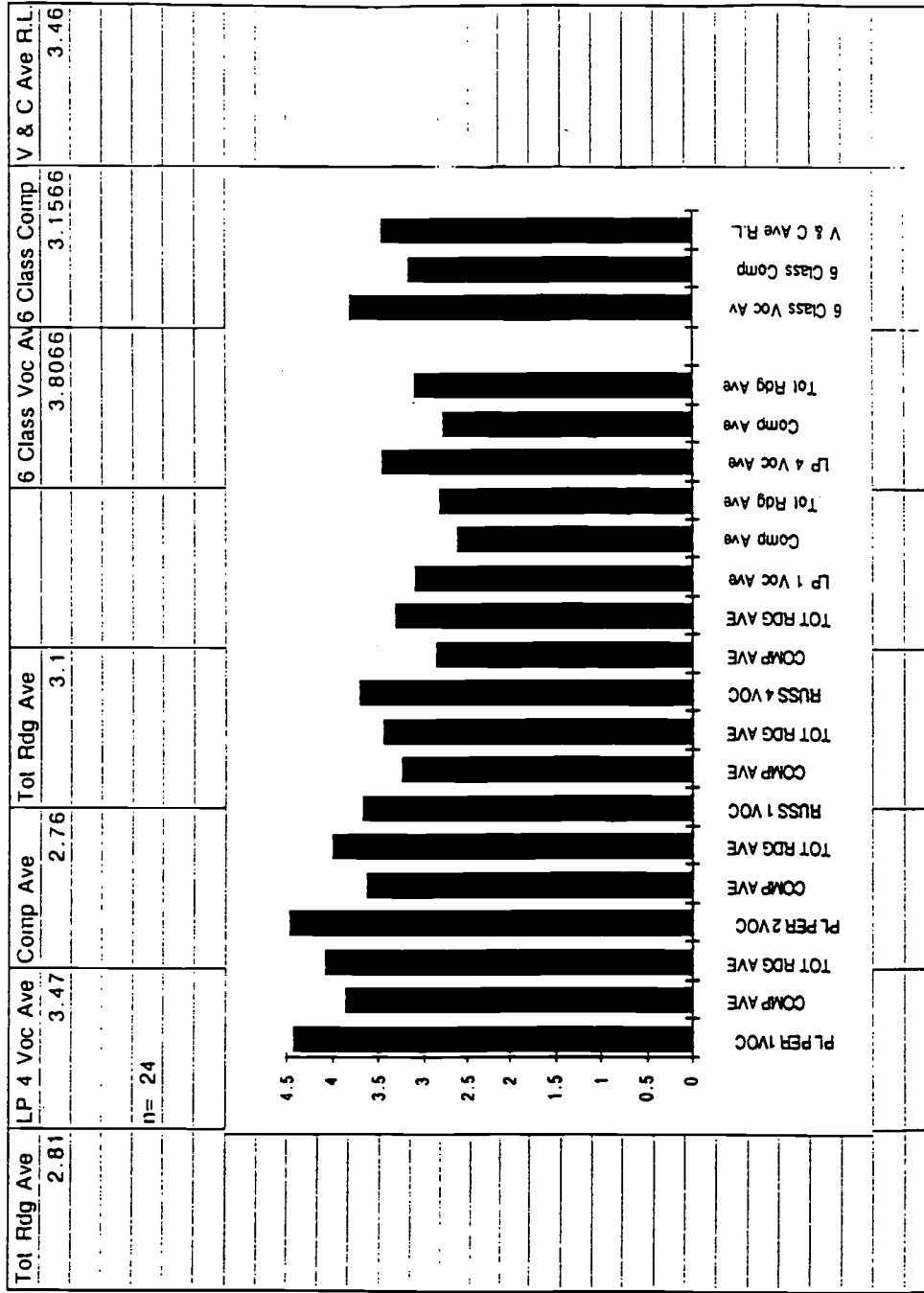


Table X.--Continued. KIT-94 VOCAB/COMP SCORES

	AN	AO	AP	AQ	AR
1	JPL 94 C Voc	JPL 95 C Voc	95 Comp	3/1/95 RL	
2	3.1	5.3	5.2	5.2	
3	3.1	NA	NA	NA	
4	2.9	4.2	4.1	4.1	
5	2.8	3.1	3.5	3.3	
6	3	NA	NA	NA	
7	3.1	4.2	3.2	3.7	
8	3.4	4.9	3.3	3.7	
9	3.2	4.7	6.3	5.4	
10	2.6	4.1	3.6	3.8	
11	2.7	3.9	4.8	4.2	
12	2.9	NA	NA	NA	
13	2.9	4.1	4.1	4	
14	2.7	4.1	3.5	3.8	
15	3.2	5.6	4.5	5.1	
16	2.9	4.2	1.7	2.7	
17	3	NA	NA	NA	
18	3.1	4.4	2.1	3.1	
19	3.5	5.3	3.5	4.3	
20	3.4	4.5	5.8	5.1	
21	2.6	3.9	4.1	3.9	
22	3	3.8	3.3	3.6	
23	3.1	4.9	3.3	4.1	
24	2.6	3.8	3.2	3.5	
25					
26					
27					
28					
29					
30	2.99130435	4.36842105	3.84736842	4.03157895	
31					
32	Class Voc Av	1.38 Ave. or			
33	at Grade 3	about 1 year			
34	at start of	and 4 months			
35	English 101.	Growth in	Vocab Level		
36		in school year	in KIT/JPL		
37		Gen. English.			

Table XI.--Kitakyushu University, "KKD," 1992-95

VOCABULARY, COMPREHENSION AND TOTAL READING LEVELS OF SECOND YEAR ENGLISH MAJORS AT
KITAKYUSHU UNIVERSITY, KOKURA, JAPAN

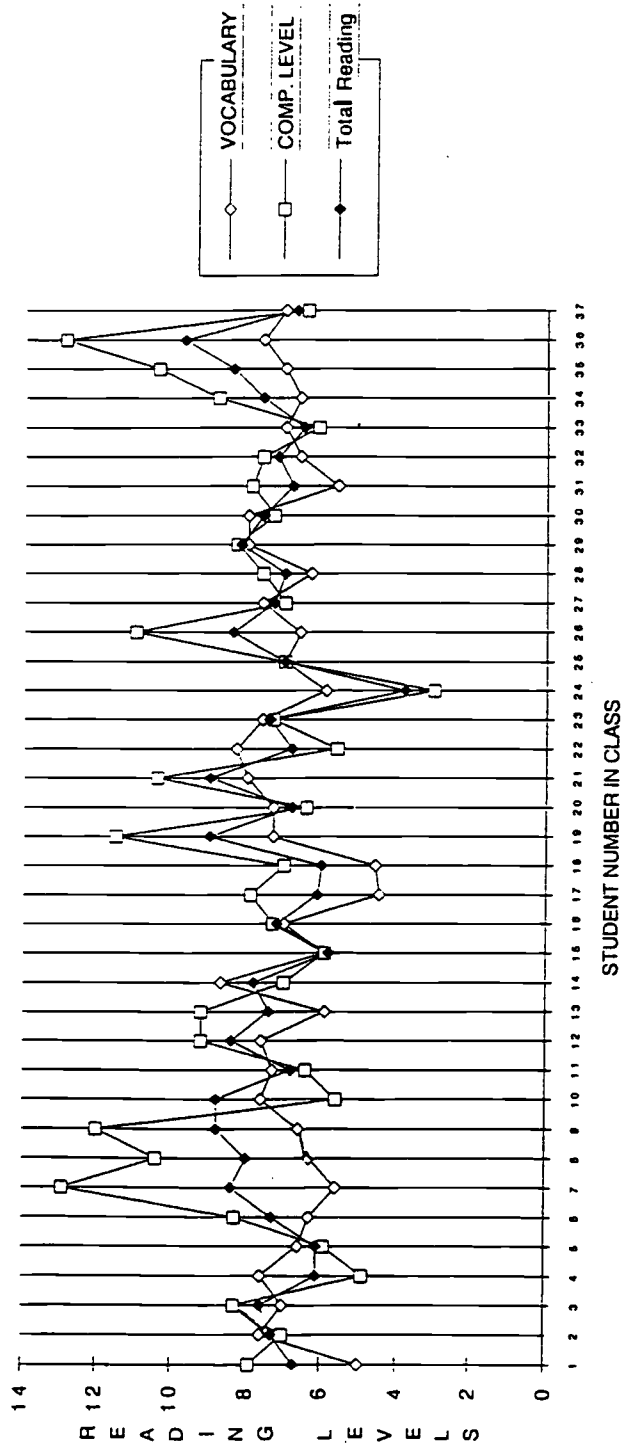


Table XI.--Continued.

1992 SEMI & KKD IGD

92 SEMI VOC	COMP	RDG TOT AVE	KKD IGD VOC	COMP	RDG TOT AVE	MICH VOC AVE	COMP AVE	GRAMMAR AV	TOTAL %
4.3772	4.8364	4.509	6.8378	7.9892	7.3459	25.027	11.8912	34.4594	71.6757

92 SEMI VOC: 4.4
COMP: 4.8
RDG TOT AVE: 4.5

KKD IGD VOC: 6.8
COMP: 7.9
RDG TOT AVE: 7.3

MICH VOC AVE: 25.0
COMP AVE: 11.9
GRAMMAR AV: 34.5
TOTAL %: 71.7

Table XI.--Continued.

KKD 93

93/1 Voc Ave	Comp. Ave.	Rdg Tot Ave	93/2 Voc Ave	Comp Ave	Rdg Total Ave	WC 1-5 Pre	Post-Test	Imp Rate
4.7348	5.125	4.8644	5.3272	5.4727	5.4818	57.81	92.18	36.19
<p>93/1 Voc Ave</p>		<p>93/2 Voc Ave</p>						
<p>Comp. Ave.</p>		<p>Comp Ave</p>						
<p>Rdg Tot Ave</p>		<p>Rdg Total Ave</p>						
<p>WC 1-5 Pre</p>		<p>Post-Test</p>						
<p>Imp Rate</p>		<p>Imp Rate</p>						



Table XI.--Continued.

JPL KITAKYUSHU UNIVERSITY RAPID READING CLASS 2 INDIVIDUAL AND CLASS
AVERAGE IMPROVEMENT CHART (1994-95)

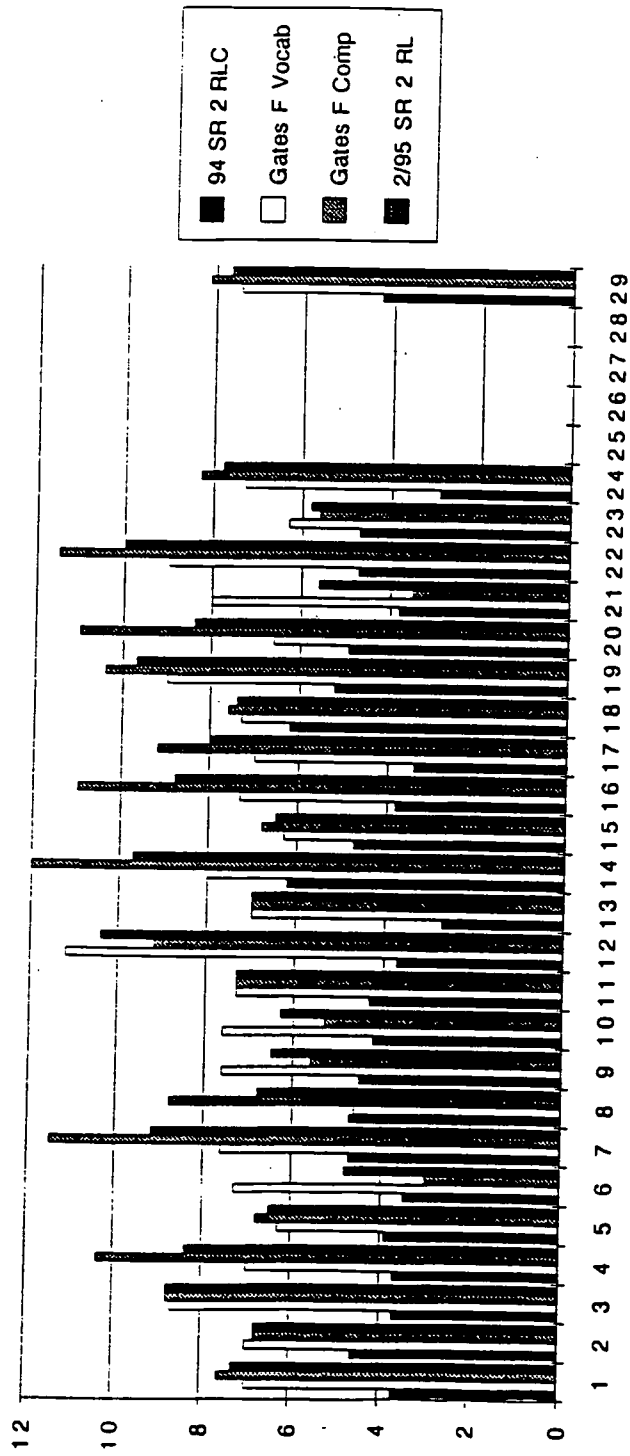


Table XI.--Continued.

JPL KITAKYUSHU UNIVERSITY RAPID READING CLASS 3 INDIVIDUAL AND CLASS
AVERAGE IMPROVEMENT CHART (1994-95)

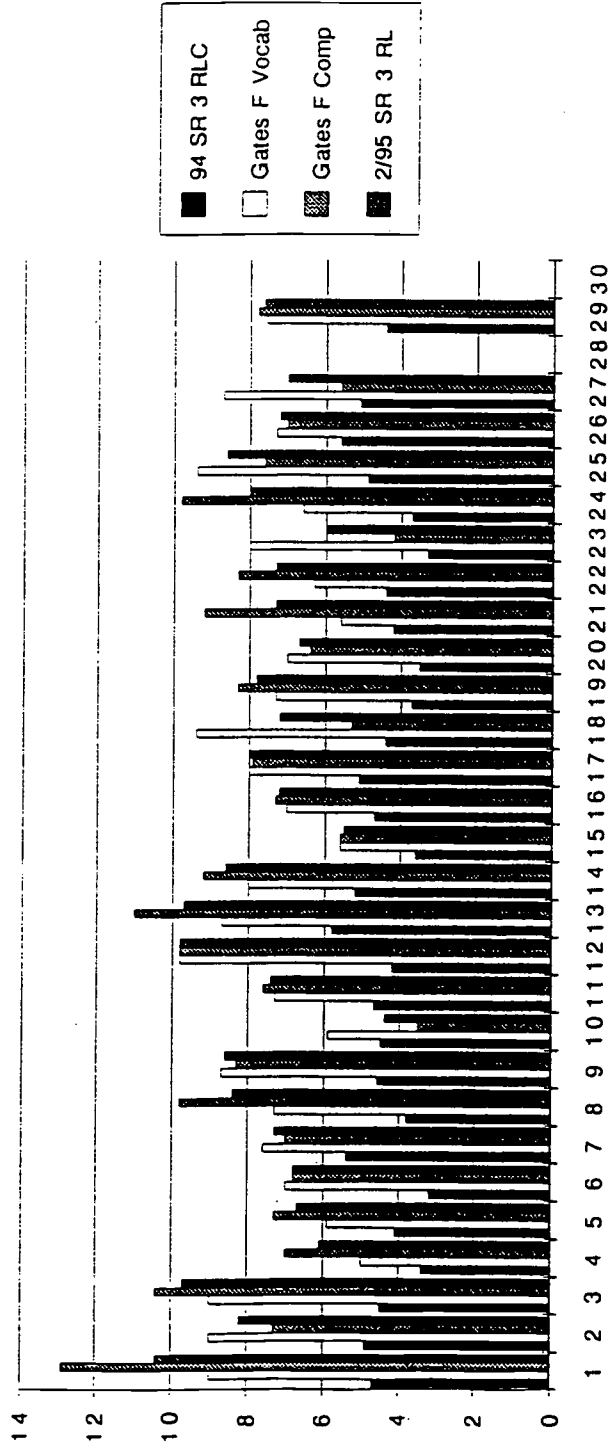


Table XI.--Continued.

Class Average Improvement in Reading is 231 Grades!	94 SR 1 RLC	Gates F Vocab	Gates F Comp	2/95 SR 1 RLF	Mich Prof A	1st Rdg Speed	Highest Speed	wpm Imp. Rate
	4.6	8	9.2	8.6	71	100	135	35
	3.7	6.6	7.6	7.2	63	72.5	95	22.5
	3.9	6.3	4.9	5.5	48	88	94	6
	4.3	5.9	7.3	6.7	64	88	93	5
(in 10 months of Instruction w. JP Loucky)	6	7.3	6.8	7	50	77	98	21
	2.6	7.3	8.8	8	67	103	103	
	4.5	7.3	3	4.8	48	85	98	13
	4.7	6.6	5.3	5.8	64	112	125	13
	4.4	NA	NA	NA	NA	NA	NA	NA
	4.2	5	6.8	6	41	NA	NA	NA
	4.4	6.3	5.9	6	59	133	102	31
	4.1	6.3	6.1	6.1	55	73	97	24
	4.4	4.5	6.8	5.3	65	123	138	15
	6	8.7	6.4	7.4	69	62	93	31
	3.7	6.3	5.9	6	57	101	122	21
	4.9	7.6	11.5	9.2	75	95	145	50
	4.6	7.6	7.3	7.4	63	123	144	21
	5.1	7.3	6.4	6.8	57	102	122	20
	5.6	6.3	4.5	5.3	58	122	139	17
	4.5	6.3	7.3	6.8	46	125	160	35
	3.8	7	6.4	6.7	55	88	88	
	2.8	6.3	9.8	5.8	NA	102	107	5
	2.9	5.6	6.1	7.8	58	77	130	53
AVERAGES:	4.33478261	6.65454545	6.82272727	6.64545455	58.7142857	97.6904762	115.619048	21.925

Table XI.--Continued.

Class Average Improvement in Reading is 3.4 Years!	(in 10 months of instruction w. JP Loucky)	94 SR 2 RLC	Gates F Vocab	Gates F Comp	2/95 SR 2 RL	Mich Prof A	1st Rdg Speed	Highest Speed	wpm Imp. Rate
		3.7	7	7.6	7.3	60	67	106	39
		4.6	7	6.8	6.8	56	65	119	54
		3.7	8.7	8.8	8.8	55	112	135	23
		3.7	7	10.4	8.4	70	88	158	70
		3.9	6.3	6.8	6.5	57	68	95	27
		3.5	7.3	3	4.8	60	77	119	42
		4.7	7.6	11.5	9.2	67	68	93	25
		4.7	4.6	8.8	6.8	68	112	143	31
		4.5	7.6	5.6	6.5	62	80	109	29
		4.2	7.6	5.3	6.3	51	88	113	25
		4.3	7.3	7.3	7.3	49	88	100	12
		3.7	11.2	9.2	10.4	70	112	112	
		2.7	7	7	7	70	66	146	80
		6.2	8	12	9.7	75	103	139	36
		4.7	6.3	6.8	6.5	78	88	111	23
		3.8	7.3	11	8.8	60	88	167	79
		3.4	7	9.2	8	60	97	169	72
		6.2	7.3	7.6	7.4	66	89	110	21
		5.2	9	10.4	9.7	75	77	113	36
		4.9	6.6	11	8.4	65	81	159	78
		3.8	8	3.5	5.6	68	91	120	29
		4.7	9	11.5	10	79	137	177	40
		4.7	6.3	5.6	5.8	64	88	120	32
		2.9	7.3	8.3	7.8	78	100	139	39
AVERAGES:		4.26666667	7.42916667	8.125	7.65833333	65.125	88.75	128	39.25

Table XI.--Continued.

Class Average	94 SR 3 RLC	Gates F Vocab	Gates F Comp	2/95 SR 3 RL	Mich Prof A	1st Rdg Speed	Highest Speed	wpm Imp.	Rate
Improvement	4.7	9	12.9	10.4	8.3	144	166		22
in Reading is	4.9	9	7.3	8.2	61	115	119		4
3.21 Years!	4.5	9	10.4	9.7	73	131	192		61
	3.4	5	7	6.1	61	118	172		54
(in 10 months	4.1	5.9	7.3	6.7	62	88	91		3
of instruction	3.2	7	6.8	6.8	75	123	161		38
w. JP Lucky)	5.4	7.6	7	7.3	59	100	110		10
	3.8	7.3	9.8	8.4	73	123	140		17
Average Imp 0	4.6	8.7	8.3	8.6	79	152	160		8
All Three	4.5	5.9	3.5	4.4	53	62	117		55
Reading Classe	4.7	7.3	7.6	7.4	63	95	119		24
	4.2	9.8	9.8	9.8	71	132	148		16
3.21	5.8	8.7	11	9.7	76	162	221		59
3.4	5.2	8	9.2	8.6	69	154	172		18
2.31	3.6	5.6	5.6	5.5	66	121	133		12
	4.7	7	7.3	7.2	55	134	162		28
2.9733333	5.1	8	7.9	8	69	140	168		28
or about 3	4.4	9.4	5.3	7.2	65	93	136		43
Three Grades	3.7	7.3	8.3	7.8	70	154	162		8
AVERAGE IMPI	3.5	7	6.4	6.7	59	86	100		14
(in Total	4.2	5.6	9.2	7.3	67	154	179		25
Reading Level)	4.4	6.3	8.3	7.3	69	120	135		15
	3.3	8	4.2	6	57	162	162		
	3.7	6.6	9.8	8	70	103	181		78
	4.9	9.4	7.6	8.6	72	162	175		13
	5.6	7.3	7	7.2	65	121	137		16
	5.1	8.7	5.6	7	70	162	162		
AVERAGES:	4.41481481	7.57037037	7.79259259	7.62592593	67.11111111	126.333333	151.111111		26.76

Table XI.--Continued.

KITAKYUSHU UNIVERSITY RAPID READING CLASS 1: INDIVIDUAL AND CLASS AVERAGE IMPROVEMENT IN READING SPEED FROM INITIAL TO BEST READING TIMES (4/94-2/95)

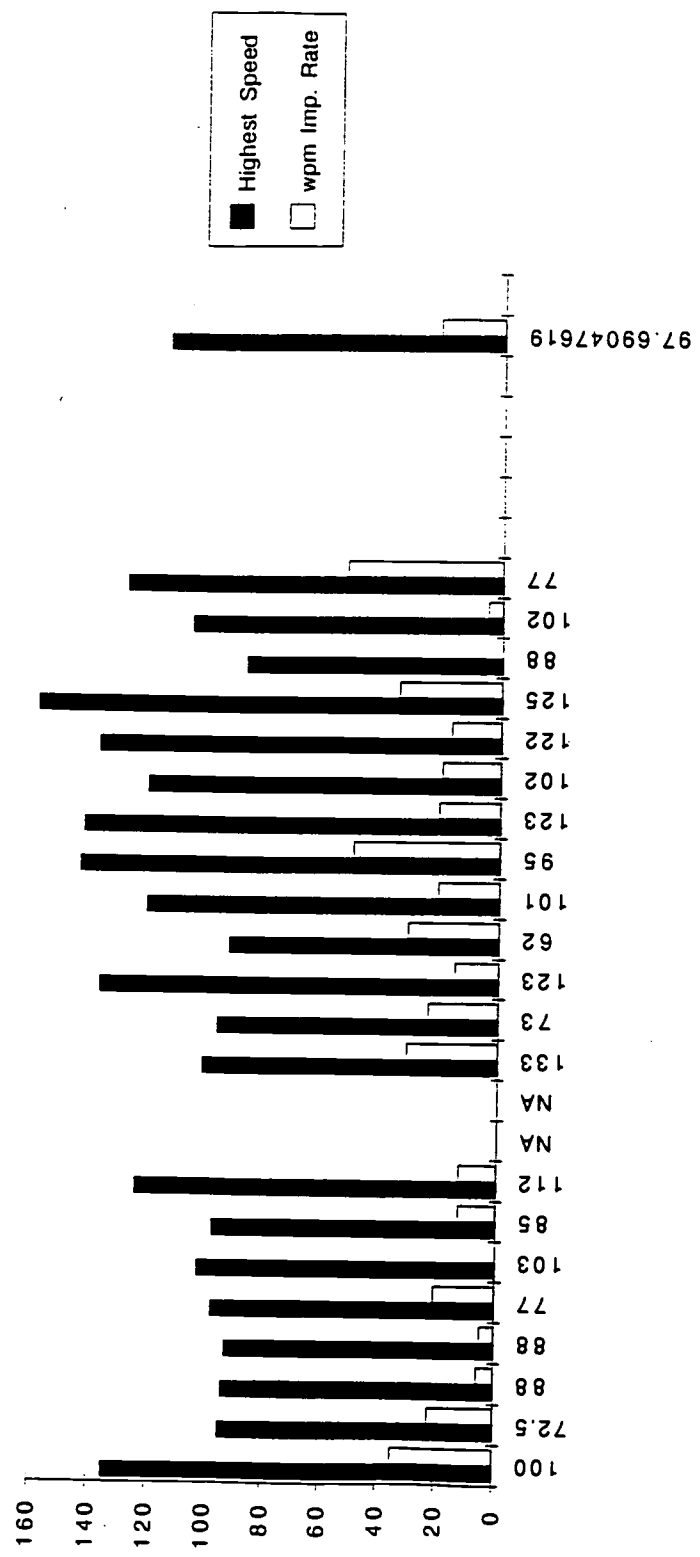


Table XI.--Continued.

KITAKYUSHU UNIVERSITY, 1992-95

**AVERAGE STARTING VOCABULARY LEVELS
AND IMPROVEMENT RATES IN ENGLISH READING LEVELS BY CLASS**

("1994 Speed-Reading Classes 1-3," assessed using Gates-MacGinire Reading Tests,
Forms C and F)

<u>PRE-VOCAB.</u>	<u>POST-VOCAB.</u>	<u>POST-COMP.</u>	<u>F READING LEVEL</u>
SR1-4.33	6.65	6.82	6.6
SR2-4.27	7.43	8.12	7.66
SR3-4.41	7.57	7.79	7.62

Table XII.--Kyushu Colleges Summary Chart, 1991-95

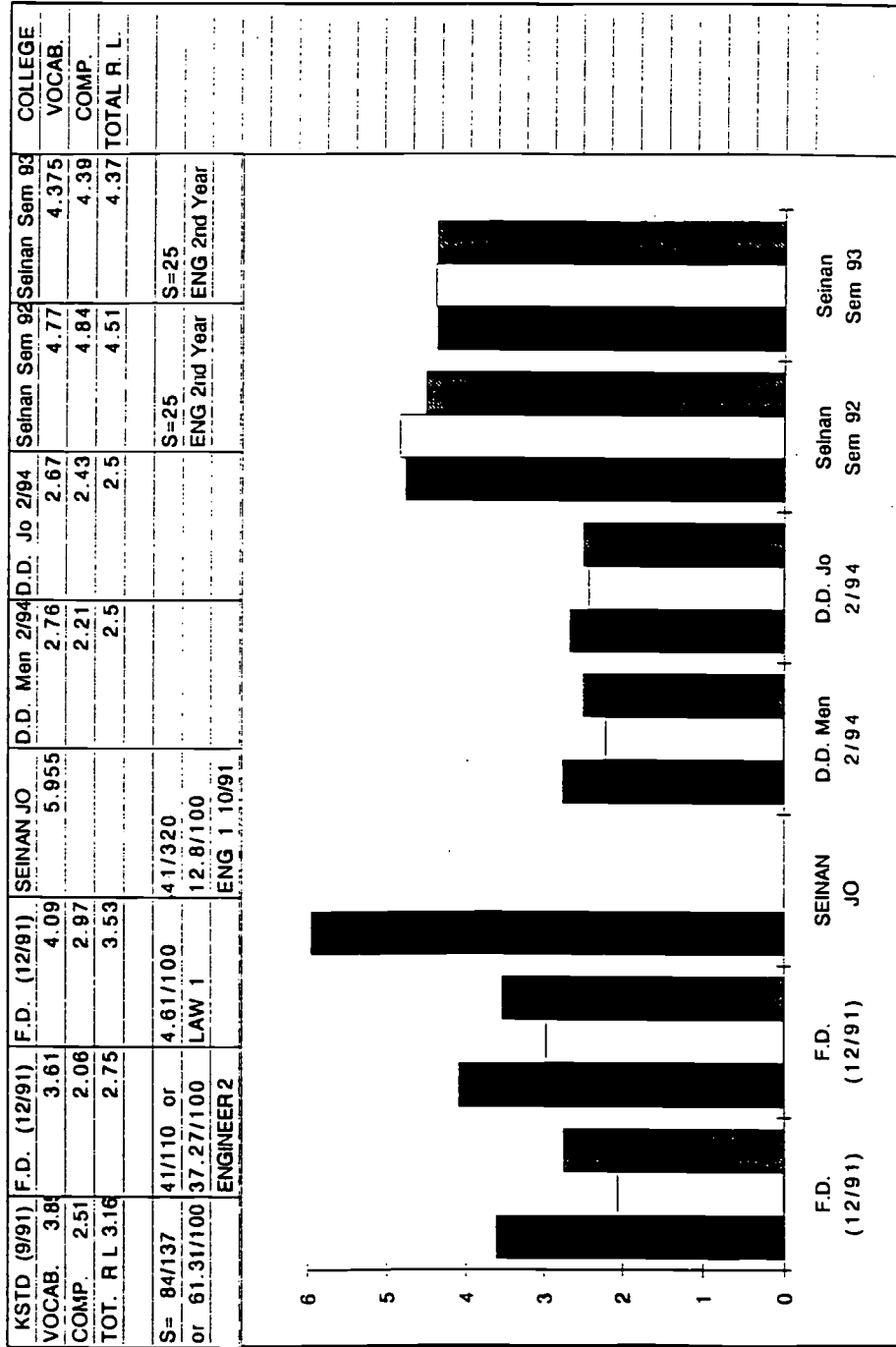


Table XII.--Continued.

