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# Teaching and Learning Academic Vocabulary

Developing learners' lexical competence through vocabulary instruction has always been high on second language teachers' agenda. This paper will be focusing on the importance of academic vocabulary and how to teach such vocabulary to adult EFL/ESL learners at intermediate and higher levels of proficiency in the English language. It will also introduce several techniques, mostly those that engage students' cognitive abilities, which can in turn facilitate the process of teaching and learning academic vocabulary. Several online tools that can assist academic vocabulary teaching and learning will also be introduced. The paper concludes with the introduction and discussion of four important academic vocabulary word lists which can help second language teachers with the identification and selection of academic vocabulary in their instructional planning.

*Keywords*: Vocabulary, Academic, Second language, Word lists, Instruction.

## 1. Introduction

Vocabulary is essential to conveying meaning in a second language (L2). Schmitt (2010) notes that L2 learners seem cognizant of the importance of vocabulary in language learning, as evidenced by their tendency to carry dictionaries, and not grammar books, around with them. It has even been suggested that the main difference between intermediate and advanced L2 learners lies not in how complex their grammatical knowledge is but in how expanded and developed their mental lexicon is (Lewis, 1997). Similarly, McCarthy (1990) observes that "no matter how well the student learns grammar, no matter how successfully the sounds of L2 are mastered, without words to express a wide range of meanings, communication in an L2 just cannot happen in any meaningful way" (p. viii). Moreover, it is widely acknowledged that vocabulary knowledge plays a key role in students' academic success (Biemiller & Boote 2006; Urquhart & Frazee, 2012; Wessels, 2011). On the utility of vocabulary and especially academic vocabulary in content area learning, Antonacci, O'Callaghan and Berkowitz (2014) writes that those students who succeed in content area classrooms share a common characteristic: they possess a rich academic vocabulary repertoire that facilitates

the task of learning the contents. Biemiller (2005) states that vocabulary knowledge may not guarantee success, but that the lack of this knowledge can ensure failure.

While approaches and methods to vocabulary teaching and learning differ, what most instructors agree upon is that the extent of students' understanding of a text has a close and vital relationship with their knowledge of the vocabulary it contains (Anderson & Nagy, 1991; Baker, Simmons, & Kameenui, 1998; Ouellette, 2006). The reason is simple; if students do not know the words in a text, they cannot decipher its meaning. Consider the following statement: *Corn grows in tropical climates.* If the students do not know the meaning of *corn, tropical,* and *climate,* even if they know the grammatical structure of the sentence, they will not be able to understand the statement. Vocabulary is, therefore, critical for understanding and communicating effectively in a language.

## 1.1. Defining Vocabulary

What is vocabulary? Cambridge Advanced Learner's Dictionary (2008) defines vocabulary as all the words a particular individual knows and uses, and all the words in a particular language or subject. Hatch and Brown (1995) provide a rather similar definition, saying vocabulary is the specific set of words a person is familiar with and can use in a language. These definitions may make it seem that vocabulary is a pretty straightforward term but this perception will not last long when one takes into account the fact that vocabulary is much more than just single words, that is, vocabulary includes not only single words but also multiword phrases, idioms, and even sentences. That is why vocabulary studies now use the term *lexis*, which refers to the totality of vocabulary items in a language (Barcroft, Sunderman, & Schmitt, 2011). Furthermore, there are different types of vocabulary (e.g., specialized/non-specialized, academic/general, formal/informal, receptive/productive, active/passive), each with its own definition. The acquisition and application of these various types of vocabulary is what makes this aspect of linguistic knowledge significant, for individuals have to, based on their various needs, obtain an efficient knowledge of these different word groups to be able to interact and communicate properly.

## 1.2. Defining Academic Vocabulary

Academic vocabulary, also variously known as *useful scientific vocabulary, sub-technical vocabulary, semi-technical vocabulary, specialized non-technical lexis, frame words* (Nation, 2001), generally refers to the set of words that fits into the academic discourse (spoken or written) and can be used across many disciplines. Paquot (2010) defines academic vocabulary as being "a set of options to refer to those activities that characterize academic work, organize scientific discourse and build the rhetoric of academic text" (p. 28). These definitions, however, are general statements and do not specify what constitutes academic vocabulary. To help distinguish different vocabulary words, Beck, McKeown, and Kucan (2013) introduce a framework which categorizes words into three tiers. Tier one are basic words such as *boy, bicycle, happy* that hardly require instruction and we learn most of them by hearing family, friends, and teachers use

them in everyday conversations. Most of the 2000 most frequent word families in West's (1983) General Service List falls in this tier. The second tier contains words of high frequency such as *accumulate, predict, misfortune* that appear in various topics and contexts and across different domains. Explicit teaching of the words in this tier adds productivity to students' linguistic ability. Tier three are words such as *photosynthesis, anarchy, capillary* that are used in specific disciplines such as science, history and medicine. Tier-three words are also variously known as *content-specific* or *discipline/domain-specific* words, and knowledge of them is necessary if learners wish to gain the ability to participate in the discipline-specific discourse. General academic vocabulary could be fitted into the second tier, so long as it is not viewed synonymous with content-specific academic vocabulary.

