AN EVALUATION OF VOCABULARY TEACHING IN AN INTENSIVE STUDY PROGRAMME

by

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ABSTRACT

Vocabulary acquisition is one of the most challenging obstacles language learners must overcome. This is especially true for students wishing to study in overseas universities, where comprehension of academic texts is required. This dissertation evaluates the vocabulary teaching component of an intensive English teaching programme for students intending to enter universities in the U.S. It first describes the course and the issues which prompted the study. It then examines previous research in vocabulary learning and applies some of the key findings to the development of a research project. This project had three elements: vocabulary learning strategy surveys intended to reveal changes in study behaviour over a three-month period; tests to measure passive vocabulary growth over the same period; and examining free productive vocabularies to determine whether there is a shift towards less-frequent forms. Data analysis shows some evidence of changing attitudes to vocabulary learning strategies, although not entirely in accord with the aims of the programme. Passive vocabulary is shown to increase significantly, but while some developments in productive vocabulary are suggested, concerns remain about the chosen method of analysis. The author concludes that while the programme largely fulfils its goals, the research has highlighted some areas for improvement.

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CONTENTS

LIST OF FIGURES

LIST OF ABBREVIATIONS

SSP	Structured Speaking Practice. This is one of the main lessons in the intensive programme. The main focus of the lesson is to improve students' productive usage of grammatical functions, although there is also an element of vocabulary learning involved.
K1	The most frequent 1,000 words in English. This is a category used in the Vocabprofile program.
K2	The second most frequent 1,000 words in English.
AWL	The Academic Word List. A list of words that are common in academic text, but less frequent in everyday language.
OWL	Off-list words. A term used by the VocabProfile program for all lexical items not included in the K1, K2, or AWL lists.

CHAPTER ONE: INTRODUCTION

This study evaluates the vocabulary teaching component of an intensive English study programme. The aims of the study were to: (a) obtain data on the students' usage of vocabulary learning strategies, and any changes in usage that occurred as the course progressed, and (b) to analyse the development of passive and active vocabularies over a three-month period, in order to assess whether students finishing the programme had acquired sufficient knowledge of lexical items to comprehend academic texts.

Previous research on several aspects of vocabulary learning was reviewed: the varying approaches to vocabulary learning; the characteristics of good learners; the number of items that should be learned; strategies for aiding learning; assessment of lexical knowledge; and appropriate teaching methodology. In the light of this research, study proposals were adopted and research was carried out over a three-month period from April to June, 2006. The results of this research were analysed and the implications for vocabulary teaching were considered. Finally, the key results were summarised and the successes and failures of the study, as well as the avenues for further action were considered.

CHAPTER 2: CONTEXT FOR THE CASE STUDY

2.1 The school system

The context for this study was the intensive English programme of a language school in Sapporo, Japan. The aim of the programme is to raise students' English to the level that is required for them to enter colleges or universities in the United States. Most of the students in the programme are recent high school graduates, although there are also a number who are college graduates.

The intensive programme consists of six or seven lessons a day, five days a week. The lessons cover structured speaking practice (SSP), reading, writing, conversation, and other optional classes. The academic year is divided into 'sessions' of 120 lessons, each lasting 50 minutes. There are testing periods in the middle and at the end of each session, and those students whose English meets the required level progress into higher level classes. There are nine class levels in the entire programme. The lowest levels, 101-103, are considered to be beginners' classes, 104-106 are intermediate classes and 107-109 are for advanced learners.

2.2 Vocabulary in the curriculum

In most levels, a vocabulary lesson is held once a week, which provides explicit instruction and communicative practice of lexical items, as well as vocabulary building skills, including learning common affixes and word roots. The main emphasis of the lesson is to provide students with an opportunity to build on their productive vocabularies, without the pressure of being judged on their grammatical correctness.

Skills for guessing the meanings of unknown words are introduced in the reading classes in the very first level, and then reviewed and repeated in all subsequent levels. Learners are encouraged to overcome their natural desire to check the meaning of every unknown word, and instead concentrate on understanding the text as a whole. If knowing the meaning of a particular word is important, then examining the context for clues, using knowledge of grammatical form, and identifying known word parts are all stressed as useful skills.

The main focus of the SSP class is to develop the learners' communicative use of English grammatical forms. There is also, however, a significant amount of vocabulary to be learned at each level. New words are often introduced in the textbooks by gap-fill or definition-matching exercises, and retention is then encouraged by the teachers through the use of roleplays or other communicative activities.

As part of their homework, students are required to keep individual vocabulary notebooks and journals. Each student should add three new words to the notebook every day, and then share those words with their classmates at the beginning of reading and writing classes. For each word, the students are expected to write a definition and an example sentence using their own words. The journals are intended to provide an opportunity for productive use of new language, as well as further reinforcement of the conventions of writing in English. Every week, the students complete three short writing pieces based on topics usually selected by their teacher. Errors and sentences which are grammatically correct yet contain unnatural English usage are highlighted by the teacher for correction by the students themselves.

2.3 Needs analysis

At the end of every academic year, a debriefing session is held to discuss the successes and areas for further development of the intensive programme. At the meeting conducted in early 2006, a number of issues related to vocabulary learning were discussed.

It was felt that while the intensive course was clearly beneficial for all students, there were clear points at which individuals began to struggle. In the beginners' levels, there were comparatively few students who experienced difficulties with vocabulary, but the number became larger at each level of the course. By the time the students reached the advanced levels, many regarded vocabulary as their main obstacle. This was not considered to be an unexpected outcome, but it was felt that more effort could be made to increase the students' use of learning strategies and consequently, improve the efficiency with which they deal with their learning burden.

It was agreed that learners who achieved a greater degree of independence were more successful than those who were more reliant on the teaching staff. Habits that seemed to set successful learners apart included: wider use of resources, greater attention to weaknesses, more reviewing of previous work, and intrinsic motivation. Good vocabulary learners also made better entries in their vocabulary notebooks, chose to include words that were useful for them and attempted to use those words in oral or written exercises. Although these study habits were all introduced as part of the course, it was clear that some learners were applying them more often than others. If the teachers could help to raise the less successful students' metacognitive awareness, then

perhaps some of their language learning difficulties could be lessened.

2.4 Focus of the case study

This case study was planned as a thorough investigation of the issues mentioned in section 2.3. It was agreed that while the intensive course was both successful and popular with students, there would be benefits in identifying areas for improvement.

The majority of the students go on to enter universities in the U.S., and for many of them, this is their first experience of life overseas. Consequently, fostering independence both as a learner and as an individual has to be one of the key goals of the academic programme. Sanaoui's (1995) study draws a connection between structured approaches to learning shown by independent learners and success in achieving learning goals. Clearly, some individuals begin the course as structured learners, while others acquire these habits in varying degrees as they progress. It was felt that having a measure of the change in student attitudes towards vocabulary learning as the course continued would be informative.

Improving awareness of the process of learning is certainly useful, but in an institution with a clearly defined goal for its learners, focussing on learning outcomes is also necessary. With each level of the course, the texts that students are required to read become more and more challenging until finally, in the advanced levels, authentic texts are used. If students are to continue to comprehend texts as they advance through the course, it is imperative that they continue to improve their sight vocabularies. It was therefore decided to find a suitable method of estimating receptive vocabulary size.

CHAPTER 3: PREVIOUS RESEARCH ON VOCABULARY LEARNING

For many years, vocabulary learning occupied an uncertain position in the literature. Syntax, with its comparatively finite range of expression, was felt to be the main obstacle to language proficiency. Carter (2000:184) describes vocabulary as "for many years…the poor relation of language teaching". Since the 1970s though, there has been a growing appreciation of the importance of lexical knowledge for learners. This, coupled with the gradual shift away from prescribed methods of teaching, has led to a greater emphasis on developing the use of learning strategies. Until recently, however, there have been few attempts to accurately describe the strategies that learners can bring to bear on the task of acquiring an L2 vocabulary (Schmitt, 1997:199). Several key questions stand out regarding current thinking on vocabulary learning, some of which attract a remarkable consistency of opinion, while others provoke more debate.

3.1 How should vocabulary be learned?

The communicative approach to learning which became popular in the 1970s emphasized a naturalistic, incidental approach to vocabulary learning. Krashen argued that unconscious acquisition, through natural communication, was the only possible way to acquire a language (Sökmen 1997:237) (Griffiths and Parr 2001:249). Word meanings could be understood from context and repeated encounters would help to improve the depth of understanding of each word, as well as aiding retention.

There is much to be said for naturalistic learning which provides a rich diet of comprehensible input. Firstly, this approach closely matches our L1 learning experience, and appeals to our sense of a 'normal' way of learning – there is no

memorization of word lists or other rote learning. Furthermore, the sheer number of words to be learned, as well as those with multiple meanings, also suggests a primary role for incidental learning (Nagy 1997:71-72). Paribakht and Wesche (1997:175) note research suggesting that explicit vocabulary instruction cannot hope to cover the same number of forms as incidental learning. The risk with explicit instruction, it is argued, is that it is difficult to provide a sufficient number of encounters with a word for learning to take place. Nagy (1997:74) states that there is a likelihood of between one in twenty and one in seven that a word will be learned after just one exposure.

The drawbacks of incidental learning lie in the difficulties of guessing from context. Sökmen (1997:238) lists several points which suggest a place for other, more intentional, methods of vocabulary instruction. The first point is that while learning from context may provide a huge amount of exposure, it is likely that acquisition rates will be slow. Other concerns include the error-prone nature of context-guessing, the fact that emphasizing only one method neglects individual learning preferences, and most significantly, that guessing a word successfully does not mean that the word has been acquired. Schmitt (2000:121) refers to the 'depth of processing hypothesis', which states that "the more one manipulates, thinks about, and uses mental information, the more likely it is that one will retain that information". Hulstijn's later work asserts that it "is the quality and frequency of the information processing activities … that determine retention of information" (Hulstijn, 2001, in Read, 2004:147).

Current thinking seems to point toward a combination of incidental and intentional learning. Time constraints ensure that guessing from context remains among the most

valuable skills a learner can possess (Nation, 2001:232), and the 'book flood' studies by Elley (in Nagy, 1997:76, and Schmitt, 2000:122) show the benefits of extensive reading, but other studies investigating combinational methods have shown positive results. Paribakht and Wesche's (1997) study showed greater gains for students who completed vocabulary exercises after reading activities than for those who were only given reading work.

Rather than imagining the situation as dichotomous, it may be more helpful to view it as a cline, with different aspects of vocabulary knowledge reacting to varying degrees of incidental or intentional instruction. Schmitt (2000:122) notes that collocational know-how can only come from extensive reading, yet other aspects, such as spelling and phonological rules are responsive to intentional teaching.

Many researchers today (e.g. Nation, Sökmen, Ellis) seem to advocate intentional learning for highly frequent words and the teaching of learning strategies to cope with less frequent ones. Other worthwhile activities include: building a large sight vocabulary, making use of 'schema' to access encyclopedic knowledge to integrate with new information, using deep-processing techniques, encouraging learner independence, and making use of learning strategies (Sökmen, 1997:239, Fan, 2003:223).

3.2 What makes a good vocabulary learner?

Each individual that begins to learn another language brings with them a unique collection of personal experiences and beliefs that will influence them as learners. By identifying the influences and traits that successful learners have, it is hoped that they

can then be taught to those who are less successful.

Sanaoui (1995) studied the vocabulary learning habits of 50 learners over a six-week period and found that they could be divided into those that structured their own learning and those who were either unstructured or reliant on the course to guide them. The key traits that distinguish structured and unstructured learners are shown in figure 1.

