

Vocabulary Acquisition: Designing Activities that Provide Access to a Range of Processing Pathways

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Abstract: This paper provides practical advice on selecting and teaching specific vocabulary to a particular type and level of learner. The activities described are introduced sequentially in the style of a lesson plan and have been designed to encourage vocabulary acquisition via a range of processing pathways (mnemonic, semantic, and syntactic). Furthermore, all of the activities and techniques have a firm base in theories on vocabulary acquisition. Finally, care has been taken to provide a varied focus on the four skills (reading, writing, listening, and speaking) both to keep lessons fun and to provide a well-rounded learning experience. The paper is divided into three sections: 'Introduction: The importance of building the mental lexicon', 'Selection of Lesson Vocabulary' and 'The Teaching and Learning Process'.

Keywords: *mnemonic, semantic, syntactic*

1. Introduction: The importance of building the mental lexicon

There are students who have a very limited control of the tenses. They may not inflect verbs when required or may choose the wrong inflection or aspect. Teachers often sit and listen patiently, waiting for the timeline to unravel, or sometimes unsuccessfully, making guesses as to whether the events described happened over a period of time in the past, on just one occasion, habitually, or are set to occur sometime in the future. In situations such as these, the teacher is vexed because any natural follow-up question depends upon understanding 'when' the student is talking about. This is a very frustrating experience, but what sets this limitation in student ability apart from a lack of vocabulary, is that the teacher does know 'what' the student is talking about. When the 'what' is missing, then things get really serious. It is a brutal fact of language learning that you cannot express those ideas for which you do not have the terminology, and that possession of a limited vocabulary will lead to a lack of precision in your utterances; put simply, you will be unable to get your point across.

With the previous in mind, it is surprising to read statements such as that in Coady (1997:274) which inform us that "Many teachers and scholars feel that teaching vocabulary is a low-level intellectual activity unworthy of their full attention." This position seems remarkably counter-intuitive and one might go as far in opposition as to

ask if there is anything more worthy of our attention as teachers, particularly when one considers the many semantic, grammatical and social functions of vocabulary. The sentence below spoken by a Japanese businessman taking an ESP (English for Specific Purposes) class shows through its failings how these functions are best served by informed vocabulary selection.

*“I ordered my junior to a report until Tuesday.”

On hearing this, a listener might consider the businessman’s vocabulary selection and imagine that he is bossy (“I ordered”) and superior or self-important (“my junior”). What is more, they would not be clear on the exact nature of the task (“to a report”), or have a clear idea of the deadline (“until Tuesday.”) However, this impression of him could likely be false, as the notion of selection presupposes an element of choice, something that, as a lower-level learner, he likely did not have when formulating this utterance. For this reason, it is a matter of great importance for teachers to strive to equip students with a broad mental lexicon, one that ideally has efficient semantic and syntactic links and is organized for fast access.

Following is a case study of a group of low-mid intermediate students. The students in question took a twelve-week course with one ninety-minute lesson per week scheduled during regular working hours. They used a text (Business Venture 2 by Barnard and Cady, OUP 2000) that is strong on structure, but low on vocabulary applicable to their particular business; financial securities and investment banking. To make up for this shortfall, there was a need for additional vocabulary external to the text, yet suitable for substitution into the functional and communicative language therein. The section of the course relevant to this case was a series of lessons focusing on ‘future prospects’.

2. Selection of Lesson Vocabulary: What vocabulary to teach and what students need to know about it.

A number of factors influence the selection of vocabulary to be presented during a course. The teacher has to consider which lexical items the students are most likely to need in their use of the target language. This is linked to the relative frequency and range of these items in the real-world corpora of written and spoken language which makes up the environment of authentic language use within which they wish to function. ‘Frequency’ refers to how often a particular lexeme occurs within the body of a text (or texts), while ‘range’ is the property of occurrence across a broad spectrum of different texts (Nation and Waring 1997:13). This will of course be different for every student, but when dealing with a group as that stated above, a list of core items is easier to compile than if one were to do likewise with students taking a course in EGP. In either case, the final selection should contain a significant number of items chosen to be of importance by the students themselves (Nation, I.S.P. 2001:205), this way the course is more likely

to be relevant and satisfy the learner's needs.