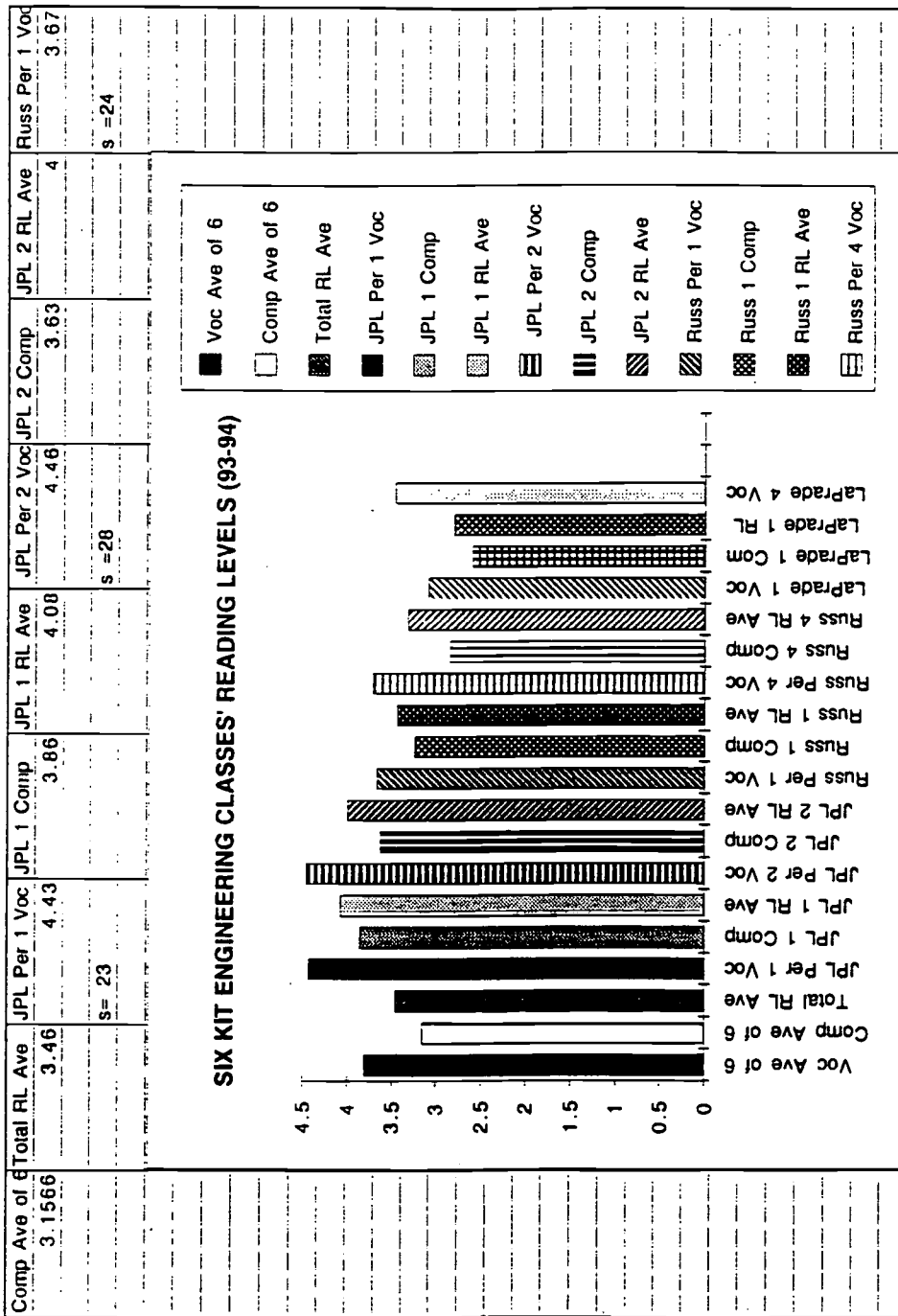
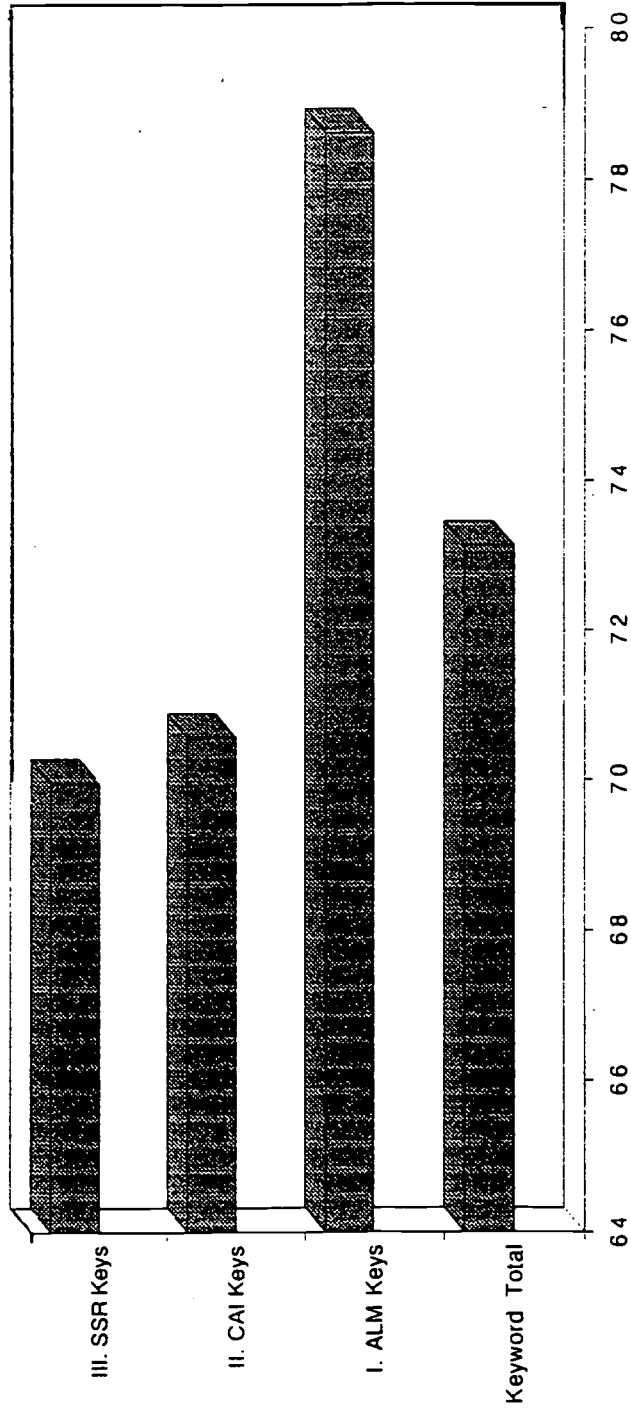


Table XII.--Continued.

Selnan 93 All	Selnan 93 All	Total Voc Ave	Total Comp Av	Total RL Ave	KIT Ave93-94	PHY ENG 179	DESIGN 098	DESIGN 235
4.033	5.62	ON GATES F	5.52	5.33	4.076	4.91	5.03	4.75
3.66	5.52	5.62			S= 458	S= 24	S= 23	S= 23
3.8568	5.33					4.75		
		Total Voc Ave	Total Comp Av	Total RL Ave		4.44		
		ON GATES C		3.8566		3.98		
Gates Reading	4.033		3.66			3.68		
PRE-TEST						5.1		
		Ave Voc IMP	Ave COMP IMP	Ave RL IMP		4.12		
3.06	3.06	1.8	1.9	1.47		2.92		
All 1st Yr ENG	All 1st Yr ENG					4.05		
						3.83		
Apr-93	Feb-94					3.83		
						3.56		
						4.3		
						3.17		
						3.98		
						3.84		
						4.1		
						3.85		
						4.91		
					S= All 1st Year	5.03		
					Engin. Students			
					VOC ONLY AVE	4.07578947		

**Table XIII.--Crow's Semantic Fields Study
(Summarized by Embedded Graph of Numerical Data)**

IE Crow's Semantic Fields Quizzes: Comparison of Three Instructional Media



**Table XIII.--Continued.
(Summarized by Embedded Graph of Numerical Data)**

1EA & 1EB Crow's Keyword Comparisons

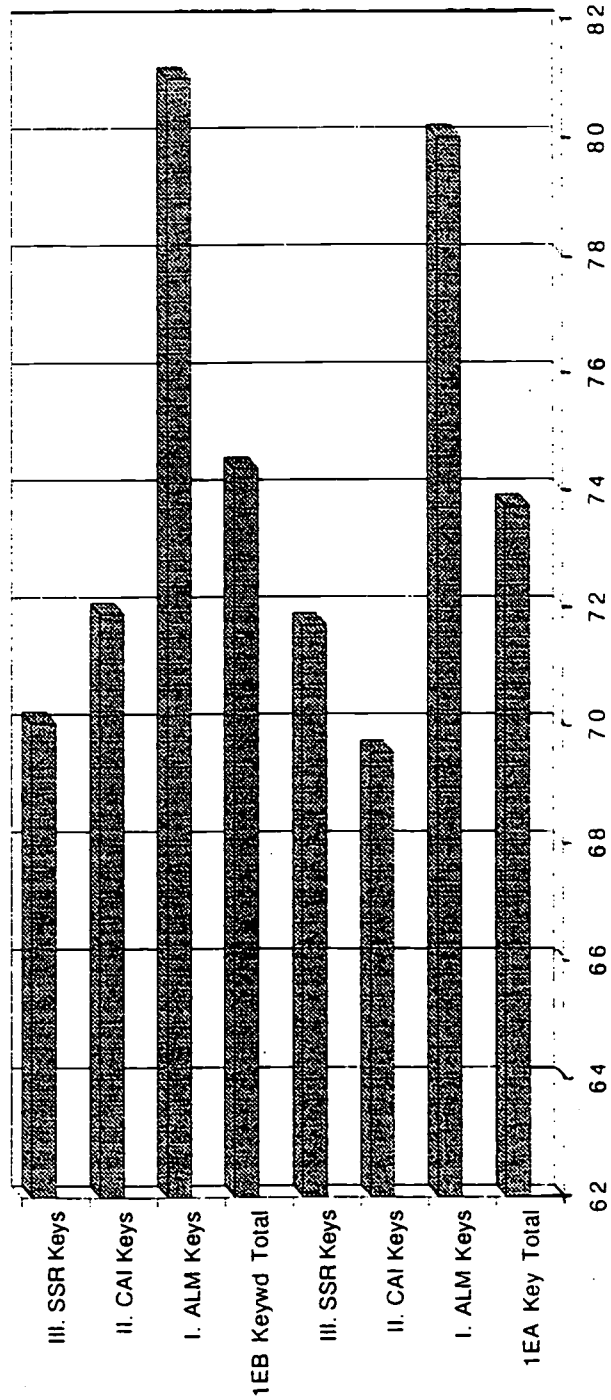


Table XIII.--Continued.
(Summarized by Embedded Graph of Numerical Data)

1F CROW'S KEYWORDS VIA 3 MEDIA

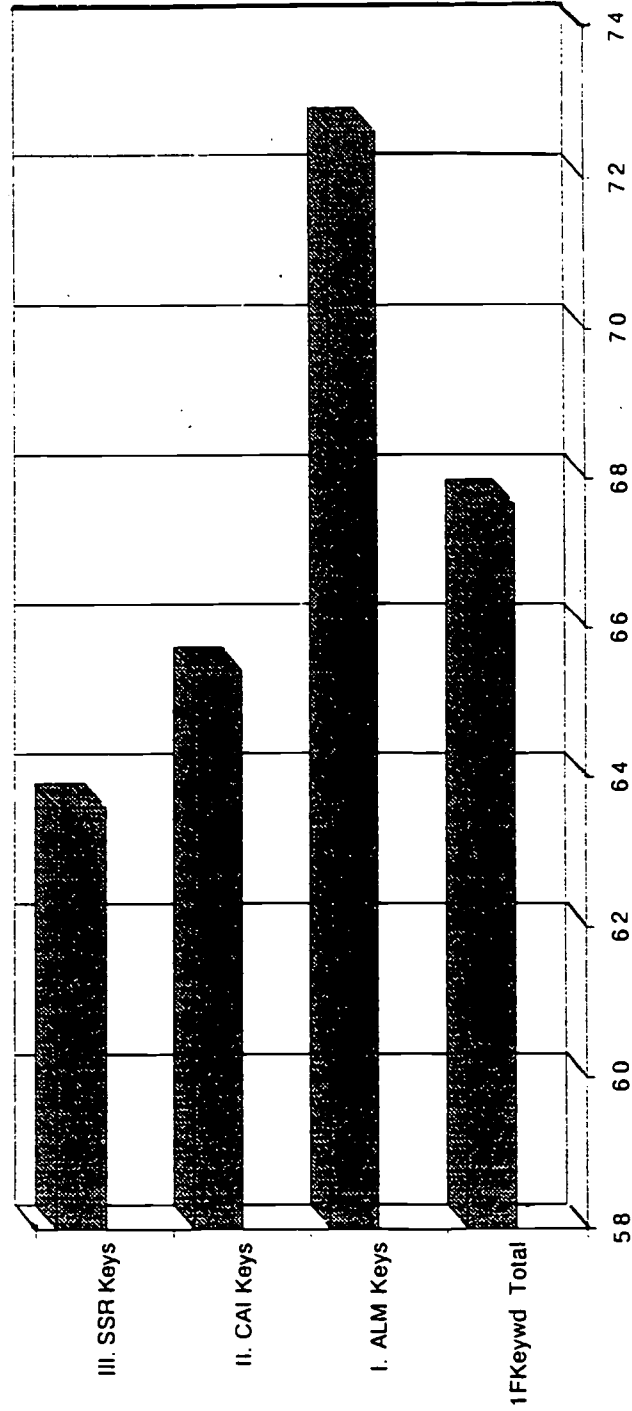


Table XIV.--Shinbun 1 and 2 Study Comparison of E & F

70	54	76	76				
85	96	58	60				
68	64	30	60				
48	66	93	92				
70	53	74	90				
46	62	76	80				
70	68	35	70				
54	70	71	68				
43	52	55	78				
85	83	40	76				
57	71	42	84				
76	46	26	94				
48	46	51	80				
41	40	49	94				
56	66	49	82				
52	58	51	80				
82	74	66	76				
64	62	73	80				
71	88	67	58				
63	72	66	90				
82	80	39	76				
74	56						
Shinbun Lite F	Shinbun S2/F	Shinbun Lite E	Shinbun S2/E				
65.6792453	67.1509434	58.4038462	78.3461538				



Table XIV.--Continued.
Embedded Graph Summarizing Shinbun 1 and 2 Study
Comparing SSR (Class 1E) with CAI (Class 1F)

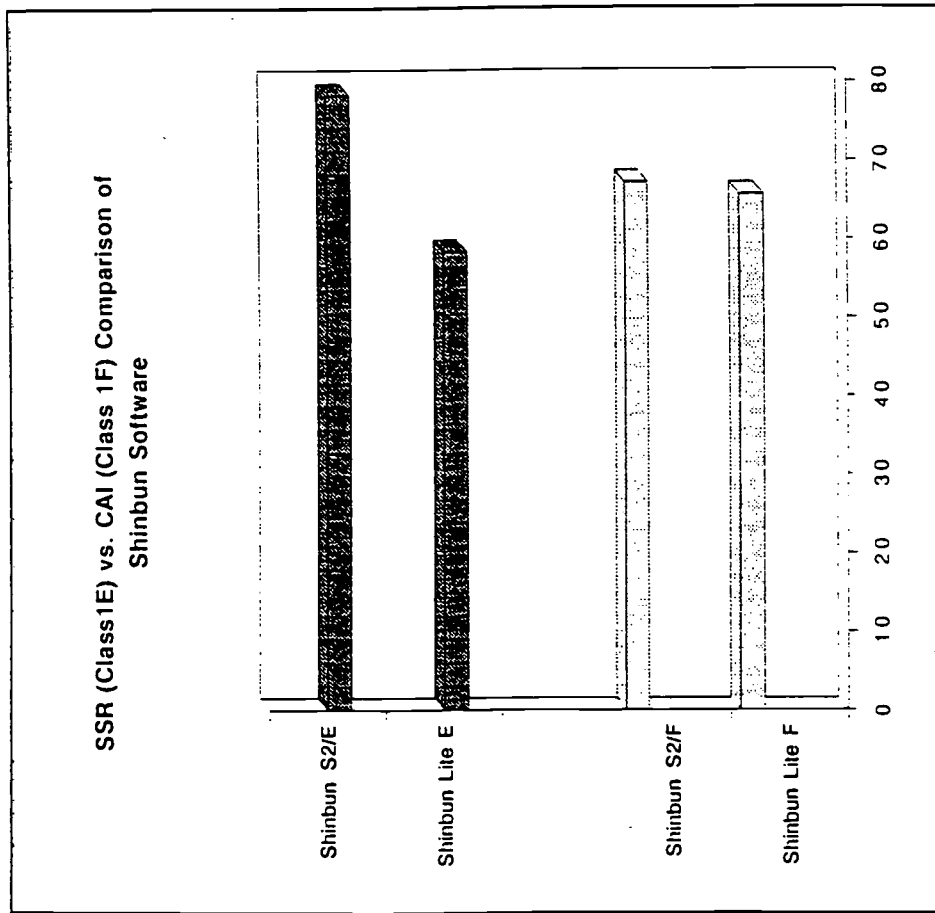


Table XV. English Reading Materials Interest Survey Results

1F, A ENGLISH INTEREST SURVEY

	A	B	C	D	E
1	4	22	76		
2	4	43	54		
3	7	68	25		
4	4	32	64		
5	7	43	36		
6	11	46	43		
7		29	71		
8	7	18	75		
9		29	71		
10		57	43		
11	4	32	64		
12	4	43	54		
13	54	29	18		
14	32	14	50		
15	39	14	43		
16	46	7	43		
17	39	36	18		
18	57	49	36		
19	18	36	43		
20	18	68	7		
21	14	50	29		
22	11	39	43		
23	4	29	39	18	4
24	11	82			
25	29	11	18	32	4
26		64	26		
27	6.068 Ave Hrs of English Study in High School.				
28	3.318 Ave Hrs of English Study in College (1st Year).				
29	7	75	7		
30	21	36	36		
31	32	43	14		
32	14	39	36		
33	64	14	18		

Table XV. English Reading Materials Interest Survey Results (Cont'd.)

1F, B ENGLISH INTEREST SURVEY

	A	B	C	D	E
1	8	31	62		
2	8	50	42		
3	19	58	23		
4		23	77		
5	42	42	15		
6	23	46	31		
7	4	12	85		
8	12	27	62		
9		35	65		
10	15	35	50		
11	8	27	62		
12		46	50		
13	62	15	15		
14	35	12	50		
15	23	23	50		
16	50	8	38		
17	19	46	23	8	
18	54	8	35		
19	12	35	50		
20	31	58	8		
21	8	77	15		
22	8	54	38		
23	8	38	38	15	
24	31	69			
25	27	12	15	50	12
26		77	23		
27	4.92 Ave Hrs. spent studying English during high school.				
28	2.9 Ave Hrs. spent studying English during college (1st year).				
29	19	69	12		
30	15	54	27	4	
31	42	58			
32	12	46	42		
33	77	8	23	12	

Table XV. English Reading Materials Interest Survey Results (Cont'd.)

INTENSITY & TYPES OF MOTIVATION

	A	B	C	D	E	F
1	No Answers Given to this Section			1E, A	A=Instrumental Motivation;	
2	9	12	21	1E, B	B=Integrative Motivation; and	
3	NA	NA	19	1F, A	C=Total of Both Motivation	
4	NA	NA	10		Types or a measure of a	
5	8	10	18		Language Learner's	
6	8	8	16		Intensity of Individual	
7	10	11	21		Motivation.	
8	12	12	24			
9	6	6	12			
10	3	6	9		Class Average Motivation	
11	9	10	19		scores could be obtained from	
12	0	6	6		only Class 1F, A and B.	
13	10	9	19			
14	0	6	6		(Few students in Class 1 E had	
15	10	12	22		time to answer this section.)	
16	6	9	15			
17	10	9	19			
18	10	10	11			
19						
20	7.28571429	8.85714286	15.375	1F, A Mot Aves		
21						
22	10	9	19	1F, B		
23	8	8	16			
24	12	11	23			
25	6	12	18			
26	7	8	15			
27	8	10	18			
28	8	11	19			
29	10	8	18			
30	5	4	9			
31	11	12	23			
32	11	7	18			
33	7	10	17			
34	9	12	21			
35	4	8	12			
36	9	9	18			
37	10	8	18			
38	6	7	13			
39	9	12	21			
40	2	6	4			
41	9	12	21			
42						
43	8.05	9.2	17.05	1F, B Mot Aves		

Table XV. English Reading Materials Interest Survey Results (Cont'd.)

1E. A ENGLISH INTEREST SURVEY

	A	B	C	D
1	8	28	64	
2	4	44	52	
3	8	76	16	
4	12	28	60	
5	8	44	48	
6	24	40	36	
7	12	28	60	
8	8	32	60	
9	8	56	36	
10	8	68	24	
11	4	24	64	
12	4	32	56	
13	36	48	8	
14	16	4	72	
15	60	12	20	
16	14	4	32	
17	40	28	20	4
18	44	12	36	
19	12	40	46	
20	16	72	4	
21	8	28	64	
22	4	44	52	
23	8	76	16	
24	12	28	60	
25	8	44	48	
26		92	12	
27				
28				
29	16	80	4	
30	8	80	12	
31	44	48	8	
32	20	44	36	
33	52	20	24	8

Table XV. English Reading Materials Interest Survey Results (Cont'd.)

1E, B English Interest Survey

	A	B	C	D	E
1	4	40	64		
2	4	52	52		
3	8	96	4		
4	4	44	56		
5	16	40	48		
6	12	48	44		
7	12	12	72		
8	12	52	32		
9	8	56	40		
10	28	44	32		
11	12	36	48		
12	8	44	40		
13	48	40	8		
14	12	12	72		
15	68	8	20		
16	40	4	52		
17	64	8	20	8	
18	28	12	56		
19	28	48	20		
20	36	60			
21	8	56	28		
22		68	28		
23		44	40	8	4
24	12	84			
25	28	28	24	12	4
26	4	64	24		4
27	1.83 Ave Hrs. of Study during High School				
28	3.54 Ave Hrs. of Study during College (1st year)				
29	8	72	16		
30	12	68	12		
31	28	64			
32	20	48	24		
33	56	16	12	12	

Table XVI.--Statistical Analyses

PART A: COMPARING WORDCRAFT MEDIA RESULTS BY ANOVA.

ANOVA SUBTABLE A: Comparing Pre-Test base levels with both Short- and Long-Term Wordcraft Memory, factoring for "Treatment" and "Time" for Groups FA (CAI), EB (ALM), & FB (SSR):

ANOVA=Analysis of Variance of 3 Wordcraft Groups:
(within 2 Classes: Loucky's E & F Rapid Reading Classes, 4-week study)

Table of Analysis of Variance (unweighted-mean solution)

source	SS	df	MS	F	p
A:TREATMENT	110.0822910	2	55.0411455	0.421	0.6577
error[S(A)]	9535.3948718	73	130.6218476		
B:TIME	42132.6283849	2	21066.3141925	159.553	0.0000 ****
AB	561.7014452	4	140.4253613	1.064	0.3768
error[BS(A)]	19276.9189744	146	132.0336916		

+ p<.10, * p<.05, ** p<.01, *** p<.005, **** p<.001

ANOVA SUBTABLE B: Comparing Pre-Test, Short- and Long-Term Wordcraft Scores with Percent of Improvement Rates shown on both Short- and Long-Term Tests, factoring for "Treatment" and "Time" for Groups FA (CAI), EB (ALM), & FB (SSR):

Table of Analysis of Variance (unweighted-mean solution)

source	SS	df	MS	F	p
A:TREATMENT	1190.4425175	2	595.2212587	1.637	0.2017
error[S(A)]	26551.0769231	73	363.7133825		
B:TIME	172.8831169	1	172.8831169	1.210	0.2749
AB	164.8872727	2	82.4436364	0.377	0.5640
error[BS(A)]	10426.5600000	73	142.8295890		

+ p<.10, * p<.05, ** p<.01, *** p<.005, **** p<.001

PART B:
COMPARING T-TEST SCORES OF TEXT-BASED VS. ALM/CAI CLASSES
T-Test Comparing Class Means for 4 Rapid Reading Classes: First Combined and then Separately: Yamamoto's C & D versus Loucky's E & F Rapid Reading Classes, year-long study)

	<u>Text-Based</u> (n=100)	<u>ALM/Comp-Assisted</u> (n=102)	<u>t-Score</u> (df=200)
Vocabulary:	2.02	4.10	12.89*
Comprehension:	2.35	2.01	1.68
Total Reading:	2.06	3.16	7.64*

*p< .001

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Table XVI.-Continued.

PART C: PEARSON CORRELATION COEFFICIENTS

C-D-E-F CLASSES COMBINED

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 202

	VOC	COMP	READ
VOC	1.00000 0.0	-0.05931 0.4018	0.71505 0.0001
COMP	-0.05931 0.4018	1.00000 0.0	0.57285 0.0001
READ	0.71505 0.0001	0.57285 0.0001	1.00000 0.0

----- GROUP=1 -----

C-D CLASSES

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 100

	VOC	COMP	READ
VOC	1.00000 0.0	0.05282 0.5017	0.62160 0.0001
COMP	0.05282 0.6017	1.00000 0.0	0.74586 0.0001
READ	0.62160 0.0001	0.74586 0.0001	1.00000 0.0

----- GROUP=2 -----

E-F CLASSES

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 102

	VOC	COMP	READ
VOC	1.00000 0.0	0.01025 0.9186	0.59711 0.0001
COMP	0.01025 0.9186	1.00000 0.0	0.70277 0.0001
READ	0.59711 0.0001	0.70277 0.0001	1.00000 0.0

Table XVI.--Continued.

