Vocabulary in the Secondary School Classroom

Introduction

Vocabulary refers to the knowledge of words and word meanings in both oral and written language forms, and in the productive modes (speaking and writing) as well as the receptive (listening and reading) (Lehr, Osborn, & Hiebert, 2004, p. 5). Students' knowledge of vocabulary plays an important role in reading comprehension (Ministry of Education, 2004, p. 35; Lehr et al., 2004, p. 6; Rupley, Logan, & Nichols, Dec 1998/Jan1999, p. 336), The vocabulary demands of the curriculum increase as the school years advance.

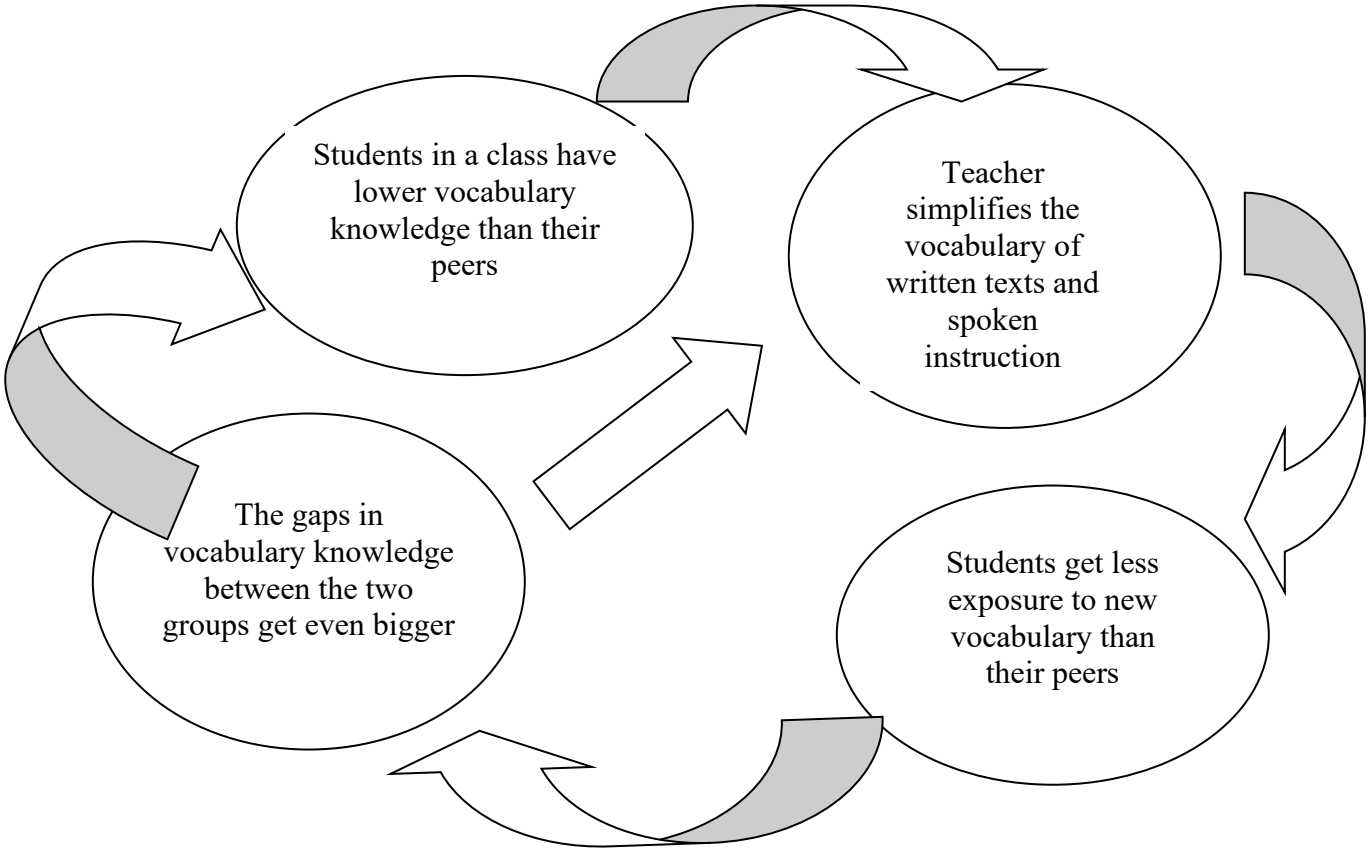
These guidelines are not intended to be read as discrete principles. In reality effective vocabulary instruction will involve the seamless interaction of all these guidelines. For this reason this paper is presented in two parts. The first part outlines eight guidelines for teachers and provides a rationale for each, while the second describes two classroom activities and explains how these reflect the vocabulary teaching practices promoted in the guidelines.