This paper narrows the horizon on general academic vocabulary, words that are used across disciplines and students often encounter them in their reading and should be able to use in their academic writing (Coxhead, 2000; Lacina & Silva, 2011; Valipouri & Nassaji, 2013).

### 1.3. The Importance of Academic Vocabulary

Academic vocabulary is needed to follow through and succeed in an academic career (Hyland & Tse, 2007; Sprenger, 2013). Nagy and Townsend (2012) view academic vocabulary as a component of academic language and state that argue that the capacity to read and understand texts from various content areas or disciplines is closely related to students' vocabulary knowledge. They also assert that familiarity with academic vocabulary is critical for teachers to "support learners' understanding and use of the language of the disciplines," (p. 96). On the importance of vocabularic knowledge, Nation (2001) also says that learning English vocabulary is one of the most important tasks facing English learners and that learners with limited knowledge of words are likely to experience failure in their professional and academic settings. If a medical student, for example, does not know what *analysis* means, lives can be lost. Moreover, students may find it difficult to understand core concepts of their school subjects if they do not possess sufficient knowledge of the vocabulary (Harmon, Hedrick, & Wood, 2005).

Another aspect of importance in the academic experience is that if students do not understand to a well extent the language spoken in the classrooms, they may lose the confidence they need to continue with their studies enthusiastically. As Friedberg, Mitchell, and Brooke (2016) put it, "In order to gain knowledge through independent reading and participate in meaningful discussions in the classroom, students must master the complex words and phrases that characterize the language of school," (p. 1).

A further important aspect of acquiring academic vocabulary presents itself in the outcome that students need to have, whether in a work or academic environment, as lack of qualification and low communication skills paralyses or dims students' productivity and creativity (see Kaur & Hegelheimer, 2005). A final reason why academic vocabulary is extremely vital is that it can be used as an intellectual tool to encourage students' critical thinking, problem solving and decision making skills (Washburn, 2099). Vocabulary such as *bias, comparison, conclusion, evidence, generalization* and *inference*

can raise students' awareness and critical assessment of the contents they read. The importance of gaining academic vocabulary is therefore explicit.

## *1.4. Academic Vocabulary Development*

Most of an individual's lexicon is not actively taught to them, but it has been attained through context reading or experience in an implicit manner. This is not often true for academic vocabulary, and learners who wish to add a specific number of words to their lexicon in a short amount of time usually need to explicitly gain this knowledge. Ellis (1995) characterizes implicit learning as: "…acquisition of knowledge about the underlying structure of a complex stimulus environment by a process which takes place naturally, simply and without conscious operations" (p. 5). While the active procedure of explicit learning is the basis of teaching academic vocabulary, instructors should not lose sight of the importance of implicit learning to boost leaners' vocabulary acquisition process. Students are able to gain vocabulary knowledge through games, scenarios and activities that would trigger implicit learning in addition to learning such words explicitly. The ideal is that the acquired academic knowledge should be well rooted in the cognitive bank of students so that they will have an overall successful academic experience, and they could later apply this experience effectively to their careers and professional futures.

A significant issue here is that many students find academic vocabulary difficult to learn. Dobelmann and Stern (2009) attribute that difficulty to the fact that academic vocabulary is not repeated in the routine exposure students may have in the everyday life, nor is it specifically taught to them. Therefore, these difficulties must be overcome in order for students to thrive in their academic careers. Importantly, the difficulties for students translate themselves into the difficulties language instructors face in teaching academic vocabulary. The most effective way to instruct students in vocabulary is to find techniques that will stimulate both implicit and explicit learning in students. The next section introduces some of these techniques.