Structured Approach ⟷	Unstructured Approach
Opportunities for learning vocabulary	
Self-created; independent study	Reliance on course; minimal independent study
Range of self-initiated activities	
Extensive	Restricted
Records of lexical items	
Extensive (tend to be systematic)	Minimal (tend to be ad hoc)
Review of lexical items	
Extensive	Little or no review
Practice of lexical items	
Self-created opportunities; in and outside classroom	Reliance on course

Fig. 1 Structured and unstructured learner habits (Sanaoui 1995:24)

It is clear that remarkable variation exists in the vocabulary study habits of learners. In order to examine the consequences of this, Sanaoui correlated the results of French vocabulary tests administered to 74 adult learners with three criteria: the learners' proficiency levels, the style of tuition, and the degree to which learners structured their learning. Of the three criteria, a structured learning approach was the

only one shown to correlate positively with vocabulary retention. These results seem to indicate that the most efficient way to improve learners' vocabulary skills is to develop their ability to work in a structured, autonomous manner.

Some learners are capable of autonomous study at the beginning of a course, while others require inculcation on the part of the teacher. In order to successfully transfer this behaviour into unstructured learners, the factors which affect it should be understood. An important recent attempt to provide a framework for such an understanding has been provided by Nation (2001:394), who identifies three key elements of autonomous learners: attitude, awareness and capability.

Attitude is described by Nation as the most crucial element, yet also the hardest to acquire. It represents the desire to take control of one's own learning (2001:394). The learners who fall at the structured end of Sanaoui's scale are clearly assuming responsibility for their own learning. In Wenden's (1998:522) article on the influence of metacognitive knowledge on learning, there is a description of how a learner's attitude to a task will influence the goals adopted for the task. If the learners perceive the task to be beneficial to their learning and consider themselves to be capable of completing the task, then they will set themselves goals for the activity that will enable them to improve. If, however, they view the task as unsuitable for their development or themselves as incapable of completing the task, they will adopt coping strategies to deal with the task as efficiently as possible.

Learners need to be conscious of their own capabilities, as well as having an

awareness of learning processes and the opportunities for personal development that they present. Learners who are self-aware will be better able to direct their attention to aspects of learning that will be most beneficial to them. Being aware of strategies that have been taught beforehand, and then applying them to present situations is an element of metacognitive knowledge identified by Wenden (1998: 526) as transfer of learning.

Nation regards capability as "the need for the learner to possess the skills and knowledge to be autonomous in a particular area of study" (2001:395). Regarding vocabulary acquisition, learners need to be capable of utilizing various learning strategies, understanding the semantic relationships between new and previously learned words, and ensuring that they regularly review new forms (Schmitt 2000:133).

3.3 How many words do learners need to know?

Two possible answers to this question are offered. The first is that learners should attempt, as far as is possible, to match the vocabularies of native speakers. The second answer is to learn vocabulary in increments, based on the frequency, and therefore likely usefulness, of each group of words.

When estimating the vocabulary size of native speakers, the number of word families known appears to be a commonly accepted measure. A word family is defined as a headword, plus its inflected and derived forms. Recent conservative estimates of the vocabulary size of an educated native speaker have been around 20,000 word families. The growth rate of a native speaker's vocabulary is estimated at approximately 1,000 word families a year during early life (Nation and Waring, 1997:7).

This is a challenging, yet not insurmountable goal for a learner, but it is clearly a long-term goal and as such is of little use to the lower level learner.

A more practical solution for learners would be to make use of frequency information provided by corpora, and in particular to concentrate initially on the most frequent words and then to move on to less frequent items. Figure 2 shows the percentage of text covered by vocabularies of increasing sizes.

Vocabulary size	Text coverage
1,000	72.0%
2,000	79.7%
3,000	84.0%
4,000	86.8%
5,000	88.7%
6,000	89.9%
15,851	97.8%

Fig.2 Vocabulary size and text coverage in the Brown corpus
(taken from Francis and Kucera, 1982, in Nation and Waring, 1997:9)

As can be seen in the table, each increase in vocabulary size is accompanied by greater text coverage, but at each level, the increase in coverage becomes smaller and smaller. Therefore, it is likely that learners will reach a point in their studies when learning the next 1,000 words would be inefficient; they would benefit more by focussing on vocabulary appropriate to their own likely English needs. The question is of course, how are we to know when that point has been reached?

In a 1990 study of written academic text, Nation produced the following table of text coverage.

Level	Number of words	Text Coverage
High-frequency words	2,000	87%
Academic vocabulary	800	8%
Technical vocabulary	2,000	3%
Low-frequency words	123,200	2%
Total	128,000	100%

Fig.3 Text coverage in written academic text
(Nation, 1990, in Nation and Newton, 1997:239)

Using this data, Nation and Newton suggest that after the 2,000 most frequent words have been learned, students intending to learn English in an academic environment would benefit from mastering the 800-word Academic Word List, rather than the next most frequent 1,000 words in general use (1997:239).

Laufer (1997:23) has conducted studies suggesting that the turning point for vocabulary size – when an increase in vocabulary begins to offer less of a benefit for reading comprehension, is around 3,000 word families. This number, which represents around 4,800 lexical items, is termed the 'threshold vocabulary'. Once this level has been reached, it is proposed that learners will be fully capable of applying context-guessing and other learning strategies, and as such might be considered to have reached the point at which intentional learning has ceased to be an efficient use of class time.

3.4 What information is necessary to 'know' a word?

It is important for learners to recognize that there is more to 'knowing' a word than checking its definition in a dictionary. Teachers need to emphasize that vocabulary learning is an incremental, ongoing process, and that learners will be able to improve their understanding of words by encountering them repeatedly.

Word knowledge can be thought of as encompassing three elements: the word's form, meaning and use. Knowledge of form might include phonological and orthographical form as well as any recognizable word parts. Beyond the word's definition as given in a dictionary, meaning also encompasses connotation and synonyms. Using the word requires an understanding of appropriate grammatical function, common collocations, appropriacy in different contexts and frequency of use. All of this knowledge can be acquired from incidental exposure to language, as Ellis (1997:127) notes:

> as learners' L2 vocabulary extends, as they practise hearing and producing L2 words, so they automatically and implicitly acquire knowledge of the statistical frequencies and sequential probabilities of the phonotactics of the L2. Their input and output modules for L2 processing begin to abstract knowledge of L2 regularities, thus to become more proficient at short-term repetition of novel L2 words. And so L2 vocabulary learning lifts itself up by its bootstraps.

A distinction that is commonly made regarding word knowledge is over the receptive and productive uses of lexical items. As Carter (2000:191) notes, "Comprehending a word is not the same as producing a word". It is one skill to be

able to understand a word when it is heard or read, but quite another to be able to use it in spoken or written form.

In Laufer's (1998) study of vocabulary development in Israeli high school students, productive knowledge was further subdivided into two parts. Controlled productive knowledge can be accessed when prompted by a task, but free productive knowledge is used spontaneously, without prompting. This is an important point, since learners who are being prompted to use a particular word are being provided with a context, and are therefore not exhibiting complete control of a lexical item unaided. It is only when items are used appropriately without any prompting that a teacher can be sure that an item has been fully acquired.

3.5 What points should teachers be aware of?

As with other aspects of language learning, there is some conjecture as to the most appropriate method of teaching and learning vocabulary. Nevertheless, for a programme aimed at blending a large amount of incidental learning with a smaller amount of intentional learning, certain practices stand out in the literature. In addition to establishing an optimal learning environment, teachers also have to consider the learners themselves. Rather than merely disseminating information, a successful programme will train participants how to become better learners. The following section will summarize the key elements of a vocabulary learning programme from the perspective of both the learners and the learning process itself.

3.5.1 The learner

Nation has stated that teachers can "play a critical role in directly and indirectly shaping approaches to learning" (2001:229). This role carries heavy responsibility, so rather than imposing a potentially unsuitable learning style, teachers ought instead to present learning strategies as a toolbox – allowing learners to select their own remedial action. This implies that, in Wenden's words, "teachers should also aim to help language learners develop a more reflective and self-directed approach to learning their new language" (1998:531). In order to bring about this improved self-awareness, learners will need to be given opportunities and encouragement to plan, monitor and evaluate their own learning. Learners will also need to be aware of the range and appropriacy of vocabulary learning strategies.

It is important to remember that each class is a collection of individuals who each have their own learning styles and preferences. While the course content should not be dictated by those styles, it is valuable for teachers to understand learners' beliefs about language learning (Wenden, 1998:530). This informational will yield insights as to the varying degrees of metacognitive awareness within the class, and may also help to explain learners' responses to different classroom activities.

Research has produced mixed results on the effectiveness of explicit strategy training. Among the reasons given for the unsuccessful tests were: learner acceptance, proficiency, and culture, and also whether the strategy could be used immediately (Schmitt, 2000:136). Nunan (1999:56) argues that the overiding factor regarding strategy preference is personality. If this is true, then knowledge gleaned from the

learners themselves in this regard can be further utilised in future course planning. Schmitt (2000:136) suggests that "VLS have a great deal of potential, but that we must be very sensitive to our learners and their needs when we incorporate strategy instruction into our curriculum".

3.5.2 The learning process

For incidental learning to be applied successfully, learners must become proficient at guessing meaning from context. However, context guessing requires that learners already understand a sufficient number of the words in a text for them to be able to make judgements about unknown words. Nation proposes that if more than 1 in 20 words are unknown, guessing will probably be unsuccessful, and optimally, learners should know 98% of the words in a text (1 in 50 unknown) (2001:233). Laufer's threshold vocabulary (see section 3.3) also implies that guessing from context with an unsimplified text requires an understanding of the most frequent 3,000 words.

While guessing from context successfully is dependent on having a vocabulary sufficiently large enough to enable correct guessing to take place, there will also come a point at the other extreme when it becomes unnecessary, simply because the learners already know the words. Indeed, proficient readers have been shown to use context guessing less than less-skilled learners for just this reason, and those who do make use of this strategy have been shown to guess meanings correctly only in 50% of cases (Walter, 2003).

For lower-level learners then, acquiring a large sight vocabulary must be regarded

as imperative. Rote-learning and regular rehearsal of words may be unfashionable, says Read (2004:148), but they will offer greater gains for these learners than incidental learning. Nation and Waring (1997:11-12) also support the use of vocabulary cards to provide an initial stage for learning a large number of words in a short period of time. A further way to help expand vocabulary, which, unlike the previous methods, could be continued into higher levels of proficiency, is to raise awareness of word families. Even from a beginner's level, learners could be taught inflected or derived forms of the target word to improve knowledge of the inter-relatedness of vocabulary.

Discouraging learners from viewing unknown words as isolated semantic problems is best begun while they are still at a relatively low level, says McCarthy (1984:16). Lexical sets and collocations are examples of activities which promote paradigmatic and syntagmatic knowledge, thus deepening learners' understanding of lexical items. Sökmen advises using these, and other 'deep' methods, such as verbalising thoughts on the definitions and nuances of words, to provide "richer encoding", which will help students to learn better than if they had simply memorized a definition (1997:242). Ellis (1997:138) cites a summary of almost one hundred studies which demonstrated that exposing learners to words in multiple contexts greatly enhanced their comprehension in later reading activities.

As was mentioned in section 3.4, 'knowing' lexical items requires understanding on many levels. It is only by repeatedly encountering a word that a full appreciation of its uses can develop. It has been estimated that 5-16 encounters with a word are necessary for acquisition to take place (Nation, 1990, in Sökmen, 1997:241-242).

Teachers then, must allow for vocabulary recycling to occur in class (Schmitt, 2000:136), whether this is through expanded vocabulary activities or regular review of vocabulary notebooks. Reviewing words soon after they have been studied, and then at increasing intervals has been shown to aid retention (Schmitt, 2000:130). This method, known as 'expanded rehersal', could easily be introduced by teachers and then encouraged as an independent leaning strategy.