A. Guidelines for effective vocabulary teaching in the secondary classroom

Guideline #1: Amplify, rather than simplify, vocabulary

When confronted with students who have limited vocabulary knowledge it can be very tempting for secondary school teachers to simplify the language demands of the subject so that students are exposed only to words they already know. This can have the unintended consequence of creating a vicious circle in which the limited vocabulary knowledge of students leads teachers (for the best of intentions) to limit the opportunities they have to engage with difficult vocabulary, which exacerbates the gaps between them and their peers and reinforces the 'Matthew Effect' that Stanovich identified in which 'the rich get richer and the poor get poorer'(Lehr et al., 2004, p. 6). This is illustrated in Figure 1 below.

Figure 1: The Vicious Circle of Low Expectations



As a teacher, what should you do when the textbook you wish to use contains lots of vocabulary you know your students will not understand? According to an adage coined by Walqui (2006) in such situations teachers should choose to 'amplify, not simplify' the language learning. By this she means that rather than *reducing* the challenging vocabulary, support should be *increased.* A teacher could decide to *simplify* the vocabulary, for example, by providing an abridged text with the 'hard words' replaced with easier ones, or to *amplify* the harder text, by directly teaching new words, providing a glossary, or otherwise scaffolding the vocabulary learning. The latter approach will be much more effective in improving students vocabulary. Elley found in a series of studies (Elley, 1995) that when teachers read aloud to students and provided short explanations of new words as they went, children's vocabulary levels improved by 40%, whereas when they read aloud without this type of amplification there was an improvement of 15% which, while still impressive, was significantly less effective.

This is not to say however that there is not a place for texts with simpler vocabulary then standard year-level texts, but that these alternative texts should still provide students with opportunities to be challenged and to experience rich vocabulary. It is a question of balance and if the gaps between your students' existing vocabulary knowledge, and the vocabulary in the text are too great you will have to spend far too much time scaffolding and amplifying.

Guideline #2: Encourage social interaction
Because of the sheer number of words students have to learn, and because students need frequent opportunities to engage with new vocabulary before it becomes embedded, much of the learning of new words has to be incidental. It is important however to distinguish *incidental* from *accidental* and an effective teacher of vocabulary will *deliberately* foster the environment in which this incidental learning can flourish (Lehr et al., 2004). One of the most effective ways to achieve this is through activities in which students have to talk amongst themselves about, and using, new vocabulary.

Vygotsky wrote that 'every function in the child's cultural development appears twice, on two levels. First on the social level and later on the psychological level; first, between people as an interpsychological category, and then inside the child, as an intrapsychological category' (Vygotsky, 1978, p. 128). This is particularly important in regard to vocabulary, as language is, by definition, communicative and social. To understand how important social interaction is to vocabulary development it is useful to reflect on how young children acquire vocabulary in the first place, which is primarily through social interaction as words arise incidentally in context, rather than through planned direct teaching on the part of parents (although fathers have been known to teach the word "Dad" from an early age!)

It is important that teachers create situations in which these social interactions can take place and that all students are involved in meaningful ways. Whole-class discussions in which, typically, only a few students participate actively are seldom the best way to achieve this. It is also important that students from different language backgrounds, and with different levels of English vocabulary knowledge can participate in a genuine way. Walqui applies Lave and Wenger's theory of situated learning to argue that the participation of English language learners in these interactions may be 'peripheral' at first, but it must always be 'legitimate' (Walqui, 2006, p. 160). Some suggestions of how this might occur are discussed in the final section. All students need frequent opportunities to hear, use and experiment with new vocabulary if the learning is to become embedded.