## 2. Techniques for Teaching Academic Vocabulary

An ideal English classroom that is working on academic vocabularic knowledge must reach a, so to say, sweet spot: a place where new vocabulary is taught to enhance students' understanding of content subjects, the meanings and usages of words are explained wholesomely, the learning of these new words is significant, there is a context to which students can relate the meanings of the words to and which helps them decipher the meaning for themselves. Also, there is frequent exposure and ample opportunities for students to use the newly acquired vocabulary items. As is true with any ideal, one cannot fully reach it but one can always strive to climb closer to its horizon. In this paper the choice of techniques was made by focusing on activity-based learning and trying to find a balance in mixing implicit learning into the active process of instruction, to instill the

vocabulary in the minds of students so they will find it simpler to learn, remember, and use them. Here there is a focus on reading activities and the techniques applied to pre-reading, while-reading and post-reading activities, both of which actively help with the intake of academic vocabulary, and reinforce their application: techniques to help classify words into groups, techniques to help identify and arrange word groups, and techniques that incorporate the principles of Computer Assisted Language Learning (CALL).

Most learners need a push from an outside source to fully engage in learning and using new academic vocabulary items. There are many ways to engage students in learning. The first and foremost issue in successfully attaining vocabularic knowledge is the organization of information. More often than not, students find it easier to learn and to memorize vocabulary that is presented to them in contexts; that is vocabulary presented to students in a *network of meaning* (Lawson & Hogben, 1996). That is why most vocabulary instruction textbooks have reading passages and themes assigned to each unit or lesson, and rehearsal tools to correspond new learnings to the old. Reading passages that correspond to the vocabularic group that is being focused on have proven to be very helpful.  Students will see the application of the vocabulary in a meaningful context. The content of these reading passages is essential for learning. It has to be interesting and relatable to students' background, although deriving background knowledge from students and engaging them in new information in a student-friendly manner can be challenging.

Studies have shown that presenting authentic information to students, which can connect the newly gained knowledge to their real life experiences, will help with the procedure of both learning and teaching. Jarvis (1987) writes that "...there is no meaning in a given situation until we relate our own experiences to it" (p. 164). This merit can be and has been applied to learning activities throughout history; learning by experience has been a part of humanity for a long time. For the purpose of teaching, instructors can choose topics of discussion, reading, writing, etc. in an authentic taste, to boost class productivity. Since the students are already present in these classes because they have chosen to follow through with an academic course, the association of their class activities with their school subjects can be an effective tool as well. If students learn academic vocabulary in the disguise of content information present in class activities, there is a higher possibility that the information gained will not be disregarded or forgotten; moreover, students may work harder to memorize those vocabularic groups to be able to better interpret the language spoken in their classes. Also, if the contexts prepared for students are too irrelevant to their needs, they may become perplexed and that may cause a significant amount of time to go to waste. Some of the techniques that have proved useful in teaching academic vocabulary to adults will be reviewed below. It should be borne in mind that these techniques are not inclusive of all possible or accepted techniques for teaching academic vocabulary.

### 2.1. *Lead-in*

As a pre-reading activity, teachers can use the Lead-in technique. In this technique the focus is on having a brief introduction into the reading passage or activity that the class may be having. If the class is following a communicative method of teaching, the Lead-in activity can be a related conversation or discussion between the class members. In this method, the instructor is the one who sculpts the conversations taking place. This technique fosters students' ability to interpret vocabulary through contextual implication and to subconsciously create an understanding of it before they are explicitly exposed to the words. Although learning to understand the meaning of unknown vocabulary through context is best for students' passive knowledge of words, but it will increase the chance of the words moving into active vocabulary sooner. "One can develop vocabulary knowledge subconsciously while being engaged in any language activities, especially from reading and listening" (He, 2010, p. 17). There are many types of Lead-in activities that can be applied to different topics and situations. One helpful Lead-in exercise is to derive background information from students to relate to the new context; the instructor can ask some questions that fit into the topic of the session, or start a discussion and ask the students to pair up and talk about the topic and then each group showcases their information to the rest of the class. The association of new information and the information already acquired, and group activities boost students' self-esteem while helping with their learning.  In more advanced classrooms, and if the students have easy access to computers, the instructor can also plan a computer presentation to introduce the day's topic. The association of technology is a great asset for modern classrooms and in this way the Lead-in technique will earn a less traditional style and a more practical one.