Finally, once learners have reached an appropriate level, the bulk of vocabulary learning should take place in context, i.e. incidentally. The only true test of vocabulary learning is whether or not a lexical item is understood when the learner's attention is on the meaning of the whole text, rather than on that particular item. Although Nation concedes that experiments in learning from context have only shown small gains in vocabulary (2001:238), extensive reading will clearly increase those gains. Put simply, "people who read more know more vocabulary" (Ellis, 1997:134).

3.6 What kinds of vocabulary learning strategies are available?

Since it became apparent that individual effort had a greater influence on vocabulary acquisition than aptitude, researchers have identified a large number of vocabulary learning strategies used by learners (Schmitt, 1997:199). Nation's (2001:217) definition of a strategy contains four criteria: that it is one of several options a learner may select, that it involves multiple steps, that it can be improved by training and that it will be of benefit when learning or using vocabulary.

One of the key features of successful learners that has been highlighted by

research (Schmitt, 2000:133) is that they make use of a variety of learning strategies. If strategies are indeed trainable, then they can be taught to less successful learners. It is also likely that learners will be more proficient in certain aspects of vocabulary learning than in others, and so by encouraging the use of different classes of strategy, teachers may be able to target individual weaknesses to improve. Therefore, having a taxonomy of vocabulary learning strategies would enable teachers to select appropriate strategies for learners and instruct them in their use. Schmitt (1997:207-208) offers a taxonomy that classifies strategies into five groups: determination, social, memory, cognitive, and metacognitive. Each of these will now be examined in turn.

3.6.1 Determination strategies

One group of determination strategies involves analysing the unknown word, its constituent elements, or the surrounding context (see section 3.5.2) to determine the meaning. Identifying the part of speech will offer some information; the learner might be able to identify the word as an entity, state, action or quality. Inflectional or derivational word parts could also be examined. Due to the limited number of inflections available in English, learners should encounter and understand them quite rapidly. Derivational affixes are far more numerous, yet they offer tremendous insights into word class and definition. Nation (2001:264) refers to a study which found that 60% of words containing the prefixes un-, re-, in-, and dis- could be understood if the base word was known.

If the learners' L1 is related to the L2, then cognates may exist which facilitate guessing. Japanese, although unrelated to English, has a rapidly increasing number of

kana loanwords that are mostly derived from English. Daulton (1998) presents data showing that 38% of the 2,000 most frequent words and approximately 26% of the University Word List correlate with Japanese loanwords. There is a risk involved in using loanwords as cognates since not all of them are used in the same manner as in English, yet there remains a large number that could assist Japanese learners of English.

Dictionaries, while lacking the depth of processing that comes with guessing strategies, are commonly used by many learners of foreign languages. Although monolingual dictionaries may offer better quality information and also improve learners' ability to paraphrase, Schmitt's (1997:209-210) survey of attitudes to learning strategies showed a clear preference for bilingual dictionaries. This might be due to the sense of security they provide – Grabe and Stoller (1997:112) noted a learner's unwillingness to give up his "accuracy anchor".

To achieve the maximum benefit, dictionary skills have to be taught in the same manner as other skills. It is important that learners are taught when not to use dictionaries because they may be overused, resulting in the neglect of other strategies and increasing the length of time taken to complete tasks. Nation (2001:283-284) presents a summary of studies carried out on dictionary use, which show a positive effect on vocabulary comprehension for all but high-level learners, but also an increase in completion time. Nation (2001:239) suggests that inferencing skills should be prioritised, but that following up with dictionaries has a significant impact on retention.

3.6.2 Social strategies

Some social strategies can be used to determine word definitions. Teachers are a valuable source of information for learners, and they can provide information about L2 vocabulary in several ways. If the teacher understands the learners' L1, then a direct translation is possible. Although this may be the fastest and most appealing method for learners, there are notes of caution to be added. Learners receiving a translation of an L2 word may assume that it carries all of the functional and stylistic properties of its nearest L1 equivalent, and so use it in the same manner as they would in their L1. There is also the attendant risk that learners used to hearing L1 translations will become reliant on them, which is likely to have a negative impact on their ability to hold L2 conversations.

Teachers can also offer L2 paraphrases, synonyms, or example sentences using the unknown word. If the goal of learners is to use the L2 productively, then these methods will be more beneficial than translation. The teacher must, however, consider the knowledge necessary to use each word (see section 3.4), while also making an efficient use of class time.

Although this information could also be provided by classmates instead of teachers, some learners might feel that information from a teacher is more reliable. However, if classmates all work together at providing information, the whole class will benefit from improved paraphrasing skills and by becoming less dependent on the teacher.

Social strategies can also be used to consolidate information. Sanaoui's (1995) study highlighted the need for learners to create their own opportunities for language use outside the classroom. Students may make an effort to use the L2 together outside class, or seek opportunities to speak to native speakers, or even their teacher outside class. There are clear benefits to practising L2 vocabulary in a less academic setting. Firstly, the more opportunities to speak a learner has, the more he or she will be able to experiment with new language. The experience of using the language for genuine communication is also likely to increase learner motivation, as well as active processing (Schmitt 1997:211).

3.6.3 Memory strategies

Researchers have identified a large number of strategies that learners use to aid recall of vocabulary. Schmitt's (1997) taxonomy, for example, lists no less than 27 separate memory strategies. One group of strategies involves using images when learning to form a stronger association with the word and its meaning. These images can be sketched in notebooks, formed in the mind, or even drawn from personal experience. This is a good example of how a deeper level of processing can be achieved without it becoming excessively arduous and thus potentially demotivating.

There is another large group of strategies that link or group words together to assist retrieval. There is evidence that the brain stores vocabulary in a 'lexical matrix', with individual words entering into a variety of semantic relationships, including: synonymy, antonymy, hyponymy, and meronymy (Miller and Fellbaum, 1991:199-204). Using words in sentences can also be considered a memory strategy because the added

context may make retrieval easier. Grouping L1 words spatially has also been shown to improve recollection (Bellezza, 1983, in Schmitt, 1997:213). L1 words arranged into patterns can be recalled easier than when the words are in a list. Schmitt postulates that the same approach is likely to work for L2 vocabulary (1997:213).

A final group of memory strategies uses aspects of word knowledge to consolidate meaning. This includes paying special attention to the word's orthographical or phonological form, memorizing affixes and roots, and learning the word class. Matching some words to their corresponding physical action, as is taught in the Total Physical Response Method (Richards and Rogers, 2001:73-74), will also aid recall (Schmitt, 1997:215).

3.6.4 Cognitive strategies

Cognitive strategies focus on the mechanical aspects of learning vocabulary. These methods may be required parts of the course, set as homework by the teacher, or the habits of individual learners.

Vocabulary notebooks are a valuable way of increasing learner independence. By giving learners the responsibility of choosing the words that they will include, the notebooks help to develop greater self-awareness, and at the same time, remove the teacher from some of the learning process. Schmitt and Schmitt (1995:139) emphasize the necessity of giving learners the responsibility of selecting vocabulary to increase their sense of discovery. Fowle's introduction of vocabulary notebooks to a school in Thailand also brought about increased metacognitive knowledge in the form of

appropriacy of strategy selection, a better understanding of the demands of vocabulary learning, and a greater tolerance of ambiguity (2002:385).

One cognitive strategy that was commonly employed by learners in Schmitt's (1997) survey of learning strategies was repetition. In order to improve vocabulary, learners repeat the words either orally or in written form. This method lacks the depth of processing recommended by researchers, and seems to review only a limited amount of the knowledge that is necessary for communicative use. However, both Nation (2001:383) and Read (2004:148) have noted that learners in the past have used rote methods to reach high levels of proficiency.

Other examples of cognitive strategies include taking notes and highlighting words, using the vocabulary sections in textbooks, and labelling physical objects. These strategies could all be said to assist noticing, an important first element in bringing an item into conscious attention (Schmidt, 1990). Once an item has been noticed, learners are more likely to focus attention on it, and so the process of acquiring the item has begun.

3.6.5 Metacognitive strategies

It is imperative that learners develop an awareness of their own learning and how they are able to improve most efficiently. Many of the habits used by successful learners noted by Sanaoui (1995) could be categorised as metacognitive strategies, since they reflect learners' ability to find opportunities to learn and then record and review those experiences.

The first requirement for a learner has to be finding sufficient opportunities to learn. English learners are fortunate in that there are a vast number of commercially produced pedagogic materials available, and the internet and other electronic resources are also easily accessed, thus providing EFL learners with an even wider range of potentially useful material. Once vocabulary has been encountered, it is vital that it is recorded and reviewed in an organised fashion. Without such a system in place, learning is likely to be haphazard and sporadic, as a number of the studies reviewed earlier in this chapter have shown. Finally, learners should also consider which words most deserve their attention. Since learners usually have a limited amount of time available for study, learning to skip infrequent or obviously technical vocabulary when it is not crucial to overall comprehension will greatly improve efficiency.

3.7 How can vocabulary knowledge be assessed?

The purposes of vocabulary testing are multifarious, but a simple distinction can be made between breadth of knowledge testing, which seeks an estimate of how many words learners know, and depth of knowledge testing, which is concerned with how well those words are known.

The most immediate problem when trying to establish vocabulary size is to decide on the size of the sample to be taken. Clearly, the more words that are tested, the more accurate the final estimate will be, but this has to be balanced against the practicalities of carrying out the test (Read, 1997:312). Nation's Vocabulary Levels Test avoids this problem by testing learners' knowledge of vocabulary at several frequency levels, thereby greatly reducing the sample size necessary. In this test, learners are presented

with groups of six words, three of which must be matched to their definitions (see figure 4).

1. admire
2. complain
3. fix
4. hire
5. introduce
6. stretch

____ make wider or longer
____ bring in for the first time
____ have a high opinion of someone

Fig. 4 Nation's Vocabulary Levels test (Nation, 2001:417)

The original purpose of this test was to give an indication of whether high-frequency words had been learned, and also to measure the learning of low-frequency words (Nation, 2001:21). Despite the absence of context on the test, it has been shown to accurately gauge learner knowledge (Laufer, 1998:261), and is now also used for placement purposes (Read, 2004:155).

As was mentioned in section 3.4, there are several aspects to word knowledge. In a 1942 paper, Cronbach identified five aspects of word knowledge for testing: generalization (giving a definition), application (appropriate usage), breadth of meaning (understanding different meanings), precision of meaning (correct application in all situations), and availability (productive usage) (Read, 1997:315). Ideally, a depth of knowledge test would be able to cover all of these aspects, but such a test would likely be inordinately time consuming in practice, and thus impracticable within the pragmatic constraints of most language teaching contexts.

One test that investigates depth of knowledge is Paribakht and Wesche's Vocabulary Knowledge Scale. In this test, learners are given words to evaluate on a five-point scale (see figure 5).

1. I don't remember having seen this word before.
2. I have seen this word before, but I don't know what it means.
3. I have seen this word before, and I think it means _____. (synonym or translation)
4. I know this word. It means _____. (synonym or translation)
5. I can use this word in a sentence: _____.

Fig. 5 The Vocabulary Knowledge Scale
(Paribakht and Wesche, 1993, in Schmitt, 2000:175)

Another test, one that avoids testing declarative knowledge, is Laufer and Nation's Vocabulary Frequency Profile (Nation, 2001:362). Here, the emphasis is on the learners' use of language when attention is being paid to the message, rather than on the individual words. In this test, samples of learners' composition work are entered into a computer program, VocabProfile, which sorts the words used into four frequency categories: the first 1,000 most frequent words (K1), the second 1,000 (K2), the Academic Word List (AWL), and words that do not appear on the other lists (OWL). Before the compositions are entered, spellings must be corrected, proper nouns are deleted, and incorrectly used words are omitted (Laufer, 1998:261). The output provided by the computer can be used to measure the increase in language proficiency over time. Unlike the Vocabulary Knowledge scale, Lexical Frequency Profiles do not necessarily require using class time, since they can be applied to students' free writing – a consideration which was taken into account during the planning for this case study.