PART C: PEARSON CORRELATION COEFFICIENTS

TTEST PROCEDURE

Variable: VOC IMPROVEMENT IN VOCABULARY LEVELS

GROUP	N	Mean	Std Dev	Std Error	Minimum	Maximum
C+D 1	100	2.01500000	1.05852718	0.10585272	-0.30000000	4.40000000
E+F 2	102	4.09803922	1.23079145	0.12186651	0.90000000	7.20000000

Variations	T	DF	Prob> T
Unequal	-12.9045	196.7	0.0001
Equal	-12.8853	200.0	0.0000

SIGNIFICANT DIFFERENCE

For H0: Variances are equal, $F^* = 1.35$ DF = (101,99) Prob>F* = 0.1337

Variable: COMP IMPROVEMENT IN COMPREHENSION LEVELS

GROUP	N	Mean	Std Dev	Std Error	Minimum	Maximum
C+D 1	100	2.35200000	1.27044731	0.12704473	-0.70000000	5.80000000
E+F 2	102	2.01274510	1.57974002	0.15641757	-2.50000000	5.20000000

Variations	T	DF	Prob> T
Unequal	1.6836	192.7	0.0939
Equal	1.6800	200.0	0.0945

MARGINAL/NON-SIGNIFICANT DIFFERENCE

For H0: Variances are equal, $F^* = 1.55$ DF = (101,99) Prob>F* = 0.0306

Variable: READ IMPROVEMENT IN TOTAL READING LEVELS

GROUP	N	Mean	Std Dev	Std Error	Minimum	Maximum
C+D 1	100	2.05600000	0.93315150	0.09331515	-0.40000000	4.20000000
E+F 2	102	3.15196078	1.09785844	0.10870418	0.20000000	6.40000000

Variations	T	DF	Prob> T
Unequal	-7.6500	196.1	0.0001
Equal	-7.6377	200.0	0.0000

SIGNIFICANT DIFFERENCE

For H0: Variances are equal, $F^* = 1.38$ DF = (101,99) Prob>F* = 0.10600

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Table XVI.--Statistical Analyses (Continued.)
Part B: Comparing T-Test Procedure Scores of Classes
(Text-based versus ALM/CAI Reading Classes)

T-Test Comparing Class Means for 4 Rapid Reading Classes:

Yamamoto's C & D versus Loucky's E & F Rapid Reading Classes

Combined, year-long study. Mean Improvement in Reading:

	*p< .001	<u>Text-Based</u>	<u>ALM/Comp-Assisted</u>	<u>t-Score</u>
		(n=100)	(n=102)	(df=200)
Vocabulary:		2.02	4.10	12.89*
Comprehension:		2.35	2.01	1.68
Total Reading:		2.06	3.16	7.64*

Table XVII.--Typical Reading Levels of Prestigious Japanese Colleges' Entrance Examinations

Table 1a: Reading Passage Statistics for Private University Entrance Examinations, 1993 (Averages)

Statistic	Aoyama	Doshisha	Keio	Kyugai	Kansai	Kyotou	Rikyo	Sophia	Tsuda	Waseda
No. of Passages	2	2	1	2	3	1	2	4	2	4
Words	381.50	588.00	986.00	385.00	488.00	863.00	388.00	431.00	453.00	438.00
Unique Words	211.50	296.50	515.00	200.00	239.00	401.00	194.00	237.25	212.00	219.50
Type-Token Ratio	55.44	50.43	52.23	51.95	48.98	46.47	50.00	55.05	46.80	50.11
Syllables/Word	1.49	1.48	1.65	1.50	1.46	1.53	1.47	1.54	1.46	1.53
Sentences	21.00	26.50	51.00	25.50	28.67	48.00	20.00	20.25	33.50	26.50
Words/Sentence	17.57	22.34	19.04	15.53	18.98	17.75	19.42	21.81	21.31	16.50
Flesch	63.59	60.61	48.08	64.22	65.47	59.49	64.29	55.86	61.77	60.60
Flesch-Kincaid	8.59	9.94	11.28	8.16	8.40	9.28	8.83	10.51	9.92	8.87
Fog	9.98	11.84	13.26	10.07	9.92	10.71	11.34	12.56	11.51	10.64

Table 1b: Reading Passage Statistics for Public University Entrance Examinations, 1993 (Averages)

Statistic	Hirotsu	Hokkaido	Kyoto	Kyushu	Nagoya	Osaka	Tokyo	Toritsu	Tyous	Yokohama
No. of Passages	2	3	2	3	3	4	6	2	6	3
Words	621.50	479.67	417.50	451.33	279.33	289.50	220.00	474.00	264.50	286.00
Unique Words	295.50	244.00	227.00	212.00	166.00	145.50	125.17	251.50	143.50	159.33
Type-Token Ratio	47.55	50.87	54.37	46.97	59.43	50.26	56.89	53.06	54.25	55.71
Syllables/Word	1.43	1.53	1.62	1.42	1.60	1.45	1.50	1.52	1.48	1.64
Sentences	34.50	35.00	18.50	33.67	11.67	15.50	11.17	23.00	16.17	12.67
Words/Sentence	16.47	14.91	22.38	18.56	20.33	20.26	25.87	20.64	16.65	25.71
Flesch	69.23	62.51	47.60	68.30	50.44	64.08	54.28	58.52	65.48	42.47
Flesch-Kincaid	7.70	8.24	12.18	8.34	11.28	9.27	11.92	10.01	8.03	13.61
Fog	10.18	9.84	14.54	10.80	12.75	11.75	14.29	12.40	9.45	15.91

(From James Dean Brown and Sayoko Okada Yamashita, "English Language Entrance Examinations at Japanese Universities: What Do We Know About Them?" In *JALT Journal*, Vol. 17, No. 1, May, 1995: 7-30. Used with permission.)

Table 2: Reading Passage Statistics Summarized by University Type (Averages)

Statistic	Private	Public	Center	Total
No. of Universities	10	10	1	21
No. of Passages	2.30	3.40	3	2.86
Words	540.15	378.33	178.33	445.87
Unique Words	272.58	196.95	100.67	228.38
Type-Token Ratio	50.74	52.94	53.88	51.84
Syllables/Word	1.51	1.52	1.41	1.51
Sentences	30.09	21.18	9.33	24.86
Words/Sentence	19.03	20.18	17.01	19.48
Flesch	60.40	58.29	70.35	59.87
Flesch-Kincaid	9.38	10.06	7.67	9.62
Fog	11.18	12.19	10.17	11.61

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Table XVIII.--Reading Level Criteria

<u>READING LEVEL</u>	<u>WORD RECOGNITION %</u>	<u>COMPREHENSION %</u>
Free or Independent	99%+	90%+
Instructional	95%	75%
Frustration	90%-	50%-

(From Eldon Ekwall, Diagnosis and Remediation of the Disabled Reader, Boston: Allyn and Bacon, 1976, 267.)

Table XIX.--Types of Vocabulary, Their Features, and the Implications for Teaching and Learning

<u>Type of Words:</u>	<u>No. of words:</u>	<u>% of Text Proportion:</u>
High-frequency words	2,000	87%
University word list	800	8%
Technical words	2,000	3%
<u>Low-frequency words</u>	<u>123,200</u>	<u>2%</u>
TOTALS:	128,000	100%

(Summarized from Nation's Teaching and Learning Vocabulary, Table 2.4 "Types of Vocabulary, Their Features, and the Implications for Teaching and Learning," p. 19.)

APPENDIX B

SCOPE AND SEQUENCE CHART

AND

CURRICULUM OBJECTIVES OF

VARIOUS C.A.L.L. MATERIALS

(From Black and Taylor Software Catalog, Morton, Illinois, Spring 1995.)

Language Arts

Curriculum Objectives

Ace Detective
 Ace Reporter: Main Idea and Detail
 Adventure in Spelling
 Aladdin and His Wonderful Lamp
 Bilingual Writing Center, The
 Children's Writing & Publishing Center, The
 Community Exploration
 Complete Dickens (like the Dickens)
 Complete Works
 Discs Kids Can Read Library
 English I
 Grammar Goldie
 Great Literature
 Group Grammar
 Healy/Pinky
 Interactive Storyline Volume 3
 Kid Phonics
 Kid Pix 2
 Kid Works 2
 Kid Works Bilingual
 Learning English: Primary Rhymes
 Library of the Future
 Library Search and Store
 Little Turtle: The
 Typewriter

Page Number	26	26	29	94	30	88	68	83	100	24	22	32	83	22	27	12	24	84	22	24	25	104	60	13	61	
Reading																										
Identifies consonant sounds																										
Identifies vowel sounds																										
Identifies main ideas and details		*	*	*						*					*											
Classifies information		*		*				*	*	*	*				*							*				
Arranges information in sequence		*		*				*	*	*	*				*						*	*	*	*	*	*
Identifies cause and effect		*		*				*	*	*	*				*					*	*	*	*	*	*	*
Draws conclusions/predicts outcomes		*	*	*						*					*				*	*	*	*	*	*	*	*
Draws inferences from sentence context		*	*	*				*	*	*	*	*			*				*	*	*	*	*	*	*	*
Compares and contrasts information		*	*	*				*	*	*	*				*				*	*	*	*	*	*	*	*
Identifies and uses parts of a book				*				*	*	*	*				*				*	*	*	*	*	*	*	*
Written Composition																										
Writes a description				*	*										*				*	*	*	*	*	*	*	*
Writes of an experience or happening				*	*										*				*	*	*	*	*	*	*	*
Categorizes and dictates lists				*	*										*				*	*	*	*	*	*	*	*
Writes a personal or business letter				*	*										*				*	*	*	*	*	*	*	*
Prepares reports on books				*	*										*				*	*	*	*	*	*	*	*
Writes answers to questions related to units of study in science, social studies, etc.				*	*										*				*	*	*	*	*	*	*	*
Writes paragraphs supporting a point of view				*	*										*				*	*	*	*	*	*	*	*
Spelling																										
Identifies and spells rhyming words				*											*				*	*	*	*	*	*	*	*
Identifies and spells words, using derivations				*								*			*				*	*	*	*	*	*	*	*
Identifies and spells words, using spelling rules				*											*				*	*	*	*	*	*	*	*
Grammar																										
Learns capitalization, contractions, abbreviations				*									*	*	*				*	*	*	*	*	*	*	*
Utilizes prefixes and suffixes				*									*	*	*				*	*	*	*	*	*	*	*
Alphabetizes letters and words				*											*				*	*	*	*	*	*	*	*
Identifies parts of sentences				*											*				*	*	*	*	*	*	*	*
Understands possessives, singular and plural				*											*				*	*	*	*	*	*	*	*
Uses correct punctuation				*											*	*	*		*	*	*	*	*	*	*	*
Vocabulary																										
Matches words to definitions				*				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Recognizes synonyms, antonyms, homonyms				*				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Increases vocabulary through interaction				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Selects definitions of multiple-meaning words				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

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LANGUAGE ARTS (Continued.)

33	28	17	12	35	35	8	35	8	8	38	31	22	8	22	18	24	43	88	8	20	28	28	24	27	30	80	77	22	14	32	82	35	11	11		
Macmillan Dictionary for Children																																				
Magic Spots Spelling Skills																																				
Maria's Early Years!																																				
Madge Series																																				
Macmillan's Language Arts																																				
My Own Stories																																				
My Silly Book of ABC's																																				
Neighborhood Life																																				
Ocean Escape																																				
Peter and the Wolf																																				
Phonics Prime Time Final Consonants																																				
Poetry Express																																				
Reading Adventures in Oz																																				
Reading and Me																																				
Reading Blast																																				
Reading Magic Plus Library Set																																				
Reading Atlas																																				
Scoble's Magic Castle																																				
Shakespeare																																				
Sound It Out! Land																																				
Spell Dodger																																				
Spell It 3																																				
Spelling Series Tool Kit																																				
Starting with Phonics Plus																																				
Stickybear Reading Comprehension																																				
Storybook Weaver																																				
Student Writing Center																																				
Telling Classic Tales																																				
Team Reading and Vocabulary																																				
Ugly Duckling, The																																				
Weekly Reader Punctuation Rules																																				
Word Attack 3																																				
Word City																																				
Yearn 2 Learn: Friends																																				
Yearn 2 Learn: Snappy																																				

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ESL

Curriculum Objectives

3 Ribbons: Alphabet, Numbers & Shapes	17
Alphabet Blocks	16
Animal Alphabet	17
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Beautiful Feast for a Big King Cat, A	19
Bilingual Writing Center, The	30
Book of Shadowboxes: A Story of the ABCs	11
Bravo! Book Collection	18
Buyform	8
Children's Carousel	12
Children's Writing & Publishing Center, The	88
Community Exploration	69
Cotton Tales	14
Discs: Kids Can Read Classroom Edition	24
Early Learning English	12
Easy Street	14
English 1	22
Fairy BEAR's Fun Pack	11
Goal Series	19
Interactive Storytime Volume 3	12
Kid Phonics	34
Kid Pix 2	84
Kid Works 2	22
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Level 1

Understands and uses common greetings and phrases																									
Understands, uses, and responds to common survival phrases																									
Understands and responds to basic classroom instructions																									
Develops oral English vocabulary																									

Level 2

Understands and writes present tense sentence patterns with vocabulary relating to people																									
Understands and writes appropriate noun forms in sentence patterns																									
Combines simple sentences and phrases																									
Understands and writes appropriate present tense forms																									

Level 3

Understands, writes, and uses appropriate possessive forms																									
Understands, writes, and uses present progressive forms—being/ing																									
Constructs, understands, and uses simple sentences utilizing going plus infinitive to express future/intent																									
Uses correct punctuation																									
Identifies parts of speech																									

Level 4

Uses in writing and speech the future tense, simple past tense																									
Utilizes past progressive tense																									
Combines simple sentences and phrases in writing and speech																									
Relates contracted forms to their sources																									
Uses correct grammar forms																									



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APPENDIX C

**SAMPLE LESSONS FOR
VOCABULARY-TRAINING
MATERIALS USED IN THIS
STUDY:
CROW'S SEMANTIC
FIELDS,
WORDCRAFT, AND
SHINBUN LITE OR
SHINBUN, SHINBUN
1 AND 2**

SAMPLE LESSONS: CROW'S SEMANTIC FIELDS STUDY

EXERCISE 9: In the following paragraph **ONE WORD IN EACH SENTENCE IS IN BOLD TYPE**. Find the Keyword from the list below that is closest in meaning to each of these words, and **TYPE** the Keyword in the proper blank underneath the paragraph. Check your answers later by looking at Exercise 10 which follows.

KEYWORDS: hardworking world more than necessary amount to divide
 seller wealthy to force upon problem
 to surprise skillful to say 'no' to good(ness)

In early times, almost every businessman on this globe worked for himself. In those days, if a person was diligent, he or she was economically safe. The money one made or the food one produced was allotted to one's family and friends. There was nobody to reject one's ideas or plans. However, as communication and trade developed, merchants needed more and more products to satisfy their buyers. Manufacturers had to become more resourceful in order to produce enough material to meet the demand. New ways of doing business were imposed upon people by changes that developed in the marketplace. Factories, stores, agencies, and the like appeared, allowing the owners or bosses to become affluent while the working person became poorer and poorer. Nobody was worried about the welfare of the everyday person. Job security disappeared: if there was a glut of a certain type of worker or product, people suddenly lost their jobs. This approach to business hit a snag in the Western world in 1929 when the system of doing business and giving credit fell

apart. Although most people were astounded when this happened, many historians and economists expected it.

globe	_____	diligent	_____
allotted	_____	reject	_____
merchants	_____	resourceful	_____
imposed upon	_____	affluent	_____
welfare	_____	glut	_____
snag	_____	astounded	_____

SAMPLE LESSONS: CROW'S SEMANTIC FIELDS STUDY

	Find the word in each sentence that is NOT A WORD RELATED TO THE KEYWORD. Type the Letter of that word in the space to the left of each question. (#=Keyword #s) After typing answers to Questions 1-12, FIND THE CORRECT KEYWORD GROUP TO WHICH these unrelated words belong. Then TYPE the unrelated word (<u>Nakama Hazure</u>) to the right of the group to which it DOES BELONG.	
1.	1/20 Thirty years later one could still see the <u>destruction</u> caused by the war. a. ravage b. desolation c. bewilderment	1.
2.	2/18 The soldiers pushed the invaders back to the <u>geographical limit</u> of their homeland. a. frontier b. burden c. boundary d. confines	2.
3.	3/22 It was not a great <u>difficulty</u> for him to work 12 hours a day. a. ruin b. hardship c. privation	3.
4.	4/19 His attempts to investigate the situation resulted in even greater <u>mystery</u> . a. perplexity b. enigma c. paradox d. edge	4.
5.	5/23 Only three of the five mountain climbers <u>lived through</u> the expedition. a. endured b. took into account c. persevered through	5.

6.	6/14. Today every president must <u>think about</u> the international significance of his or her actions. a. weigh b. bears in mind c. contemplate d. survive.	6.
7.	7/21 The secretary of state <u>agreed with</u> the president's decision. a. acquiesced to b. transpired c. assented to	7.
8.	8/17 After the accident, it was quite some time before they knew what had <u>happened</u> . a. taken place b. come about c. occurred d. concurred	8.
9.	9/13 The twisted buildings provided <u>plentiful</u> evidence of the strength of the storm. a. abundant b. deceiving c. bountiful	9.
10.	10/16 Many families were <u>poor</u> after the stock market crashed in 1929. a. indigent b. penniless c. impoverished d. solitary	10.
11.	11/15 He was buried in a <u>lonely</u> grave on a hillside. a. secluded b. destitute c. isolated d. out of the way	11.
12.	12/24 One should always remember that appearances can be <u>false</u> . a. misleading b. ample c. deceptive d. deceitful	12.

SAMPLE LESSONS: CROW'S SEMANTIC FIELDS STUDY

The first word in each group is the KEYWORD! ALL THE WORDS UNDER EACH KEYWORD HAVE A SIMILAR MEANING. Read each group and try to remember which Related Words go with each Keyword! LET'S LEARN NEW WORDS NOW!

13. plentiful	14. to think about	15. lonely	16. poor
copious	take into account	out of the way	penniless
ample	contemplate	secluded	needy
abundant	ponder	isolated	destitute
profuse	weigh	solitary	impoverished
bountiful	bear in mind	reclusive	indigent
17. to happen	18. geographic limit	19. mystery	20. destruction
befall	boundary	perplexity	ruin
come about	frontier	paradox	desolation
occur	confines	puzzle	annihilation
transpire	edge	engima	ravage
take place	border	bewilderment	demolition

21. to agree	22. difficulty	23. to live with	24. false
consent	adversity	endure	deceptive
willing	privation	subsist	deceiving
acquiesce	hardship	persevere	misleading
concur	tribulation	survive	fraudulent
assent	burden	exist	deceitful
<p>EXERCISE 7: A. The 12 Groups of Related Words are written below without Keywords. Write the CORRECT KEYWORD over each KEYWORD GROUP.</p> <p>B. Each Group of Related Words has ONE WORD that DOES NOT BELONG in the group. Find that word, and TYPE IT UNDER THE GROUP TO WHICH IT BELONGS. PRINT OUT WHEN FINISHED AND CROSS OUT THE <u>NAKAMA HAZURE</u>.</p>			
13. _____	14. _____	15. _____	16. _____
copious	take into account	out of the way	penniless
ample	contemplate	profuse	needy
abundant	come about	isolated	destitute
deceitful	weigh	solitary	impoverished
bountiful	bear in mind	reclusive	secluded
_____	_____	_____	_____

SAMPLE LESSONS: CROW'S SEMANTIC FIELDS STUDY

17. _____ befall acquiesce occur transpire take place _____	18. _____ boundary frontier confines edge perplexity _____	19. _____ tribulation paradox puzzle enigma bewilderment _____	20. _____ ruin desolation annihilation ravage border _____
21. _____ consent be willing to endure concur assent _____	22. _____ adversity privation hardship demolition burden _____	23. _____ ponder subsist persevere survive exist _____	24. _____ deceptive deceiving misleading fraudulent indigent _____

WORDCRAFT BOOK 1, LESSON 1: SAMPLE LESSON

LESSON 1
LINDBERGH

Click on the boldfaced word(s)
to hear the sound.

1. ambition

As a boy, Charles Lindbergh had an ambition to fly a plane.

As a boy, Charles Lindbergh had a strong desire to fly a plane.

2. consequence

He could not know that as a consequence of this desire he would become famous.

He could not know that because of, as a result of this desire he would become famous.

3. induce

While flying as an air mail pilot in 1926, Lindbergh was induced to enter a contest.

While flying as an air mail pilot in 1926, Lindbergh was led into, talked into entering a contest.

Quit



LESSON 1 LINDBERGH



Click on the boldfaced word(s)
to hear the sound.

4. generous

A very **generous** man offered twenty-five thousand dollars to anyone who could fly a plane from New York to Paris, France, without stopping.

A man very **willing to share with others** offered twenty-five thousand dollars to anyone who could fly a plane from New York to Paris, France, without stopping.

5. eager

Lindbergh was **eager** to try for the prize.
Lindbergh wanted **very much** to try for the prize.

6. convince

He was **convinced** that he could make the trip safely.

He felt **sure, had reason to believe** that he could make the trip safely.



LESSON 1 LINDBERGH



Click on the boldfaced word(s)
to hear the sound.

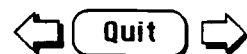
7. capable

On May 20, 1927, in his small but **capable** plane "The Spirit of St. Louis," he took off from New York.

On May 20, 1927, in his small but **able, fit** plane, "The Spirit of St. Louis," he took off from New York.

8. descend

"The Spirit of St. Louis," with Charles Lindbergh at the controls, **descended** at Le Bourget Airport outside Paris the next evening.
"The Spirit of St. Louis," with Charles Lindbergh at the controls, **came down, lowered** at Le Bourget Airport outside Paris the next evening.



LESSON 1 LINDBERGH



Click on the boldfaced word(s) to hear the sound.

9. **impression**

This first non-stop flight from New York to Paris made a great **impression** on people all over the world.

This first non-stop flight from New York to Paris made a great **mark on the feelings of**, had great meaning for people all over the world.

10. **commercial**

The **commercial** air lines of today owe much of their success to the courageous flight of Charles Lindbergh.

The **working mainly for profit** air lines of today owe much of their success to the courageous flight of Charles Lindbergh.

"A" Test for Lesson 1

"B" Test for Lesson 1

"C" Test for Lesson 1



[Back to Lesson](#)

"A" TEST FOR LESSON 1

Answers

Choose the test word that best fits the meaning of the sentence. Write the letter for the correct test word in each blank.

1. ___
2. ___
3. ___
4. ___
5. ___
6. ___
7. ___
8. ___
9. ___
10. ___

1. The clown's act at the circus made a special (a. **impression**) (b. consequence) on the deaf child.
2. Lefty's friends (a. descended) (b. induced) him to drive his father's car.
3. (a. **Generous**) (b. Commercial) washers and dryers at the laundromat are usually larger than those used at home.
4. Earl was (a. capable) (b. generous) and didn't mind if his friends used his radio.
5. The (a. consequence) (b. **impression**) of breaking the law may be punishment.
6. Our group had an (a. ambition) (b. **impression**) to win top honors at the science fair.
7. A fireman pulled the woman through the third floor window and (a. descended) (b. induced) the ladder.
8. Mike and I were (a. generous) (b. **eager**) to see our favorite ballplayer in action.
9. The (a. capable) (b. convinced) guide led the hunters safely out of the jungle.
10. We had seen him run before and were (a. **eager**) (b. convinced) he could win the race.

[Quit](#)



Back to Lesson

"B" TEST FOR LESSON 1

Match each test word on the left with its closest definition on the right.
Write the letter for each answer in the blank next to the test word.
Each definition in each list is used only once.

Answers

- | | | |
|----------|----------------|--|
| 1. | 1. generous | a. working mainly for profit |
| 2. | 2. consequence | b. came down, lowered |
| 3. | 3. descended | c. felt sure, had reason to believe |
| 4. | 4. impression | d. led into, talked into |
| 5. | 5. convinced | e. strong desire |
| 6. | 6. induced | f. because of, result of |
| 7. | 7. eager | g. willing to share with others |
| 8. | 8. ambition | h. able, fit |
| 9. | 9. commercial | i. mark on the feelings, great meaning |
| 10. | 10. capable | j. want very much |



Quit

Back to Lesson

"C" TEST FOR LESSON 1

Complete each of the sentences with one of the words on the left.
Write the letter of the correct test word in each blank.

- | | |
|----------------|--|
| a. eager | 1. She was _____ enough to give me half of her sandwich. |
| b. generous | 2. Our coach made an _____ on us, and we came out of the locker room ready to fight and win. |
| c. ambition | 3. The car was _____ of traveling at a high speed. |
| d. impression | 4. To be the best dancer in the show was her one _____. |
| e. convinced | 5. It took five days to climb the mountain and one day to _____. |
| f. induce | 6. The business was a _____ success. |
| g. consequence | 7. Nothing could _____ me to jump off the high diving board. |
| h. descend | 8. I'm _____ he stole my book, but I can't prove it. |
| i. commercial | 9. Scott hurried out of the house because he was _____ to catch up with his friends. |
| j. capable | 10. Gene missed the ball, and we lost the game as a _____. |



Quit

Vocabulary Expansion

Spring Edition

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Marie and his twin-engine plane landed safely in Desha. An embarrassing encounter with two Air Force planes.

Cash Falls From Toilet Ceiling

THE HAGUE, Netherlands (AP)—A man who was repairing the old ceiling in his bathroom got a surprise when 132,000 guilders (50,381 dollars) fell out, police said.

The unidentified man reported his windfall Wednesday to police, who investigated and discovered that the 86-year-old woman living in the floor above had hidden an inheritance under her bathroom floor.

"She was looking for a good place to leave it, so that people wouldn't find it too easily," said police spokesman Jan Karel Nube. "We advised the woman she had better take the money to a bank." —MDN
See Toilet Cash on page 2.

Cash Booth Traps Woman

3517, Mic—A woman called the police for 35 minutes trapped in a cash booth.

The emergency message was relayed to the branch office leading to her rescue about 30 minutes later.



太文字の単語に👉を合わせて👈のボタンを押すと、下に意味が表示され、その単語を含む文章の一部が発音されます。その他の単語の上を押すと、文章全体を聞くことができます。

Cash Falls From Toilet Ceiling

THE HAGUE, Netherlands (AP)—A man who was **repairing** the old **ceiling** in his bathroom got a surprise when 132,000 guilders (50,381 dollars) fell out, police said.



The **unidentified** man reported his **windfall** Wednesday to police, who **investigated** and discovered that the 86-year-old woman living on the **floor** above had **hidden** an **inheritance** under her bathroom floor.

"She was looking for a good place to **leave** it, so that people wouldn't find it too easily," said police **spokesman** Jan Karel Nube.

"We **advised** the woman she had better take the money to a bank."

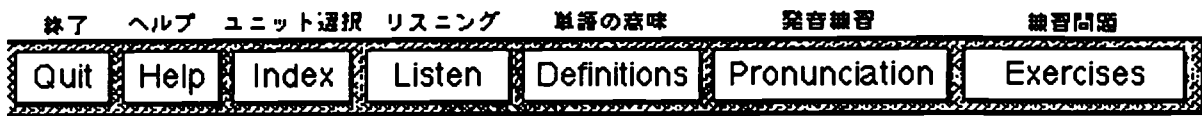


Quit	Help	Index	Listen	Definitions	Pronunciation	Exercises
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ボタンの説明

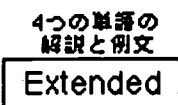


各画面で下のボタンの中から必要なボタンに を合わせて のボタンを押します。

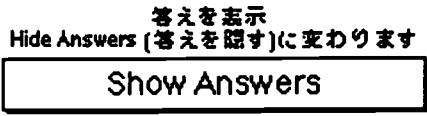
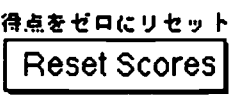
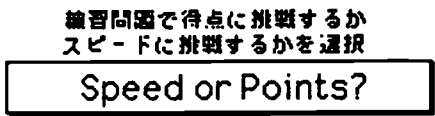


この部分のボタンは画面によって下のものと入れ替わります。

重要単語リスト
Indexカードにのみ
表示されるボタン



このヘルプカードを見終
わったら、右上の「使い
方の説明へ」のボタンを
押すか、元のカードへ戻
るには、このカードの中
で のボタンを押して
下さい。



Exercises



必要な練習問題に を合わせて のボタンを押して下さい。



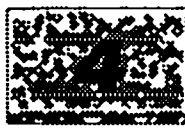
0 Points



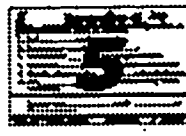
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0 Points



0 Points



0 Points



0 Points



0 Points



0 Points

Total Score: 0 out of 62 Points!