## 2.2.  Lead

The Lead technique can be applied as a pre-reading, while-reading, and post-reading activity. In the Lead, students are presented with the vocabulary that will be worked on for the session, and are assessed on their prior knowledge related to the subject of study for the class. In this strategy, students can discuss with the class using the new vocabulary groups, and have a high chance of memorizing the vocabulary sited effectively. In this strategy, the students are mostly shaping the discussion and the instructor has less of an active impact on the conversation, as the students base their discussion on the vocabulary presented to them. As is common in most student activities in class, this technique can also easily go wrong if the material is not selected wisely; the instructor will have to plan the activity carefully before assigning it to students. In an intermediate and higher level class, students often can and are willing to communicate, but if the topic is so farfetched that they cannot relate to it, they are very likely not to participate in the conversation. That is when the technique transitions to a Lead-in technique, where the instructor can assume a more active role. The reason it is essential for students to experience a Lead technique is that, when the teacher is not guiding them, they will implicitly and explicitly try to use their prior and new knowledge for conversing with their fellow classmates, and learn from one another. The choice of topic is vital for managing this technique. The Lead can be more effective if applied after the introductory phase of a topic is covered. Perhaps after the first reading of a text, students can discuss it

more successfully.

## 2.3.  *Possible Sentences*

A technique that can be used as both a pre-reading and post-reading activity is Possible Sentences (Stahl & Kapinus, 1991). The technique can be very helpful for students who may struggle with the use of acquired vocabulary. While it is important to memorize certain words, their associations and characteristics, using those words is more vital for advanced students. In this technique the students are introduced to the vocabulary via a text to stimulate their past knowledge; the words have to scale between the words that the students may already know and the ones they are not likely to know. The instructor lists these words for the students, and the class discusses the meaning of those words thoroughly. Then the students are put in groups and instructed to use the vocabulary to make new sentences, similar to the ones they have seen in the passage. Afterwards, the sentences produced by the students are viewed by the whole class and their similarities to the sentences in the text are discussed. This way, students can learn from each other at the same time as they learn new material from their teacher. Monitoring the class to keep the students motivated and on track is an important responsibility of the instructor in this technique; if the teacher can encourage students to produce context sentences that can apply to the session's material and also collaborates prior subjects and vocabulary, they are more likely to remember the practiced words and phrases.

## 2.4.  *The Frayer Model*

The Frayer Model is an extremely useful instruction technique designed to develop students' vocabulary knowledge by providing them with examples and non-examples (see Figure 1). In this strategy the instructor initially thoroughly introduces the new word and identifies its qualities and concepts, then the instructor will reflect on how this new vocabulary differs from other words the students may have come across by providing them with examples and non-examples; the instructor will have to carefully explain the vocabulary and why some examples apply to it and some don't. Finally the teacher will ask the students to identify the examples and non-examples on their own. The Frayer Model may be very time-consuming and best apply to thematically relevant concepts; for example it can be used in a themed unit as a means of strengthening the students' identification and understanding skills, and of connecting new and old information.
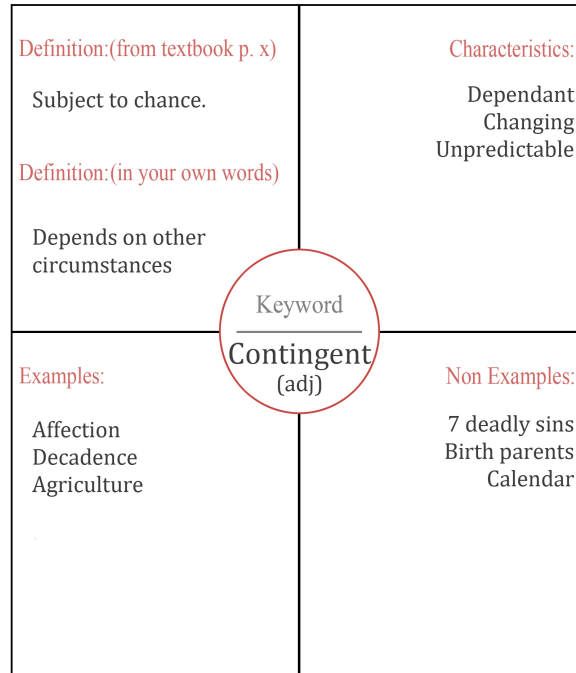
*Figure 1:* The Frayer Model for the word *Contingent*

## 2.5. List-Group-Label

List-Group-Label is a technique that can challenge students' cognitive abilities while providing a meaningful class experience. In this strategy, students will consider a central concept and categorize and label vocabulary based on that; this technique will foster group activity, can relate old knowledge to new vocabulary, and can relate different types of words in a more tangible and memorable way (see Figure 2). The ways in which the labels are made is traditionally up to the teacher, but it may be better to cultivate students' imagination by asking them to each have a different label set in each group and then view each list in class. This method is naturally time-consuming, so if the teacher is handing the reins to the students, he or she must monitor and keep track of the students' activities to avoid wasting time.

| Page Number | What is civilization | Why is civilization important |
|---|---|---|
| 22 | A particular well-organized and developed society | Protection of its people and prospects |
| 25 | All the peoples of the world | To embody a certain cultural identity |
| 26 | The acquisition of an advanced stage of social development and organization by a society | The formation of communities |

*Figure 2:* The List-Group-Label for the word *Civilization*

## 2.6. Semantic Mapping

Semantic Mapping is a technique in which the teacher presents students with graphical maps of connections between related words. In this technique, the word or words that are going to be studied are listed, and the students get to discuss and brainstorm about the words' characteristics and make connections to other words or ideas (see Figure 3). The words and their relations are organized on the board or the computer, engaging visual memory which could significantly help with the process of learning. The students are involved in this procedure and get to use prior knowledge and vocabularic groups as well.