CHAPTER 4: METHODOLOGY

4.1 Planning the case study

This case study was planned following the outline given in Burns (2000:464). The initial case study question was narrowed down to a more specific set of propositions which would answer that question. Then, criteria by which the propositions could be tested were established and sources of data were considered.

4.1.1 Initial case study question

Since vocabulary had been highlighted as a common source of difficulty for the students, it was felt that a study of the effectiveness of the vocabulary teaching component of the programme would offer insights for further investigation.

The first aim of the intensive English programme is to improve students' language skills to the point where they are able to enter colleges in the United States. The second is to prepare them for life in a Western academic environment by teaching them how to become more independent as learners. Therefore, the initial study question was taken to be: "To what extent does the vocabulary component of the intensive English programme achieve these goals?"

4.1.2 Study propositions

In order to enter academic institutions in the United States, students need to have acquired sizeable vocabularies. It was suggested in section 3.3 that after learning the 2,000 most frequent words, learners intending to use English for academic purposes ought to begin work on the Academic Word List. The 'threshold level', where learners

are capable of applying context guessing successfully and are more capable of independent study, was put at 3,000 word families. Therefore, upon completing the intensive programme, learners ought to have acquired vocabularies significantly larger than 2,000 word families, with 3,000 word families being an optimal target. It was decided to find a method of measuring vocabulary growth as the students progressed through the course.

Although comprehending academic text would be crucial for success at university, other skills would also be required. The students are likely to have to participate in tutorials or give oral presentations, as well as functioning in everyday life. For this reason, in addition to measuring receptive knowledge, gaining an understanding of productive use of vocabulary would be necessary. The second goal of the study was therefore to measure the students' productive use of vocabulary to establish whether there was a shift towards less frequent forms.

Vocabulary breadth and depth represent the results of learning, but a crucial factor in determining the success or otherwise of the programme is: do students who have finished their studies possess the means to support their own vocabulary development? That is, can evidence be found to show that metacognitive knowledge and independent vocabulary learning strategies have been acquired? This was taken to be the third study proposition.

4.1.3 Testing criteria and data sources

The first criteria to be tested was the students' receptive knowledge of word forms.

For adequate comprehension of academic text, a vocabulary of around 3,000 word families, including around 83% of the Academic Word List (Nation, 2001:196) would be required. As was mentioned in section 3.7, Nation's Levels Test is designed to estimate learners' receptive knowledge of vocabulary at increasing frequency levels. By using this test at intervals during the course, it would be possible to obtain information on the rate of vocabulary development for each student. A sample of the test which was administered is shown in Appendix I.

In order to obtain a picture of the students' productive use of vocabulary, it was decided that Laufer and Nation's Lexical Frequency Profile would also be used. The students' weekly journals would be an ideal source of freely-composed writing. If samples were taken from these journals and entered into the VocabProfile program, then the students' vocabulary usage at different stages of the course could be compared. A sample analysis produced by the VocabProfile program is given in Appendix II.

Adoption of vocabulary learning strategies was taken as an indication of the students becoming more independent, and therefore more structured and successful learners. It was expected that a simple survey, carried out at the beginning of the course, and again at the end of the research period, would highlight any changes in strategy usage.

The survey was based largely on previous work by Fan (2003) and Schmitt (1997). Fan presented learners with a list of 60 vocabulary learning strategies and asked them to answer two questions, as follows:

1) How frequently do you use the strategy stated?

2) To what extent do you think the strategy is or may be useful to you?

The learners then gave their responses on five-point Likert scales, with the available answers being: *never*, *seldom*, *sometimes*, *often* and *very often*; and *not useful*, *not sure it is useful*, *quite useful*, *very useful*, and *extremely useful*. This system, which seemed to offer a reasonable variety of responses and was simple for the learners to answer, was adopted for this study. Schmitt's taxonomy of vocabulary learning strategies was both clear and extensive, and so this became the source of the strategies to be surveyed, of which 39 were selected. The questions on the survey were written in both English and Japanese, so as to ensure accurate responses. The Language Learning Strategy Survey is shown in Appendix III.

Towards the end of the research period, the teaching staff were surveyed on their opinions on positive and negative aspects of the vocabulary teaching component of the programme. It was felt that the perceptions of others involved in the programme would provide a valuable contrast with the large amounts of quantitive data generated by the other elements of the research phase. The exact format of the survey was left unplanned until the middle of the research period to allow for any unforseen developments. The teaching staff survey in shown in Appendix IV.

4.2 Research design and implementation

In order to maximise the length of the research period, the learning strategy surveys and Nation's Vocabulary Levels Test were administered within two weeks of the

course beginning. At this point, the majority of the students were new to the school, although there were some who had been members of other programmes. For this reason, the students were considered to have wide-ranging degrees of experience in vocabulary learning, from those who were quite familiar with deep-level processing strategies to others who were more reliant on rote-learning. After three months, the students were asked to complete an identical survey to the one they had previously done and another version of the Vocabulary Levels Test. The results of these tasks were then compared with the previous research.

The samples of students' written work were taken from their journals on a weekly basis. The first journal entry of each week was copied and then entered into the VocabProfile program. This was done partly in order to have a consistent sampling procedure, and partly because the first journal entries are sometimes of a higher standard than those completed just before the due date; by sampling the first entries, it was hoped to obtain a clearer picture of each student's capabilities. After entering the journal, the percentage of words falling into each of the first and second 1,000 most frequent words (K1 and K2), the Academic Word List (AWL), and off word list (OWL) groups were noted, as well as the type/token ratio, the lexical density, and the percentage of words that were Anglo-Saxon in origin or Greco/Latin/French derived forms.

CHAPTER 5: ANALYSIS OF FINDINGS

5.1 Student surveys

When the surveys were collected, the results were tallied and each response was given a numerical score from one to five, with *very often* and *extremely useful* receiving five points. The mean and standard deviation for each learning strategy were then calculated. In the following discussion, both results will be given; for example, 3.67/0.49 refers to a mean of 3.67 and a standard deviation of 0.49. The results for both surveys were analysed for statistical significance using the *t*-test. The full results for both surveys are given in Appendix V.

For the first survey, the overall mean score of the 39 strategies for frequency of use was 3.21 (3 = *sometimes*, 4 = *often*), while for usefulness it was 3.5 (3 = quite useful, 4 = very useful). After the second survey, these figures had dropped slightly – to 3.11 and 3.46 respectively.

5.1.1 Determination strategies

With a mean score of 3.80/0.42 in the first survey and 3.98/0.56 in the second, determination strategies were far more frequently used than any other category. For perceived usefulness, a mean score of 3.50/0.35 in the first survey was lower than those of social, cognitive and metacognitive skills, but after the second survey, determination strategies were perceived as being the most useful (3.74/0.48). These results appear to reflect the increasing use the students are required to make of determination strategies as they progress into more challenging levels.

		Frequency of use		Perceived usefulness	
		Survey 1	Survey 2	Survey 1	Survey 2
A1	Check the new word's form	4.00/1.18	4.07/0.96	3.52/1.17	4.07/1.28
A2	Look for any word parts that I know	3.64/1.05	3.80/0.94	3.32/1.29	3.47/0.92
A3	Check if the word is also a Japanese word	2.95/1.46	2.80/1.26	2.83/1.11	2.80/1.21
A4	Use any pictures or gestures to help me guess	4.23/0.61	4.40/0.74	3.71/0.90	3.93/1.16
A5	Guess from context	4.05/0.90	4.4/0.74	3.86/0.83	4.00/0.85
A6	Use a Japanese-English dictionary	3.96/0.98	4.27/0.80	3.48/1.08	3.67/1.23
A7	Use an English-English dictionary	3.77/0.97	4.13/0.74	3.77/1.07	4.21/0.70

Fig. 6 Determination strategy survey results

The students appeared to have mixed attitudes to strategies that make use of word knowledge to determine meanings. While checking word form (strategy A1) was often used and was perceived as much more useful at the time of the second survey, checking if the word was also a loan word in Japanese (A3) was much less popular, and had become less so by the time of the second survey. Using knowledge of affixes to determine meaning (A2) was also relatively popular, and improved its scores later in the year.

Using pictures and gestures (A4), or context (A5) to guess word meanings, two strategies that are reinforced in almost every class, also became more popular over the course of the research period. In particular, the use of guessing from context became far more frequent; with a significant increase at the .20 level when measured by the *t*-test.

The final determination strategies were using bilingual (A6) or monolingual (A7) dictionaries. Interestingly, while bilingual dictionaries were used more frequently,

monolingual dictionaries were seen as more useful. This contrasts with Schmitt's (1997) survey of Japanese learners, in which monolingual dictionaries lead both categories. The increase in usefulness of monolingual dictionaries was significant at the .20 level on the *t*-test.

5.1.2 Social strategies

Social strategies were *sometimes* used at the time of the first survey, with a frequency of use score of 3.17/0.53. This result, however, dropped to 2.88/0.58 in the second survey. Likewise, usefulness fell from 3.58/0.43 to 3.31/0.63. These were the largest falls suffered by any of the groups.

		Frequency of use		Perceived usefulness	
		Survey 1	Survey 2	Survey 1	Survey 2
B1	Ask the teacher for a definition or sentence	3.27/1.12	2.8/0.94	3.77/0.92	3.87/0.83
B2	Ask your classmates for the meaning	3.95/0.95	3.53/0.74	3.72/0.94	3.47/0.92
B3	Study new words with your classmates	2.59/0.80	2.07/0.88	3.00/0.98	2.27/0.70
B4	Ask the teacher to check your definition	2.77/0.87	2.67/0.90	3.29/0.90	3.2/1.08
B5	Talk with native speakers	3.27/1.16	3.33/0.98	4.09/1.11	3.73/1.03

Fig. 7 Social strategy survey results

In order to emphasise learner independence, students are encouraged to follow a set routine when they encounter an unknown word which is preventing comprehension. First, they are to attempt to guess the meaning by themselves. If this is impossible, they should ask a classmate or use a monolingual dictionary. Only if these methods have proved unsuccessful should asking a teacher become necessary. It seems likely that the students becoming used to this system may explain the survey results for

strategies B1 and B2. The *t*-test showed that both strategies' frequency of use scores dropped significantly at the .20 level. Although students are encouraged to check their own definitions with teachers, the results for strategy B4 may have declined for similar reasons.

The results for studying new words with classmates (B3) and talking with native speakers (B5) were surprising. Groupwork is certainly a central part of most lessons, and students are constantly told that using new vocabulary is crucial for successful acquisition. The frequency of use score for B3 fell significantly at the .10 level on the *t*-test, while the drop in perceived usefulness was significant at the .20 level. Although strategy B5 was seen as slightly less useful in the second survey, it remained the second most useful social strategy after asking a teacher for a definition.

5.1.3 Memory strategies

Overall, the students' opinion of memory strategies remained reasonably consistent over the research period. Mean scores of 2.94/0.58 and 2.85/0.56 meant that they were used slightly less than *sometimes*. Although the students clearly regarded them as *quite useful*, with means of 3.27/0.47 and 3.16/0.49, memory strategies obtained the lowest usefulness ratings of any group.