Pronunciation

単語に を合わせ、 のボタンを押して発音を聞き、あとに続けて発音して下さい。
下の **Pronounce All** を押すとすべての単語が順番に発音されます。



ceiling [si:liŋ]



inheritance [inhéretəns]



unidentified [ʌnaidéntafàid]



windfall [wín(d)fò:l]



Quit	Help	Index	Story	Definitions	Pronounce All	Exercises
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Exercises



必要な練習問題に を合わせて のボタンを押して下さい。

<p>It's a speed exercise!</p> <p>How fast can you do all 8 exercises?</p> <p>Do each exercise as quickly as you can, but remember, mistakes will slow you down!</p> <p>Good luck!</p> <p>Speed Exercise</p>	<p>It's a points exercise!</p> <p>How accurately can you do all 8 exercises?</p> <p>Take your time. Try to get as many points as possible. A perfect score is 63!</p> <p>Good luck!</p> <p>Points Exercise</p>
--	---

Quit	Help	Index	Story	Speed or Points?	Reset Scores
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Definitions



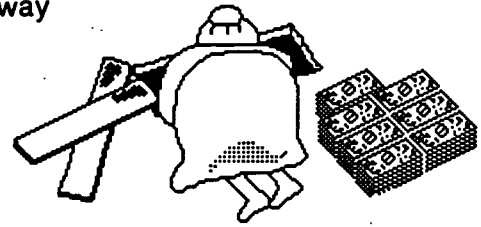
下の二つの[Hide]ボタンを使って、左の単語を隠したり、右の意味を隠して、単語と意味を覚えながら確認して下さい。直接単語を押して意味を隠したり、意味を押して単語を隠すこともできます。

Hide Words

advised
ceiling
floor
hidden
inheritance
investigated
leave
repairing
spokesman
unidentified
windfall

Hide Definitions

recommend
overhead surface in a room
levels in a building
keep in a secret place
money received from a dead relative
ask questions in a formal way
put
put back in good condition
speaker for some group
not named
money not expected


[Quit](#)
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[Extended](#)
[Pronunciation](#)
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Exercise 1



文章を初事の起こった順に並べかえる問題です。左の文章の中から起こった順に文章に👉を合わせて📄のボタンを押して下さい。

Scrambled Sentences

They investigated.
He reported the finding to the police.
An old woman received an inheritance.
A man was repairing his bathroom ceiling.
They advised her to keep the money in the bank.
While he was repairing the ceiling, money fell out.
She hid the inheritance under her bathroom floor.
They found that the money belonged to the woman living on the floor above.

Unscrambled Sentences

An old woman received an inheritance.
She hid the inheritance under her bathroom floor.
A man was repairing his bathroom ceiling.
While he was repairing the ceiling, money fell out.
He reported the finding to the police.
They investigated.
They found that the money belonged to the woman living on the floor above.
They advised her to keep the money in the bank.

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[Hide Answers](#)
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Exercise 2



正しい解答に を合わせて のボタンを押して下さい。

1. Who found the money?
Jan Karel Nube
• An unidentified man
An old woman
The police
2. What was he doing when he found it?
Repairing his car
Cleaning his room
• Repairing his ceiling
Washing his face
3. Who put the money there?
Jan Karel Nube
An unidentified man
• An old woman
The police
4. Why did she put it there?
• To hide it
To clean it
To iron it
To look at it
5. Where did she get the money?
From her sister
• From an inheritance
From the police
From the bank
6. What was the advice to the woman?
• Take it to the bank
Put it under the bed
Spend it
Give it to the police



Exercise 3



下線の言葉の意味を選択する問題です。下線の言葉に を合わせて のボタンを押し続け、 を上下させて正しい解答が反転したところでボタンを離して下さい。

1. Mr. Norton accidentally forgot his magazine on the train.
left
2. After the airplane crash, the victims were named by their families.
identified
3. A driver's license or a passport is accepted as identification.
I.D.
4. She couldn't find her pencil; it was out of sight, under her books.
hidden
5. It was difficult to find our bags at the airport; there were so many people there. **identify**
6. A man who didn't leave his name called the radio station to give his opinion. **unidentified**





Exercise 5



この課で習った言葉を使って文章を完成させて下さい。解答欄にマウスを合わせてのボタンを押しながら、マウスを上下させて正しい解答が反転したところでボタンを離して下さい。

1. Don't leave your bicycle unlocked.
2. The man was not named; he was unidentified.
3. The mechanic will repair my damaged car tomorrow.
4. The man was identified by the newspaper as Charley Brown.
5. The police officer found a knife hidden in the robber's pocket.
6. Don't hide your true feelings from your family; tell them how you feel.

Mac Edition Bonus Question!

The money was a windfall; my uncle left me an inheritance.

Quit	Help	Index	Story	Definitions	Hide Answers	Exercises
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パズルの番号にマウスを合わせてのボタンを押しながら、マウスを上下させて正しい解答が反転したところでボタンを離して下さい。

Exercise 6



Across

3. The money, land, etc., that is passed on when one dies.
6. A person that speaks for some group.
7. The part of a room that one often sees when lying down.
9. Put it: it.
10. To someone: To recommend to someone.
11. If we use the stairs we can get to the above.

Down

1. The woman who hid the money was , so we don't know who she was.
2. To formally ask a question: To
4. I will my money so a robber can't find it.
5. Unexpected money.
8. My car is in poor condition; I must it soon.

Quit	Help	Index	Story	Definitions	Hide Answers	Exercises
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Exercise 7



穴埋め問題です。解答欄にを合わせてのボタンを押し続け、を上下させて正しい解答が反転したところでボタンを離して下さい。

1. The money was hidden in his shoe.
2. Don't hide your money; take it to a bank.
3. She hid her money in the pocket of an old coat.
(kept in a secret place)
4. She left the glass on the table.
(put)
5. Don't leave your clothes on the floor.
6. The police say that hiding money at home isn't safe.
(keeping in a secret)



大文字の単語にを合わせてのボタンを押すと、下に意味が表示され、その単語を含む文章の一部が発音されます。その他の単語の上を押すと、文章全体を聞くことができます。

Cash Falls From Toilet Ceiling

THE HAGUE, Netherlands (AP)—A man who was **repairing** the old **ceiling** in his bathroom got a surprise when 132,000 guilders (50,381 dollars) fell out, police said.



The **unidentified** man reported his **windfall** Wednesday to police, who **investigated** and discovered that the 86-year-old woman living on the **floor** above had **hidden** an **inheritance** under her bathroom floor.

"She was looking for a good place to **leave** it, so that people wouldn't find it too easily," said police **spokesman** Jan Karel Nube.

"We **advised** the woman she had better take the money to a bank."



APPENDIX D

RECOMMENDED ENGLISH FOR

ACADEMIC PURPOSES

VOCABULARY

(from International Christian

University Study, Mitaka, Japan)

Recommended EAP Vocabulary:
Occurrences in Established Lists
(JACET & Zen Eiren)
Adjusted Frequency and Rank
Distribution by EAP Subcategories

Occurrences in Established Lists

J JACET 1720

A Zen Eiren .. 1900

Levels of Difficulty

A level 1900

B level 561

C level 638

EAP Subcategories

C Area-based Core

P Area-based PS Common

S Area-based SS Common

F Subject-based 4-way Common.

C P S F 874

P F 301

S F 866

P 40

S 45

F 973

Level		(Freq, Rank)	
J A	abandon	(21, 2392)	S F
C	abandonment	(4, 5979)	F
B	abbreviate	(10, 3783)	P F
B	abide	(11, 3547)	F
J A	ability	(191, 363)	C P S F
B	abnormal	(27, 2048)	F
B	abolish	(4, 5979)	F
J A	abroad	(21, 2392)	F
J A	absence	(86, 848)	C P S F
J A	absolute	(120, 611)	C P S F
J A	absolutely	(33, 1780)	S F
J A	absorb	(76, 943)	P F
B	absorption	(56, 1190)	F
J A	abstract	(108, 678)	C P S F
C	abstraction	(49, 1315)	S F
A	absurd	(14, 3081)	S F
A	abundant	(20, 2476)	S F
A	abuse	(13, 3204)	F
J B	academic	(62, 1118)	S F
A	academy	(16, 2837)	F
C	accelerate	(108, 678)	P F
C	acceleration	(378, 142)	P F
J A	accent	(9, 3997)	F
J A	accept	(178, 390)	C P S F
J	C acceptable	(49, 1315)	S F
J B	acceptance	(76, 943)	S F

Level		(Freq, Rank)	
B	access	(29, 1951)	F
B	accessible	(28, 2002)	S F
J A	accident	(48, 1333)	C P S F
C	accidentally	(9, 3997)	F
A	accommodate	(33, 1780)	F
J A	accompany	(106, 695)	C P S F
J A	accomplish	(75, 958)	S F
B	accord	(101, 726)	S F
B	accordance	(12, 3383)	S F
J A	according	(228, 290)	C P S F
B	accordingly	(43, 1463)	S F
J A	account	(481, 89)	C P S F
B	accumulate	(37, 1644)	F
B	accumulation	(15, 2961)	S F
A	accuracy	(47, 1367)	S F
J A	accurate	(74, 968)	C P S F
B	accurately	(44, 1437)	C P S F
J A	accuse	(21, 2392)	S F
J A	accustom	(16, 2837)	S F
J A	achieve	(172, 412)	C P S F
A	achievement	(65, 1068)	C P S F
J B	acid	(151, 473)	P F
A	acknowledge	(31, 1869)	P F
B	acknowledgment	(6, 4950)	S F
A	acquaint	(8, 4275)	F
A	acquaintance	(18, 2635)	S F
J A	acquire	(118, 621)	S F
B	acquisition	(20, 2476)	S F
J A	acre	(24, 2200)	F
J A	act	(528, 72)	C P S F
J A	action	(210, 322)	C P S F
J A	active	(66, 1054)	S F
J A	activity	(357, 160)	S F
J A	actual	(242, 268)	C P S F
J A	actually	(243, 266)	C P S F
A	acute	(23, 2261)	S F
J A	adapt	(43, 1463)	S F
B	adeptation	(48, 1333)	S F
J A	add	(446, 110)	C P S F
J A	addition	(238, 276)	C P S F
J A	additional	(91, 799)	C P S F
J A	adequate	(41, 1517)	S F
C	adequately	(19, 2550)	C P S F
B	adhere	(12, 3383)	S F
C	adherence	(9, 3997)	S F
C	adhesion	(8, 4275)	F
B	adjacent	(61, 1129)	C P S F
J B	adjective	(107, 686)	S F
J A	adjust	(35, 1713)	C P S F
B	adjustment	(47, 1367)	S F
B	administer	(28, 2002)	F
J A	administration	(40, 1542)	S F
C	admissible	(5, 5341)	S
J A	admission	(8, 4275)	S F
J A	admit	(72, 992)	S F
J A	adopt	(113, 644)	C P S F
B	adoption	(14, 3081)	F
J A	adult	(77, 935)	S F
C	adulthood	(22, 2325)	S F
J A	advance	(207, 328)	C P S F

<u>Level</u>		(Freq. Rank)		<u>Level</u>		(Freq. Rank)	
J A	advantage	(112, 652)	C P S F	B	anatomy	(11, 3547)	F
B	advantageous	(14, 3081)	F	J A	ancestor	(96, 759)	F
J A	advice	(18, 2635)	F	J A	ancient	(122, 597)	S F
J A	advise	(13, 3204)	F	J A	anger	(16, 2837)	F
B	advocate	(26, 2096)	S F	J A	angle	(359, 159)	P F
C	aesthetic	(36, 1678)	S F	C	animate	(14, 3081)	F
J A	affair	(75, 958)	S F	J A	annual	(23, 2261)	F
J A	affect	(178, 390)	C P S F	B	antecedent	(18, 2635)	F
B	affinity	(34, 1747)	F	C	anthropologist	(142, 500)	F
A	affirm	(11, 3547)	F	C	anthropology	(85, 860)	F
J A	afford	(55, 1206)	F	A	anticipate	(35, 1713)	C P S F
J A	agency	(38, 1611)	S F	B	antiquity	(25, 2155)	F
J A	agent	(124, 585)	C P S F	C	antithesis	(16, 2837)	F
C	aggregate	(31, 1869)	F	J A	anywhere	(21, 2392)	C P S F
C	aggregation	(7, 4569)	F	J A	apart	(115, 632)	C P S F
B	aggressive	(42, 1491)	F	B	ape	(17, 2743)	F
B	agitation	(10, 3783)	P F	A	apparatus	(41, 1517)	C P S F
J A	agree	(106, 695)	C P S F	J A	apparent	(122, 597)	C P S F
J A	agreement	(42, 1491)	C P S F	J A	apparently	(104, 710)	C P S F
A	agricultural	(28, 2002)	F	J A	appeal	(66, 1054)	C P S F
J A	agricultura	(42, 1491)	F	J A	appear	(522, 75)	C P S F
J A	ahead	(31, 1869)	F	J A	appearanca	(139, 516)	C P S F
J A	aid	(92, 790)	C P S F	B	appendix	(55, 1206)	C P S F
J A	aim	(352, 164)	C P S F	A	appetite	(37, 1644)	F
C	akin	(11, 3547)	F	C	applicability	(4, 5979)	F
J A	alarm	(10, 3783)	F	C	applicable	(23, 2261)	C P S F
C	albeit	(8, 4275)	S F	J A	application	(174, 406)	C P S F
J A	alcohol	(22, 2325)	F	J A	apply	(453, 105)	C P S F
J B	alart	(20, 2476)	F	C	appraise	(10, 3783)	F
C	align	(6, 4950)	F	C	appreciable	(16, 2837)	F
J A	alike	(45, 1418)	C P S F	C	appreciably	(6, 4950)	F
J A	alive	(12, 3383)	F	J A	appreciate	(33, 1780)	P F
B	allege	(8, 4275)	S F	B	appreciation	(22, 2325)	P F
C	alleviate	(11, 3547)	F	J A	approach	(368, 153)	C P S F
C	allocata	(9, 3997)	S F	J A	appropriate	(164, 430)	C P S F
B	allot	(12, 3383)	F	C	appropriately	(18, 2635)	S F
J A	allow	(206, 330)	C P S F	J A	approval	(7, 4569)	F
A	allowance	(17, 2743)	F	J A	approve	(22, 2325)	S F
J A	alphabet	(16, 2837)	S	B	approximate	(90, 810)	C P S F
J A	alter	(62, 1118)	C P S F	J B	approximately	(105, 703)	C P S F
B	alteration	(16, 2837)	S F	C	approximation	(108, 678)	C P S F
B	alternate	(30, 1912)	P F	A	apt	(12, 3383)	S F
J A	alternative	(84, 870)	C P S F	C	arbitrarily	(37, 1644)	C P S F
C	alternatively	(20, 2476)	S F	B	arbitrary	(93, 783)	C P S F
J A	although	(445, 111)	C P S F	J B	arc	(53, 1246)	P F
J B	altitude	(61, 1129)	P F	J A	area	(863, 23)	C P S F
J A	altogether	(22, 2325)	S F	J A	argue	(119, 614)	C P S F
C	ambiguity	(17, 2743)	F	J A	argument	(100, 733)	C P S F
C	ambiguous	(18, 2635)	S F	J A	arise	(199, 346)	C P S F
J A	ambition	(20, 2476)	F	J A	arithmetic	(40, 1542)	F
J A	ambitious	(18, 2635)	F	A	arouse	(13, 3204)	F
J A	amount	(428, 119)	C P S F	J A	arrange	(80, 897)	C P S F
J A	amuse	(9, 3997)	F	J A	arrangement	(107, 686)	C P S F
A	amusement	(9, 3997)	F	B	array	(33, 1780)	C P S F
C	analogous	(22, 2325)	P F	J A	arrival	(7, 4569)	S F
C	analogy	(63, 1100)	C P S F	J A	arrow	(65, 1068)	P F
J A	analysis	(568, 60)	C P S F	J A	article	(182, 382)	C P S F
C	analytic	(72, 992)	S F	C	artifact	(6, 4950)	F
C	analytically	(13, 3204)	F	J A	artificial	(48, 1333)	C P S F
A	analyze	(174, 406)	C P S F	C	artificially	(7, 4569)	S F

<u>Level</u>		(Freq. Rank)		<u>Level</u>		(Freq. Rank)	
A	ascend	(7, 4569)	P F	J B	axis	(323, 181)	P F
B	ascent	(5, 5341)	F	J A	background	(44, 1437)	S F
B	ascribe	(43, 1463)	S F	J A	backward	(38, 1611)	C P S F
J A	aside	(26, 2096)	C P S F	J A	badly	(10, 3783)	F
J A	aspect	(178, 390)	C P S F	J A	balance	(226, 294)	C P S F
J A	assemble	(24, 2200)	P F	J A	band	(59, 1156)	C P S F
J A	assembly	(24, 2200)	F	J A	bar	(14, 3081)	F
A	assert	(79, 908)	S F	J A	bare	(14, 3081)	F
B	assertion	(27, 2048)	S F	J A	bark	(20, 2476)	F
C	assess	(20, 2476)	S F	A	barren	(9, 3997)	F
C	assessment	(17, 2743)	F	A	barrier	(30, 1912)	S F
J A	assign	(189, 367)	C P S F	J A	base	(368, 153)	C P S F
J A	assignment	(24, 2200)	S F	J A	basic	(272, 217)	C P S F
C	assimilate	(24, 2200)	S F	J A	basically	(15, 2961)	C P S F
J A	assist	(6, 4950)	F	J A	basis	(251, 248)	C P S F
J A	assistance	(16, 2837)	C P S F	B	bead	(4, 5979)	F
J B	assistant	(12, 3383)	P F	J A	beam	(86, 848)	P F
J A	associate	(282, 202)	C P S F	J A	bean	(14, 3081)	F
J A	association	(168, 425)	S F	J A	bear	(203, 339)	C P S F
J A	assume	(518, 76)	C P S F	J A	beat	(16, 2837)	F
J B	assumption	(169, 420)	C P S F	J A	beauty	(17, 2743)	F
A	assurance	(17, 2743)	F	J A	bee	(12, 3383)	S
J A	assure	(34, 1747)	F	J A	beef	(11, 3547)	F
J A	atmosphere	(69, 1023)	P F	B	beforehand	(5, 5341)	S F
C	atmospheric	(40, 1542)	F	A	behalf	(8, 4275)	F
J A	atom	(1075, 10)	C P S F	J A	behave	(101, 726)	C P S F
J A	atomic	(251, 248)	P F	J A	behavior	(561, 66)	C P S F
J A	attach	(138, 521)	C P S F	C	behavioral	(11, 3547)	S F
B	attachment	(30, 1912)	F	J A	belief	(201, 343)	S F
J A	attack	(73, 979)	S F	J A	below	(187, 373)	C P S F
A	attain	(34, 1747)	C P S F	J A	belt	(18, 2635)	P F
C	attainment	(22, 2325)	S F	J A	bend	(12, 3383)	S F
J A	attempt	(214, 311)	C P S F	J A	beneath	(23, 2261)	P F
J A	attend	(31, 1869)	F	B	beneficial	(17, 2743)	F
J A	attention	(203, 339)	C P S F	J A	benefit	(62, 1118)	S F
B	attest	(7, 4569)	F	J A	besides	(30, 1912)	C P S F
J A	attitude	(63, 1100)	S F	B	beware	(4, 5979)	S F
J A	attract	(91, 799)	C P S F	B	bewilder	(11, 3547)	F
A	attraction	(123, 592)	P F	J A	beyond	(140, 509)	C P S F
J A	attractive	(112, 652)	C P S F	B	bias	(22, 2325)	S F
C	attributable	(10, 3783)	P F	J A	bible	(8, 4275)	F
A	attribute	(127, 568)	C P S F	J A	bid	(47, 1367)	F
J A	audience	(15, 2961)	S F	J B	billion	(78, 918)	F
J A	author	(96, 759)	S F	J A	bind	(269, 218)	C P S F
J A	authority	(99, 740)	S F	C	binomial	(7, 4569)	P
J A	automatic	(22, 2325)	S F	C	biological	(135, 535)	S F
B	automatically	(20, 2476)	S F	C	biologist	(56, 1190)	S F
J A	automobile	(39, 1577)	P F	J A	biology	(63, 1100)	F
C	autonomous	(9, 3997)	F	J A	birth	(105, 703)	S F
C	autonomy	(10, 3783)	S F	J A	bite	(59, 1156)	C P S F
C	availability	(11, 3547)	S F	J A	bitter	(11, 3547)	F
J A	available	(178, 390)	C P S F	J A	blame	(21, 2392)	S F
J A	avenue	(8, 4275)	F	J A	blank	(5, 5341)	F
J A	average	(309, 187)	C P S F	J A	blend	(16, 2837)	F
J A	avoid	(102, 722)	C P S F	J A	bless	(16, 2837)	S F
C	avoidance	(17, 2743)	S F	J A	blind	(29, 1951)	S F
B	await	(4, 5979)	F	J A	block	(268, 220)	P F
J A	aware	(70, 1013)	C P S F	J A	blood	(142, 500)	F
C	awareness	(27, 2048)	S F	J A	board	(21, 2392)	S F
C	axiom	(17, 2743)	F	A	bodily	(43, 1463)	S F

Level	(Freq, Rank)		Level	(Freq, Rank)
J A	bold (10, 3783)	F	J B	centimeter (16, 2837) P
A	boldly (9, 3997)	F	J A	central (195, 353) C P S F
J A	bomb (11, 3547)	F	J A	century (444, 112) C P S F
	C bombard (20, 2476) P F		J A	C cerebral (27, 2048) F
	C bombardment (10, 3783) P F		J A	certain (507, 80) C P S F
J A	bond (341, 172) C P S F		B	certainty (11, 3547) S F
J A	bone (21, 2392)	F	J A	chain (91, 799) C P S F
B	boom (19, 2550)	F	J A	challenge (42, 1491) S F
J A	border (26, 2096)	S F	J A	chamber (21, 2392) P
	C boron (9, 3997) P		J A	channel (18, 2635) S F
J A	borrow (38, 1611)	S F	B	chaos (9, 3997) F
B	botanical (9, 3997)	F	J A	chapter (593, 50) C P S F
	C botanist (15, 2961)	F	J A	character (254, 243) C P S F
J A	bother (9, 3997)	S F	J A	characteristic (456, 101) C P S F
J A	bottom (89, 820) C P S F		B	characterize (114, 637) C P S F
J A	boundary (116, 629) C P S F		J A	charge (906, 21) C P S F
J A	bowl (13, 3204) C P S F		J A	chase (6, 4950) S F
J A	brain (317, 183)	S F	J A	check (86, 848) C P S F
A	brake (17, 2743) P		J A	chemical (324, 180) C P S F
	C breakdown (33, 1780)	S F	J A	chemist (43, 1463) F
J A	breathe (15, 2961)	F	J A	chemistry (94, 773) P F
A	breed (78, 918)	S F	A	chiefly (23, 2261) F
J A	brief (69, 1023) C P S F		J A	childhood (27, 2048) S F
B	briefly (46, 1395) C P S F		J A	choice (133, 539) C P S F
J A	brilliant (13, 3204)	S F	J A	christian (83, 876) F
J A	broad (67, 1048) C P S F		J A	circle (334, 176) C P S F
	C broadly (18, 2635)	F	A	circuit (17, 2743) F
A	bulb (17, 2743) P F		B	circular (126, 575) C P S F
A	bulk (16, 2837) C P S F		C	circumscribe (25, 2155) F
J A	bundle (19, 2550)	F	J A	circumstance (130, 545) C P S F
J A	burden (23, 2261)	F	B	cite (28, 2002) P F
J A	burst (21, 2392)	F	J A	citizen (48, 1333) F
J A	calculate (257, 241) C P S F		J A	civilization (55, 1206) S F
	C calculation (54, 1224) P F		J A	claim (204, 337) S F
	C calculus (140, 509)	F		C clarification (11, 3547) S F
J B	cancel (26, 2096) P F		C	clarify (22, 2325) S F
B	canon (6, 4950)	F	C	clarity (13, 3204) S F
J A	capable (94, 773)	S F	J A	classic (64, 1088) S F
	C capacitor (7, 4569) P		J B	classical (124, 585) C P S F
J A	capacity (161, 436) C P S F		B	classification (128, 559) S F
B	capitalist (19, 2550)	F	A	classify (79, 908) P F
J A	capture (24, 2200) C P S F		J A	clay (24, 2200) F
J B	carbon (189, 367) P		J A	clearly (224, 297) C P S F
J A	career (16, 2837)	F		C cleavage (10, 3783) F
B	carrier (18, 2635) P F		A	clergyman (8, 4275) F
J A	cash (73, 979)	F	C	cleverly (4, 5979) F
J A	cast (34, 1747)	S F	J A	climate (27, 2048) P F
J A	castle (11, 3547)	F	J A	closely (128, 559) C P S F
A	catalogue (10, 3783)	F	J A	clothe (35, 1713) F
	C category (253, 245)	S F	J	C clue (27, 2048) C P S F
J A	catholic (50, 1296)	F	B	clump (10, 3783) F
J A	cattle (41, 1517)	S F	A	cluster (20, 2476) F
	C causal (69, 1023)	S F	J A	coal (24, 2200) F
	C causally (23, 2261)	S	J A	coast (20, 2476) F
	C causation (11, 3547)	F	J A	code (32, 1828) F
J A	cause (428, 119) C P S F			C coefficient (69, 1023) P F
J A	caution (17, 2743)	F		C coexist (13, 3204) F
A	cease (46, 1395)	S F		C cognitive (48, 1333) F
J A	celebrate (15, 2961)	F		C coherent (8, 4275) F
J A	cell (1070, 11)	F		C cohesion (27, 2048) F

Level		(Freq. Rank)		Level		(Freq. Rank)	
A	coil	(8, 4275)	P F	B	comprehensive	(33, 1780)	S F
J A	coin	(76, 943)	S F	B	compress	(26, 2096)	P F
B	coincide	(42, 1491)	C P S F	C	compression	(5, 5341)	F
B	coincidence	(12, 3383)	F	B	comprise	(36, 1678)	C P S F
A	collapse	(15, 2961)	F	A	compromise	(4, 5979)	S F
B	colleague	(32, 1828)	S F	C	computation	(13, 3204)	P F
J A	collection	(52, 1261)	C P S F	J B	compute	(99, 740)	P F
B	collective	(28, 2002)	S F	J A	computer	(61, 1129)	C P S F
C	collectively	(10, 3783)	S F	C	con	(9, 3997)	F
C	collide	(47, 1367)	F	A	conceal	(11, 3547)	F
C	colonization	(9, 3997)	F	B	concede	(20, 2476)	F
J A	colony	(20, 2476)	F	J A	conceive	(66, 1054)	P F
C	colorless	(5, 5341)	S F	J A	concentrate	(97, 755)	C P S F
J A	column	(98, 747)	P F	J B	concentration	(85, 860)	S F
J A	combination	(117, 625)	C P S F	C	concentric	(14, 3081)	P
J A	combine	(236, 279)	C P S F	J	concept	(407, 130)	C P S F
J A	comfort	(24, 2200)	F	A	conception	(78, 918)	S F
J A	comfortable	(5, 5341)	F	C	conceptually	(4, 5979)	S F
J A	commend	(47, 1367)	S F	J A	concern	(421, 123)	C P S F
J A	comment	(31, 1869)	C P S F	J A	concert	(11, 3547)	F
J A	commerce	(29, 1951)	F	C	concise	(5, 5341)	P F
J A	commercial	(52, 1261)	S F	J A	conclude	(92, 790)	C P S F
J A	commit	(44, 1437)	S F	J A	conclusion	(144, 494)	C P S F
C	commitment	(26, 2096)	F	C	conclusively	(11, 3547)	F
J A	committee	(35, 1713)	F	C	concomitant	(10, 3783)	F
J A	common	(498, 83)	C P S F	J A	concrete	(37, 1644)	F
B	commonly	(63, 1100)	C P S F	C	condensation	(29, 1951)	P
B	commonplace	(5, 5341)	S	A	condense	(15, 2961)	F
J A	communicate	(22, 2325)	S F	J A	condition	(664, 38)	C P S F
J A	communication	(78, 918)	S F	J A	conduct	(113, 644)	C P S F
J A	communist	(13, 3204)	F	A	conductor	(56, 1190)	P F
J A	community	(309, 187)	S F	J B	cone	(84, 870)	P F
A	compact	(12, 3383)	C P S F	B	confer	(10, 3783)	F
J A	company	(61, 1129)	C P S F	A	confess	(7, 4569)	F
B	comparable	(35, 1713)	S F	J A	confidence	(36, 1678)	S F
B	comparative	(79, 908)	F	A	confident	(19, 2550)	S F
J A	compere	(235, 281)	C P S F	C	confidently	(5, 5341)	S F
J A	comparison	(140, 509)	C P S F	C	configuration	(86, 848)	C P S F
J A	compass	(10, 3783)	F	A	confine	(82, 881)	C P S F
A	compel	(22, 2325)	S F	A	confirm	(85, 860)	C P S F
B	compensate	(32, 1828)	C P S F	J A	conflict	(76, 943)	S F
J A	compete	(28, 2002)	S F	B	conform	(24, 2200)	S F
B	competence	(20, 2476)	F	B	confound	(3, 6819)	S
J A	competition	(98, 747)	S F	J A	confront	(42, 1491)	C P S F
B	competitive	(115, 632)	S F	J A	confuse	(42, 1491)	C P S F
B	compile	(9, 3997)	F	J A	confusion	(37, 1644)	C P S F
C	complementary	(17, 2743)	F	B	conjunction	(41, 1517)	S F
J A	complete	(225, 295)	C P S F	J A	connect	(122, 597)	C P S F
J A	completely	(171, 414)	C P S F	J A	connection	(150, 478)	C P S F
J B	completion	(10, 3783)	F	C	connotation	(12, 3383)	F
J A	complex	(274, 213)	C P S F	J A	conquer	(9, 3997)	F
C	complexity	(62, 1118)	S F	J A	conscious	(48, 1333)	S F
J A	complicate	(86, 848)	C P S F	C	consciously	(13, 3204)	S F
B	complication	(19, 2550)	C P S F	B	consciousness	(44, 1437)	F
J	C component	(281, 204)	C P S F	C	consecutive	(6, 4950)	F
J A	compose	(99, 740)	C P S F	J A	consequence	(111, 659)	C P S F
J A	composition	(137, 525)	C P S F	B	consequent	(15, 2961)	S F
J A	compound	(253, 245)	C P S F	J A	consequently	(126, 575)	C P S F
A	comprehend	(18, 2635)	F	B	conservation	(120, 611)	P F
C	comprehension	(17, 2743)	F	J A	conservative	(121, 604)	S F