A further consideration is the accessibility of the items to be taught, for some may be far more difficult to learn than others (Schmitt 2000); so much so in fact, as to be counter productive due to the associated loss of time and motivation that may occur through protracted efforts to acquire them. When preparing to teach a group, the teacher must therefore also have an understanding of each individual student's current language proficiency (an entity which is notoriously difficult to accurately quantify), so that vocabulary items which are likely to hinder the learning process through imposing undue stress if presented too early can be distributed wisely to those who are ready for them at the appropriate time. This is particularly difficult in a situation like the one to be dealt with in this paper, where some of the students were not yet at the level of having acquired the first 3000 commonly occurring English words, suggested by some to be essential to know before moving on to topic specific vocabulary (Nation and Waring 1997:11). For these students, descriptions of meaning have to be accordingly simplified if given in the second language (L2), and means of presenting language need to be similarly restricted to try to prevent unknown vocabulary in the expository texts exceeding the suggested five percent mark, over which understanding through context is thought by many to be severely hampered (Schmidt 2000). This does not mean that students should be denied exposure to more problematic vocabulary, but rather that the exposure, in line with Nation's views, should only be considered "if the initial learning effort is repaid by the opportunity to use that learning again when the word reoccurs" (Nation, I.S.P. 2001:208). Hence frequency is as essential in the learning process as it is in the selection process, a point that will be elaborated on in more detail later.

With all of the above considered, the proposal for the business student's class was to compile a word list from two major sources. The first source was the students themselves, who were given a dictionary task involving the direct translation of lexical items (Japanese to English) that they deemed important to be able to use in their field. This was set as a homework assignment (see Appendix 1) and follow-up activities were done in class for the purpose of review and language share, as well as work on intralexical discovery and considerations in communicative usage. Frequently occurring words from the field made up the remainder of the supplementary vocabulary and were selected from authentic texts. These were newspapers and collocation lists, respectively (see Table 1). The benefit to compiling a target vocabulary list from both students and external sources is in the way that 'first contact' with the words to be learned occurs. Dictionary work is essentially explicit and the words can be first learned in isolation from visible context which might distract, yet learning is supported by experiential links through having been self-selected by students. By contrast, vocabulary from the secondary source was directly supplied to the students. This was done through context-based activities like reading, or information gap exercises that require interaction. In such activities where exposure to new language is more implicit, inferential and communicative strategies must come into play to elucidate meaning and build working

knowledge of the items. This explicit/implicit combination is an important feature of the teaching and learning process, once again, this is to ensure variety in activities, and furthermore, encourage the use of a number of different processing pathways and storage options through mnemonic, semantic, and syntactic strategies.

Table 1: Vocabulary selected from authentic texts

Verbs from 'The Japan Times.'				
Rise (14)	Increase (3)	Gain (5)	Rally (3)	Recover (2)
Rebound (2)	Fall (7)	Slump (2)	Plunge (1)	Tumble (1)
Sell (5)	Buy (5)	Trade (9)	Invest (7)	Fear (2)
Worry (5)	Optimism (2)	Close (2)	End (3)	

Note: Vocabulary items were drawn from eight editions (four of each) of the daily 'TSE Data & Report' and 'Currency Markets' published in 'The Japan Times'. Numbers in brackets show the frequency of occurrence (any word form was considered as one occurrence).

Collocations from 'Oxford Collocations, dictionary for students of English, OUP 2002.'

- **Rise:** Rise in, huge rise, significant rise, modest rise, sharp rise, steady rise, rise sharply, rise steadily.
- **Increase:** (Collocations are the same as for 'rise'.)
- **Gain:** Gain in, huge gain, significant gain, modest gain.
- **Fall:** Fall in, dramatic fall, significant fall, modest fall.
- **Worry:** Worry about, deeply worried, slightly worried.
- **Optimistic:** Optimistic about, extremely optimistic, quite optimistic.

Moving on to the second focus of this section, 'What students need to know about the vocabulary to be learned', we find that once again there is much to consider. Some theorists have drawn up lists of what is required in order to boast full knowledge of a given word. The following is a combination of factors taken from Richard's eight-point list on teaching and learning vocabulary and Nation and Waring's list of what should be included in course design. They can be put under the heading of 'What should be known about a word':

- Forms and parts of speech included in a word family
- Frequency
- Underlying meaning
- Collocations and their frequency
- Restrictions with regard to politeness, geographical distribution
- The syntactic behaviour associated
- Many of the meanings associated with it
- The degree of probability of encountering it and other hyponyms/collocates in a given text

(Nation and Waring 1997:19 and Richards in Robinson 2002:D6)