		Frequency of use		Perceived usefulness	
		Survey 1	Survey 2	Survey 1	Survey 2
C2	Make a mental image of the word's meaning	3.64/0.95	3.47/0.74	4.00/1.07	3.27/1.16
C3	Connect the word to a personal experience	3.00/1.11	3.07/1.10	2.95/1.05	3.60/0.91
C7	Group words together to study them	2.18/0.73	1.80/0.68	2.86/0.94	2.47/0.99
C8	Use new words in sentences	3.09/0.75	3.27/0.70	3.82/0.96	3.40/0.91
C11	Study the sound of a word	4.05/0.79	3.71/0.83	4.09/1.02	4.07/1.27
C12	Say the new words aloud when you first meet them	4.09/0.87	3.79/1.05	4.14/0.94	3.71/0.99

Fig. 8 Sample of memory strategy survey results

The strategy of making a mental image of the word's meaning (C2) was not explicity taught to students during the course. Nonetheless, it appears to have been used quite often, although the large drop in perceived usefulness was significant at the .10 level on the *t*-test. The drop could be explained by the equally significant gain made in strategy C3, which is much more commonly used by teachers in class, who attempt to link the often quite specialized vocabulary in the textbooks to the students' lives. Vocabulary notebooks and journals also provide regular opportunities to link new vocabulary to personal experience.

Two quite disappointing results were the significant falls in the frequency of use of grouping words together to study them (C7) (level .20), and using new words in sentences (C8) (level .20). Strategy C7 has been considered by the teaching staff as a worthwhile addition to the course, but as yet has only been implemented on an ad hoc basis. Strategy C8 however, is already part of the students' daily routine, in which they must use new words in original sentences for their vocabulary notebooks everyday. Vocabulary notebooks will be discussed further in section 6.

Of all the memory strategies included in the survey, studying the sound of a word (C11) and saying the word aloud when it is first encountered (C12) were most frequently used and most useful. Although neither strategy is explicitly taught as a strategy in itself, the intensive course places a high value on correct pronunciation, and it is likely that students receive feedback on this skill several times a day. In Schmitt's (1997) survey, these skills were also regarded as highly useful, so it is possible that these strategies have been encountered earlier in the students' educational lives.

5.1.4 Cognitive strategies

The results for cognitive strategies remained reasonably consistent over the two surveys. Frequency of use dropped marginally from 3.34/0.91 to 3.28/0.97, while perceived usefulness was virtually unchanged with scores of 3.59/0.41 and 3.57/0.48. In both categories, these were the highest results for consolidation strategies. This mirrors the work of Schmitt (1997), in which cognitive strategies were both frequently used and regarded as the most useful.

		Frequency of use		Perceived usefulness	
		Survey 1	Survey 2	Survey 1	Survey 2
D1	Repeat the words aloud many times	3.45/1.10	3.29/1.44	3.68/1.04	3.79/1.25
D2	Write the words many times	2.95/1.05	2.79/1.05	3.73/1.08	3.29/1.27
D3	Make lists of new words	3.55/1.26	3.29/1.07	3.73/0.98	3.57/1.09
D4	Use flash cards to record new words	3.32/1.04	4.00/1.18	3.27/0.98	3.93/1.07
D5	Take notes or highlight new words	4.45/0.67	4.36/0.63	3.95/1.13	4.07/1.00
D6	Put English labels on physical objects	1.59/1.05	1.43/0.51	2.82/0.85	2.71/0.73
D7	Keep a vocabulary notebook	4.05/0.95	3.79/0.70	3.95/0.84	4.00/0.68

Fig. 9 Cognitive strategy survey results

In an interesting contrast with Schmitt's (1997) results, the strategies of repeating words either orally (D1) or in writing (D2) were not amongst the most popular. Schmitt (1997:215) makes the point that popular strategies can easily become entrenched, and that teachers can face resistance when trying to introduce alternative methods. In this case, although verbal repetition increased in usefulness, written repetition suffered a large drop in the same category, and both became less frequently used.

Using flash cards to record new vocabulary (D4) was the only strategy to improve significantly in both frequency of use and perceived usefulness. In comparison with making lists of new words (D3), flash cards can be used to study words in groups, as well as providing a flexible method of reviewing receptive or productive vocabulary. Other strategies which received high scores were D5 'Take notes or highlight new words', which allows new vocabulary to become more noticeable, and D7 'Keep a vocabulary notebook', which is already an important element of the programme.

5.1.5 Metacognitive strategies

Metacognitive strategies were the least frequently used group in both surveys, with mean scores of 2.80/0.46 and 2.58/0.34. In contrast, scores of 3.58/0.36 and 3.53/0.47 show that they were perceived as being amongst the most useful.

		Frequency of use		Perceived usefulness	
		Survey 1	Survey 2	Survey 1	Survey 2
E1	Use English language media	3.05/1.33	2.87/1.06	3.23/1.11	3.2/0.86
E2	Test yourself with word tests	2.27/0.94	2.20/1.21	3.55/1.01	3.33/1.11
E3	Study new words many times	3.09/1.05	2.67/0.90	3.95/1.05	4.07/1.03

Fig. 10 Metacognitive strategy survey results

The results for using English language media (E1) indicate that while the students *sometimes* make use of authentic language sources, they regard them as being only *quite useful*. This contrasts with the results of Fan's (2003) survey, in which students rated this strategy as very useful. The intensive nature of the programme may mean that students are less willing to spend their free time reading in English. However, this result mirrors a concern raised in the most recent debriefing session – that only the most successful learners made full use of the wide variety of resources available in the school's language laboratory.

The other metacognitive strategies, 'Test yourself with word tests' (E2) and 'Study new words many times' (E3) also became less frequently used. E3 in particular, suffered a significant drop at the .10 level as measured by the *t*-test. The perceived usefulness scores show that these techniques are considered valuable by the students, and therefore for teachers the challenge lies in increasing the amount of review work the students can do without detracting from their other coursework.

5.2 Vocabulary Levels Tests

Soon after the programme had begun, the first Vocabulary Levels Test was carried out. On this occasion, the students completed questions on vocabulary at the 1,000,

2,000 and 3,000 levels. The 1,000 level questions were in a different format to the other levels, and although they predictably received the highest mean score, some students were clearly confused by the questions. For this reason, when the second test was carried out later in the year, the 1,000 level questions were not included. Questions based on the Academic Word List were added for the second test in order to provide data that would allow comparison of the students' vocabularies with the targets given in sections 4.1.2 and 4.1.3. The results of the two tests can be seen in figure 11. Full results are given in Appendix VI.

	Test 1 Mean	Test 2 Mean	*t*-value	Significance
1,000	13.76	–	–	–
2,000	11.00	13.59	2.612	Significant at .02 level
3,000	5.59	10.12	5.17	Significant at .001 level
AWL	–	7.24	–	–

Fig. 11 Results of Vocabulary Levels tests
(Scores all out of 18)

Laufer's (1998) study of vocabulary growth in Israeli high school students yielded similar data which were used to produce approximations of vocabulary size. By totalling the students' scores in each of the five 1,000-word frequency levels as well as the AWL, Laufer estimated the proportion of the 5,000 most frequent word families that were known, as so used this as a measure of vocabulary growth. In this approximation, the fourth level score was taken as the average of the third and fifth level results.

In this study, the students were not tested on vocabulary from the 5,000 word level,

and AWL vocabulary was not included in the first test, but by assuming a similar ratio of scores between levels as in Laufer's study, rough estimates for vocabulary size could be obtained. For the first test, the mean vocabulary size was 1,718 word families, with a low score of 1,130 families, and a high of 2,273 families. The results of the second test gave a mean approximation of 2,690 word families, with a low of 1,839 families and a high of 3,600 families. These increases are similar to the estimated yearly vocabulary growth of young native speakers (see section 3.3). The complete list of estimates of vocabulary size are given in Appendix VII.

The results of the Levels Tests indicate significant gains in vocabulary at both the 2,000 and 3,000 levels, and an overall increase of approximately 57% in vocabulary size. The mean score for the Academic Word List vocabulary was 7.24, or 40%. The vocabulary growth occurred over a period of three sessions of the daily intensive programme, or roughly three months. Given that the students had at least another three sessions of studies following the second test, it seems likely that the mean vocabulary size would have approached or even exceeded the target of 3,000 word families by the end of the programme.

5.3 Lexical Frequency Profiles

In total, 319 samples of the students journal entries from levels 101 to 107 were collected over a 15 week period. The original intention had been to collect 450 samples, however, the process of photocopying journals then typing them into the computer program was found to be restrictively time consuming.

5.3.1 Analysis of class levels

When all of the data were collated, the mean results from each class level were calculated to provide an overall picture of the work produced during the research period. These results are shown in figure 12.

	Class level (number of samples)						
	101(19)	102 (28)	103 (69)	104 (91)	105 (72)	106 (29)	107 (11)
% K1 words	88.73	89.34	88.16	89.33	87.59	88.54	87.24
% K2 words	5.09	5.32	5.8	5.26	6.08	6.16	3.97
% AWL words	0.9	1.2	1.26	1.62	1.68	1.34	3.29
% OWL words	5.29	4.13	4.79	3.79	4.65	3.84	5.5
% AWL & OWL	6.19	5.33	6.05	5.41	6.33	5.18	8.79
Tokens	90.21	92.07	103.62	115.88	123.86	135.97	137.45
Types	52.11	56.68	62.65	68.74	73.1	79.07	80.91
Type/Token Ratio	0.578	0.619	0.611	0.601	0.599	0.591	0.595
Lexical Density	0.489	0.483	0.47	0.459	0.462	0.464	0.443
Anglo-Sax Index	84.93	84.23	82.75	82.14	81.99	81.53	78.61
Greco-Lat/Fr Cognate Index	15.07	15.77	17.25	17.86	18.01	18.47	21.39

Fig. 12 Lexical Frequency Profile results for each class level

The results for the different frequency levels are very mixed. Although the K1 words percentage is at its lowest in the 107 class, it has fluctuated in each of the previous levels and cannot be considered to have dropped substantially. The same is true of the off-word-list items, which also oscillate before finishing at their highest level in 107. The K2 and AWL words appear to climb gradually over the course of the research period, with occasional deviations from this trend, including the sudden drop in K2 level words at the 107 level.

Laufer (1998) compared students' combined K1 and K2 level, or basic, word usage with that of less frequent items in order to see whether a change was evident. Using the same system, 6.19% of the items used in the 101 level were beyond basic vocabulary, compared with 8.79% in level 107. However, as with other data, the percentages in the intervening levels fluctuate, and the result for the 106 level is actually lower than that of the 101 level.

The results show a gradual increase in the number of tokens used in each journal, and also a corresponding increase in word types. The ratio of tokens and types remains reasonably constant. This suggests that students gradually become more comfortable writing in English as the course progresses, although they do not use a significantly greater variety of lexical items. The results for the lexical density of journals support this conjecture; steadily declining between the 101 and 104 levels, they rise slightly in 105 and 106, only to sink to their lowest level in 107.

The mean results from the class levels showed a gradual trend away from words of Anglo-Saxon origin toward the use of items derived from Greek, Latin or French in the students' writing. Since items with these roots tend to be more formal than those with a basis in Anglo-Saxon, it is possible that the students were beginning to develop an awareness of vocabulary that is more suitable in a written context.

5.3.2 Analysis of individuals' journals

Of the 33 students whose journals were sampled during the research period, 24 were present for and provided samples of writing from three or more sessions. It was

felt that analysing work from students who had only completed two sessions was unlikely to yield significant results. However, these students' journal entries were still included in the analysis of class levels. Having observed how the results for the Frequency Profiles fluctuated between levels, it was decided to compare only the journal data from the first and most recent sessions. First, the results for the first and last sessions for each of the 24 students were compared. Then, the percentages of those students whose results increased or decreased for each category were calculated. This is shown in figure 13.