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<u>Level</u>		(Freq, Rank)		<u>Level</u>		(Freq, Rank)	
B	conserve	(60, 1145)	P F	C	conventionally	(7, 4569)	F
J A	consider	(621, 43)	C P S F	C	converge	(34, 1747)	F
J A	considerable	(130, 545)	C P S F	C	convergent	(6, 4950)	F
B	considerably	(98, 747)	S F	J A	conversation	(15, 2961)	F
J A	consideration	(112, 652)	C P S F	C	converse	(8, 4275)	F
J A	consist	(283, 200)	C P S F	C	conversely	(58, 1170)	C P S F
C	consistency	(18, 2635)	S F	B	conversion	(45, 1418)	F
B	consistent	(77, 935)	C P S F	A	convert	(114, 637)	P F
C	consistently	(19, 2550)	S F	A	convey	(40, 1542)	S F
B	consolidate	(9, 3997)	F	B	convict	(6, 4950)	S F
J B	consonant	(156, 453)	S	J A	conviction	(15, 2961)	F
C	constancy	(15, 2961)	S F	J A	convince	(63, 1100)	C P S F
J A	constant	(849, 25)	C P S F	C	convincingly	(10, 3783)	F
A	constantly	(60, 1145)	C P S F	A	cooperate	(9, 3997)	F
B	constituent	(72, 992)	P F	J A	cooperation	(26, 2096)	S F
J A	constitute	(141, 505)	C P S F	J B	cooperative	(19, 2550)	F
J A	constitution	(24, 2200)	S F	B	coordinate	(304, 193)	C P S F
B	constitutional	(8, 4275)	S F	C	coordination	(14, 3081)	S F
B	constrain	(10, 3783)	F	J A	cope	(14, 3081)	S F
J A	construct	(89, 820)	C P S F	J A	copper	(50, 1296)	C P S F
J A	construction	(99, 740)	C P S F	J A	cord	(99, 740)	F
J A	consult	(7, 4569)	F	J B	core	(32, 1828)	C P S F
A	consume	(76, 943)	F	C	corollary	(9, 3997)	F
J B	consumer	(129, 551)	F	J A	correct	(152, 469)	C P S F
A	consumption	(265, 223)	F	B	correction	(14, 3081)	F
J A	contact	(129, 551)	C P S F	B	correctly	(23, 2261)	C P S F
J A	contain	(456, 101)	C P S F	C	correlate	(41, 1517)	S F
C	container	(55, 1206)	F	C	correlation	(45, 1418)	S F
A	contemplate	(13, 3204)	F	J A	correspond	(374, 145)	C P S F
J A	contemporary	(85, 860)	S F	A	correspondence	(108, 678)	C P S F
B	contend	(15, 2961)	S F	C	correspondingly	(30, 1912)	F
J A	content	(190, 365)	C P S F	C	corroborate	(18, 2635)	S F
B	contention	(13, 3204)	F	C	cosmic	(12, 3383)	F
J	C context	(158, 449)	C P S F	J A	cost	(217, 303)	S F
J A	continent	(18, 2635)	F	A	costly	(13, 3204)	S F
C	contingent	(10, 3783)	F	J A	cotton	(13, 3204)	S F
A	continual	(15, 2961)	F	J A	counsel	(7, 4569)	S F
B	continually	(34, 1747)	C P S F	J A	count	(159, 445)	C P S F
J A	continue	(258, 237)	C P S F	J A	counter	(16, 2837)	S F
B	continuity	(44, 1437)	F	B	counteract	(15, 2961)	F
J A	continuous	(188, 369)	C P S F	C	counterpart	(24, 2200)	S F
B	continuously	(24, 2200)	P F	J A	countless	(10, 3783)	S F
C	contour	(16, 2837)	F	J B	countryside	(8, 4275)	F
J A	contract	(31, 1869)	S F	J A	county	(10, 3783)	F
B	contraction	(35, 1713)	S F	J A	couple	(23, 2261)	F
B	contradict	(10, 3783)	P F	J A	court	(19, 2550)	S F
B	contradiction	(39, 1577)	F	A	courtesy	(12, 3383)	F
J A	contrary	(75, 958)	C P S F	J A	cream	(13, 3204)	P F
J A	contrast	(237, 277)	C P S F	J A	create	(127, 568)	C P S F
J A	contribute	(119, 614)	C P S F	J A	creation	(37, 1644)	C P S F
J A	contribution	(91, 799)	C P S F	J A	creature	(35, 1713)	S F
A	contrive	(8, 4275)	S F	J A	credit	(83, 876)	S F
J A	control	(356, 162)	C P S F	J A	crime	(13, 3204)	S F
C	controversial	(14, 3081)	S F	J A	criminal	(15, 2961)	S F
J B	controversy	(28, 2002)	S F	J A	crisis	(14, 3081)	F
A	convenience	(40, 1542)	C P S F	C	criterion	(156, 453)	C P S F
J A	convenient	(100, 733)	C P S F	J A	critic	(29, 1951)	S F
B	conveniently	(20, 2476)	S F	J A	critical	(84, 870)	C P S F
J A	convention	(30, 1912)	C P S F	C	critically	(4, 5979)	F
J B	conventional	(40, 1542)	S F	J A	criticism	(35, 1713)	S F

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<u>Level</u>		(Freq, Rank)		<u>Level</u>		(Freq, Rank)	
A	criticize	(15, 2961)	S F	B	defensive	(6, 4950)	F
	C critique	(7, 4569)	F	B	defer	(9, 3997)	S F
J A	crop	(55, 1206)	F	B	deficiency	(33, 1780)	F
J A	crowd	(27, 2048)	C P S F	B	deficient	(8, 4275)	F
J A	crown	(6, 4950)	F	J A	define	(548, 69)	C P S F
	C crucial	(46, 1395)	S F	J A	definite	(139, 516)	C P S F
J B	crude	(40, 1542)	F	B	definitely	(37, 1644)	F
J A	crush	(10, 3783)	F	J B	definition	(343, 171)	C P S F
J A	cube	(47, 1367)	P F	C	deflect	(18, 2635)	P
	C culminate	(13, 3204)	F	C	deflection	(36, 1678)	P
	C culmination	(9, 3997)	S F	B	degenerate	(15, 2961)	F
J A	cultivate	(46, 1395)	S F	J A	degree	(262, 230)	C P S F
J A	cultural	(207, 328)	F	J A	delay	(23, 2261)	C P S F
J A	culture	(265, 223)	S F	A	deliberate	(26, 2096)	S F
J A	cure	(8, 4275)	F	B	deliberately	(36, 1678)	S F
J A	curiosity	(17, 2743)	F	J A	delicate	(16, 2837)	F
J A	curious	(14, 3081)	F	J A	deliver	(19, 2550)	F
B	currency	(100, 733)	S F	J A	demand	(619, 44)	C P S F
J A	current	(160, 440)	C P S F	C	demarcate	(12, 3383)	S F
	C currently	(25, 2155)	S F	C	demonstrably	(4, 5979)	S
J A	curve	(1035, 13)	C P S F	J A	demonstrate	(126, 575)	C P S F
J A	custom	(56, 1190)	S F	J A	demonstration	(20, 2476)	S F
	C customarily	(4, 5979)	F	C	denominator	(21, 2392)	F
B	customary	(36, 1678)	P F	C	denotation	(12, 3383)	S
J A	cycle	(106, 695)	P F	B	denote	(90, 810)	C P S F
	C cyclotron	(5, 5341)	P	J A	dense	(13, 3204)	P F
A	cylinder	(79, 908)	P F	J B	density	(154, 461)	P F
	C cylindrical	(23, 2261)	P F	B	dental	(8, 4275)	S F
J A	daily	(38, 1611)	S F	J A	deny	(87, 838)	S F
J A	damage	(50, 1296)	S F	A	depart	(17, 2743)	F
J A	damp	(48, 1333)	P	J A	department	(71, 1003)	F
B	dert	(7, 4569)	F	J A	departure	(28, 2002)	F
J A	desh	(19, 2550)	P F	J A	depend	(377, 144)	C P S F
J B	datum	(191, 363)	C P S F	B	dependence	(22, 2325)	F
J A	deaf	(5, 5341)	S F	J A	dependant	(74, 968)	C P S F
J A	deal	(274, 213)	C P S F	B	depict	(46, 1395)	S F
J A	debate	(38, 1611)	S F	J A	deposit	(69, 1023)	F
J A	debt	(21, 2392)	F	B	depress	(32, 1828)	F
J B	decade	(55, 1206)	S F	J A	depression	(61, 1129)	F
A	decay	(47, 1367)	P F	A	deprive	(18, 2635)	F
	C deception	(5, 5341)	S	J A	depth	(40, 1542)	C P S F
	C deceptive	(6, 4950)	S F	C	derivation	(28, 2002)	P F
J A	decide	(107, 686)	C P S F	C	derivative	(245, 263)	P F
J A	decision	(61, 1129)	S F	J A	derive	(182, 382)	C P S F
B	decisive	(10, 3783)	F	J A	descend	(23, 2261)	F
B	declaration	(11, 3547)	F	A	descendant	(11, 3547)	F
J A	declare	(34, 1747)	S F	B	descent	(16, 2837)	F
J A	decline	(86, 848)	S F	J A	describe	(582, 54)	C P S F
B	decompose	(23, 2261)	P	J A	description	(273, 215)	C P S F
J A	decrease	(192, 360)	P F	C	descriptive	(47, 1367)	S F
B	decree	(11, 3547)	S	J A	deserve	(28, 2002)	S F
J A	dedicate	(13, 3204)	F	J A	design	(136, 530)	C P S F
	C deduce	(43, 1463)	C P S F	B	designate	(71, 1003)	S F
	C deductive	(24, 2200)	S F	C	designation	(15, 2961)	S F
	C deem	(12, 3383)	S	J A	desirable	(42, 1491)	C P S F
J A	deeply	(18, 2635)	F	J A	desire	(111, 659)	C P S F
A	defect	(64, 1088)	S F	J A	despair	(13, 3204)	F
J B	defective	(8, 4275)	S	J A	despite	(72, 992)	S F
J A	defend	(14, 3081)	S F	A	destine	(9, 3997)	F
J A	defense	(41, 1517)	S F	J A	destroy	(43, 1463)	C P S F

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Level		(Freq, Rank)		Level		(Freq, Rank)
J A	destruction	(14, 3081)	F	J A	discovery	(105, 703) C P S F
J A	destructive	(10, 3783)	F	C	discrepancy	(18, 2635) C P S F
B	detach	(9, 3997)	S	C	discrete	(27, 2048) P F
J A	detail	(206, 330) C P S F		C	discriminate	(19, 2550) S F
A	detect	(101, 726) C P S F		J	discrimination	(16, 2837) S F
C	detectable	(8, 4275)	F	J A	discuss	(246, 260) C P S F
C	determinant	(29, 1951)	S F	J A	discussion	(160, 440) C P S F
C	determinate	(7, 4569)	F	J A	disease	(106, 695) S F
J A	determination	(66, 1054)	S F	A	disguise	(11, 3547) S F
J A	determine	(563, 64) C P S F		C	disintegrate	(11, 3547) P F
C	deterministic	(8, 4275)	F	C	disintegration	(10, 3783) F
J A	develop	(370, 149) C P S F		J B	disk	(42, 1491) P F
J A	development	(371, 148) C P S F		J A	dislike	(13, 3204) F
C	deviate	(8, 4275)	F	J A	dismiss	(14, 3081) S F
C	deviation	(55, 1206) C P S F		B	disorder	(48, 1333) F
A	device	(64, 1088) C P S F		C	dispel	(3, 6819) S
J A	devil	(14, 3081)	F	B	dispense	(13, 3204) F
J A	devise	(51, 1285) C P S F		B	disperse	(32, 1828) F
C	devoid	(9, 3997)	S F	B	displace	(32, 1828) C P S F
J A	devote	(59, 1156)	S F	C	displacement	(209, 325) P F
C	diagonal	(16, 2837)	P F	J A	display	(61, 1129) C P S F
J B	diagram	(188, 369) C P S F		J A	disposal	(11, 3547) F
C	diagrammatic	(5, 5341)	S F	A	dispose	(32, 1828) S F
B	dialogue	(8, 4275)	S F	A	disposition	(15, 2961) F
J A	diameter	(63, 1100)	P F	C	disprove	(7, 4569) F
A	dictate	(8, 4275)	F	J A	dispute	(36, 1678) F
J A	diet	(23, 2261)	F	C	disquiet	(8, 4275) S F
J A	differ	(206, 330) C P S F		B	disregard	(9, 3997) F
J A	difference	(587, 51) C P S F		A	dissolve	(38, 1611) P
C	differential	(128, 559)	P F	J A	distance	(524, 73) C P S F
C	differentiate	(58, 1170) C P S F		J A	distant	(36, 1678) S F
C	differentiation	(47, 1367) C P S F		J A	distinct	(159, 445) C P S F
C	differently	(43, 1463) C P S F		J A	distinction	(250, 252) C P S F
J A	difficulty	(190, 365) C P S F		B	distinctive	(103, 717) C P S F
C	diffraction	(13, 3204)	P	B	distinctly	(11, 3547) F
B	diffuse	(38, 1611)	F	J A	distinguish	(212, 317) C P S F
C	diffusion	(47, 1367)	F	C	distinguishable	(6, 4950) F
J A	dig	(7, 4569)	F	B	distort	(28, 2002) C P S F
B	dilemma	(13, 3204)	F	C	distortion	(22, 2325) S F
J B	dimension	(155, 457) C P S F		A	distribute	(73, 979) C P S F
A	diminish	(97, 755)	S F	J B	distribution	(219, 301) C P S F
J A	dip	(7, 4569)	F	J A	disturb	(41, 1517) C P S F
J A	direct	(265, 223) C P S F		B	disturbance	(22, 2325) F
J A	direction	(572, 58) C P S F		C	diverge	(16, 2837) S F
J A	directly	(307, 190) C P S F		C	divergence	(17, 2743) F
B	disadvantage	(28, 2002)	S F	C	divergent	(13, 3204) S F
B	disagree	(5, 5341)	S	B	diverse	(24, 2200) F
J A	disappear	(47, 1367) C P S F		B	diversity	(15, 2961) F
J A	disappoint	(7, 4569)	F	J A	divide	(250, 252) C P S F
J A	disaster	(13, 3204)	F	C	divisible	(17, 2743) S F
B	disastrous	(11, 3547)	F	J A	division	(258, 237) C P S F
B	discard	(21, 2392)	P F	J B	divorce	(12, 3383) S F
B	discern	(13, 3204)	F	J A	doctrine	(45, 1418) F
C	discernible	(4, 5979)	F	J A	document	(26, 2096) S F
A	discharge	(29, 1951)	R F	B	domain	(223, 298) S F
B	disciple	(12, 3383)	S F	J A	domestic	(25, 2155) F
J A	discipline	(121, 604)	S F	C	dominance	(38, 1611) F
A	disclose	(11, 3547)	F	J B	dominant	(105, 703) S F
J A	discourage	(17, 2743)	F	J A	dominate	(26, 2096) S F
B	discourse	(35, 1713)	F	C	domination	(12, 3383) F

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<u>Level</u>	(Freq. Rank)		<u>Level</u>	(Freq. Rank)	
	C donor	(10, 3783)	F	C elimination	(8, 4275) F
B	dose	(41, 1517)	S F	C elliptical	(35, 1713) S F
J A	dot	(50, 1296)	C P S F	C elongate	(11, 3547) P F
J A	double	(174, 406)	C P S F	J A elsewhere	(77, 935) S F
J A	doubt	(103, 717)	C P S F	C elusive	(6, 4950) F
J A	doubtful	(16, 2837)	F	C emanate	(13, 3204) P F
J A	downward	(92, 790)	C P S F	C embed	(19, 2550) P F
J A	dozen	(7, 4569)	F	B embody	(19, 2550) S F
J A	draft	(12, 3383)	F	A embrace	(17, 2743) F
A	drain	(13, 3204)	P F	C embryo	(47, 1367) F
J A	dramatic	(28, 2002)	S F	B emerge	(31, 1869) C P S F
	C dramatically	(26, 2096)	F	A eminent	(13, 3204) F
	C drawback	(5, 5341)	S F	B emit	(35, 1713) P F
J A	driver	(11, 3547)	F	J A emotion	(114, 637) S F
	C droplet	(30, 1912)	P	J B emotional	(78, 918) F
J A	drug	(52, 1261)	F	C emotionally	(8, 4275) F
	C dual	(13, 3204)	F	J A emphasis	(56, 1190) C P S F
J A	due	(188, 369)	C P S F	J A emphasize	(124, 585) C P S F
B	duplicate	(22, 2325)	S F	J A empire	(22, 2325) F
B	duration	(20, 2476)	S F	C empirical	(93, 783) C P S F
B	dwarf	(6, 4950)	P F	C empirically	(16, 2837) S F
B	dynamic	(42, 1491)	P F	J A employ	(221, 300) C P S F
J A	eager	(22, 2325)	F	A employer	(23, 2261) F
J A	earn	(94, 773)	F	J A employment	(65, 1068) S F
J A	ease	(39, 1577)	F	J A empty	(49, 1315) P F
J A	eastern	(9, 3997)	F	J A enable	(88, 829) C P S F
	C ecology	(44, 1437)	F	J A enclose	(32, 1828) P F
J A	economic	(442, 115)	S F	J A encounter	(73, 979) C P S F
J A	economical	(5, 5341)	F	J A encourage	(33, 1780) C P S F
	C economically	(11, 3547)	F	J B encyclopedia	(6, 4950) F
J A	economy	(217, 303)	S F	C endanger	(8, 4275) F
J A	edge	(48, 1333)	P F	A endeavor	(25, 2155) S F
B	edit	(5, 5341)	F	C endlessly	(16, 2837) F
J A	edition	(58, 1170)	C P S F	B endow	(27, 2048) F
J A	educate	(54, 1224)	S F	J A endure	(26, 2096) F
J A	education	(992, 16)	S F	J A enemy	(25, 2155) F
J B	educational	(12, 3383)	S F	J A energy	(1375, 4) C P S F
J A	effect	(518, 76)	C P S F	J A engage	(60, 1145) S F
J A	effective	(68, 1037)	C P S F	J A engine	(9, 3997) F
B	effectively	(31, 1869)	C P S F	B enhance	(35, 1713) C P S F
	C effectiveness	(23, 2261)	F	A enlarge	(29, 1951) P F
J A	efficiency	(33, 1780)	S F	J A enormous	(21, 2392) P F
J A	efficient	(36, 1678)	P F	B ensure	(44, 1437) F
J A	effort	(88, 829)	S F	B entail	(52, 1261) S F
J A	elaborate	(160, 440)	S F	J A enterprise	(50, 1296) F
	C elaboration	(13, 3204)	F	J A enthusiasm	(14, 3081) F
B	elapse	(21, 2392)	P F	J A entire	(80, 897) C P S F
J A	elastic	(96, 759)	P F	J A entirely	(115, 632) C P S F
J A	elder	(37, 1644)	F	J A entitle	(49, 1315) S F
B	elderly	(6, 4950)	S	C entity	(68, 1037) F
J A	electric	(312, 185)	C P S F	J A entry	(40, 1542) S F
J B	electrical	(100, 733)	C P S F	B enumerate	(6, 4950) S F
J A	electricity	(48, 1333)	C P S F	C enunciate	(5, 5341) F
J	C electron	(968, 19)	P F	J A environment	(248, 256) C P S F
J A	electronic	(86, 848)	R F	C environmental	(73, 979) F
J A	element	(714, 33)	C P S F	C envisage	(14, 3081) S F
J A	elementary	(53, 1246)	C P S F	A epoch	(4, 5979) F
A	elevate	(13, 3204)	F	J A equal	(676, 36) C P S F
	C elicit	(27, 2048)	S F	B equality	(39, 1577) C P S F
J B	eliminate	(74, 968)	C P S F	A equally	(158, 449) C P S F

Level	(Freq. Rank)	Level	(Freq. Rank)
	C equate (29, 1951) S F	A exert (275, 211) C P S F	
J	C equation (1189, 6) P F	J A exhaust (21, 2392) F	
	C equilibrium (352, 164) P F	C exhaustive (9, 3997) S F	
A	equip (18, 2635) S F	A exhibit (126, 575) C P S F	
J A	equipment (40, 1542) F	J A exist (373, 146) C P S F	
	C equivalence (21, 2392) S F	J A existence (227, 292) C P S F	
J B	equivalent (239, 275) C P S F	J A expand (94, 773) C P S F	
J A	erect (23, 2261) F	B expanse (4, 5979) F	
	C erroneous (16, 2837) F	J B expansion (44, 1437) P F	
J A	error (98, 747) C P S F	C expectancy (10, 3783) S F	
J A	escape (111, 659) C P S F	J A expectation (52, 1261) C P S F	
J A	especially (210, 322) C P S F	B expend (10, 3783) F	
J A	essay (16, 2837) S F	J A expenditure (72, 992) F	
A	essence (48, 1333) S F	J A expense (54, 1224) F	
J A	essential (120, 611) C P S F	J A experience (597, 49) C P S F	
	C essentially (94, 773) C P S F	J A experiment (372, 147) C P S F	
J A	establish (258, 237) C P S F	J B experimental (121, 604) C P S F	
J B	establishment (37, 1644) S F	C experimentally (22, 2325) P F	
J A	estate (18, 2635) F	C experimentation (9, 3997) S F	
J A	estimate (138, 521) C P S F	J A expert (35, 1713) F	
J A	eternal (17, 2743) F	J A explain (402, 132) C P S F	
J	C ethical (28, 2002) F	J A explanation (176, 400) C P S F	
B	ethics (14, 3081) S F	C explanatory (37, 1644) S F	
	C evaluate (122, 597) C P S F	C explicit (37, 1644) S F	
	C evaluation (25, 2155) S F	C explicitly (51, 1285) P F	
J A	event (369, 150) S F	J B exploit (19, 2550) P F	
J A	eventually (107, 686) C P S F	J A exploration (7, 4569) F	
J B	everyday (45, 1418) C P S F	J A explore (48, 1333) C P S F	
J A	evidence (294, 198) C P S F	J B explosion (15, 2961) S F	
J A	evident (95, 767) C P S F	C exponent (54, 1224) F	
A	evidently (27, 2048) F	J A export (20, 2476) F	
J A	evil (32, 1828) F	J A expose (44, 1437) P F	
	C evoke (10, 3783) S F	B exposition (26, 2096) S F	
B	evolution (78, 918) S F	B exposure (23, 2261) F	
	C evolutionary (64, 1088) F	J A express (346, 168) C P S F	
B	evolve (43, 1463) S F	J A expression (252, 247) C P S F	
J A	exact (104, 710) C P S F	J A extend (196, 352) C P S F	
J A	exactly (213, 313) C P S F	J B extension (82, 881) P F	
A	exaggerate (22, 2325) S F	J B extensive (63, 1100) C P S F	
J A	examination (78, 918) S F	B extensively (33, 1780) C P S F	
J A	examine (140, 509) C P S F	J A extent (237, 277) C P S F	
J A	exemplar (1679, 2) C P S F	J A external (199, 346) C P S F	
A	exceed (52, 1261) C P S F	B extinct (9, 3997) F	
J A	excellent (32, 1828) S F	C extinction (12, 3383) F	
J A	except (150, 478) C P S F	J A extra (163, 432) C P S F	
J A	exception (81, 892) C P S F	A extract (11, 3547) P F	
B	exceptional (27, 2048) S F	J A extraordinary (17, 2743) S F	
B	exceptionally (9, 3997) F	C extrapolate (15, 2961) F	
J A	excess (58, 1170) P F	J A extreme (143, 499) C P S F	
J A	excessive (30, 1912) S F	J A extremely (88, 829) C P S F	
J A	exchange (198, 349) P F	C facet (12, 3383) S F	
J A	excite (39, 1577) S F	B facilitate (23, 2261) C P S F	
J A	excitement (6, 4950) F	J A fact (1100, 8) C P S F	
A	exclude (66, 1054) C P S F	J A factor (452, 107) C P S F	
	C exclusion (9, 3997) F	J A fade (4, 5979) F	
A	exclusive (20, 2476) S F	J A failure (47, 1367) C P S F	
B	exclusively (42, 1491) C P S F	J A fairly (57, 1180) C P S F	
A	excursion (6, 4950) F	J A fairy (12, 3383) S F	
J A	execute (10, 3783) F	J A faith (31, 1869) F	
	C exemplify (41, 1517) S F	C fallacy (27, 2048) S F	