Clearly, this represents the gold standard and is far in advance of what one would

sensibly hope students of a low-mid intermediate level to acquire. In addition, any attempt to impart even fifty percent of the above for a single word would likely result in resistance and confusion on the learner's part. For though Cowie states that the "L2 student has a predominant, though not always acknowledged, interest in the full and explicit treatment of common words" (1983:138), limitations on time and concentration push common sense to the fore and dictate that the teacher attempt to isolate that which is of most immediate value and within the current grasp of the students. Taking this and the need to also ensure reasonable coverage of the language in the textbook into account, the teacher must think carefully about how and when to pass on the information that will make the most practical difference to the student's initial appreciation of the lexical items to be learned. For guidance, one can look towards contemporary practice in lexicography and the compilation of learner's dictionaries. In comparison to more traditional dictionaries which tended to function simply as encyclopaedic lists of orthographic words with "no irregularities of form or meaning" (Cowie 1983:137) the new dictionaries, designed for use as an aid to NNS study and not just NS reference, give more collocations, examples of usage and information on words as members of a word family. The manner in which this information is presented through means such as bold print to show prepositions, parenthesis to show optional elements and obliques to show substitutions (ibid:139) is easily transferable to classroom methodology. Perhaps the area that stands out as the most likely to benefit from this borrowing of practice is use of the whiteboard; a resource that is too often misused or not used to its full potential. Professionalism with regard to presentation is one area where the teacher as practitioner earns his keep and separates himself from other 'skilled' or 'native' users of the language. Clear, consistent and informed classroom representation of distinct points to be first noticed and ultimately acquired through replication of dictionary transcription procedures save the students a great deal of time spent experimenting with and reformulating misguided hypotheses on meaning, form and usage.

Returning to the issue of what should be taught, with respect to the current teaching situation it is suggested that the underlying meaning, parts of speech (most commonly used derivations), inflexions and collocations/hyponyms likely to be encountered in the field make up the essential teaching points. To supply additional meanings at this stage would be superfluous, the same holds for excessive numbers of collocations, for though they are seen to represent an area in which students are prone to error, especially when dealing with blocked combinations and overlapping clusters (Howarth 1998:37), too much too soon would likely compound this situation. In effect, just as students confuse antonyms if taught together, so would they confuse acceptable and unacceptable collocations if the teacher were unwise enough to give too much at one time. Rather, the kind of collocations to be focused on should be those that are perhaps not readily formed through guesswork on the learner's part, as well as those that are regularly used in the field. Examples would be grammatical collocations that consist of one open class word and one closed class word, in this case, nouns plus prepositions such as 'a rise in', as well as some lexical collocations (Howarth 1987:27) using two open class words,

again for the purpose of the lessons referred to in this paper, verb plus adverb combinations such as ‘rise sharply’.

Derivations are also notoriously difficult for students to handle correctly, but usually because they are not approached explicitly enough in pedagogic materials, rather it is just hoped that learners will pick them up as a result of exposure to one part of speech through application of morphological rules. Experience suggests that this does not happen in reality, and in fact students often seem to be extremely inflexible in this area and tend to bend structure around only one known word form; for this reason they have been selected as points for explicit instruction.

Of course, if questions do arise from the students on matters of polysemy, pronunciation, frequency, idiomatic usage, or any other matter, then rightly these should be dealt with, but with care taken not to confuse with excessive information. Answers should again include just that which students need to know at the time and if interest persists then tasks can be set that allow students to follow up in their own time.

3. The Teaching and Learning Process: Initial/Early exposure, repeat exposure and follow-up activities to vary the mode of vocabulary uptake and storage.

Initial/Early Exposure: The first phase of the lesson.

In the last section mention was made of how different means of exposure may impact upon how lexical items are acquired and stored. The physical storage location itself is unimportant, as for teaching and learning purposes, how words are activated in the mind is the key issue. Aitchison (1994:223) describes the situation in this way: “Word lemmas (meaning and word class) seem to be organized in semantic fields...For producing speech, this is a useful arrangement. While, Word forms (sound structure) are organized with similar sounding words closely linked...This is good for word recognition.” It goes without saying that reception and production occur after lexical items have been learned, however, if they are stored in semantic fields then it is a reasonable assumption to make that the learning process should mirror this in order to speed up acquisition when words are initially met. In other words, vocabulary should be packaged for learning in the same way as it is likely to be stored.