Guideline #3: Encourage wide reading
Wide reading is another means by which teachers can support incidental vocabulary development. There is a clear correlation between reading mileage and vocabulary knowledge, and written texts provide a particularly rich exposure to new vocabulary. Studies for example have shown that while prime-time television programmes have around 22.7 difficult words per 1000, while even children's books have 30.9 (Hayres & Ahrens, 1998, cited in Study Notes).

One way that teachers can increase the reading mileage of their students is by providing students with more opportunities to access curriculum content through reading of authentic texts rather than through teacher transmission. Sometimes it is tempting for secondary teachers to provide students with notes they have prepared themselves, rather than have students engage with texts to access this information through their own reading

but such approaches can potentially deprive students of opportunities to experience rich language in authentic contexts.

Teachers can also increase wider reading around a particular context, for example, by providing students with newspaper articles, novels, and other texts that relate in some way to the current topic. A social studies teacher might encourage students to read 'The Diary of Anne Frank' during a unit about the Second World War, or a science teacher could provide students with a newspaper article about a court-case involving DNA evidence, during a genetics topic.

Guideline #4: Teach new vocabulary in context

Because students need many opportunities to engage with and use new vocabulary it is important that vocabulary teaching takes place in context. Arbitrarily teaching students lists of words that bear little resemblance to the contexts they are currently studying are unlikely to be effective for the simple reason that students will be unlikely to have enough exposure to that word to remember it. If an English teacher was to introduce the term *feud* at the beginning of a Year 10 unit on *Romeo and Juliet* however, it is highly likely this knowledge would be retained because during the unit students would have heard, spoken, read, wrote, and hopefully illustrated and performed that word a great many times.

Guideline #5: Explicitly teach new vocabulary, including high frequency, specialised academic and general academic vocabulary.

While much vocabulary learning will occur incidentally in language-rich environments, direct teaching of important words is still vital (Richek, 2005, p. 414). Richek identifies the common practice of students copying dictionary definitions of new words to be a particularly ineffective practice. To be effective teachers will need to create repeated opportunities for students to engage with the new vocabulary.

Nation identifies three broad categories of vocabulary students have to deal with in a secondary school context (Nation, 2001). *High-frequency words* can be thought of as the most common, 'everyday' words, and they comprise approximately eighty percent of most written text.

Specialised academic words are subject-specific words. Examples of subject-specific words are 'photosynthesis' in biology, 'design brief' in technology, and 'apex' in mathematics. One of the complicating factors for students grappling with new subject vocabulary is that many of the words have a different meaning in a particular subject than they do in another, or in everyday situations. 'Volume' is an example of this.

A third category is *General academic vocabulary* which includes terms used across the curriculum. This is particularly important in a secondary school context given the huge role general academic language plays in high-stakes assessment. A student who cannot distinguish between an instruction to 'describe', 'explain', 'compare', or 'analyse' may either fail to achieve a standard in NCEA, or be limited to an Achievement (rather than Merit or Excellence) grade, because their lack of vocabulary knowledge meant they were unable to respond appropriately to the question.

Many secondary teachers place most emphasis on teaching the specialised academic vocabulary of their subject but it is important than they address the other types of vocabulary as well. A student in science presented with an instruction to 'Discuss the process of photosynthesis in relation to a shrub in the school grounds' may understand the term specialised academic term *photosynthesis* but be baffled by the high frequency term *shrub* and confused by the general academic term *discuss*, which has quite a different meaning in the context of an examination than it does in general usage.

Guideline # 6:
Base teaching decisions on evidence of students' vocabulary knowledge
This is important because it is not feasible to explicitly students all the new words students need and teachers therefore have to be selective in their choice of vocabulary to concentrate on. It is important that valuable instructional time is not wasted explicitly teaching students words they already know, or by ploughing merrily through content only to back-track after realizing they didn't know what you were on about! A useful adage here is 'assume nothing': even highly experienced teachers will often be surprised by the vocabulary their students do, and don't know.