Recommended EAP Vocabulary

Level	(Freq. Rank)	Level	(Freq. Rank)
J A	false (117, 625) S F	A	forecast (6, 4950) S F
	C falsity (8, 4275) F	J A	formal (154, 461) S F
J A	familiar (127, 568) C P S F	B	formally (43, 1463) F
	B familiarity (10, 3783) F	J B	formation (171, 414) C P S F
J A	fancy (7, 4569) S F	J A	former (60, 1145) C P S F
	C fantasy (11, 3547) F	J A	formerly (15, 2961) F
J B	fascinate (30, 1912) S F	J B	formula (400, 133) C P S F
J A	fashion (96, 759) C P S F	B	formulate (48, 1333) C P S F
J A	fat (72, 992) F	C	formulation (34, 1747) C P S F
J A	fate (32, 1828) S F	J A	forth (84, 870) C P S F
J A	favor (125, 583) C P S F	C	forthcoming (9, 3997) F
J A	favorable (69, 1023) C P S F	J A	fortunate (13, 3204) F
J A	favorite (19, 2550) F	J A	fortunately (29, 1951) F
J A	fearful (7, 4569) S F	J A	fortune (35, 1713) F
	C feasible (11, 3547) S F	J A	forward (76, 943) S F
B	feat (9, 3997) S F	J A	foundation (30, 1912) F
J A	feature (411, 127) C P S F	J A	fraction (50, 1296) C P S F
J A	feed (87, 838) C P S F	C	fractional (12, 3383) F
	C feedback (6, 4950) P F	A	fragment (21, 2392) C P S F
J A	fellow (15, 2961) S F	C	fragmentary (5, 5341) F
J A	female (129, 551) S F	J A	frame (98, 747) P F
J A	fence (6, 4950) F	J B	framework (32, 1828) S F
B	fertility (30, 1912) F	A	frankly (4, 5979) F
J A	fiber (85, 860) F	J A	freedom (55, 1206) S F
J A	fiction (16, 2837) S F	A	freely (48, 1333) C P S F
J A	figure (991, 17) C P S F	J A	freeze (43, 1463) F
B	filament (7, 4569) P	J C	frequency (204, 337) C P S F
J A	file (18, 2635) F	J A	frequent (42, 1491) C P S F
J A	film (50, 1296) P F	J A	frequently (192, 360) C P S F
J A	final (273, 215) C P S F	J A	friendly (12, 3383) S F
J A	finally (169, 420) C P S F	B	fringe (8, 4275) S F
B	finely (6, 4950) P F	J B	frontier (81, 892) F
J A	finish (16, 2837) S F	A	fruitful (8, 4275) F
C	finite (56, 1190) F	B	frustration (9, 3997) F
J A	firm (65, 1068) S F	J A	fuel (20, 2476) S F
J A	firmly (24, 2200) S F	J A	fulfill (46, 1395) C P S F
C	fission (40, 1542) P	J A	fully (88, 829) C P S F
J A	fit (109, 673) C P S F	J A	function (1343, 5) C P S F
J A	fix (247, 259) C P S F	C	functional (57, 1180) C P S F
J A	flame (8, 4275) F	C	functionally (8, 4275) F
J A	flat (32, 1828) C P S F	J A	fundamental (194, 355) C P S F
B	flatten (6, 4950) P F	J A	fur (20, 2476) F
A	flatter (8, 4275) F	J A	furnish (33, 1780) P F
C	flexibility (21, 2392) F	J B	furthermore (77, 935) P F
J B	flexible (23, 2261) S F	B	fuse (11, 3547) F
J A	flight (20, 2476) F	B	fusion (45, 1418) F
A	flourish (8, 4275) F	B	gage (13, 3204) F
J A	flow (129, 551) C P S F	J A	gain (153, 466) C P S F
C	fluctuate (17, 2743) C P S F	C	gamma (14, 3081) P F
A	fluid (70, 1013) P F	J A	gap (51, 1285) S F
C	fluorine (36, 1678) P	J A	gas (499, 82) C P S F
C	flux (10, 3783) F	J B	gear (7, 4569) F
J A	focus (222, 299) C P S F	C	gene (332, 177) F
J A	fold (18, 2635) F	J A	general (649, 40) C P S F
J A	folk (21, 2392) F	C	generality (12, 3383) S F
A	follower (22, 2325) F	C	generalization (161, 436) C P S F
J A	fool (13, 3204) F	B	generalize (44, 1437) P F
C	foolproof (4, 5979) S	J A	generally (241, 271) C P S F
J A	forbid (13, 3204) F	B	generate (83, 876) C P S F
J A	force (1914, 1) C P S F	J A	generation (156, 453) C P S F

<u>Level</u>	(Freq. Rank)		<u>Level</u>	(Freq. Rank)	
	C generic	(8, 4275)	F	B harness	(6, 4950) F
	C genetic	(134, 538)	F	J A hate	(8, 4275) F
	C genetically	(26, 2096)	S F	B hazard	(7, 4569) F
J A	genius	(7, 4569)	S F	C heading	(18, 2635) S F
J A	gentle	(11, 3547)	F	J A healthy	(18, 2635) F
J A	genuine	(24, 2200)	S F	J A heaven	(12, 3383) F
B	geographical	(39, 1577)	F	A heavenly	(6, 4950) F
J A	geography	(29, 1951)	F	A heavily	(48, 1333) C P S F
	C geologic	(8, 4275)	P F	J A height	(69, 1023) C P S F
	C geometric	(93, 783)	C P S F	J A hell	(8, 4275) F
J A	geometry	(46, 1395)	F	J A helpful	(28, 2002) C P S F
B	germ	(11, 3547)	F	A hemisphere	(82, 881) P F
J A	gesture	(13, 3204)	S F	J A hance	(453, 105) C P S F
J A	ghost	(8, 4275)	S F	J A herd	(32, 1828) F
B	gladly	(10, 3783)	F	B hereditary	(27, 2048) F
J A	glance	(13, 3204)	F	C herein	(7, 4569) F
J A	globe	(17, 2743)	F	J A hero	(7, 4569) F
J B	glue	(7, 4569)	P F	J A hesitate	(7, 4569) F
J A	goal	(37, 1644)	S F	C heterogeneous	(11, 3547) F
J A	golden	(15, 2961)	F	C hierarchical	(21, 2392) F
J A	goods	(357, 160)	F	C hierarchy	(30, 1912) S F
J A	govern	(92, 790)	C P S F	C highlight	(11, 3547) S F
J A	government	(241, 271)	S F	J A highly	(206, 330) C P S F
J A	grade	(40, 1542)	C P S F	J A hint	(54, 1224) P F
	C gradient	(48, 1333)	P F	J B historian	(22, 2325) S F
J A	gradual	(34, 1747)	S F	J A historical	(151, 473) S F
J A	gradually	(70, 1013)	C P S F	C historically	(49, 1315) S F
J A	graduate	(17, 2743)	F	B hitherto	(26, 2096) F
J A	grain	(29, 1951)	P F	J A hollow	(22, 2325) C P S F
J A	grammar	(145, 491)	S F	C homogeneous	(24, 2200) P F
J A	grand	(12, 3383)	F	J A honor	(30, 1912) C P S F
J A	grant	(51, 1285)	S F	A hood	(7, 4569) S
J	C graph	(243, 266)	P F	J A hook	(5, 5341) F
	C graphic	(20, 2476)	S F	J A horizontal	(175, 403) P F
	C graphically	(24, 2200)	F	J A horn	(24, 2200) S F
J A	grasp	(17, 2743)	S F	J A host	(46, 1395) P F
J A	grave	(25, 2155)	S F	A hostile	(20, 2476) F
	C gravitational	(240, 273)	P F	B hostility	(14, 3081) F
J B	gravity	(113, 644)	C P S F	J A household	(21, 2392) F
A	graze	(33, 1780)	F	J A however	(960, 20) C P S F
J A	greatly	(69, 1023)	C P S F	J A huge	(15, 2961) P F
J A	growth	(264, 227)	C P S F	J A humen	(564, 63) C P S F
A	guarantee	(36, 1878)	S F	B humane	(4, 5979) S
J A	guard	(42, 1491)	F	C humanistic	(50, 1296) F
J A	guilty	(7, 4569)	F	J A humanity	(55, 1206) F
B	guise	(8, 4275)	F	J A humble	(16, 2837) F
A	habitual	(10, 3783)	F	J A hunger	(62, 1118) F
J A	halfway	(11, 3547)	P F	A hunter	(18, 2635) S F
A	halt	(9, 3997)	F	B hybrid	(26, 2096) F
J A	hammer	(10, 3783)	S F	J A hydrogen	(250, 252) P
J A	handicap	(10, 3783)	F	C hypothesis	(158, 449) C P S F
J A	handle	(52, 1261)	C P S F	C hypothetical	(25, 2155) C P S F
J A	hang	(36, 1678)	C P S F	J A ideel	(167, 427) C P S F
A	happily	(14, 3081)	F	C idealize	(20, 2476) P F
J A	happiness	(39, 1577)	F	C ideally	(13, 3204) S F
A	harden	(8, 4275)	F	B identical	(130, 545) C P S F
J A	hardly	(40, 1542)	S F	J C identification	(49, 1315) S F
J A	harm	(12, 3383)	S F	J A identify	(213, 313) C P S F
J A	harmful	(12, 3383)	F	J B identity	(169, 420) C P S F
J A	harmony	(26, 2096)	S F	A idle	(9, 3997) S

<u>Level</u>		(Freq. Rank)		<u>Level</u>		(Freq. Rank)
A	ignorance	(4, 5979)	F	J A	increase	(853, 24) C P S F
A	ignorant	(16, 2837)	S F	J B	increasingly	(45, 1418) S F
J A	ignore	(63, 1100) C P S F		C	incredibly	(9, 3997) F
A	illuminate	(21, 2392)	S F	C	increment	(52, 1261) F
J A	illusion	(19, 2550)	S F	J A	indead	(433, 116) C P S F
J A	illustrata	(302, 194) C P S F		B	indefinite	(33, 1780) S F
A	illustration	(63, 1100) C P S F		B	indefinitely	(37, 1644) C P S F
J A	image	(116, 629) C P S F		J A	independenca	(26, 2096) S F
J A	imaginary	(39, 1577) P F		J A	independent	(215, 308) C P S F
J A	imagination	(29, 1951) S F		B	independently	(74, 968) C P S F
J A	imagine	(124, 585) C P S F		J B	indax	(47, 1367) F
J A	imitate	(14, 3081) S F		J A	indicate	(312, 185) C P S F
C	immaterial	(7, 4569) F		B	indication	(26, 2096) S F
J A	immediate	(101, 726) S F		B	indicative	(10, 3783) S F
A	immediately	(104, 710) C P S F		C	indicator	(11, 3547) F
A	immense	(12, 3383) F		J A	indirect	(44, 1437) S F
B	immensely	(7, 4569) F		C	indirectly	(33, 1780) S F
C	immersa	(10, 3783) P F		A	indispensable	(20, 2476) S F
J	C impact	(41, 1517) C P S F		J A	individual	(715, 32) C P S F
B	impart	(18, 2635) F		B	individuality	(20, 2476) F
B	imperative	(9, 3997) F		C	individually	(18, 2635) C P S F
A	imperfect	(30, 1912) S F		C	indivisible	(11, 3547) F
C	impersonal	(9, 3997) F		A	induce	(36, 1678) C P S F
C	implication	(82, 881) C P S F		C	induction	(27, 2048) F
C	implicit	(42, 1491) S F		J A	industrial	(126, 575) S F
C	implicitly	(26, 2096) S F		C	industrializa	(6, 4950) F
J A	imply	(151, 473) C P S F		J A	industry	(93, 783) F
J A	import	(18, 2635) S F		C	ineffectiva	(8, 4275) F
J A	importance	(187, 373) C P S F		C	inequality	(55, 1206) F
C	importantly	(7, 4569) S F		B	inert	(18, 2635) P F
A	impose	(47, 1367) S F		C	inertia	(89, 820) F
C	imposition	(6, 4950) F		J A	inevitable	(33, 1780) S F
J A	impossible	(78, 918) C P S F		B	inevitably	(36, 1678) S F
C	impoverish	(6, 4950) F		C	inexhaustible	(4, 5979) F
J A	impress	(16, 2837) S F		C	infallibla	(8, 4275) F
J A	impression	(40, 1542) F		A	infancy	(7, 4569) S F
J A	impressive	(30, 1912) S F		A	infant	(44, 1437) S F
J A	improve	(91, 799) C P S F		B	infer	(59, 1156) S F
J A	improvement	(39, 1577) S F		B	inference	(72, 992) S F
J A	impulse	(158, 449) F		A	inferior	(16, 2837) F
B	inability	(14, 3081) F		A	infinite	(91, 799) C P S F
C	inaccurate	(8, 4275) F		B	infinitely	(37, 1644) C P S F
C	inadequacy	(18, 2635) F		J A	influence	(235, 281) C P S F
B	inadequata	(20, 2476) S F		B	influential	(10, 3783) F
C	inanimate	(8, 4275) F		J A	inform	(32, 1828) S F
C	inesmuch	(9, 3997) F		J A	informel	(22, 2325) F
A	incapable	(22, 2325) S F		J A	information	(249, 255) C P S F
C	incidence	(25, 2155) S F		A	ingenious	(17, 2743) F
J A	incident	(19, 2550) F		B	ingenuity	(11, 3547) F
B	incidentally	(16, 2837) F		A	inherent	(27, 2048) F
A	inclination	(33, 1780) F		A	inherit	(53, 1246) S F
A	incline	(73, 979) S F		A	inheritance	(31, 1869) S F
J A	include	(480, 90) C P S F		C	inhibit	(23, 2261) S F
C	inclusion	(18, 2635) P F		J A	initial	(248, 256) C P S F
C	inclusive	(20, 2476) R. F		C	initially	(92, 790) S F
J A	income	(504, 81) F		C	initiete	(36, 1678) F
C	incompatibla	(29, 1951) F		J A	initiative	(21, 2392) F
B	incomplate	(29, 1951) C P S F		J A	injury	(31, 1869) F
B	incorporate	(33, 1780) C P S F		J A	inner	(91, 799) C P S F
C	incorrect	(19, 2550) S F		C	innovation	(19, 2550) F

Level		(Freq. Rank)		Level		(Freq. Rank)
A	innumerable	(7, 4569)	F	J A	intimate	(20, 2476) C P S F
A	inquire	(14, 3081)	F	B	intimately	(7, 4569) F
J A	inquiry	(22, 2325)	F	B	intricate	(11, 3547) F
J A	insert	(45, 1418) P F		C	intrinsic	(28, 2002) C P S F
B	insight	(37, 1644) C P S F		C	intrinsically	(9, 3997) F
A	insignificant	(11, 3547) F		J A	introduce	(150, 478) C P S F
J A	insist	(45, 1418) S F		J A	introduction	(70, 1013) C P S F
J B	inspection	(21, 2392) P F		C	introductory	(26, 2096) C P S F
J A	instance	(275, 211) C P S F		C	intuition	(30, 1912) S F
J A	instant	(65, 1068) P F		C	intuitive	(18, 2635) F
C	instantaneous	(61, 1129) P F		C	intuitively	(9, 3997) S F
J A	instead	(211, 321) C P S F		A	invalid	(5, 5341) S F
J A	institute	(41, 1517) P F		C	invalidate	(10, 3783) S F
J A	institution	(107, 686) S F		J A	invariably	(29, 1951) S F
A	instruct	(18, 2635) F		J A	invention	(30, 1912) S F
J A	instruction	(137, 525) S F		C	inventory	(52, 1261) S F
A	instructive	(7, 4569) F		C	inverse	(26, 2096) P F
B	instructor	(27, 2048) P F		C	inversely	(22, 2325) P F
J A	instrument	(59, 1156) C P S F		B	invert	(7, 4569) F
C	instrumental	(11, 3547) F		A	invest	(33, 1780) S F
C	insulator	(14, 3081) P		A	investigate	(111, 659) C P S F
A	insult	(5, 5341) F		J A	investigation	(65, 1068) C P S F
C	intact	(10, 3783) S F		B	investigator	(33, 1780) F
C	integral	(352, 164) P F		C	invoke	(31, 1869) F
C	integrata	(70, 1013) C P S F		B	involuntary	(9, 3997) S F
J	C integration	(145, 491) P F		J A	involve	(640, 42) C P S F
C	integrity	(16, 2837) F		J A	inward	(27, 2048) P F
J A	intellectual	(123, 592) S F		C	ion	(240, 273) P F
J A	intelligence	(76, 943) S F		C	irrational	(14, 3081) F
J A	intelligent	(16, 2837) S F		C	irreducible	(7, 4569) S
C	intelligible	(23, 2261) F		C	irregularity	(29, 1951) P F
J A	intend	(63, 1100) S F		C	irrelevant	(28, 2002) S F
J A	intense	(36, 1678) S F		C	irreversible	(6, 4950) F
J A	intensity	(33, 1780) C P S F		J A	isolate	(122, 597) C P S F
B	intensive	(27, 2048) F		C	isolation	(39, 1577) S F
C	intensively	(5, 5341) F		J A	issue	(94, 773) S F
J A	intention	(22, 2325) S F		J A	item	(173, 410) S F
C	interact	(30, 1912) C P S F		J A	itself	(418, 125) C P S F
C	interaction	(90, 810) P F		J A	jet	(9, 3997) S
C	interchangeable	(7, 4569) S F		J A	joint	(16, 2837) S F
C	interchangeably	(7, 4569) F		J A	journal	(23, 2261) F
C	interdependence	(15, 2961) F		J A	journey	(8, 4275) F
C	interdependent	(9, 3997) S F		J A	judgment	(77, 935) S F
J A	interest	(471, 94) C P S F		J A	juice	(21, 2392) F
J A	interfere	(22, 2325) S F		B	junction	(12, 3383) P F
B	interference	(31, 1869) F		B	jurisdiction	(7, 4569) S F
J A	interior	(37, 1644) P F		J A	justice	(36, 1678) S F
C	interlock	(14, 3081) F		B	justification	(31, 1869) F
J B	intermediate	(94, 773) C P S F		J A	justify	(133, 539) C P S F
C	intermolecular	(15, 2961) P		B	kidney	(21, 2392) S F
J A	internal	(112, 652) C P S F		C	kinetic	(368, 153) P F
C	internally	(7, 4569) F		J A	kingdom	(49, 1315) F
J A	international	(64, 1088) S F		J A	knowledge	(386, 139) C P S F
C	interplay	(6, 4950) F		J A	label	(127, 568) C P S F
J A	interpret	(144, 494) C P S F		J A	labor	(262, 230) C P S F
B	interpretation	(149, 482) C P S F		J A	laboratory	(67, 1048) P F
C	intersect	(90, 810) P F		B	laborious	(6, 4950) F
J	C intersection	(119, 614) P F		J A	lack	(130, 545) C P S F
J A	interval	(180, 387) C P S F		J A	ladder	(21, 2392) S F
B	intervene	(23, 2261) S F		B	lag	(16, 2837) S F

<u>Level</u>		(Freq. Rank)		<u>Level</u>		(Freq. Rank)	
A	lapse	(11, 3547)	S F	J B	magnitude	(305, 191)	P F
J A	largely	(140, 509)	S F	J A	main	(181, 384)	C P S F
A	latitude	(17, 2743)	F	J A	mainly	(52, 1261)	C P S F
J A	launch	(22, 2325)	F	J A	maintain	(215, 308)	C P S F
A	layer	(95, 767)	F	J B	maintenance	(24, 2200)	S F
B	leak	(5, 5341)	F	J A	major	(181, 384)	C P S F
J A	lean	(19, 2550)	F	J A	majority	(55, 1206)	S F
J A	leap	(11, 3547)	F	J A	maker	(8, 4275)	S F
J A	lecture	(34, 1747)	S F	C	malaria	(9, 3997)	S F
J A	legal	(42, 1491)	S F	J A	male	(178, 390)	S F
B	legitimate	(27, 2048)	S F	J A	manage	(22, 2325)	F
C	legitimately	(9, 3997)	S F	C	manageable	(7, 4569)	F
J A	length	(280, 205)	C P S F	B	maneuver	(9, 3997)	F
A	lassen	(8, 4275)	S F	A	manifest	(89, 820)	S F
J A	level	(741, 29)	C P S F	B	manifestation	(42, 1491)	S F
A	liar	(4, 5979)	S	C	manipulate	(15, 2961)	F
J A	liberal	(66, 1054)	S F	C	manipulation	(17, 2743)	P F
B	liberate	(58, 1170)	F	J A	manner	(127, 568)	C P S F
C	liberation	(14, 3081)	F	B	manual	(27, 2048)	S F
J A	lifetime	(15, 2961)	S F	A	manufacture	(29, 1951)	S F
B	likelihood	(17, 2743)	S F	J A	manufacturer	(18, 2635)	F
J A	likely	(151, 473)	C P S F	A	manuscript	(19, 2550)	F
A	likewise	(38, 1611)	P F	J A	marble	(11, 3547)	F
J A	limb	(19, 2550)	F	B	marginal	(53, 1246)	F
J A	limit	(607, 47)	C P S F	C	markedly	(8, 4275)	S F
A	limitation	(48, 1333)	S F	J A	marriage	(53, 1246)	F
C	linear	(92, 790)	C P S F	J A	marry	(16, 2837)	S F
C	linearly	(10, 3783)	P F	A	marshal	(18, 2635)	F
A	linger	(15, 2961)	F	J A	mask	(14, 3081)	S F
C	linguistic	(257, 241)	S F	J A	mass	(845, 26)	C P S F
J A	link	(132, 541)	C P S F	A	massive	(29, 1951)	F
J A	lip	(20, 2476)	S F	C	mastery	(21, 2392)	F
J A	liquid	(354, 163)	C P S F	J A	match	(65, 1068)	C P S F
J A	list	(146, 488)	C P S F	J A	mate	(25, 2155)	F
B	literal	(12, 3383)	S F	J A	material	(476, 93)	C P S F
J A	literally	(54, 1224)	S F	B	mathematical	(88, 829)	C P S F
J A	literature	(105, 703)	S F	C	mathematically	(19, 2550)	C P S F
J A	load	(9, 3997)	F	J A	mature	(53, 1246)	F
J A	local	(49, 1315)	C P S F	B	maturity	(19, 2550)	S F
C	localize	(9, 3997)	F	C	maximize	(12, 3383)	S F
C	locally	(13, 3204)	F	J A	maximum	(183, 380)	C P S F
J A	locate	(138, 521)	C P S F	C	meaningful	(36, 1678)	C P S F
J A	location	(55, 1206)	C P S F	C	meaningless	(23, 2261)	C P S F
J A	lock	(11, 3547)	F	A	meantime	(6, 4950)	F
C	locus	(108, 678)	P F	C	measurable	(10, 3783)	S F
J A	logic	(128, 559)	S F	J A	measure	(551, 68)	C P S F
J B	logical	(175, 403)	C P S F	J B	measurement	(87, 838)	C P S F
C	logically	(99, 740)	S F	A	mechanic	(20, 2476)	F
C	logician	(14, 3081)	S	J A	mechanical	(121, 604)	S F
J A	loose	(19, 2550)	S F	C	mechanics	(51, 1285)	P F
B	loosely	(13, 3204)	S F	J B	mechanism	(136, 530)	C P S F
J A	lord	(20, 2476)	F	C	mediate	(11, 3547)	F
J A	loss	(118, 621)	C P S F	C	mediation	(9, 3997)	F
B	lowly	(7, 4569)	F	J A	medical	(34, 1747)	S F
J A	lump	(5, 5341)	F	J A	medicine	(33, 1780)	F
J A	machinery	(20, 2476)	F	A	medieval	(69, 1023)	S F
J A	mad	(7, 4569)	F	J A	medium	(69, 1023)	S F
J A	magnet	(31, 1869)	P F	A	membership	(51, 1285)	S F
B	magnetic	(48, 1333)	P	J A	memorize	(21, 2392)	F
A	magnify	(14, 3081)	P	J A	memory	(261, 234)	C P S F

Level		(Freq. Rank)		Level		(Freq. Rank)	
J A	mental	(168, 425)	S F	A	multitude	(6, 4950)	F
B	mentally	(14, 3081)	F	J A	muscle	(85, 860)	F
J A	mention	(139, 516)	C P S F	J A	musical	(11, 3547)	S F
J A	mere	(79, 908)	S F	J A	mutter	(3, 6819)	S
J A	merely	(152, 469)	C P S F	J A	mutual	(59, 1156)	S F
J A	merit	(18, 2635)	S F	C	mutually	(49, 1315)	C P S F
J A	message	(28, 2002)	S F	J A	mysterious	(11, 3547)	F
J A	metal	(116, 629)	C P S F	J A	mystery	(13, 3204)	F
C	metaphor	(15, 2961)	S F	C	mystic	(10, 3783)	F
C	metaphysical	(33, 1780)	F	C	mystical	(94, 773)	S F
J A	meter	(39, 1577)	P F	J A	myth	(100, 733)	S F
J A	method	(646, 41)	C P S F	C	naive	(28, 2002)	S F
J A	microscope	(82, 881)	P F	A	namely	(77, 935)	S F
C	microscopic	(36, 1678)	S F	A	narrative	(13, 3204)	S F
B	mid	(14, 3081)	S F	J A	narrow	(53, 1246)	S F
B	migration	(23, 2261)	F	B	narrowly	(18, 2635)	F
J A	mild	(24, 2200)	P F	J A	native	(71, 1003)	S F
J A	million	(114, 637)	C P S F	B	naturalist	(6, 4950)	F
J A	mineral	(54, 1224)	F	J A	naturally	(107, 686)	C P S F
C	minimize	(17, 2743)	S F	J A	nearby	(7, 4569)	P
J A	minimum	(110, 666)	P F	J A	neat	(4, 5979)	F
J A	minor	(42, 1491)	C P S F	B	neatly	(13, 3204)	F
A	minority	(16, 2837)	S F	J A	necessarily	(160, 440)	C P S F
J A	mirror	(40, 1542)	S F	J A	necessity	(63, 1100)	S F
C	misconception	(9, 3997)	S F	J A	needle	(16, 2837)	F
C	mislead	(35, 1713)	S F	A	needless	(5, 5341)	F
J A	misunderstand	(14, 3081)	S F	J A	negative	(398, 135)	C P S F
J A	mix	(98, 747)	S F	C	negatively	(20, 2476)	P F
J A	mixture	(57, 1180)	F	J A	neglect	(87, 838)	C P S F
C	mobilize	(8, 4275)	F	C	negligible	(27, 2048)	P F
A	mode	(37, 1644)	S F	J A	neighborhood	(79, 908)	F
J A	model	(115, 632)	C P S F	A	nerve	(153, 466)	S F
J A	moderate	(11, 3547)	F	J A	net	(213, 313)	P F
B	moderately	(4, 5979)	F	J A	network	(24, 2200)	F
J A	modern	(366, 156)	C P S F	J A	neutral	(66, 1054)	S F
J A	modest	(7, 4569)	F	C	neutrality	(16, 2837)	P F
B	modification	(27, 2048)	P F	J A	nevertheless	(100, 733)	S F
J A	modify	(65, 1068)	C P S F	J A	newly	(22, 2325)	S F
J A	mold	(11, 3547)	F	J A	noble	(25, 2155)	F
C	molecular	(203, 339)	P F	C	nomenclature	(12, 3383)	S F
J	molecule	(694, 35)	C P S F	J A	none	(88, 829)	C P S F
J A	moment	(208, 326)	C P S F	J A	nonsense	(15, 2961)	S F
J A	momentary	(19, 2550)	S F	C	nonsensical	(13, 3204)	S
C	momentum	(102, 722)	F	J A	nor	(212, 317)	C P S F
A	monopoly	(44, 1437)	F	J A	normal	(332, 177)	C P S F
J A	mood	(9, 3997)	S F	B	normally	(69, 1023)	C P S F
J A	moral	(151, 473)	S F	J A	northern	(33, 1780)	F
J A	moreover	(90, 810)	S F	A	notable	(32, 1828)	S F
J A	mosquito	(7, 4569)	S F	B	notably	(24, 2200)	S F
J A	mostly	(23, 2261)	S F	C	notation	(74, 968)	P F
J A	motion	(791, 28)	C P S F	J A	note	(490, 85)	C P S F
C	motivate	(20, 2476)	S F	J A	notice	(176, 400)	C P S F
C	motivation	(40, 1542)	F	B	noticeable	(21, 2392)	P F
J A	motive	(59, 1156)	S F	J A	notion	(126, 575)	C P S F
J A	motor	(76, 943)	S F	J B	noun	(234, 284)	F
J A	mount	(26, 2096)	P F	A	nourish	(5, 5341)	S F
J A	movement	(258, 237)	S F	J A	novel	(31, 1869)	F
J	C multiple	(67, 1048)	C P S F	J A	nowhere	(17, 2743)	F
B	multiplication	(32, 1828)	P F	J A	nuclear	(155, 457)	P F
J A	multiply	(78, 918)	C P S F	B	nucleus	(428, 119)	P F