	% Students	
	Increase	Decrease
% K1 words	17	83
% K2 words	75	25
% AWL words	67	33
% OWL words	67	33
% AWL & OWL	71	29
Tokens	75	25
Types	67	33
Type/Token Ratio	50	50
Lexical Density	54	46
Anglo-Sax Index	37	63
Greco-Lat/Fr Cognate Index	63	37

Fig. 13 Lexical Frequency Profile results for individuals

These results suggest that most of the students were using less frequent vocabulary at the end of the research period than they had done previously. Most students also wrote longer journal entries, with a corresponding increase in the number of word types. The ratio of types used to the total number of items, however, did not increase, and the

lexical density result indicates that students were only using a slightly greater proportion of information-carrying items in their writing.

In order to establish whether any significant changes had taken place in the Lexical Frequency Profiles of an average individual student, a *t*-test was carried out on the data from the same students first and last sessions. This is summarised in figure 14.

	First Session Mean	Final Session Mean	*t*-value	Significance
% K1 words	89.29	87.49	2.392	Significant at .05 level
% K2 words	4.94	5.9	2.195	Significant at .05 level
% AWL words	1.36	1.74	1.195	Not significant
% OWL words	4.42	4.87	0.757	Not significant
Tokens	112.8	124.1	1.594	Significant at .20 level
Types	66.51	72.94	1.837	Significant at .10 level
Type/Token Ratio	0.5964	0.5962	0.013	Not significant
Lexical Density	0.4626	0.4698	0.83	Not significant
Anglo-Sax Index	82.49	81.42	0.931	Not significant
Greco-Lat/Fr Cognate Index	17.51	18.58	0.929	Not significant

Fig. 14 Significance of average individual Lexical Frequency Profile development

The *t*-test results show that an average individual will use significantly less K1 level vocabulary, and significantly more K2 level items after three sessions of the intensive course, but that usage of higher-level vocabulary will remain essentially unchanged. The only other significant changes are in the number of tokens and types

used, which appear to confirm the observation in section 5.3.1 that students write at greater length as they progress through the course.

5.3.3 Potential shortcomings of Lexical Frequency Profiling

During the period in which the students' journals were being entered onto the computer, certain limitations in the program and the system of analysis became evident.

Firstly, the use of less frequent vocabulary often seemed to depend on the topic of the journal; students writing about current affairs typically used a greater amount of off-word-list items than those writing about their personal lives. Therefore, when using Lexical Frequency Profiles to assess vocabulary development, either having a large number of students write on the same topic, or collecting several samples of writing from each student is necessary to avoid skewing the data.

The second shortcoming involved the impact of improvements in the students' grammatical knowledge on the data. At the beginning of the trial, many students' command of grammatical structures, particularly determiners and prepositions, was weak. These items were both omited and overused, so the impact of these errors on the Lexical Profiles is impossible to assess. Another development that occurred in written work was the increased usage of pronouns as the students reached higher levels. It is possible that both of these developments in the students' metalanguage skewed the data in lower-level classes by increasing the number of items from beyond the basic 2,000 words, while at the same time reducing the number of K1 and K2 level words used.

The final drawback lies with the VocabProfile program itself, which is unable to differentiate between homonyms, and has no capability to detect idiomatic language or compound lexical items. The usage of phrasal verbs in particular, is likely to give misleading data, since many of these items consist of highly frequent verbs, such as DO, GET and MAKE, coupled with prepositions.

5.4 Teaching staff surveys

The final element of the research phase was a survey completed by other members of the teaching staff. The survey asked the teachers to comment on three main points: how successful they believed the efforts made to improve student vocabularies were, what the characteristics of learners with good or poor vocabularies are, and the positive and/or negative points of vocabulary notebooks, student journals, and materials used in classes.

The responses to the first question were broadly similar: the teaching staff believed that while the programme is very good at raising awareness of techniques for learning vocabulary, and offers ample opportunities for them to be applied, there is only limited success at instilling independent learning habits in students. It was felt that more could be done in the areas of goal-setting and attempting to raise self-motivation, especially regarding the use of English language media outside class. Another point raised was the need to better integrate target vocabulary throughout the syllabus.

Several key characteristics of successful vocabulary learners were identified by the teaching staff. The first was an enquiring personality and an introspective attitude

toward learning. The ability to find opportunities for vocabulary enhancement was also considered important, especially reading for pleasure and speaking in English with friends. Successful learners were also thought to be organized and methodical about learning vocabulary; they make comprehensive notes about new items and review them regularly. Other positive attributes were selecting only vocabulary that is useful and finding enjoyment in studying English.

Vocabulary notebooks were viewed very positively by all members of staff, although it was felt that some improvements could be made. The fact that vocabulary books are added to every day places a requirement on learners to constantly seek out new terms. They can also be personalized according to individual learning preferences and are a tangible resource – one that gives a clear indication of words that have been acquired. The main challenge for teachers is to instill this belief in all learners; for some of the students, vocabulary notebooks are clearly a chore, the definitions are too brief and the example sentences are sometimes too simple or misuse the word. There was also concern about the lack of organization in the notebooks; words are listed only according to the order they are encountered, and there is no attempt to sub-divide the entries grammatically or topically.

As with vocabulary notebooks, journals were seen as being of enormous benefit for students, if used properly. Having regular opportunities to make productive use of new language is essential if that language is to be fully acquired by learners. The fact that journals are seen as opportunities to experiment, rather than to produce perfect, but basic, language is another positive aspect, as is the feedback students can receive from

teachers. The key point of journal writing is that the more students push themselves to write at a higher level, the more they are likely to benefit. Learners who neglect to analyse their errors, or make little attempt to incorporate new language into their writing, will improve less. There is even the danger of errors becoming fossilised unless attention is given to corrections.

The vocabulary contained in class textbooks was seen as useful if it could easily be related to classroom activities, and relevant for end of session tests. In the higher levels however, there are a lot of highly specialized terms or uncommon idiomatic language with little relevance to the students' lives. Using graded readers for homework and in-class activities was seen in a far more positive light. Having lexical items graded for each level means that students are exposed to new language at a manageable rate, and the high degree of contextualization helps to aid guessing and recall. Having a weekly class devoted to the reader also allows students to discuss the text more confidently, having been given several days to prepare.

CHAPTER 6: CONCLUSIONS

At the outset of this investigation, three main goals were established. The first and second goals were to examine receptive and productive vocabularies, firstly in order to judge whether students finishing the course have attained 'threshold' vocabularies, and secondly to develop a form of diagnostic analysis that would allow better insight into students' vocabularies. Student vocabularies were measured using Levels Tests and Lexical Frequency Profiles. The third goal was to find evidence of learning strategy use, or lack thereof, in the students enrolled in the daily intensive programme, and to assess any change in attitude to learning strategies that takes place over a period of three sessions. These changes were measured with the use of surveys of learning strategy usage and preference conducted at the beginning of the course and again three months later. Finally, a survey was carried out to record the opinions of the teaching staff on the vocabulary teaching element of the course.

In general, the results of the Vocabulary Levels Tests were extremely encouraging. The average student's vocabulary increased by approximately 57%, and with a mean vocabulary size of 2,690 word families, the target threshold vocabulary is clearly achievable for many of the students within the remainder of the programme. One element of passive vocabulary which may require further attention though, is academic vocabulary, which would clearly benefit the majority of students, who will enter universities in the U.S. in the coming months.

Although it is likely that most students would achieve vocabulary sizes of around 3,000 word families by the end of the course, there are also a number who would

probably fall short of that target. For these students, comprehending native level texts would likely be beyond their abilities after another three sessions. In reality, these students have already begun to encounter difficulties with the level of improvement demanded by the programme and have had to repeat levels. The test results appear to be a good predictor of those students who struggle in reading classes.

The Vocabulary Levels Test proved to be a convenient method of assessing the development of passive vocabulary. The test was simple to administer, provided clear results, and allowed useful insights into the development of vocabulary over time. It also suggested that although the majority of students are likely to acquire vocabularies sufficient for acceptable levels of text comprehension, more work could be done to assist those who fail to reach this standard. By including questions on fifth level items, and carrying out the test at three points during the academic year, it may be possible to obtain data that could be used to advise students on how to make optimal use of their study time.

The results from the Lexical Frequency Profiles of the students' active vocabularies were the least conclusive data obtained during the research. It is clear that sampling students' free writing every session does not allow sufficient time for improvements to be noticeable. The choice of topic also seemed to greatly influence results, although this might be compensated for somewhat by collecting a large number of samples. There also remain concerns over the lack of treatment of idiomatic language and other multi-word items.

In spite of these issues, the Lexical Frequency Profiles appeared to show some changes in vocabulary use. They were also capable of highlighting the comparative lack of academic items in the students' writing. Perhaps a more controlled experiment using Lexical Frequency Profiles would yield better results, for example, by asking all students to write a journal-length piece on the same topic, and then repeating this exercise at intervals throughout the year. If these intervals were sufficiently large enough to allow for improvement, and the topics chosen allowed students to demonstrate their vocabularies fully, more conclusive data might be obtained.

The learning strategy survey yielded numerous insights into learning habits and preferences, and there was also some evidence of changes in behaviour over the three month period. Perhaps the clearest of these was the increase in perceived usefulness of determination strategies, an unsurprising result since these strategies are clearly of more benefit when dealing with higher-level texts. Within the category of determination strategies, guessing from context, noting word forms, and using a monolingual dictionary, all of which are encouraged heavily in the course, showed gains in both frequency of use and usefulness.

While some of the significant changes in study habits occurred in concert with the intentions of the teaching staff, others were more surprising. The fall in the perceived usefulness of using new words in sentences contradicts expectations since this is a skill that is practised every day in the students' vocabulary books. Likewise, the decline in the use and usefulness of studying new words with classmates suggests that learning vocabulary is increasingly being seen as an independent activity.

Some of the social strategies, including asking teachers or classmates for definitions, were clearly affected by the emphasis on applying other strategies to determine word meaning. The general decline of social strategies as a whole, however, is of some concern. Given that the students consistently regarded teachers and other native speakers as more useful than classmates, there appears to have been limited acceptance of the value of social strategies. Working in groups to share knowledge and ideas is a central element of this teaching programme, and so there may be a case for establishing activities that will demonstrate more clearly and convincingly to the students the benefits of learning socially.

The relatively infrequent usage of metacognitive strategies, despite the fact that their value is clearly recognised, highlights a key dilemma of intensive study programmes: how to allow learners time to review their work and engage in wider reading without interfering with their regular coursework. In their own survey, many of the teachers mentioned seeking opportunities for learning and reviewing work as key characteristics of successful students, so there would appear to be value in creating activities that focus on these skills.

When carrying out surveys of learning styles, there is a potential risk of respondents giving answers they feel they are expected to make rather than true responses, but the fact that bilingual dictionaries were revealed as being more frequently used, despite being perceived as less useful and being banned from classroom use, suggests that the responses obtained were reliable. There is also the possibility that the students' own views on the survey categories might have changed during the course.

At the time of the first survey, most of the students were relatively unused to intensive study, and therefore by the time of the second survey, their definitions of *often* or *quite useful* might well have changed. This could only be confirmed by obtaining more data from the continued use of the survey in future programmes.

Overall, the survey helped to confirm that the programme was often successful in inculcating independent study habits in the students, particularly strategies for determination of meanings. What was also apparent however, was that the use of strategies in vocabulary learning is a complicated issue, one which is not – and probably never will be – entirely under the teachers' control. Learners may well react to classroom instruction in unpredictable ways, and the value of surveys is that they can offer insights into these changes in habits, allowing teachers to oversee the process more clearly, and if necessary, plan remedial action.