A similar technique is using the Venn diagram. This is also a graphical presentation of concepts (see Figure 4). In this method the teacher can present word groups, have students brainstorm and discuss similarities and dissimilarities in those word groups and place them in the Venn diagram. These graphical designs are especially useful for visual learners. Similar to Semantic Mapping, diagrams such as this one can be used in a wide variety of exercises; it can be used both in pre-reading and post-reading activities. It is also a good way of concluding the session's information, or can be assigned as homework. Another useful way of using the Venn diagram is combining it with the Lead technique.
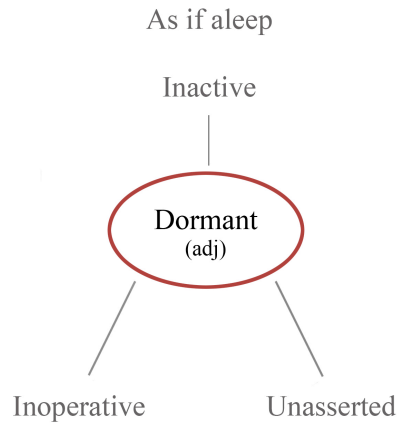
As if aleep

Inactive

|

Dormant
(adj)

Inoperative                Unasserted

*Figure 3:* Semantic Mapping for the word *Dormant*
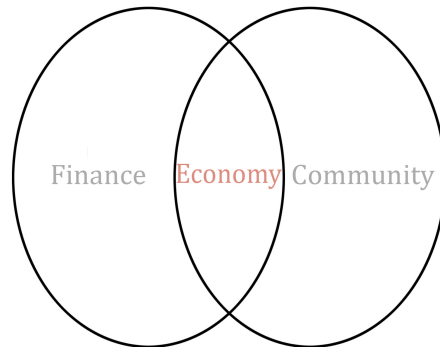
Finance   Economy Community

*Figure 4:* Venn diagram for the word *Economy*

## 2.7.  *Morphological Analysis*

While direct and structured methods may not be very appealing to children, adults find common grounds with some such techniques; gaining knowledge about the form and structure of words can help students learn the vocabulary more easily. In this method, the teacher introduces the format of the vocabulary taught in the session, and students can learn about root words, stem words, suffixes and prefixes and words uses. When students spot and understand common areas in words that help to produce a specific meaning, they can both remember the vocabulary in question better, and find the acquisition of new

vocabulary with similar morphological units simpler. For example, the prefix *a-* adds many different meanings to words; *a-wandering* means *in the process of wandering*, and *aside* means *to the side*. With more complex and academic words, the knowledge of prefixes and suffixes and stems can be vital to some learners. The teacher's job in this method is to initially be well-informed, for misguidance of the students in such pivotal concepts can lame the students' productivity in the future, and to also be clear and wholesome with the material that he or she is teaching; in the same example, *a-* can create different definitions. The teacher must thoroughly clarify these meanings for the students and provide them with a rich variety of examples to strongly back up the knowledge.

### *2.8. Possible Questions*

Another very useful pre-reading technique designed by Allen (2007) is Possible Questions; a technique that requires learners to use specialized academic vocabulary from a text they are about to read and predict possible questions they believe the text will answer. Learners revisit their predictions to answer or revise them.

In this approach students can use old and new vocabulary. By using the new vocabulary to both guess what the text will be concentrating on and at the same time to make sentences with them, they will both actively and passively engage their cognitive abilities to perform the task. By doing so, they may have a better chance of remembering the vocabulary than when they are first introduced to it in a reading activity. The instructor's job in applying this technique is to be very clear on the assignment because if the students are not sure of what they are supposed to do, they may stray from the course of the class plan and waste considerable amount of learning time. The instructor must make sure the vocabulary he or she has selected to use as material for the technique are best qualified to describe the topic of the session, and that the students have enough background information that enables them to decipher the context by the vocabulary; selection of the topic and key words by the teacher is essential. While the basic use of this method would better apply to content-specific vocabulary, teachers can make small alterations to this method to reinforce the application of Tier two vocabulary in students. By selecting a context that is not so complicated to disengage students' attentions, and at the same time by presenting them with a set of academic vocabulary such as *element, vital, field, exchange, emerge,* etc., clarifying the use and meaning of these academic words, and specifically steering students toward using these words in forming their possible questions assignment, students will learn to make meaningful connections between any new and unfamiliar context and general Tier two words; enabling them to use these vocabulary groups in a variety of contexts, thus creating a more stable and confident mind-set toward these Tier Two words.