Sometimes this assessment might be formal, such as through a vocabulary test at the beginning of a unit, but often it will be informal. A positive side-effect of the types of co-operative vocabulary activities presented later is that they make it very easy for teachers to identify vocabulary that is new and difficult for students through observing and listening to students working. In the same vein it is useful to evaluate the effectiveness of your own vocabulary teaching. By pre- and post-testing students' vocabulary knowledge, teachers' can gather data with which they can measure the effectiveness of their vocabulary instruction and use to refine their vocabulary practice.

Guideline #7: Develop productive as well as receptive vocabulary
Our *receptive vocabulary* is made up of words we can understand when we read or hear them, whereas our *productive vocabulary* is made up of the words we can use ourselves when speaking or writing. Our receptive vocabulary is always wider than our productive vocabulary and it is important that teachers support students to use new vocabulary and not just understand it (Ministry of Education, 2002, p. 27). Mathematics teachers often report, for example, that students understand mathematical terms when they read them, but struggle to use these terms themselves when describing their own problem-solving.

Guideline # 8: Support students to solve unfamiliar vocabulary and develop independence

Students are not always going to have a teacher by their side to explicitly teach new words so it is important that teaching aims to develop student independence. Teachers can support students to develop greater independence in a variety of ways. They can encourage students to take greater responsibility for monitoring their own understanding of vocabulary, for example by encouraging students to identify words they find difficult themselves, rather than the teacher always bearing the responsibility for identifying words students might find difficult. The 'rule of thumb' strategy is a useful one here: Students read a text of about 100 words, and they raise a finger on one hand each time they encounter a word they do not know. If by the end they have all five fingers raised, then the vocabulary level of the text is likely to be such that they would find it difficult to read independently (Ministry of Education, 2004).

Students' knowledge about the morphology of words, particularly of prefixes and suffixes, can greatly increase their ability to 'break down' unfamiliar words and formulate educated guesses about they mean. One important way students can promote this is to include more meta-cognitive activities in which students reflect and discuss the different strategies they used to make sense of reading in cases where vocabulary presented a barrier. Students for example could be asked to complete a simple cloze such as: 'The boy walked …… to the Deputy Principal's office.' Students could use knowledge of parts of speech (" It's probably an adverb as it will describe the way he is walking") and/or context clues ("Most boys don't like going to see the DP so he's probably walking slowly or reluctantly." Getting teachers to shift the discourse around such a cloze from '*What* answer did you get?' to ' *How* did you get that answer?' will be very fruitful.

B. Guidelines in action

The purpose of this section is to describe a very small number of vocabulary strategies and to explain how each of these can be used in a secondary classroom to reflect the guidelines above.

These activities are all based on the article 'The Great White Shark' by Angie Boucher from the 'Swimming with Sharks' CD-Rom, Learning Media, 2002.

Strategy 1: Vocabulary Jumble

Type 20-30 key words from the overall topic onto an OHT. Put the most important/frequent words in one frame headed 'Level One Words'. The rest are framed and headed 'Level Two words'. Give students the **purpose** and **instructions** orally and in written form.

Purpose

This activity will help you to check that you know the sound, spelling and meaning of some key words for this topic, and to predict what the text or topic will be about

Student Instructions

1. *(While the Vocab Jumble OHT is on)*

Fold your arms and study the words on the OHT for TWO minutes. Try to remember all the words on List One so that you will be able to write them down later with correct spelling. Do the same for the Level Two words if you have time.

2. (*After 2 minutes the Vocab Jumble OHT will be turned off)*

Now write down as many words as you can, trying hard to spell them all correctly.

3.(*With Vocab Jumble OHT back on)*

Check all your words. Add any words that you missed and correct any spelling errors.

4. Write a **tick** next to each of the words you are confident that you know the meaning and spelling of, a **question mark** by words you have seen before and *think* you know what it means, and **circle** vocabulary that is totally new to you.

5. All the words in the vocabulary jumble are in an article we are reading in class today. Make a **prediction** about the article by writing a few sentences saying what you predict it will be about. Use at least five of the words from the vocabulary jumble in your response.