When compared with Nation's three elements of autonomous learning (see section 3.2), the survey results suggest that progress has been made, but that room for improvement still remains. Many of the students appear to be more aware of the learning process, and have showed themselves capable of applying their knowledge to further their own learning needs. A number of the strategies which are promoted by the teaching staff have become more frequently used and are seen as being very useful by the students. There remain, however, strategies which have not yet been fully accepted by many students which could be highly beneficial. Such strategies provide a focus for future development planning within the school.

Some of the teachers' concerns that vocabulary notebooks required more organisation were echoed in the limited usage of grouping strategies by the students. By developing a system whereby students can organize their notebooks topically or grammatically, it may be possible to encourage learners to return to their entries and add information as it is acquired, thus promoting the use of deeper processing strategies that will allow for richer encoding.

Secondly, the low frequency of use scores for metacognitive strategies imply that learners are not taking control of their own learning – the attitude element of autonomous study. Here there may be an opportunity to stress the value of groupwork, since reviewing and informal testing is an activity which could easily be accomplished without the presence of a teacher.

Finally, goal-setting, if properly carried out, would help to improve learners' self-awareness. Again, this is an activity amenable to pair- or small groupwork which would highlight each individual's desire, or lack thereof, to assume responsibility for their own linguistic development.

In conclusion, this study can claim to have achieved its first goal of measuring improvements in students' passive vocabularies and matching them to suitable targets. The second goal – determining whether there has been a shift towards usage of less frequent forms – is hinted at, but cannot be confirmed by Lexical Frequency profiling. The final goal was to look for evidence of improvements in metacognitive knowledge and independent vocabulary learning. Here there was a limited degree of success, but

the research clearly helped to define key areas for further action.

This paper has examined the treatment of vocabulary within a relatively specialized teaching and learning environment, and as such, its conclusions cannot be applied to more general situations. However, it is hoped that the data obtained will be of practical use in planning future developments in this school, and that the insights gained into the strengths and weaknesses of this teaching programme will help to reinforce the value of conducting such action research projects in any context.

APPENDIX I: VOCABULARY LEVELS TEST

Vocabulary Levels Test: 1000 Level Test A

This is a vocabulary test. You must decide whether the sentences are true or not. If you think the sentence is true, circle the **T**, if you think it is not true, circle the **N**. If you do not understand the question, circle the **X**.

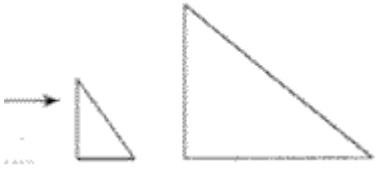
Here is an example question:

Example: We cut time into minutes, hours, and days.

N X **T**

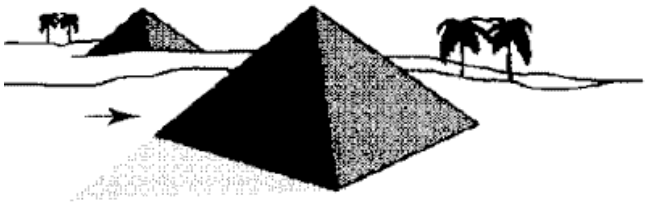
This sentence is true, so the letter **T** is circled.

1. This one is little.



T N X

2. You can find these everywhere.



T N X

3. Some children call their mother Mama.

T N X

4. *Show me the way to do it* means 'show me how to do it.'

T N X

5. This country is part of the world.

T N X

6. This can keep people away from your house.

T N X

7. When something falls, it goes up.

T N X

8. Most children go to school at night.

T N X

9. It is easy for children to remain still.

T N X

10. One person can carry this.

T N X

11. A scene is part of a play.

T N X

12. People often think of their home, when they are away from it.

T N X

13. There is a mountain in every city.

T N X

14. Every month has the same number of days.

T N X

15. A chief is the youngest person in a group.

T N X

16. Black is a colour.

T N X

17. You can use a pen to make marks on paper.

T N X

18. A family always has at least two people.

T N X

Vocabulary Levels Test: 2,000 and 3,000 Levels Test A

This is a vocabulary test. You must choose the right word to go with each meaning. Write the number of that word next to its meaning. Here is an example.

1	business		
2	clock	_____	part of a house
3	horse	_____	animal with four legs
4	pencil	_____	something used for writing
5	shoe		
6	wall		

You answer it in the following way.

1	business		
2	clock	__6___	part of a house
3	horse	__3___	animal with four legs
4	pencil	__4___	something used for writing
5	shoe		
6	wall		

Some words are in the test to make it more difficult. You do not have to find a meaning for these words. In the example above, these words are business, clock, and shoe.

If you have no idea about the meaning of a word, do not guess. But if you think you might know the meaning, then you should try to find the answer.

The 2,000-word level

1	birth		
2	dust		
3	operation	_____	game
4	row	_____	winning
5	sport	_____	being born
6	victory		

1	choice		
2	crop	_____	heat
3	flesh	_____	meat
4	salary	_____	money paid regularly for doing a job
5	secret		
6	temperature		

1	cap		
2	education	_____	teaching and learning
3	journey	_____	numbers to measure with
4	parent	_____	going to a far place
5	scale		
6	trick		

1	attack		
2	charm	_____	gold and silver
3	lack	_____	pleasing quality
4	pen	_____	not having something
5	shadow		
6	treasure		

1	cream		
2	factory	_____	part of milk
3	nail	_____	a lot of money
4	pupil	_____	person who is studying
5	sacrifice		
6	wealth		

1	adopt		
2	climb	_____	go up
3	examine	_____	look at closely
4	pour	_____	be on every side
5	satisfy		
6	surround		

The 3,000-word level

1	belt		
2	climate	_____	idea
3	executive	_____	inner surface of your hand
4	notion	_____	strip of leather worn around the waist
5	palm		
6	victim		

1	acid		
2	bishop	_____	cold feeling
3	chill	_____	animal
4	ox	_____	organization or framework
5	ridge		
6	structure		

1	bench		
2	charity	_____	long seat
3	jar	_____	help to the poor
4	mate	_____	part of a country
5	mirror		
6	province		

1	boot		
2	device	_____	army officer
3	ridge	_____	a kind of stone
4	marble	_____	tube through which blood flows
5	phrase		
6	vein		

1	apartment		
2	candle	_____	a place to live
3	draft	_____	chance of something happening
4	horror	_____	first rough form of something written
5	prospect		
6	timber		

1 betray

2 dispose

3 embrace

4 injure

5 proclaim

6 scare

_____ frighten

_____ say publicly

_____ hurt seriously

APPENDIX II: SAMPLE VOCABULARY PROFILE ANALYSIS

Original Journal

What is your pet peeve?

I often get irritated when I find a person who is talking loudly in the public place or transportation. I can often see these people and they made me crazy. First of all, they are very rude and it is annoying for the almost all people. If such a terrible person goes to quiet places, for example, a library, a museum, a concert hall, and so on, I'll think that I want them to disappear from there right now. In addition, when I'd like to sleep in the bus, I hope that there are no noisy people. I want to say "shut up!", but I can never. Therefore, it makes me stressed. Finally, I with everyone can become polite. I know that it is impossible, but it is one of the duty as human, so I don't want to be that kind of person.

Analysis

- K1 Words (1 to 1000): 88.44%
- K2 Words (1001 to 2000): 6.80%
- AWL Words (academic): 2.04%
- Off-list Words: 2.72%

Words in text (tokens): 147
Different words (types): 92
Type-token ratio: 0.63
Lexical density (content words/total): 0.44
Anglo-Sax index: 83.92%
Greco-Lat/Fr-cognate index: 16.08%

Integral text: i often get irritated when i find a person who is talking loudly in the public place or transportation i can often see these people and they made me crazy first of all they are very rude and it is annoying for the almost all people if such a terrible person goes to quiet places for example a library a museum a concert hall and so on i will think that i want them to disappear from there right now in addition when i would like to sleep in the bus i hope that there are no noisy people i want to say shut up but i can never therefore it makes me stressed finally i with everyone can become polite i know that it is impossible but it is one of the duty as human so i do not want to be that kind of person

APPENDIX III: VOCABULARY LEARNING STRATEGY SURVEY

	When I find a new English word that I don't know, I... 新出単語を見つけたとき、私は…	I do this…					I think this is…				
		never 全くしない	seldom めったにしない	sometimes 時々する	often よくする	very often とてもよくする	not useful 役に立たない	not sure it is useful 役に立つかどうかわからない	quite useful かなり役にたつ	very useful とても役に立つ	extremely useful 非常に役に立つ
A1	Check the new word's form (verb, noun etc.) 新出単語の品詞を調べる（動詞・名詞、等…）										
A2	Look for any word parts that I know (impossible, colorful) 単語の中で知っている部分を探す										
A3	Check if the word is also a Japanese word (spoon/スプーン) カタカナ英語として日本語でも使われているか調べる										
A4	Use any pictures or gestures to help me guess 絵・写真や（先生の）ジェスチャーから推測する										
A5	Guess from context 文脈から推測する										
A6	Use a Japanese-English dictionary 英和辞書を使う										
A7	Use an English-English dictionary 英英辞書を使う										
B1	Ask the teacher to give you the definition or a sentence 先生に定義や例文をたずねる										
B2	Ask your classmates for the meaning クラスメイトに意味を聞く										

	When I want to remember new wordsand build my vocabulary, I… 新出単語を覚え、語彙を増やしたい時、私は・・・	I do this…					I think this is…				
		never 全くしない	seldom めったにしない	sometimes 時々する	often よくする	very often とてもよくする	not useful 役に立たない	not sure it is useful 役に立つかどうかわからない	quite useful かなり役にたつ	very useful とても役に立つ	extremely useful 非常に役に立つ
B3	Study the word with your classmates その単語をクラスメイトと共に勉強する										
B4	Ask the teacher to check your definition 先生に、定義を確認する										
B5	Talk with native speakers ネイティブスピーカーと話す										
C1	Draw a picture of the word to help remember it 絵を描いて覚える手助けにする										
C2	Make a mental image of the word's meaning その単語の意味をイメージする										
C3	Connect the word to a personal experience 自分の経験と単語を結びつける										
C4	Remember the words that follow or precede the new word 前後に使われる単語を覚える										
C5	Connect the word to other words with similar or opposite meanings 類義語や反義語と結びつける										
C6	Remember words in 'scales' (always-often-sometimes-never) 連続して覚える（いつも・しばしば・時々・決して・・・等）										
C7	Group words together to study them 単語をグループ化する										
C8	Use new words in sentences 文の中で新出単語を使用する										
C9	Write paragraphs using several new words 新出単語をたくさん使用した文章を書く										
C10	Study the spelling of a word スペルを覚える										
C11	Study the sound of a word 発音を覚える										
C12	Say the new words aloud when you first meet them 声に出して言う										
C13	Make a mental image of the word's form 単語の形をイメージする										
C14	Remember the word using its parts (im-, un-, -able, -ful, -ment, ex-) 単語の一部分から覚える										
C15	Remember the word using its word form (verb, noun, adjective) 品詞から覚える（動詞・名詞・形容詞等）										
C16	Make your own definition for the word 独自の定義を作る										
C17	Use physical action when learning a word 体を使って覚える										

When I want to remember new wordsand build my vocabulary, I… 新出単語を覚え、語彙を増やしたい時、私は・・・		I do this…					I think this is…				
		never 全くしない	seldom めったにしない	sometimes 時々する	often よくする	very often とてもよくする	not useful 役に立たない	not sure it is useful 役に立つかどうかわからない	quite useful かなり役にたつ	very useful とても役に立つ	extremely useful 非常に役に立つ
D1	Repeat the words aloud many times 声に出して繰り返す										
D2	Write the words many times 何度も書く										
D3	Make lists of new words 新出単語のリストを作る										
D4	Use flash cards to record new words 単語帳を使う										
D5	Take notes or highlight new words in class メモをとる、又はマーカーを引く										
D6	Put English labels on physical objects 物にラベルを貼る（例：refrigeratorと書いたラベルを冷蔵庫に貼る）										
D7	Keep a vocabulary notebook 単語ノートをつける										
E1	Use English-language media (songs, movies, the internet) メディアを利用する（歌、映画、インターネット等）										
E2	Test yourself with word tests 単語テストでテストする										
E3	Study new words many times 何度も復習する										

APPENDIX IV: TEACHING STAFF SURVEY

Vocabulary teaching survey

- In general, how successful do you think we are in helping students to improve their vocabularies?