As an example, the instructor may write these words on the board: *cultivation of land, average temperatures, climate, rainfall, environment, trade, agriculture*; by studying these words and accessing a variety of Tier two words to form their questions, the students can produce questions such as: *What is agriculture? What elements are vital*

*to agriculture? What do people in the field of agriculture exchange?*

### 2.9.  Word Scaling

As an effective reinforcing activity that can be applied in groups, Word Scaling is a technique that can stimulate students' cognitive abilities. In this technique students are presented with the new words that belong to the same category in cards; each group receives a set of cards, students are divided into groups and asked by the instructor to organize the cards in a particular order; the instructor may ask them to arrange the cards in order of size, degree, emphasis, etc. In this activity, students must know exactly what they have to do; instructions must be clear and thorough, and monitor the class carefully to make sure everyone is participating in the assigned activities. The instructor must choose the material wisely. If the means of organization is somehow connected to either previous knowledge or a context that is familiar to students, they can revise and recollect as they are learning new material. This method is best used to strengthen the knowledge that has already been acquired in previous activities. Thus it should be presented as a follow-up exercise for reinforcing lexical knowledge.

### 2.10.  Analogies

Using analogies to strengthen students' skill in connecting context and words is a good way of building academic vocabulary knowledge. This method can be used in an exercise to repeat previous vocabulary while deepening understanding of the new words and boosting the chances of remembering. "Answer is to solution as question is to _____ (answer: problem)" (The Meadows Center for Preventing Educational Risk, p. 10).

Analogies can be hard to formulate and present because of their rather dry nature. That is why involving students in this activity is very helpful. Instead of handing students questions and blanks to answer and fill in, instructors can guide students into constructing their own analogies. That way, the students can form groups, pick each other's brains and share their masterpieces with the class while learning vocabulary and gaining communication skills and boosting confidence at the same time. They can learn from each other while learning from the instructor. The presence of multiple choices and forms to use for a single analogy helps the cognitive process of applying vocabulary to context by students. The instructor has a more passive role here, supervising the groups and helping when he or she can, and most importantly, selecting carefully assigned vocabulary as not to misguide or confuse the students.

This technique can be used in a wide variety of words, concepts and ideas, and the flexibility of the method begs for precision on the part of the teacher. Especially when the method is used for the purpose of learning academic vocabulary; instructors must bear in mind that the words have a more abstract nature, and can be challenging to immediately apply without any warm-up. That is why this technique, if used for academic vocabulary acquisition, is best applied as a follow-up to other techniques which would initially

introduce these words.

## 3. Academic Vocabulary and Technology

Given the presence of computers and electronic devices in most classrooms now, students can download content and view it on their devices. Instructors can plan a whole session using PowerPoint slides and students can swap information in-session with their fellow students or their teachers, etc. Of course because of the wide variety of information that can be viewed online, the sources and links must be carefully selected and introduced, and the teachers must monitor students so that they will not drift off and lose focus. Computer Assisted Language Learning (CALL) methods of learning may be tricky to apply, but teachers of all disciplines can use electronic devices to enhance students' learning (Selvester, 2012).

Some ways in which CALL can be applied in learning academic vocabulary are using *online dictionaries*, *hypertexts*, and *online tools for vocabulary*. An explanation of each follows.

### 3.1. Online Dictionaries

Online dictionaries (e.g., *Dictionary.com, Merriam-Webster Online, AskOxford.com, Alpha Dictionary*) can provide a wide range of definitions, examples, pictures, synonyms and antonyms, etc. while doing class assignments to boost class productivity. If students use a traditional dictionary, they will deliberately remove their attention from the assignment, a move that may slow the cognitive process of learning. With online dictionaries; however, students are given definitions inside their texts and can move on with the classroom activities faster and with more focus. It is a good idea for the teacher to introduce one or two online dictionaries for all the class to work with, so the definitions are similar. That way a considerable amount of time is saved and can be used for more practice and activities.