Recommended EAP Vocabulary

<u>Level</u>		(Freq. Rank)		<u>Level</u>		(Freq. Rank)
J B	numeral	(7, 4569)	S F	J A	organize	(87, 838) C P S F
	C numerically	(62, 1118)	C P S F	J A	orient	(27, 2048) P F
	C numerically	(16, 2837)	P F	J	C orientation	(31, 1869) F
J A	numerous	(68, 1037)	S F	J A	origin	(283, 200) C P S F
J A	oak	(14, 3081)	F	J A	original	(206, 330) C P S F
J A	obey	(29, 1951)	F	A	originally	(66, 1054) C P S F
J A	object	(830, 27)	C P S F	A	originate	(39, 1577) C P S F
J A	objection	(75, 958)	S F		C oscillation	(73, 979) F
J B	objective	(85, 860)	C P S F	J A	otherwise	(107, 686) C P S F
	C objectively	(10, 3783)	S F	J A	ought	(32, 1828) S F
J A	obligation	(23, 2261)	F	J B	ounce	(8, 4275) F
J A	oblige	(17, 2743)	F	A	outcome	(39, 1577) S F
A	obscure	(16, 2837)	S F	J A	outer	(54, 1224) P F
	C observable	(62, 1118)	S F	J A	outline	(55, 1206) C P S F
J A	observation	(282, 202) C P S F		J B	outlook	(13, 3204) S F
J A	observe	(396, 137) C P S F			C outst	(14, 3081) S F
A	observer	(148, 485) C P S F		J A	outstanding	(14, 3081) F
A	obstacle	(23, 2261)	F	J A	outward	(39, 1577) C P S F
J A	obtain	(470, 95) C P S F		J B	overall	(23, 2261) S F
J A	obvious	(185, 378) C P S F		J A	overcome	(43, 1463) C P S F
J B	obviously	(77, 935) C P S F			C overcrowd	(7, 4569) F
J A	occasion	(74, 968) C P S F		B	overlap	(35, 1713) C P S F
J A	occasional	(14, 3081)	F	A	overlook	(24, 2200) S F
A	occasionally	(43, 1463) C P S F		J A	owe	(43, 1463) C P S F
J A	occupation	(31, 1869)	S F	J A	owner	(23, 2261) S F
J A	occupy	(197, 350) C P S F		J A	paca	(15, 2961) F
J A	occur	(552, 67) C P S F		J A	pack	(25, 2155) F
	B occurrence	(80, 897)	S F	J A	pain	(112, 652) S F
J A	odd	(17, 2743)	F	B	painfully	(5, 5341) F
J A	offense	(11, 3547)	F	J A	palm	(7, 4569) F
J A	offer	(128, 559)	S F		C paradigm	(61, 1129) S F
J A	official	(47, 1367)	S F	A	paradox	(44, 1437) S F
A	offspring	(67, 1048)	F		C paradoxical	(6, 4950) S
J A	omit	(24, 2200) C P S F		J A	paragraph	(18, 2635) F
J A	oneself	(39, 1577)	S F	J A	parallal	(177, 397) C P S F
	C onset	(21, 2392)	F	A	paralyze	(5, 5341) F
J B	onto	(51, 1285)	P F		C parameter	(21, 2392) P
A	onward	(11, 3547)	F	A	paraphrase	(8, 4275) S F
J A	operate	(114, 637) C P S F		B	parenthesis	(12, 3383) P F
J A	operation	(130, 545) C P S F		A	partial	(135, 535) C P S F
J A	operator	(14, 3081)	S F	B	partially	(24, 2200) S F
J A	opinion	(68, 1037)	S F		C participant	(20, 2476) F
A	opponent	(25, 2155)	F	J A	participate	(41, 1517) S F
J A	opportunity	(78, 918)	S F	J A	particle	(1055, 12) P F
J A	oppose	(81, 892) C P S F		J A	particular	(545, 70) C P S F
J A	opposite	(229, 289) C P S F		J A	particularly	(187, 373) C P S F
J A	opposition	(33, 1780)	S F	J A	partly	(106, 695) C P S F
	C optical	(9, 3997)	S F	J A	passage	(85, 860) S F
	C optimum	(10, 3783)	F	J A	passion	(6, 4950) F
J	C option	(4, 5979)	F	J A	passive	(22, 2325) S F
J B	oral	(34, 1747)	F	A	patch	(6, 4950) F
	C oratory	(6, 4950)	F	J A	path	(193, 356) C P S F
J A	orbit	(93, 783)	F	J A	patience	(10, 3783) F
	B orderly	(24, 2200)	S F	J A	patient	(68, 1037) S F
	B ordinarily	(84, 870) C R S F		J A	pattern	(276, 210) C P S F
J A	ordinary	(136, 530) C P S F		J A	pause	(15, 2961) S F
J A	organ	(123, 592)	F	J A	peak	(21, 2392) S F
J B	organic	(71, 1003)	F	A	peasant	(64, 1088) S F
	B organism	(212, 317)	F	J A	peculiar	(50, 1296) S F
J A	organization	(149, 482)	S F	A	peculiarly	(10, 3783) S F

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<u>Level</u>		(Freq, Rank)		<u>Level</u>		(Freq, Rank)
B	pendulum	(82, 881)	C P S F	J A	plate	(96, 759) P F
A	penetrate	(34, 1747)	P F	C	plausible	(29, 1951) C P S F
J A	penny	(19, 2550)	S F	J A	player	(15, 2961) S F
J A	per	(488, 86)	C P S F	J A	pleasure	(26, 2096) C P S F
J A	perceive	(156, 453)	S F	J A	plot	(79, 908) P F
J A	percent	(112, 652)	P F	J A	plow	(14, 3081) F
J B	percentage	(102, 722)	P F	J A	plus	(105, 703) C P S F
B	perception	(137, 525)	S F	J A	poet	(13, 3204) F
C	perceptual	(47, 1367)	S F	J A	poetry	(28, 2002) F
J A	perfect	(94, 773)	C P S F	B	poisonous	(8, 4275) F
A	perfection	(14, 3081)	F	A	polar	(92, 790) P F
J A	perfectly	(37, 1644)	S F	J A	pole	(49, 1315) P F
J A	perform	(150, 478)	C P S F	J A	policy	(127, 568) F
J A	performance	(36, 1678)	S F	J A	polish	(18, 2635) F
J A	period	(483, 88)	C P S F	J A	political	(235, 281) S F
C	periodic	(78, 918)	P F	J A	pollution	(38, 1611) F
C	periodically	(14, 3081)	P F	A	poorly	(17, 2743) F
A	perish	(10, 3783)	F	C	populerly	(8, 4275) F
J A	permanent	(42, 1491)	C P S F	C	populete	(11, 3547) S F
B	permenently	(14, 3081)	S F	J A	population	(415, 126) C P S F
J A	permit	(95, 767)	C P S F	C	pore	(21, 2392) F
B	perpendicular	(118, 621)	P F	J A	port	(10, 3783) F
C	perpetuate	(8, 4275)	F	J A	portion	(137, 525) P F
A	perplex	(4, 5979)	F	C	portray	(11, 3547) F
J A	persist	(30, 1912)	S F	B	pose	(29, 1951) S F
C	persistence	(11, 3547)	F	J A	position	(599, 48) C P S F
A	persistent	(24, 2200)	F	J A	positive	(567, 62) C P S F
J A	personal	(113, 644)	S F	B	positively	(48, 1333) P F
J A	personality	(128, 559)	S F	J A	possess	(146, 488) C P S F
J B	personnel	(9, 3997)	F	J A	possession	(52, 1261) F
J B	perspective	(39, 1577)	S F	J A	possibility	(184, 379) C P S F
C	pertinent	(14, 3081)	F	J A	possible	(517, 79) C P S F
J A	phase	(200, 345)	P F	J A	possibly	(41, 1517) C P S F
J A	phenomenon	(205, 335)	C P S F	A	postpone	(9, 3997) F
A	philosopher	(181, 384)	C P S F	C	postulate	(76, 943) P F
B	philosophical	(97, 755)	S F	B	posture	(16, 2837) F
J A	philosophy	(254, 243)	S F	B	potent	(6, 4950) F
J A	phone	(8, 4275)	S	J B	potential	(496, 84) C P S F
C	phosphate	(22, 2325)	F	J A	pour	(10, 3783) F
J A	photograph	(111, 659)	F	J A	poverty	(13, 3204) S F
C	photographic	(17, 2743)	F	J A	power	(349, 167) C P S F
J A	phrese	(61, 1129)	S F	J A	powerful	(54, 1224) C P S F
J A	physical	(523, 74)	C P S F	J A	practical	(104, 710) C P S F
B	physically	(28, 2002)	S F	A	prectically	(52, 1261) C P S F
C	physicist	(32, 1828)	C P S F	C	pragmatic	(10, 3783) F
J A	physics	(129, 551)	C P S F	J A	praise	(13, 3204) F
C	physiological	(96, 759)	S F	J A	pray	(7, 4569) F
C	physiologist	(14, 3081)	S F	J A	precede	(129, 551) C P S F
C	physiology	(31, 1869)	S F	B	precedent	(13, 3204) F
C	piecemeal	(10, 3783)	F	J A	precious	(15, 2961) F
J A	pile	(22, 2325)	P F	J A	precise	(78, 918) C P S F
J A	pin	(15, 2961)	F	B	precisely	(71, 1003) C P S F
J A	pioneer	(24, 2200)	S F	J B	precision	(17, 2743) S F
J A	pitch	(87, 838)	S F	B	predecessor	(33, 1780) C P S F
C	placement	(14, 3081)	F	J B	predicate	(104, 710) S F
A	plegue	(11, 3547)	F	J A	predict	(113, 644) C P S F
J A	plain	(17, 2743)	S F	B	prediction	(37, 1644) C P S F
A	plainly	(6, 4950)	S F	C	predominant	(14, 3081) F
J A	planet	(70, 1013)	C P S F	C	predominantly	(13, 3204) S F
J B	plastic	(29, 1951)	P F	C	predominete	(11, 3547) F

Level		(Freq. Rank)		Level		(Freq. Rank)
A	preface	(20, 2476)	P F	J A	progress	(96, 759) C P S F
J A	prefer	(69, 1023)	C P S F		C progression	(18, 2635) S
	C preferable	(10, 3783)	F	A	progressive	(64, 1088) S F
A	preference	(25, 2155)	C P S F		C progressively	(28, 2002) S F
A	prejudice	(13, 3204)	S F	A	prohibit	(6, 4950) F
B	premise	(43, 1463)	S F	J A	project	(80, 897) C P S F
B	premium	(8, 4275)	F	B	projection	(37, 1644) C P S F
	C preoccupation	(19, 2550)	F	A	prolong	(16, 2837) S F
J A	preparation	(61, 1129)	C P S F	J A	prominent	(37, 1644) S F
B	preparatory	(7, 4569)	F	J A	promote	(50, 1296) F
	C preponderance	(8, 4275)	F	J A	prompt	(8, 4275) F
A	prescribe	(34, 1747)	S F	B	prone	(16, 2837) F
J B	prescription	(9, 3997)	F	J A	pronounce	(41, 1517) F
J A	presence	(141, 505)	C P S F	J A	proof	(73, 979) C P S F
B	presentation	(25, 2155)	S F		C propel	(7, 4569) P F
J A	preserve	(47, 1367)	S F		C propensity	(47, 1367) F
J A	press	(63, 1100)	S F	J A	proper	(90, 810) C P S F
J A	pressure	(575, 57)	C P S F	A	properly	(43, 1463) C P S F
J B	presumably	(56, 1190)	C P S F	J A	property	(543, 71) C P S F
A	presume	(15, 2961)	F	J A	proportion	(129, 551) C P S F
J A	pretend	(15, 2961)	S F		C proportional	(74, 968) C P S F
A	prevail	(39, 1577)	S F		C proportionality	(13, 3204) P F
J A	prevent	(88, 829)	C P S F	J A	propose	(62, 1118) F
J A	previous	(117, 625)	C P S F	A	proposition	(433, 116) S F
B	previously	(57, 1180)	C P S F	J A	prospect	(9, 3997) F
A	prey	(15, 2961)	F	B	prospective	(8, 4276) S
J A	pride	(13, 3204)	F	J A	protect	(45, 1418) F
J B	primarily	(114, 637)	S F	J A	protection	(21, 2392) F
J A	primary	(111, 659)	C P S F	B	protein	(126, 575) F
J A	prime	(21, 2392)	F	J A	protest	(27, 2048) F
J A	primitive	(117, 625)	C P S F	J A	prove	(188, 369) C P S F
J A	prince	(15, 2961)	F	J A	provide	(455, 103) C P S F
J A	principal	(124, 585)	C P S F	A	province	(28, 2002) F
B	principally	(38, 1611)	S F	J A	provision	(28, 2002) F
J A	principle	(397, 136)	C P S F		C proximity	(7, 4569) F
J A	print	(36, 1678)	C P S F	B	psychological	(86, 848) S F
B	prior	(48, 1333)	S F		C psychologist	(57, 1180) S F
J B	privacy	(7, 4569)	S F	J A	psychology	(100, 733) S F
J A	private	(121, 604)	S F	J A	public	(231, 288) S F
A	privilege	(25, 2155)	S F	J A	publication	(19, 2550) P F
A	probability	(154, 461)	C P S F	B	publicly	(14, 3081) F
J A	probable	(58, 1170)	S F	J A	publish	(45, 1418) C P S F
J A	probably	(159, 445)	C P S F	J A	pump	(31, 1869) P F
J A	problem	(897, 22)	C P S F	J A	punish	(18, 2635) F
J A	procedure	(162, 435)	C P S F	J A	pure	(91, 799) C P S F
J A	proceed	(115, 632)	C P S F	A	purely	(76, 943) C P S F
J A	process	(662, 39)	C P S F	B	purity	(7, 4569) F
A	proclaim	(16, 2837)	F	J A	purple	(6, 4950) S
J A	produce	(572, 58)	C P S F	B	purport	(7, 4569) S
B	producer	(66, 1054)	F	J A	purpose	(219, 301) C P S F
J A	product	(409, 129)	C P S F	J A	pursue	(41, 1517) S F
J A	production	(245, 263)	C P S F	J A	pursuit	(34, 1747) F
J A	productive	(56, 1190)	F	J A	puzzle	(31, 1869) S F
J A	profession	(18, 2635)	F	J A	pyramid	(8, 4275) P F
J A	professional	(80, 897)	S F	B	qualification	(16, 2837) S F
J A	professor	(54, 1224)	C P S F	J A	qualify	(18, 2635) S F
J A	profit	(142, 500)	S F		C qualitative	(23, 2261) C P S F
A	profitable	(23, 2261)	F		C qualitatively	(16, 2837) S F
	C profitably	(10, 3783)	C P S F	J A	quality	(177, 397) C P S F
J A	profound	(28, 2002)	S F		C quantify	(25, 2155) S

Recommended EAP Vocabulary

<u>Level</u>		(Freq. Rank)		<u>Level</u>		(Freq. Rank)	
	C	quantitative	(48, 1333)	C P S F	J A	recommend	(37, 1644) F
	C	quantitatively	(26, 2096)	P F	A	reconcile	(17, 2743) F
J A		quantity	(323, 181)	C P S F	B	reconstruct	(13, 3204) F
	C	quantum	(51, 1285)	F	C	recourse	(17, 2743) S F
A		quest	(23, 2261)	F	J A	recover	(11, 3547) P F
B		quotation	(16, 2837)	S F	J A	recovery	(16, 2837) F
J A		quote	(33, 1780)	C P S F	B	recur	(10, 3783) F
J A		racial	(12, 3383)	S F	C	recurrent	(11, 3547) F
	C	radial	(33, 1780)	P	J A	reduce	(262, 230) C P S F
B		radiate	(15, 2961)	P F	J A	reduction	(52, 1261) C P S F
J		radiation	(41, 1517)	P F	J A	refer	(400, 133) C P S F
J A		radical	(43, 1463)	F	J A	reference	(346, 168) C P S F
	C	radically	(21, 2392)	F	C	referent	(12, 3383) S F
	C	radioactive	(52, 1261)	P F	C	referential	(8, 4275) S
B		radius	(268, 220)	P	A	refina	(14, 3081) C P S F
J A		rage	(17, 2743)	F	B	refinement	(19, 2550) S F
J A		raise	(232, 285)	C P S F	J A	reflect	(110, 666) C P S F
J A		random	(74, 968)	C P S F	J A	reflection	(33, 1780) S F
	C	randomly	(10, 3783)	S F	J A	reform	(35, 1713) S F
J A		range	(269, 218)	C P S F	J A	refuse	(17, 2743) S F
J A		rank	(32, 1828)	S F	C	refute	(13, 3204) F
J A		rapid	(81, 892)	P F	J A	regard	(305, 191) C P S F
J A		rapidly	(108, 678)	C P S F	J A	regardless	(30, 1912) P F
J A		rere	(54, 1224)	C P S F	C	regenerate	(20, 2476) F
A		rarely	(45, 1418)	C P S F	J A	region	(296, 197) C P S F
A		rash	(6, 4950)	F	J	regional	(18, 2635) F
J A		rate	(444, 112)	C P S F	J A	register	(18, 2635) S F
J A		rather	(562, 65)	C P S F	C	regrettable	(4, 5979) F
J	B	ratio	(169, 420)	C P S F	J A	regular	(96, 759) C P S F
	B	ration	(49, 1315)	P F	C	regularity	(28, 2002) S F
A		rational	(78, 918)	C P S F	B	regularly	(66, 1054) S F
	C	rationalization	(15, 2961)	F	J A	regulate	(30, 1912) F
	C	rationalize	(9, 3997)	F	J A	regulation	(30, 1912) F
	C	rationally	(6, 4950)	S F	B	reinforce	(29, 1951) S F
J A		raw	(13, 3204)	F	C	reinforcement	(10, 3783) F
J A		ray	(110, 666)	P F	J A	reject	(37, 1644) S F
B		react	(76, 943)	S F	J A	relate	(480, 90) C P S F
J A		reaction	(405, 131)	C P S F	J A	relation	(568, 60) C P S F
J A		reader	(76, 943)	S F	J B	relationship	(317, 183) C P S F
J A		readily	(113, 644)	C P S F	J A	relative	(279, 206) C P S F
	C	realism	(40, 1542)	S F	J B	relatively	(210, 322) C P S F
J		realistic	(39, 1577)	S F	J A	relax	(23, 2261) S F
J A		reality	(118, 621)	C P S F	J A	release	(144, 494) P F
J	B	realization	(17, 2743)	F	C	relegata	(6, 4950) F
J A		realize	(119, 614)	C P S F	C	relevance	(28, 2002) S F
A		realm	(23, 2261)	S F	C	relevant	(110, 666) S F
J A		reer	(29, 1951)	F	C	reliability	(10, 3783) F
J A		reasonable	(68, 1037)	C P S F	J A	reliable	(21, 2392) S F
B		reasonably	(29, 1951)	C P S F	C	reliance	(14, 3081) F
J A		recall	(186, 376)	C P S F	J A	relief	(11, 3547) S F
J A		recent	(124, 585)	C P S F	J A	relieve	(13, 3204) S F
J A		recently	(60, 1145)	S F	J A	religion	(145, 491) F
J A		reception	(4, 5979)	S F	J A	religious	(95, 767) S F
	C	recipient	(12, 3383)	F	A	reluctant	(10, 3783) F
B		reciprocal	(25, 2155)	R F	J A	rely	(80, 897) S F
A		reckon	(13, 3204)	S F	J A	remain	(387, 138) C P S F
J A		recognition	(58, 1170)	C P S F	B	remainder	(26, 2096) P F
	C	recognizable	(20, 2476)	C P S F	J A	remark	(146, 488) S F
J A		recognize	(263, 228)	C P S F	J A	remarkable	(44, 1437) C P S F
A		recollection	(6, 4950)	F	B	remarkably	(18, 2635) S F

Level		(Freq. Rank)		Level		(Freq. Rank)	
J A	remind	(18, 2635)	S F	B	revision	(22, 2325)	P F
J A	remote	(25, 2155)	F	J A	revolution	(128, 559)	S F
J B	removal	(17, 2743)	F	J B	revolutionary	(35, 1713)	F
J A	remove	(159, 445)	C P S F	A	reward	(37, 1644)	S F
A	render	(46, 1395)	S F	J A	rhythm	(21, 2392)	S F
A	renew	(13, 3204)	F	C	richness	(7, 4569)	S F
J A	repair	(25, 2155)	F	J A	rid	(11, 3547)	S F
J A	repeat	(78, 918)	C P S F	A	ridiculous	(10, 3783)	F
J B	repeatedly	(22, 2325)	S F	B	rightly	(9, 3997)	S F
A	repetition	(19, 2550)	S F	J A	rigid	(34, 1747)	C P S F
J A	replace	(161, 436)	C P S F	C	rigidly	(10, 3783)	F
C	replacment	(26, 2096)	S F	C	rigorous	(13, 3204)	S F
J A	reply	(13, 3204)	S F	C	rigorously	(5, 5341)	F
J A	represent	(581, 55)	C P S F	J A	risk	(42, 1491)	S F
B	representation	(65, 1068)	C P S F	C	ritual	(144, 494)	S F
J A	representative	(35, 1713)	C P S F	J A	rival	(40, 1542)	S F
B	reproduce	(52, 1261)	S F	J A	rod	(119, 614)	P F
B	reproduction	(73, 979)	S F	J A	role	(203, 339)	C P S F
J A	request	(12, 3383)	S F	J A	roll	(31, 1869)	P F
J A	require	(618, 45)	C P S F	J A	root	(262, 230)	C P S F
B	requirement	(89, 820)	C P S F	B	rotete	(47, 1367)	P F
B	requisite	(8, 4275)	F	B	rotation	(64, 1088)	P
J A	research	(212, 317)	S F	J A	rough	(28, 2002)	P F
B	resemblance	(27, 2048)	C P S F	A	roughly	(29, 1951)	P F
A	resemble	(59, 1156)	C P S F	J A	route	(21, 2392)	F
J A	reserve	(62, 1118)	S F	J A	routine	(7, 4569)	F
B	reside	(13, 3204)	F	J A	royal	(21, 2392)	F
B	resident	(8, 4275)	F	J A	rub	(33, 1780)	F
C	residual	(10, 3783)	F	J A	rubber	(24, 2200)	S F
J A	resist	(18, 2635)	F	J A	ruler	(17, 2743)	F
J A	resistance	(48, 1333)	P F	J A	rural	(17, 2743)	F
J A	resolution	(32, 1828)	F	J A	rush	(10, 3783)	S F
J A	resolve	(54, 1224)	C P S F	J A	sacrifice	(31, 1869)	F
A	resort	(24, 2200)	F	A	safely	(22, 2325)	C P S F
J A	resource	(160, 440)	S F	J A	safety	(8, 4275)	F
J A	respect	(411, 127)	C P S F	J A	seke	(43, 1463)	S F
J A	respectable	(7, 4569)	S F	J A	salary	(9, 3997)	F
A	respective	(18, 2635)	C P S F	C	salient	(7, 4569)	F
B	respectively	(141, 505)	C P S F	J A	salt	(91, 799)	P F
J A	respond	(119, 614)	S F	J A	sample	(136, 530)	C P S F
J A	response	(232, 285)	S F	J A	sand	(28, 2002)	P F
J A	responsibility	(38, 1611)	S F	J B	satellite	(46, 1395)	P F
J A	responsible	(101, 726)	C P S F	J A	setisfaction	(25, 2155)	S F
B	restoration	(4, 5979)	F	B	setisfactorily	(14, 3081)	F
A	restore	(70, 1013)	C P S F	J A	satisfactory	(49, 1315)	S F
A	restrain	(9, 3997)	F	J A	satisfy	(261, 234)	C P S F
A	restrict	(91, 799)	C P S F	J A	savege	(18, 2635)	F
J A	restriction	(38, 1611)	S F	J A	scele	(199, 346)	C P S F
C	restrictive	(7, 4569)	F	A	scarce	(43, 1463)	F
J A	result	(990, 18)	C P S F	J A	scarcely	(28, 2002)	S F
C	resultent	(90, 810)	P F	B	scarcity	(28, 2002)	F
A	retain	(54, 1224)	C P S F	J A	scatter	(38, 1611)	C P S F
B	retard	(9, 3997)	F	J A	scane	(15, 2961)	F
A	retreat	(6, 4950)	F	C	schematic	(11, 3547)	F
J A	reveal	(141, 505)	C P S F	J A	scheme	(25, 2155)	C P S F
J A	reverse	(71, 1003)	C P S F	J A	scholar	(65, 1068)	F
C	reversible	(8, 4275)	S F	C	scholarly	(16, 2837)	F
B	revert	(12, 3383)	S F	J A	scholarship	(29, 1951)	F
J A	review	(109, 673)	C P S F	J A	scientific	(236, 279)	C P S F
B	revise	(14, 3081)	P F	C	scientifically	(8, 4275)	F

Level		(Freq. Rank)		Level		(Freq. Rank)	
A	scope	(47, 1367)	S F	J A	shift	(192, 360)	C P S F
J A	score	(46, 1395)	S F	J A	shock	(28, 2002)	F
J A	scratch	(16, 2837)	F	J A	shoot	(28, 2002)	F
J A	screen	(50, 1296)	P F	J A	shortage	(18, 2635)	F
	C scrutiny	(15, 2961)	P F		C shortcoming	(11, 3547)	F
J A	seal	(26, 2096)	P F	B	shorthand	(13, 3204)	P F
J A	search	(44, 1437)	S F	J A	shortly	(14, 3081)	S F
J A	secondary	(95, 767)	S F	A	shrink	(12, 3383)	F
J A	secret	(23, 2261)	F		C sigma	(13, 3204)	P
J A	section	(297, 196)	C P S F	J A	signal	(52, 1261)	C P S F
J A	secure	(34, 1747)	S F	J A	significance	(131, 543)	C P S F
J A	security	(56, 1190)	S F	A	significant	(163, 432)	C P S F
J A	seed	(43, 1463)	F		C significantly	(46, 1395)	S F
J A	seek	(169, 420)	C P S F	A	signify	(15, 2961)	F
	B seemingly	(9, 3997)	F	J A	silence	(13, 3204)	F
B	segment	(110, 666)	F		C silicon	(30, 1912)	P
J A	seize	(16, 2837)	F	J A	similar	(384, 140)	C P S F
J A	seldom	(44, 1437)	S F		C similarity	(73, 979)	C P S F
J A	select	(110, 666)	C P S F	B	similarly	(195, 353)	C P S F
J A	selection	(93, 783)	C P S F	A	simplicity	(50, 1296)	C P S F
	C selective	(26, 2096)	F		C simplification	(11, 3547)	P F
	C selectively	(13, 3204)	P F	B	simplify	(48, 1333)	P F
J B	self	(64, 1088)	F	J A	simply	(421, 123)	C P S F
A	selfish	(11, 3547)	F	J B	simultaneous	(28, 2002)	C P S F
	C semantic	(75, 958)	S F		C simultaneously	(35, 1713)	C P S F
J A	sensation	(103, 717)	S F	J A	sin	(48, 1333)	F
J A	sense	(672, 37)	C P S F	J A	singer	(6, 4950)	S
J A	sensible	(35, 1713)	S F	J A	single	(443, 114)	C P S F
	C sensibly	(13, 3204)	S	J A	singular	(57, 1180)	S F
J A	sensitive	(65, 1068)	F	J A	sink	(13, 3204)	F
	C sensory	(56, 1190)	S F	J A	site	(19, 2550)	P F
J A	sentence	(485, 87)	S F	J A	situation	(369, 150)	C P S F
A	sentiment	(23, 2261)	F	J A	size	(279, 206)	C P S F
J A	separate	(336, 174)	C P S F	B	skeptical	(15, 2961)	F
	B separately	(60, 1145)	C P S F	J A	sketch	(178, 390)	P F
A	separation	(69, 1023)	C P S F	J A	skill	(61, 1129)	S F
J B	sequence	(152, 469)	C P S F	B	skull	(34, 1747)	F
	C serial	(10, 3783)	S	J A	slender	(8, 4275)	F
J A	series	(277, 208)	C P S F	J A	slide	(40, 1542)	P F
J A	serious	(60, 1145)	S F	J A	slight	(33, 1780)	C P S F
J A	seriously	(36, 1678)	F	J A	slightly	(89, 820)	C P S F
J A	servant	(16, 2837)	F	J A	slip	(12, 3383)	F
J A	service	(163, 432)	S F	J A	slope	(242, 268)	C P S F
J A	settle	(59, 1156)	S F	J A	smooth	(46, 1395)	P F
	C setup	(5, 5341)	P	J A	snake	(16, 2837)	S F
J A	severe	(63, 1100)	S F	J A	social	(729, 31)	S F
A	severely	(12, 3383)	F		C socially	(42, 1491)	S F
J A	sex	(136, 530)	S F	J A	society	(447, 108)	S F
J	C sexual	(173, 410)	S F		C sociological	(26, 2096)	F
J A	shade	(43, 1463)	C P S F		C sociology	(38, 1611)	S F
J A	shadow	(14, 3081)	F	J A	soil	(175, 403)	F
J A	shape	(201, 343)	C P S F	J B	solar	(14, 3081)	P F
J A	share	(251, 248)	C P S F	A	sole	(7, 4569)	F
A	sharply	(18, 2635)	F	B	solely	(24, 2200)	C P S F
J A	shed	(17, 2743)	F	J A	solid	(432, 118)	C P S F
J A	sheet	(31, 1869)	P F		C solidarity	(28, 2002)	F
J A	shelf	(13, 3204)	F	J A	solution	(345, 170)	C P S F
J A	shell	(197, 350)	P F	J A	solve	(227, 292)	C P S F
J A	shelter	(12, 3383)	F	J A	somehow	(22, 2325)	S F
J A	shield	(9, 3997)	F	J A	somewhat	(105, 703)	C P S F