VOCABULARY JUMBLE

Level One Words

great white diver marine
white pointer cage diving sharks
blood dorsal fin
expert stitches attack
angry aquarium endangered
underwater photographer

Level Two Words

capture snout seabed
intra-uterine cannibalism
flotation tank environment

Linking the activity to the guidelines

Activity 1: Vocabulary Jumble	
Guideline	**How does this activity illustrate the guideline?**
1. Amplify, don't simplify	*Include words likely to be challenging and new, as well as those most will already be familiar with.*
2. Social interaction	*One variation of this activity that would be suitable for struggling readers would be for the teacher, or students as a 'chorus' to read the words aloud before completing the rest of the activity. Also, the prediction sentences could be spoken in groups rather than written. New learners of English can participate in a 'legitimate' way by being provided with a differentiated version of the same activity, or by being paired up with another student.*
3. Wide reading	*The activity occurs as a preparing to read activity, so it will lead to an authentic reading experience.*
4. Vocabulary in context	*Words are selected on the basis that they are important words in that text or unit, and therefore students are likely to encounter them regularly over that period of time.*
5. Explicit teaching of 3 categories	*The 'sharks' example includes both high frequency (shark, diver) and specialised academic words (intrauterine cannibalism, dorsal fin).*
6.Using evidence	*Because this takes place either at the beginning of a unit or as a preparing to read activity it gives teachers an excellent opportunity to informally assess students' understanding of these key terms simply by being alert to the difficulties students express, and by observing what students record in the self-evaluation aspect of the activity*
7. Productive as well as receptive	*As well as reading the words students have to write them – originally at a very surface level by simply trying to write them correctly from memory, but then at a more sophisticated level as they use them to form predictions about the text they are going to read.*
8. Developing independence	*One important way this activity achieves this is that it encourages students to take responsibility for evaluating their own degree of confidence with the terms. A teacher could build on this for example by encouraging students to skim read a text before reading it and note words they are unfamiliar with.* *The teacher can also instigate some rich discussion in which students articulate how they 'solved' a term like 'intrauterine cannibalism' using word-part clues/morphology (Lehr et al., 2004, p. 28)*

Strategy 2: Vocabulary Cluster/Word Poker
Clustering:
Put words on cards. Groups can classify them in a variety of ways. E.g.

- Groups invent own categories and organize
- Teacher provides category/heading. Students organize
- Groups firstly organise into own categories. Teacher and class negotiate class set of headings. Groups then re-organise cards. This could be done several times to show different possible classifications.

Groups can then play **Word Poker**:

- Students in small groups deal five cards to each player.
- Students have to tell a story of a few sentences putting all the words together in a coherent manner. Students can have a short amount of time to find out the meaning and pronunciation of the word before the round begins.

Activity 2: Clustering/Word Poker	
Guideline	**How does this activity illustrate the guideline?**
1. Amplify, don't simplify	*Include words likely to be challenging and new, as well as those most will already be familiar with. Students themselves provide the scaffolding in this instance as individuals are supported by the pooled knowledge and experience of their peers. Often one student in the group fishes and will be able to share the meaning of the word 'burley'.*
2. Social interaction	*As a co-operative learning activity social interaction is at the heart of this activity. Students should be encouraged to say and discuss the words as they cluster them.*
3. Wide reading	*The activity occurs as a preparing to read activity, so it will lead to an authentic reading experience.*
4. Vocabulary in context	*Words are selected on the basis that they are important words in that text or unit, and therefore students are likely to encounter them regularly over that period of time.*
5. Explicit teaching of 3 categories	*In this case, the words selected for reinforcement are the same as for the vocabulary jumble. The 'sharks' example includes both high frequency (shark, diver) and specialised academic words (intrauterine cannibalism ,dorsal fin).*
6.Using evidence	*The co-operative/oral language basis of this activity facilitates easy assessment of student understanding of the terms. He or she will soon hear terms students appear to struggle with or misunderstand.*
7. Productive as well as receptive	*Even in the clustering activity students engage with the words at a productive level by saying them aloud, using them in sentences as they explain them to their peers. This is even more evident in the word poker stage of the activity.*
8. Developing independence	*The teacher can also instigate some rich discussion in which students articulate how they 'solved' a term like 'intrauterine cannibalism' using word-part clues/morphology(Lehr et al., 2004, p. 28)*

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