Topic specific vocabulary lends itself to semantic grouping, and various techniques can ensure that words are learned with collocates in chunks of memorized language or with hyponyms in the form of lists. Activities for initial exposure that encourage the above include the homework assignment mentioned earlier, as well as brainstorms (word webs, word clouds, word association etc) and reports or stories on a specific topic. All of these can be used at the beginning of the lesson, introduced with guided discussions or anecdotes to encourage mental pathways to open and activate existing topic related

vocabulary to be shared with the group. Brainstorms should be conducted with the help of prompts to activate words that may have been forgotten as a result of disuse (see Gairns and Redman 1986:89 for more on decay theory and cue-dependent forgetting); these cues could take the form of a simple definition plus the first letter or syllable of the word to be elicited (Use of phonetic hints is also useful to prompt recall in later lessons). Teachers should also include themselves in the activity so that none of the key words to be generated are missed. At this time the phonological aspect that triggers recognition will also be introduced to students through hearing new lexical items for the first time. To further consolidate, memorization-themed verbal listing activities should follow directly after the brainstorms providing an opportunity for mnemonic learning; for example, the teacher flips the whiteboard in order to remove the previously elicited vocabulary from sight, and then asks one student to list the words he/she can remember verbally. The students can do this competitively one after the other to provide repeated exposures in a way that enhances what would otherwise be a dry activity. As opposed, or in addition to bare lists, a short sentence based on personal experience or sentiment containing the words most relevant to each particular student can also be prompted. This has the advantage of providing them with a semantic 'hook' on which to hang new items for retrieval at a later time; a concept referred to by Ausubel as 'anchorage' (1985:74). If, as is sometimes the case, students are unable to come up with examples with sufficient depth of meaning (i.e. sentences that are not memorable enough to later recall), then the teacher can provide assistance. One anecdotal example of this is a time when I was teaching a group of engineering students who were having difficulty remembering adjectives for shapes (e.g. rectangular, cylindrical). I decided to try using some ridiculous 'hooks' on which to hang the vocabulary. First I asked the students to brainstorm animals, and then using their lists, drew rectangular, triangular, and cylindrical animals on the whiteboard. Next, I asked the students what the animals were doing; prompting the use of other recently studied target language. While the resulting pictures were really bad, I believe that this may have aided recall. Two weeks later, I decided to review the adjectives and asked a student, 'What kind of squirrels do you like?' she responded, "Cylindrical squirrels... checking gauges."

Brainstorm-type activities aside, texts such as short stories or reports can also be used for a first introduction to new vocabulary. With the 95% rule, or beginner's paradox (Coady 1997:284) in mind, it is probably best that in a series of lessons this method be used in the second lesson on a continuing topic, when the students have already been exposed to other vocabulary that will build the knowledge of context needed to support understanding of the fresh items introduced. A gap-fill reading exercise could be most beneficial, as it would provide an opportunity to get students thinking about derivations of previously seen words, while also presenting fresh items such as hyponyms. It must be said though, that some suggest that the meaning of new words in a text should not be inferred too easily, as the lack of processing depth may result in the item not being sufficiently 'noticeable' for retention (Schmitt 2000:155). The meanings of individual items that students have gleaned from the surrounding context should also be checked

so as to correct the misinterpretations that frequently occur when inferences are made (Sokmen 1997:238). Negotiation of meaning about challenging vocabulary, both with the teacher and classmates, could lead to the development of stronger semantic knowledge of new items.

Repeat Exposure: The second phase of the lesson.

We have seen how the first part of the lesson can be used as a time to introduce new vocabulary items, with repetition in production and reception being part of the early learning process. Frequency of use and exposure are seen as key to vocabulary acquisition, with Coady stating that “various studies create a range of 5-16 encounters with a word in order for a student to truly acquire it” (1997:241). However, frequency alone may not suffice and hence other elements must be built into activities to increase the probability that a vocabulary item is retained. These are factored into later stages of the lesson.

When planning any lesson or course, the possibility for learner fatigue is something that the teacher should be aware of. There is obviously more to a lesson than just vocabulary learning, and even if this is the primary concern, it must be remembered that acquiring new language takes mental effort. For this reason, the teacher should avoid the likelihood of overburdening the learner’s processing apparatus with too many consecutive, challenging tasks either before or after the period of vocabulary learning (Gairns and Redman 1986:89). In the proposed lesson format, the initial period of vocabulary uptake was therefore followed by a simple listening activity from the textbook. This change of focus serves two purposes; first, it provides a welcome break from the heavy cognitive strain of language acquisition, and second, it introduces a simple structural framework, one that students are already familiar with to some degree, on which to later hang the newly introduced lexical items during verbal practice activities. The structures taken from the listening activity and presented for the first and second lesson respectively can be found in Table 2.