<u>Level</u>		(Freq. Rank)		<u>Level</u>		(Freq. Rank)	
J A	somewhere	(9, 3997)	S F	J A	stiff	(11, 3547)	P F
J	C sophisticate	(28, 2002)	F		C stiffness	(5, 5341)	P
J A	sort	(265, 223)	C P S F	A	stimulate	(83, 876)	S F
J A	soul	(56, 1190)	S F	B	stimulus	(144, 494)	S F
J A	source	(251, 248)	C P S F	J A	stock	(171, 414)	S F
J A	southern	(38, 1611)	F	J A	stomach	(86, 848)	F
A	span	(27, 2048)	S F		C straightforward	(18, 2635)	S F
J A	spark	(9, 3997)	P F	J A	strain	(36, 1678)	S F
	C spatial	(45, 1418)	F	J A	stranger	(22, 2325)	S F
	C spatially	(15, 2961)	F		C strategy	(39, 1577)	F
	C specialization	(51, 1285)	S F	J A	stream	(48, 1333)	S F
J A	specialize	(65, 1068)	S F	J A	strength	(61, 1129)	C P S F
A	specially	(11, 3547)	F	A	strengthen	(17, 2743)	F
J A	species	(309, 187)	F	J A	stress	(214, 311)	C P S F
J B	specific	(246, 260)	C P S F	J A	stretch	(104, 710)	C P S F
J	C specifically	(51, 1285)	C P S F	A	strict	(23, 2261)	S F
	C specification	(12, 3383)	F	J A	strictly	(66, 1054)	C P S F
B	specify	(83, 876)	P F	J A	string	(68, 1037)	P F
A	specimen	(26, 2096)	F	J A	strip	(53, 1246)	C P S F
J A	spectacle	(7, 4569)	F	A	strive	(18, 2635)	F
B	spectrum	(30, 1912)	F	J A	stroke	(7, 4569)	F
B	spaculate	(17, 2743)	S F	J B	strongly	(56, 1190)	S F
A	speculation	(38, 1611)	S F		C structural	(70, 1013)	S F
B	speculative	(22, 2325)	S F	J A	structure	(461, 97)	S F
J A	spell	(47, 1367)	S F	J A	struggle	(25, 2155)	F
J A	sphere	(228, 290)	C P S F	A	stubborn	(9, 3997)	S F
	C spherical	(80, 897)	P F	B	stump	(6, 4950)	F
J A	spin	(41, 1517)	F	J A	stupid	(5, 5341)	F
B	spiral	(22, 2325)	P F	J A	style	(71, 1003)	S F
J A	spirit	(152, 469)	S F		C subdivide	(25, 2155)	P F
J A	spite	(87, 838)	S F		C subdivision	(33, 1780)	F
J A	split	(44, 1437)	C P S F		C subjective	(65, 1068)	S F
B	spontaneous	(48, 1333)	P F	B	subordinate	(60, 1145)	F
	C spontaneously	(25, 2155)	P F		C subordination	(11, 3547)	F
J A	spot	(26, 2096)	P F		C subscript	(49, 1315)	P F
J A	spray	(5, 5341)	P	B	subsequent	(74, 968)	C P S F
J A	spread	(98, 747)	C P S F	B	subsequently	(39, 1577)	S F
J A	square	(208, 326)	C P S F		C subsidiary	(24, 2200)	F
A	stability	(54, 1224)	S F	J A	substance	(298, 195)	C P S F
J A	stable	(73, 979)	C P S F	J A	substantial	(42, 1491)	C P S F
J A	staff	(5, 5341)	P F		C substantively	(18, 2635)	S F
J A	stage	(225, 295)	C P S F	J A	substitute	(135, 535)	C P S F
J A	standard	(248, 256)	C P S F		C substitution	(31, 1869)	C P S F
	C standardize	(16, 2837)	S F		C subsume	(9, 3997)	F
A	standpoint	(13, 3204)	S F	A	subtle	(25, 2155)	C P S F
J A	startle	(12, 3383)	F	J B	subtract	(53, 1246)	P F
B	starvation	(9, 3997)	F		C subtraction	(13, 3204)	P F
A	starve	(13, 3204)	S F	J A	success	(73, 979)	S F
J A	statement	(327, 179)	C P S F	J A	successful	(98, 747)	C P S F
	C static	(56, 1190)	S F	A	successfully	(39, 1577)	S F
B	stationary	(25, 2155)	C P S F	A	succession	(46, 1395)	S F
	C statistical	(68, 1037)	C P S F	A	successive	(76, 943)	C P S F
	C statistically	(9, 3997)	F	B	successively	(32, 1828)	C P S F
J A	statistics	(34, 1747)	F	A	successor	(11, 3547)	S F
J B	status	(142, 500)	S F		C succumb	(6, 4950)	F
A	steadily	(16, 2837)	P F	J A	sudden	(13, 3204)	S F
J A	steady	(31, 1869)	P F	J A	suffer	(69, 1023)	S F
J A	steam	(11, 3547)	P F	B	suffice	(9, 3997)	S F
J A	steel	(23, 2261)	P F	J A	sufficient	(139, 516)	C P S F
J A	stem	(86, 848)	S F	B	sufficiently	(79, 908)	C P S F

<u>Level</u>		(Freq. Rank)		<u>Level</u>		(Freq. Rank)	
J A	suggest	(205, 335)	C P S F	J A	talent	(21, 2392)	F
J A	suggestion	(55, 1206)	C P S F	J A	target	(38, 1611)	P F
	C suggestive	(6, 4950)	F	J A	task	(113, 644)	C P S F
J A	suitable	(58, 1170)	C P S F	J A	tax	(161, 436)	F
	C suitably	(10, 3783)	C P S F	J A	technical	(82, 881)	C P S F
J A	sum	(339, 173)	C P S F		C technically	(18, 2635)	S F
	C summarize	(104, 710)	C P S F	J A	technique	(113, 644)	C P S F
J A	summary	(88, 829)	C P S F		C technological	(35, 1713)	S F
	C summation	(10, 3783)	S F	J A	technology	(44, 1437)	F
	B superficial	(17, 2743)	S F	J A	telescope	(9, 3997)	P F
	C superficially	(4, 5979)	S F	J A	temperature	(615, 46)	C P S F
J A	superior	(50, 1296)	S F		C temporal	(50, 1296)	S F
	B superiority	(10, 3783)	F		B temporarily	(21, 2392)	S F
	B supplement	(33, 1780)	S F		A temporary	(28, 2002)	S F
	C supplementary	(10, 3783)	F		A tempt	(15, 2961)	S F
J A	supply	(583, 53)	C P S F	J A	tend	(277, 208)	C P S F
J A	support	(140, 509)	C P S F	J A	tendency	(137, 525)	C P S F
J A	suppose	(369, 150)	C P S F	J A	tender	(16, 2837)	F
	C supposedly	(6, 4950)	F	J B	tense	(36, 1678)	S F
J A	surely	(47, 1367)	S F	J B	tension	(92, 790)	P F
J A	surface	(587, 51)	C P S F		C tentative	(10, 3783)	F
	B surplus	(49, 1315)	F	J A	term	(1170, 7)	C P S F
	C surprisingly	(24, 2200)	S F		B terminal	(23, 2261)	P F
J A	surround	(102, 722)	C P S F		B terminate	(11, 3547)	P F
J A	survey	(54, 1224)	S F		C terminology	(25, 2155)	P F
J B	survival	(94, 773)	S F	J A	territory	(33, 1780)	S F
J A	survive	(78, 918)	S F	J A	terror	(5, 5341)	F
	B survivor	(10, 3783)	F	A	testify	(6, 4950)	S F
	B susceptible	(15, 2961)	P F	J A	text	(109, 673)	C P S F
J A	suspect	(54, 1224)	C P S F		B textile	(4, 5979)	F
J A	suspend	(42, 1491)	P F	J A	theme	(23, 2261)	F
	B suspension	(20, 2476)	P F		C theorem	(193, 356)	F
J A	suspicion	(21, 2392)	F		C theoretical	(70, 1013)	S F
A	sustain	(34, 1747)	P F		C theoretically	(11, 3547)	F
J A	swallow	(18, 2635)	F		C theorist	(25, 2155)	S F
J A	sweep	(23, 2261)	P F		C theorize	(24, 2200)	S F
J A	swell	(16, 2837)	F	J A	theory	(1020, 15)	C P S F
J A	swing	(43, 1463)	P F		C therapy	(11, 3547)	F
J A	switch	(19, 2550)	F		B thereafter	(26, 2096)	F
J A	symbol	(232, 285)	C P S F		B thereby	(72, 992)	C P S F
	C symbolic	(48, 1333)	S F	J A	therefore	(579, 56)	C P S F
	C symbolism	(32, 1828)	S F		B therein	(21, 2392)	F
	C symbolize	(32, 1828)	P F		C thermal	(23, 2261)	P F
	B symmetrical	(57, 1180)	P F		C thesis	(34, 1747)	S F
	B symmetry	(86, 848)	P F		B thickness	(17, 2743)	P F
A	sympathetic	(29, 1951)	F	J A	thorough	(12, 3383)	F
B	symptom	(11, 3547)	F	A	thoroughly	(27, 2048)	F
	B synonym	(10, 3783)	F	J A	thread	(16, 2837)	F
	C synonymous	(9, 3997)	F	J A	threat	(17, 2743)	F
	C synthesis	(43, 1463)	S F	J A	threaten	(25, 2155)	F
	C synthesize	(28, 2002)	F		A threshold	(13, 3204)	F
J A	system	(1381, 3)	C P S F	J A	throughout	(153, 466)	C P S F
A	systematic	(82, 881)	C P S F	J A	thrust	(9, 3997)	F
	C systematically	(32, 1828)	S F	J A	thus	(1097, 9)	C P S F
	C systematize	(6, 4950)	F		B tightly	(19, 2550)	P F
	C taboo	(18, 2635)	S F	J A	timber	(15, 2961)	F
	C tacitly	(8, 4275)	S F	A	timid	(6, 4950)	S F
A	tackle	(9, 3997)	F	J A	tin	(7, 4569)	P
A	tailor	(8, 4275)	F	J A	tiny	(37, 1644)	P F
J A	tale	(10, 3783)	S	J A	tire	(11, 3547)	F

<u>Level</u>		(Freq. Rank)		<u>Level</u>		(Freq. Rank)	
J A	title	(63, 1100)	S F	J A	uncertain	(25, 2155)	S F
J A	toe	(10, 3783)	F	B	uncertainty	(20, 2476)	C P S F
A	token	(20, 2476)	S F	B	unchanged	(45, 1418)	S F
	C tolerance	(4, 5979)	F	A	uncommon	(11, 3547)	S F
B	tolerate	(13, 3204)	F	C	unconnected	(4, 5979)	F
J A	ton	(12, 3383)	P F	J A	unconscious	(32, 1828)	S F
J A	tone	(126, 575)	F	B	unconsciously	(8, 4275)	F
J A	tongue	(64, 1088)	S F	A	uncover	(10, 3783)	F
J A	topic	(81, 892)	C P S F	C	underestimate	(11, 3547)	F
J A	toss	(14, 3081)	S F	A	undergo	(90, 810)	C P S F
J A	total	(469, 96)	C P S F	C	underlie	(65, 1068)	C P S F
B	totally	(22, 2325)	S F	C	undermine	(11, 3547)	F
J A	tough	(7, 4569)	S F	C	understandable	(11, 3547)	F
J A	trace	(63, 1100)	C P S F	A	undertake	(37, 1644)	S F
J A	track	(26, 2096)	S F	B	undesirable	(7, 4569)	S F
J A	trade	(127, 568)	S F	J A	undoubtedly	(21, 2392)	S F
J A	tradition	(76, 943)	F	C	unduly	(6, 4950)	S F
J B	traditional	(183, 380)	S F	B	unequal	(17, 2743)	P F
C	traditionally	(41, 1517)	S F	J A	unexpected	(24, 2200)	S F
J A	traffic	(15, 2961)	F	A	unexpectedly	(7, 4569)	F
B	trait	(53, 1246)	F	B	unfair	(5, 5341)	S F
C	trajectory	(13, 3204)	P F	C	unfamiliar	(10, 3783)	S F
C	transcend	(9, 3997)	F	B	unfavorable	(21, 2392)	F
C	transcendent	(7, 4569)	F	A	unfold	(12, 3383)	F
J A	transfer	(107, 686)	C P S F	J A	unfortunate	(19, 2550)	S F
J A	transform	(75, 958)	C P S F	A	unfortunately	(43, 1463)	C P S F
B	transformation	(40, 1542)	C P S F	J A	uniform	(131, 543)	C P S F
C	transistor	(4, 5979)	P	B	uniformly	(38, 1611)	P F
B	transition	(38, 1611)	S F	C	unify	(17, 2743)	S F
C	transitory	(6, 4950)	F	B	unimportant	(14, 3081)	S F
J A	translate	(47, 1367)	S F	J A	union	(53, 1246)	C P S F
J A	translation	(70, 1013)	S F	J A	unique	(82, 881)	C P S F
B	transmission	(39, 1577)	P F	C	uniquely	(32, 1828)	C P S F
B	transmit	(55, 1206)	F	C	uniqueness	(12, 3383)	F
C	transplant	(15, 2961)	F	A	unit	(734, 30)	C P S F
A	transport	(68, 1037)	P F	C	unitary	(38, 1611)	F
B	transverse	(5, 5341)	P	J A	unita	(142, 500)	S F
J A	trap	(18, 2635)	F	B	unity	(56, 1190)	S F
J A	treat	(246, 260)	C P S F	J A	universal	(178, 390)	C P S F
J A	treatment	(97, 755)	C P S F	B	universally	(23, 2261)	C P S F
J A	tremendous	(18, 2635)	F	J A	universe	(31, 1869)	F
J B	trend	(63, 1100)	S F	J A	university	(110, 666)	S F
J A	trial	(23, 2261)	S F	J A	unknown	(82, 881)	C P S F
J B	triangle	(124, 585)	C P S F	J A	unless	(108, 678)	C P S F
A	trivial	(23, 2261)	S F	J A	unlike	(75, 958)	S F
J A	truck	(14, 3081)	F	B	unlikely	(20, 2476)	S F
J A	truly	(33, 1780)	C P S F	B	unlimited	(19, 2550)	S
J A	trust	(31, 1869)	S F	A	unlucky	(6, 4950)	S
J A	truth	(186, 376)	C P S F	A	unnecessary	(10, 3783)	S F
J A	tube	(123, 592)	F	A	unpleasant	(11, 3547)	F
J A	tune	(50, 1296)	S F	B	unreasonable	(7, 4569)	F
J A	twist	(19, 2550)	F	C	unrelated	(16, 2837)	S F
J A	type	(713, 34)	C P S F	B	unsatisfactory	(4, 5979)	S F
J A	typical	(121, 604)	C P S F	C	unstable	(18, 2635)	F
C	typically	(74, 968)	S F	C	unsupported	(4, 5979)	S
J A	ultimate	(75, 958)	C P S F	J A	unusual	(36, 1678)	S F
B	ultimately	(93, 783)	C P S F	B	unusually	(10, 3783)	F
J A	unable	(33, 1780)	S F	J A	upon	(428, 119)	C P S F
C	unattractive	(4, 5979)	S F	J A	upper	(82, 881)	C P S F
B	unaware	(16, 2837)	F	J A	upright	(11, 3547)	F

Level	(Freq. Rank)	Level	(Freq. Rank)
J A	upset (10, 3783) P F	J A	violence (21, 2392) F
J A	upward (129, 551) C P S F	J A	violent (24, 2200) F
J A	urban (39, 1577) S F	B	virtual (11, 3547) P F
J A	urge (46, 1395) S F	J	C virtually (65, 1068) S F
J A	urgent (12, 3383) F	J A	virtue (167, 427) C P S F
B	usage (61, 1129) F	J A	visible (40, 1542) C P S F
C	usefully (9, 3997) S F	J A	vision (44, 1437) F
C	usefulness (32, 1828) P F	J B	visual (138, 521) S F
J A	useless (7, 4569) S F	C	visualize (12, 3383) P F
J B	utility (27, 2048) S F	J A	vital (59, 1156) C P S F
C	utilization (21, 2392) F	C	vividly (10, 3783) F
A	utilize (29, 1951) F	J A	vocabulary (71, 1003) S
A	utter (26, 2096) S F	C	volatile (12, 3383) F
J B	vacuum (13, 3204) P	C	volition (13, 3204) S F
C	vagary (7, 4569) S F	C	volt (35, 1713) P F
J A	vague (9, 3997) S F	C	voltage (15, 2961) P F
C	valid (80, 897) C P S F	J A	volume (447, 108) C P S F
C	validate (9, 3997) S F	J A	voluntary (23, 2261) S F
C	validity (46, 1395) C P S F	J A	vote (46, 1395) S F
J A	valley (11, 3547) F	J A	voyage (10, 3783) F
J A	valuable (60, 1145) C P S F	J A	wander (10, 3783) S F
J A	value (1025, 14) C P S F	J A	warn (30, 1912) F
J A	van (29, 1951) P F	B	warrant (15, 2961) S F
J A	vanish (21, 2392) P F	J A	waste (14, 3081) F
A	vapor (155, 457) P F	J A	wax (10, 3783) S F
C	variability (20, 2476) F	A	weaken (10, 3783) F
J B	variable (335, 175) C P S F	A	weakness (11, 3547) S F
J B	variation (149, 482) C P S F	J A	wealth (57, 1180) F
J A	variety (171, 414) C P S F	J A	weapon (13, 3204) F
J A	various (363, 157) C P S F	J A	weigh (67, 1048) P F
C	variously (18, 2635) S F	J A	weight (457, 99) C P S F
J A	vary (293, 199) C P S F	C	weld (10, 3783) F
J A	vast (35, 1713) S F	J A	welfare (54, 1224) F
B	vastly (16, 2837) S F	J A	western (72, 992) S F
J A	vehicle (22, 2325) F	J A	whatever (121, 604) C P S F
A	veil (3, 6819) S	B	whatsoever (18, 2635) C P S F
J A	vain (11, 3547) F	J A	wheat (101, 726) S F
B	velocity (384, 140) P F	J A	wheel (18, 2635) F
A	venture (11, 3547) F	B	whence (5, 5341) F
J B	verb (179, 388) F	J A	whenever (55, 1206) C P S F
C	verbal (51, 1285) S F	J A	whereas (109, 673) C P S F
B	verge (5, 5341) F	B	whereby (31, 1869) S F
C	verification (19, 2550) S F	J A	wherever (21, 2392) C P S F
B	verify (77, 935) C P S F	J A	whether (454, 104) C P S F
J B	version (46, 1395) C P S F	J A	whichever (7, 4569) F
C	versus (54, 1224) S F	A	wholly (44, 1437) F
C	vertex (87, 838) P	J A	widely (88, 829) C P S F
J A	vertical (128, 559) C P S F	J B	widen (23, 2261) F
C	vertically (53, 1246) P F	J B	widespread (24, 2200) S F
J A	vessel (20, 2476) F	J A	willing (48, 1333) S F
A	vibrate (19, 2550) P F	A	willingly (8, 4275) F
B	vibration (44, 1437) P F	J A	wine (24, 2200) S F
J A	vice (40, 1542) S F	J A	wire (41, 1517) C P S F
B	vicinity (9, 3997) P F	J A	wisdom (40, 1542) F
J A	victim (36, 1678) S F	A	withdraw (17, 2743) F
J A	view (458, 98) C P S F	J A	within (480, 90) C P S F
J A	viewpoint (19, 2550) S F	A	withstand (12, 3383) F
A	vigorous (20, 2476) F	J A	witness (20, 2476) S F
C	vigorously (8, 4275) F	J A	wooden (9, 3997) F
A	violate (11, 3547) F	C	workable (3, 6819) S

Recommended EAP Vocabulary

<u>Level</u>		(Freq, Rank)	
J A	worker	(79, 908)	S F
J A	worm	(5, 5341)	F
J A	worth	(76, 943)	C P S F
J A	worthy	(16, 2837)	S F
J A	wrap	(19, 2550)	P F
J A	writer	(26, 2096)	S F
	C wrongly	(6, 4950)	S F
J A	yield	(122, 597)	S F
J A	youth	(54, 1224)	F
J A	zero	(457, 99)	C P S F
J A	zone	(18, 2635)	F
	B zoological	(6, 4950)	F

APPENDIX E:

ENGLISH READING

MATERIALS INTEREST

SURVEY

[Questions 1-12 are based on Gardner & Lambert, (1972). Modified for English Language Teaching. See also Nakata Yoshiyuki, (1995).] Co. by J. P. Loucky, 1992

NAME: _____ CLASS: _____
 Class List# _____ A (1st Half) _____ B (2nd Half) _____

Look at the following reasons some people give for studying English. Do you agree or disagree? RATE HOW STRONGLY YOU AGREE OR DISAGREE with the following statements by choosing a Number Value from 0-2, and filling in a for 0, b for 1, and c for 2.

0 means "I (you) totally DISAGREE," 1 means "MAYBE, Sometimes, or It Depends," and 2 means "I TOTALLY AGREE."

1. I think English will someday be useful in getting a job.
0-a 1-b 2-c
2. One needs a good knowledge of at least one foreign language to receive social recognition or acceptance. 0-a 1-b 2-c
3. I feel that no one is really viewed as being well-educated in this country unless he/she is fluent in the English language. 0-a 1-b 2-c
4. I will need English in order to advance in society or be promoted in my future workplace.
0-a 1-b 2-c
5. I studied English during junior and senior high school mainly just to get into a good college.
0-a 1-b 2-c
6. I want to impress my friends and/or family by passing an Eiken English Proficiency Exam.
0-a 1-b 2-c
7. Studying English will help me to better understand English-speaking people and their ways of life.
0-a 1-b 2-c
8. Studying English will help me to gain good friends more easily among English-speaking people.
0-a 1-b 2-c
9. Learning English should help me to meet and converse with a larger variety and number of people.
0-a 1-b 2-c
10. Learning English should help me to begin to think and behave as English-speaking people do.
0-a 1-b 2-c
11. If I improve in English I can adapt to foreign countries better, and be better accepted and understood if I live or travel abroad.
0-a 1-b 2-c
12. I want to gain a more international perspective of the world by learning a foreign language and its related cultures. 0-a 1-b 2-c

A. Instrumental Motivation: Please ADD your scores for 1-6 here: _____

B. Integrative Motivation: ADD your scores for 7-12 here: _____

C. INTENSITY OF MOTIVATION: Add Total of A and B together here: _____

English Reading Materials Interest Survey (Continued)

VOCABULARY-TRAINING METHODS AND MATERIALS STUDENT SURVEY

During this year you have been exposed to several different types of materials, media and methods to help you improve your English vocabulary. I would like your honest opinion about various things we have used in our study. Fill-in a, b, c or d on your Scantron Sheet.

I. MEDIA : WHICH MEDIA DID YOU LIKE MORE OR PREFER TO USE?

13. a. ___ COMPUTER-ASSISTED INSTRUCTION
 b. ___ AUDIO TAPES
 c. ___ SILENT READING OF TEXTS
14. DO YOU THINK THE MEDIA YOU PREFERRED HELPED YOU LEARN MORE WORDS THAN USING THE OTHER MATERIALS?
 a. ___ YES b. ___ NO c. ___ ABOUT THE SAME

II. METHODS: WHICH METHODS DID YOU PREFER TO USE?

15. a. ___ WORDCRAFT WORDS IN STORIES APPROACH
 b. ___ CROW'S SEMANTIC FIELDS APPROACH
 c. ___ BOB MOORE'S SHINBUN, SHINBUN GAME APPROACH
16. DO YOU THINK THE METHOD YOU CHOSE HELPED YOU LEARN MORE WORDS?
 a. ___ YES b. ___ NO c. ___ ABOUT THE SAME

III. MATERIALS: WHICH MATERIALS DID YOU PREFER TO USE?

17. a. ___ WORDCRAFT
 b. ___ SHINBUN, SHINBUN
 c. ___ A BEKA'S READ AND THINK AND ADVENTURES IN NATURE
 d. ___ CROW'S SEMANTIC FIELDS EXERCISES:
18. DO YOU THINK THE MATERIALS YOU PREFERRED TO USE HELPED YOU LEARN MORE WORDS?
 a. ___ YES b. ___ NO c. ___ SAME

IV. WHEN USING CROW'S SEMANTIC FIELDS EXERCISES, DID YOU PREFER DOING THEM:

19. a. ___ ON TAPE
 b. ___ ON PAPER
 c. ___ ON COMPUTER SCREEN

Please answer the following questions freely, giving your own opinion about how you think or feel about using different English language-learning materials. Tell which material you enjoyed most, or which material you think helped you the most.

English Reading Materials Interest Survey (Continued)

III. USER'S OPINION:

26. Do the Wordcraft Materials seem to be suitable for your own interest and ability level?
- a. __0= Too Easy; Not Interesting or Not Suitable for me
 - b. __1= About as good as any other reading materials for me
 - c. __2= Better or More Suitable for me than ordinary class materials

IV. STUDY HABITS:

27. During High School how many hours did you spend studying English outside of school per week?
__0/Almost None ___hours
28. How many hours do you spend studying English now, outside of classes, per week?
(PLEASE BE HONEST!) ___hours
29. Do you ever: . Listen to English Language Tapes or Radio programs? a. __0=No/Never b. ___1=Sometimes c. __2= Often (Use Key Below)
30. Watch English TV or Videos/Movies? a. __0 b. __1 c. __2
31. Read English Books, Magazines or Newspapers? a. __0 b. __1 c. __2
32. Sing English Songs? a. __0 b. __1 c. __2
33. Study English by Regularly Using: (Fill-in ALL Regular Activities)
- a) Your Dictionary?
 - b) An Electronic Dictionary or Computer?
 - c) Watching English TV or Videos?
 - d) Listening Regularly to English Language Tapes or Radio?

ADDITIONAL COMMENTS: Feel free to give other comments or suggestions about Reading Materials you have used and learned from. What Reading Activities and Materials did you Least enjoy? Most enjoy?

PLEASE FEEL FREE TO WRITE ANY OF YOUR OWN OPINIONS OR SUGGESTIONS BELOW:

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SOURCES CONSULTED

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CURRICULUM VITAE:

John Paul Loucky has been doubly blessed, first by being born as a twin into a large family of doubles, with three girls and three boys. He is also the product of two international marriages--first as a son of a Czech-American couple, and second as the husband in a Japanese-American marriage. He was also reared very uniquely in an international rooming house for foreign exchange students from over one hundred countries! They were mostly graduate students attending Syracuse University, from which he himself also graduated twice, first with a B.A. in political science. There he began to especially study the fields of history, comparative government, comparative cultures, and comparative religions.

After doing graduate study in history and education at Boston University and Boston State College, he returned to his hometown to get a master of science in Reading Education again at Syracuse University. Upon graduating again, he taught for several years in every public junior and senior high school in Syracuse, New York, and also at a Hebrew school for some time. Next he went overseas to teach at Okinawa Christian School during his first term in Japan, from the fall of 1980 to the summer of 1983. For half a year after that he traveled and studied in six Southeast Asian countries. He has also visited over fifteen countries, and studied at over ten different universities or colleges in North America. His second master's degree is in Cross-Cultural Ministries.

Having taught in all areas of TESOL (Teaching English to Speakers of Other Languages), Mr. Loucky's current field of research is in vocabulary and listening development of Japanese college students. He has done doctoral studies at Pensacola Christian College in Florida, in Secondary Education, writing a dissertation in Second Language Reading development.

Last, but by no means least, he and his wife have also been doubly blessed with two lovely daughters, born on both coasts of North America. They are extremely grateful to God for all of these many blessings. It is with such a cosmopolitan background that Assistant Professor Loucky now teaches all fields of English as a Foreign Language, as well as the content areas of Comparative Culture and Area Studies at Seinan Women's Junior College, in Kitakyushu, Japan.



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