What teachers should bear in mind is that look-it-up strategies are most reliable when and if a word has already been acquired by the students. This way, they are mostly revising the words they have already been taught in class and may have forgotten, in a manner that is less time-consuming and more engaging for the students, rather than a rehearsal of all the words that have been already covered.

### 3.2. Hypertexts

Another way of fostering the productive value of CALL in classes is selecting hypertexts as class reading assignments. In this manner, students are presented with many layers of meanings and references which can help engage them in the implicit acquisition of

vocabulary, while a reading passage and its content vocabulary is being explicitly taught in class. Via this method, students will not need to divide their attentions between a text and an online search for needed information, for all the information they will need is programmed into the file. They can focus on the text more freely. It is essential that the instructor select specific hypertexts for the whole class to view, so the information they are exposed to is similar.

### 3.3.   *Online Tools for Vocabulary*

With the increase in attention and value assigned to the world wide web of information, many organizations have started providing students with applications and tools to enhance their knowledge. Some of these tools can especially be applied for vocabulary acquisition purposes. Fortunately in this day and age, second language learners have some sort of access to these resources. Some websites that provide students with well-sorted information are: *Vocabulary.com, Wordnik.com,* and *Wordhippo.com*. These websites not only can aid the teachers in the classroom, but are so easy-to-use, they are marked as favorites by students who struggle with studying at home. Some applications for android devices include *Memrise, Words with Friends, PowerVocab, Vocab Builder,* and *Dictionary.com Flashcards*. These apps have fun quizzes and games for students to get amuse themselves with and are great sources to learn new words form. Teachers can encourage students to view these websites and download these applications, and even play Words with Friends with their students at their leisure. One final online tool for vocabulary learning is *Visuwords;* an excellent graphical dictionary/thesaurus for improving ones' repertoire of academic vocabulary. When you search for a word in this tool, it explores the association between that word and different other words, and displays the outcome in the form of an interactive colorful graph (see Figure 5). One can run the mouse cursor over a word to view its meaning or use the scroll wheel to zoom in and out.
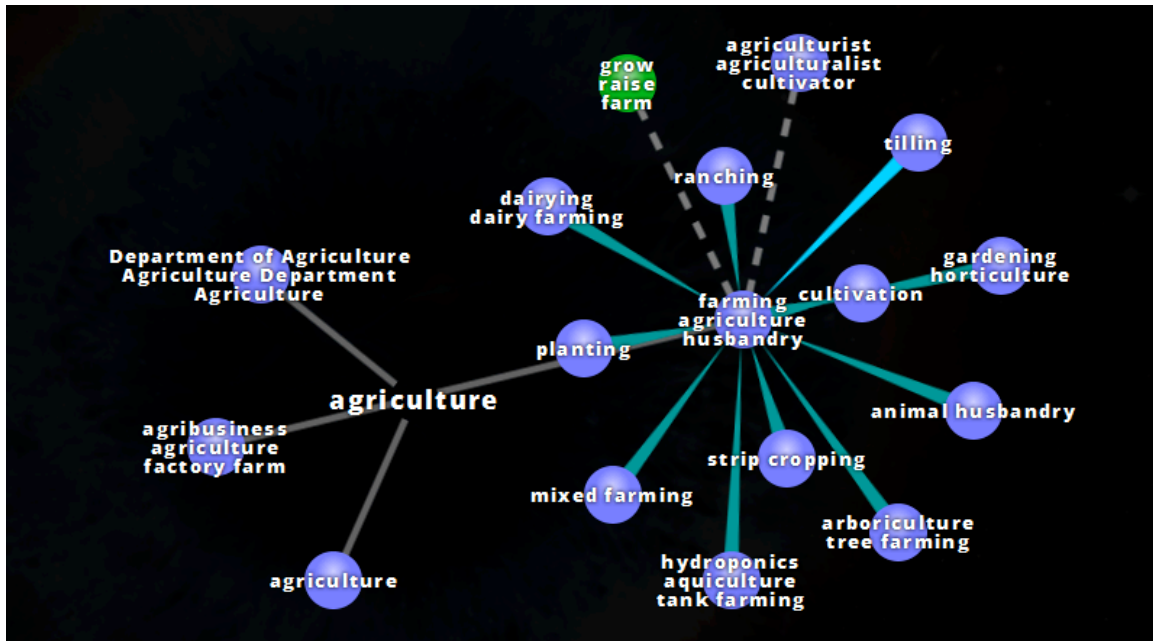
*Figure 5:* A screenshot of the graph produced by *Visuwords* for the word
*Agriculture*

Teachers must note that they have to give more concern to students' learning words and their associates in class, and reserve these online tools for students' further development of their vocabularic knowledge.