Table 2: Structural input

First lesson:

(subject) will (verb present simple) (future time expression)

e.g. **‘Share prices will rise next week.’**

Expressions of probability are added gradually from the list below to vary the structure of the utterance.

probably / definitely - I’m sure that / I’m convinced that / I’m certain that / It’s likely that - might / may

Second lesson:

(subject) (will + negative) (verb present simple) (future time expression)

e.g. **‘The Nikkei Average probably won’t fall tomorrow.’**

Again, gradual alterations in structure as well as areas for vocabulary substitution are presented to express different ideas and allow for the inclusion of topic specific vocabulary.

Note: See Barnard and Cady (2000:58-61) for listening activities.

Subsequent to input that focuses on form, a number of exercises can be used for oral practice (see Table 3). The first reinforces the uptake of lexical chains containing the collocations and hyponyms first seen earlier in the lesson. By making the students catalysts for their classmates' output it also aims to provide 'rich input' (Ellis 1999:186), as students are more inclined to listen to the output having had a hand in creating it. In essence, more attention is paid to syntax and use of lexical items. The second is an extension of the first and brings in a third student to respond naturally with a synonym. Language is a tool, a means to build relationships through the exchange of information with others, and foregrounding the interactional nature of language use in practice activities such as these can also facilitate learning. In addition, they allow for personalisation of target language that should aid memory, and allow for practical use of synonyms as opposed to their usual presentation in the form of "word study divorced from actual use" (McCarthy 1991:68). Similar practice activities can be used for the second lesson, but with a focus on negative predictions and extensions to incorporate question formation and additional reactions/comments. In both lessons these interactional practice activities serve as preparation for a more independent, production activity to finish.

Table 3: Practice Exercises

Practice Exercise 1:

Ask one student to provide a classmate with the name of a stock option, index or currency, as well as a future time expression e.g. '**London FTSE 100 index...Next week**'. Encourage the classmate to make a prediction using this information, the structure provided earlier, and vocabulary studied at the start of the lesson, e.g. '**The London FTSE 100 index will probably rebound next week.**'

Practice Exercise 2: (Extension of 1)

Encourage a third student to respond to the second student's prediction with a reaction and opinion using a synonym e.g. '**You think so? I'm not sure it will recover.**'

Limit the processing load by pre-teaching the response and allowing for just one substitution (synonym of 'rebound' underlined above).

Production Activities

One proposal with which to end the lesson is set up an activity where semantic processing will be required. The students are split into small discussion groups and must assume the role of would-be investors putting their capital together to increase the likely return. As a pre-task to the discussion, mnemonic, verbal listing activities (with or without phonetic prompts) such as those used earlier can be re-done to bring a wide variety of lexical items back to the forefront of student's minds and improve the chances of items being acquired through the act of successful recall (Sokmen 1997:242). A variation could be a role-play between two students, with one acting as a financial advisor and the other given the task of asking for predictions on a range of diverse investments.

This would work better for the second lesson, as at that point a wider range of applicable questions would have been generated to aid and extend interaction. For both proposals, a post-task could involve a stronger student giving a summary of what transpired in the course of the conversation to the rest of the group; once again, allowing for rich input for those listening. Homework might consist of a written dialogue similar to that had verbally in class, or a report on the week's movements in the markets. Both would have the advantage of a switch in processing from semantic to syntactic, so the change would encourage attention to grammatical form and spelling accuracy, providing outreach to learners who retain language best through the act of transcription.

Conclusion

As was previously stated, the activities outlined above were utilized with a group of low-mid intermediate students learning vocabulary in an ESP program. However, similar approaches can be effective with any students of English. What is important is to provide access to a range of processing pathways (mnemonic, semantic and syntactic) and do so through a variety of mediums, with some activities more inclined towards implicit or explicit presentation of language. We must be mindful of how language is learned and stored, while also recognising that different learning styles suit different students. In addition, although this paper describes a teaching situation where vocabulary learning is the primary focus, the activities introduced should not be seen as married to the lesson plan. Any of them could be used in isolation, or tweaked to create an activity for input or review in a more general course of English study. Teachers require numerous strategies to provide and/or reacquaint students with target vocabulary. Ensuring that these are designed and executed with a processing pathway in mind, and that language is not simply given to students, will go a long way towards encouraging uptake and acquisition.

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Appendix 1

Homework Assignment

Part One: Think of ten words that can be used to talk about the stock market or currency markets. Write them down in Japanese, then find the English translation in your dictionary and write this beside it.

Japanese	English
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

Part Two: Write an example sentence for three of the words you chose.

Example: Plummet: Share prices plummeted last Tuesday.