- What characteristics or habits do you think separate students in the daily program who have good vocabularies from those with poor ones?

- There are several elements of the course that require students to focus on vocabulary. Please comment on the positive and/or negative points of the following items.

  1) Vocabulary notebooks

  2) Journals

  3) Vocabulary/Idioms options classes

  4) Vocabulary in SSP textbooks

  5) Vocabulary in R/W textbooks and graded readers

- Can you think of any areas where our teaching of vocabulary could be improved?

APPENDIX V: VOCABULARY LEARNING STRATEGY SURVEY RESULTS

Frequency of use scores: 1 = never, 2 = seldom, 3 = sometimes, 4 = often, 5 = very often
Perceived usefulness scores: 1 = not useful, 2 = not sure it is useful, 3 = quite useful, 4 = very useful, 5 = extremely useful
Significance measured using the *t*-test

		Frequency of use			Perceived usefulness		
		Survey 1	Survey 2	Significance	Survey 1	Survey 2	Significance
A1	Check the new word's form (verb, noun etc.)	4.00/1.18	4.07/0.96	Not significant	3.52/1.17	4.07/1.28	Not significant
A2	Look for any known word parts (impossible, colourful)	3.64/1.05	3.80/0.94	Not significant	3.32/1.29	3.47/0.92	Not significant
A3	Check if the word is also a Japanese word	2.95/1.46	2.80/1.26	Not significant	2.83/1.11	2.80/1.21	Not significant
A4	Use any pictures or gestures to help me guess	4.23/0.61	4.40/0.74	Not significant	3.71/0.90	3.93/1.16	Not significant
A5	Guess from context	4.05/0.90	4.40/0.74	Significant at .20 level	3.86/0.83	4.00/0.85	Not significant
A6	Use a Japanese-English dictionary	3.96/0.98	4.27/0.80	Not significant	3.48/1.08	3.67/1.23	Not significant
A7	Use an English-English dictionary	3.77/0.97	4.13/0.74	Not significant	3.77/0.97	4.21/0.70	Significant at .20 level

		Frequency of use			Perceived usefulness		
		Survey 1	Survey 2	Significance	Survey 1	Survey 2	Significance
B1	Ask the teacher to give you the definition or a sentence	3.27/1.12	2.80/0.94	Significant at .20 level	3.77/0.92	3.87/0.83	Not significant
B2	Ask your classmates for the meaning	3.95/0.95	3.53/0.74	Significant at .20 level	3.73/0.94	3.47/0.92	Not significant
B3	Study new words with your classmates	2.59/0.80	2.07/0.88	Significant at .10 level	3.00/0.98	2.27/0.70	Significant at .20 level
B4	Ask the teacher to check your definition	2.77/0.87	2.67/0.90	Not significant	3.29/0.90	3.20/1.08	Not significant
B5	Talk with native speakers	3.27/1.16	3.33/0.98	Not significant	4.09/1.11	3.73/1.03	Not significant

		Frequency of use			Perceived usefulness		
		Survey 1	Survey 2	Significance	Survey 1	Survey 2	Significance
C1	Draw a picture of the word to help remember it	2.24/1.22	2.00/1.18	Not significant	2.91/0.87	2.50/1.02	Not significant
C2	Make a mental image of the word's meaning	3.64/0.95	3.47/0.74	Not significant	4.00/1.07	3.27/1.16	Significant at .10 level
C3	Connect the word to a personal experience	3.00/1.11	3.07/1.10	Not significant	2.95/1.05	3.60/0.91	Significant at .10 level
C4	Remember the words that follow or precede the new word	3.10/0.83	2.86/0.95	Not significant	3.24/1.00	3.43/1.16	Not significant
C5	Connect the word to synonyms or antonyms	3.24/0.70	3.00/0.85	Not significant	3.68/0.95	3.53/0.83	Not significant
C6	Remember words in 'scales'	2.45/0.80	2.40/0.74	Not significant	2.95/0.95	2.93/1.03	Not significant
C7	Group words together to study them	2.18/0.73	1.80/0.68	Significant at .20 level	2.86/0.94	2.47/0.99	Not significant
C8	Use new words in sentences	3.09/0.75	3.27/0.70	Not significant	3.82/0.96	3.40/0.91	Significant at .20 level
C9	Write paragraphs using several new words	2.41/0.80	2.60/0.74	Not significant	3.23/1.07	3.00/0.85	Not significant
C10	Study the spelling of a word	3.23/1.15	3.21/1.19	Not significant	3.59/1.30	3.64/1.22	Not significant
C11	Study the sound of a word	4.05/0.79	3.71/0.83	Not significant	4.09/1.02	4.07/1.27	Not significant
C12	Say the new words aloud when you first meet them	4.09/0.87	3.79/1.05	Not significant	4.14/0.94	3.71/0.99	Not significant
C13	Make a mental image of the word's written form	3.00/1.20	2.93/0.73	Not significant	2.95/0.95	2.79/0.89	Not significant
C14	Remember the word using its parts	2.59/1.10	2.57/0.85	Not significant	2.95/1.13	2.86/1.03	Not significant
C15	Remember the word using its word form	2.68/1.13	3.00/1.11	Not significant	3.00/1.02	3.07/1.14	Not significant
C16	Make your own definition for the word	2.64/0.85	2.43/0.85	Not significant	2.68/1.21	2.71/0.99	Not significant
C17	Use physical action when learning a word	2.41/0.73	2.29/1.07	Not significant	2.86/0.77	2.43/0.94	Significant at .20 level

		Frequency of use			Perceived usefulness		
		Survey 1	Survey 2	Significance	Survey 1	Survey 2	Significance
D1	Repeat the words aloud many times	3.45/1.10	3.29/1.44	Not significant	3.68/1.04	3.79/1.25	Not significant
D2	Write the words many times	2.95/1.05	2.79/1.05	Not significant	3.73/1.08	3.29/1.27	Not significant
D3	Make lists of new words	3.55/1.26	3.29/1.07	Not significant	3.73/0.98	3.57/1.09	Not significant
D4	Use flash cards to record new words	3.32/1.04	4.00/1.18	Significant at .10 level	3.27/0.98	3.93/1.07	Significant at .10 level
D5	Take notes or highlight new words	4.45/0.67	4.36/0.63	Not significant	3.95/1.13	4.07/1.00	Not significant
D6	Put English labels on physical objects	1.59/1.05	1.43/0.51	Not significant	2.82/0.85	2.71/0.73	Not significant
D7	Keep a vocabulary notebook	4.05/0.95	3.79/0.70	Not significant	3.95/0.84	4.00/0.68	Not significant

		Frequency of use			Perceived usefulness		
		Survey 1	Survey 2	Significance	Survey 1	Survey 2	Significance
E1	Use English language media	3.05/1.33	2.87/1.06	Not significant	3.23/1.11	3.2/0.86	Not significant
E2	Test yourself with word tests	2.27/0.94	2.20/1.21	Not significant	3.55/1.01	3.33/1.11	Not significant
E3	Study new words many times	3.09/1.05	2.67/0.90	Significant at .10 level	3.95/1.05	4.07/1.03	Not significant

APPENDIX VI: VOCABULARY LEVELS TEST RESULTS

	1,000 level test		2,000 level test		3,000 level test		AWL test	
Student	Test 1	Test 2	Test 1	Test 2	Test 1	Test 2	Test 1	Test 2
A	10	-	9	13	3	8	-	8
B	12	-	8	16	2	9	-	1
C	15	-	13	14	4	7	-	10
D	17	-	15	17	8	13	-	11
E	14	-	7	12	2	8	-	5
F	12	-	8	11	2	8	-	6
G	16	-	12	14	5	8	-	5
H	16	-	12	14	8	11	-	11
I	12	-	14	11	6	11	-	5
J	14	-	8	10	4	9	-	3
K	15	-	15	16	8	14	-	10
L	13	-	11	14	5	11	-	8
M	13	-	8	9	8	8	-	3
N	15	-	10	14	4	11	-	6
O	14	-	12	16	10	14	-	13
P	13	-	14	17	10	14	-	11
Q	13	-	11	13	6	8	-	7
Average	13.76	-	11	13.59	5.59	10.12	-	7.24

APPENDIX VII: ESTIMATES OF VOCABULARY SIZE

	Test 1							Test 2							%
Student	1000 level	2000 level	3000 level	4000 level	AWL level	5000 level	Size	1000 level	2000 level	3000 level	4000 level	AWL level	5000 level	Size	Increase
A	10	9	3	1.92	0.87	0.84	1186.6	13	13	8	6.24	8	4.48	2440.7	105.7
B	12	8	2	1.28	0.58	0.56	1130.6	16	16	9	7.02	1	5.04	2502.8	121.38
C	15	13	4	2.56	1.16	1.12	1705.6	14	14	7	5.46	10	3.92	2517.6	47.611
D	17	15	8	5.12	2.32	2.24	2300	17	17	13	10.14	11	7.28	3491.7	51.812
E	14	7	2	1.28	0.58	0.56	1176.9	12	12	8	6.24	5	4.48	2209.3	87.727
F	12	8	2	1.28	0.58	0.56	1130.6	11	11	8	6.24	6	4.48	2163	91.318
G	16	12	5	3.2	1.45	1.4	1807.9	14	14	8	6.24	5	4.48	2394.4	32.445
H	16	12	8	5.12	2.32	2.24	2114.8	14	14	11	8.58	11	6.16	2997.2	41.725
I	12	14	6	3.84	1.74	1.68	1817.6	11	11	11	8.58	5	6.16	2441.7	34.336
J	14	8	4	2.56	1.16	1.12	1427.8	10	10	9	7.02	3	5.04	2039.8	42.866
K	15	15	8	5.12	2.32	2.24	2207.4	16	16	14	10.92	10	7.84	3461.1	56.795
L	13	11	5	3.2	1.45	1.4	1622.7	14	14	11	8.58	8	6.16	2858.3	76.148
M	13	8	8	5.12	2.32	2.24	1790.7	9	9	8	6.24	3	4.48	1838.9	2.6888
N	15	10	4	2.56	1.16	1.12	1566.7	14	14	11	8.58	6	6.16	2765.7	76.536
O	14	12	10	6.4	2.9	2.8	2226.9	16	16	14	10.92	13	7.84	3600	61.663
P	13	14	10	6.4	2.9	2.8	2273.2	17	17	14	10.92	11	7.84	3600	58.371
Q	13	11	6	3.84	1.74	1.68	1725	13	13	8	6.24	7	4.48	2394.4	38.808
Average	13.76	11	5.59	3.58	1.62	1.56	1718.1	13.59	13.59	10.12	7.89	7.24	5.67	2689.8	56.561

Measured results given in black
Estimated results given in blue
In test 1, AWL score = 3,000 level score x 0.29
In test 1, 5,000 level score = 3,000 level score x 0.28
In test 2, 1,000 level score = 2,000 level score
In test 2, 5,000 level score = 3,000 level score x 0.56
In both tests, 4,000 level score = average of 3,000 and 5,000 level scores

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