## 4. Academic Vocabulary Lists

When teaching academic vocabulary, it may be helpful to consult lists of the most common academic words in the English language. Four important general academic lists are introduced below:

### 4.1. *Academic Word List (AWL)*

Coxhead (2000) examined over 3.5 million words in a written corpus of academic English derived from 28 subject-areas from four faculty sections (arts, commerce, law and science) at Victoria University of Wellington, New Zealand. She identified 570 word families, about 3000 words altogether, that were commonly used in academic texts from all the subjects and called them the Academic Word List (AWL). The words cover 10 percent of the academic texts she studied. The list focuses on academic words and thus excludes the most frequent 2000 words of English (i.e., the General Service List published by Michael West in 1953). The AWL is not restricted to a specific field of study, meaning it is useful for learners studying in disciplines as varied as history,

literature, law, science, and business. The list does not contain technical words likely to appear in a specific study such as *antitussive, capillary, ganglion* and *keratitis*.

The primary driving force behind developing the AWL was to help teachers (especially teachers of English as a Second Language) preparing learners for tertiary level study. AWL can also be used by students who are working on their own to learn the words they will most likely encounter in their college and university courses (see Nagy & Townsend, 2012 for criticisms of the AWL). The list is organized into 10 sublists of the most to least frequent word families. The lists can be found at Coxhead's Website: http://www.victoria.ac.nz/lals/resources/academicwordlist/. The AWL can also be installed on the iPhone or an Android device and practiced by learners at their own pace.

### 4.2.    *The Academic Keyword List (AKL)*

The Academic Keyword List, developed by Magali Paquot at the Centre for English Corpus Linguistics, Université Catholique de Louvain, Belgium, contains 930 potential academic words and phrases. Paquot, (2010) states:

> [The words on the list] "are reasonably frequent in a wide range of academic texts but relatively uncommon in other kinds of texts and which, as such, might be used to refer to those activities that characterize academic work, organize scientific discourse and build the rhetoric of academic texts, and so be granted the status of academic vocabulary. (p. 29)

The word list contains 355 nouns, 233 verbs, 180 adjectives, 87 adverbs, and 75 other words. The AKL differs widely from the AWL as it includes high frequency words (e.g. *aim, argue, because, compare, explain, namely, result*) which have been shown to play an essential structuring role in academic prose.

Widdowson (1991) says the AKL is not a final product and does not in itself "carry any guarantee of pedagogical relevance" (pp. 20-1). He also believes the list needs "pedagogic mediation" (Widdowson, 2003). Swales (2002, p. 151) adds that the AKL should be viewed as a "platform from which to launch corpus-based pedagogical enterprises". The AKL is available free of charge to teachers and academics who want to use it for teaching and/or research purposes, provided that proper citation is made to the author of the list. The list can be accessed at https://www.uclouvain.be/en-372126.html.

### 4.3.    *The Academic Vocabulary List (AVL)*

The Academic Vocabulary List (Gardner & Davies, 2013) has been derived from a 120-million-word academic subcorpus of the 425-million-word Corpus of Contemporary American English (COCA; Davies 2012). The AVL covers 14 percent of academic materials in both COCA (120 million+ words) and the British National Corpus (33

million+ words). The list can be used in settings where academic English is the focus of instruction. The AVL can be found at http://www.academicwords.info/.

### *4.4.   Jim Burke's Academic Vocabulary List*

Jim Burke has compiled a list of academic words by a thorough survey of various textbooks, assignments, content area standards, and examinations. Each of the 358 words on the list has been defined and used in an authentic context.  The list can be found at http://www.vocabulary.com/lists/388513#view=notes. Clicking on each word directs learners to Vocabulary.com, which provides them with further information about that word (e.g., pronunciation, expanded definition, more example sentences, word family).

## 5. Conclusion

Academic vocabulary is an essential part of academic language (Nagy & Townsend, 2012) that needs direct and indirect assistance from instructors to be effectively acquired. While the methods mentioned here have proven to be useful and are being applied widely in classes around the world, at the end of the day it is the relationship between students and teachers that is the glue that beautifully sticks these techniques together. While skilled instructors can use these techniques to better engage students in the learning process, creating a meaningful learning environment is the work of both the instructors and the students. It is a well-known fact that learning academic vocabulary and teaching it is no easy task. It can only be done when all elements in the class are collaborating together harmoniously. The mixture of a wide range of methods is needed to reach high levels of understanding and skill in vocabulary. Techniques, engagement, hard work and a bit of fun, together can lead to educated students who can successfully attain the vocabulary needed to meet their academic and professional expectations.

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