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English Language Center

Academic Vocabulary Guide: Vocabulary Development Strategies

created by

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What are our Academic Vocabulary Guide resources?

Our Academic Vocabulary Guide resource series was developed as a way to provide English as an Additional Language (EAL) learners at Vanderbilt University the opportunity to better learn and retain academic vocabulary.

Vocabulary Development Strategies provides you with:

- research-proven strategies to meet the challenges of vocabulary learning and retention in the context of academics
- rationales for why and how particular strategies work
- guidance on how to effectively choose and implement the strategies
- references that validate or refute the usefulness of particular strategies for specific tasks

Introduction

In academia, vocabulary can be challenging for EAL learners. For example, readers need to know about 98% of the words in academic texts to read fluently and easily.¹ Vocabulary is also the most important factor affecting proficiency in speaking and oral comprehension.²

Yet to really ‘know’ a word, so much information is involved. We need to know the definition, the written and spoken forms, the grammar associated with the word, collocations (words which commonly occur together), register (whether a word’s meaning is formal or informal), and whether the word is commonly or rarely used.³ Of course, we do not learn all that data about a word at once, but for the word to become truly our own, we have to connect all these bits of information over time.

Choosing and Implementing Vocabulary Strategies

What is your favorite vocabulary-learning strategy? Most language learners probably have one that worked well for learning thousands of English test words, whether it was for the TOEFL, GRE, SAT, GMAT, LSAT, or another entrance test. However, once enrolled in classes, university students must read hundreds of pages of academic text containing many unfamiliar words. Listening to lectures and participating in discussion with classmates may also challenge understanding and use of both academic and informal words and phrases. Will their favorite vocabulary-learning strategy work in all these contexts? With so many words to learn, use, and remember, perhaps it is time to quickly review how memory works, some principles of vocabulary learning, and how to choose vocabulary strategies for specific tasks.

Leverage Your Memory

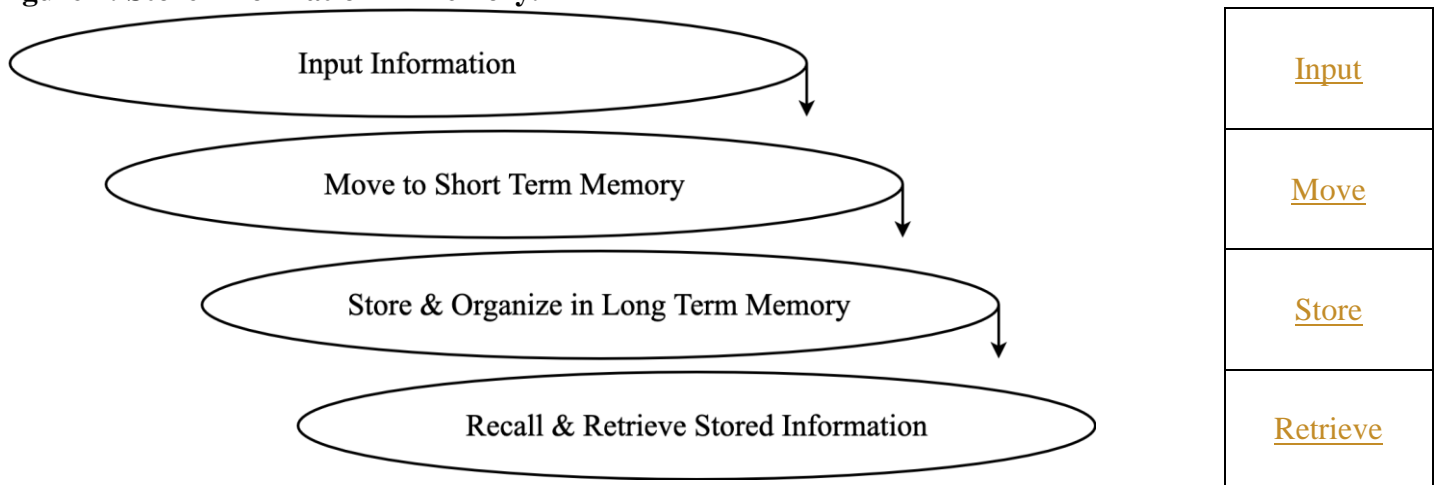
The brain converts sensory information into a form that can be stored in memory (encode). For example, your brain can associate a sunset with a mental image of a sunset you have seen or with a picture related to the word’s meaning. You can have an auditory memory of the sound of a word when you pronounce it and memories of other words you know that have a similar sound or meaning. Your brain first puts this encoded information into short-term memory (input), moves it to long-term memory, and then the information is available for you to access (retrieve) when you need it (see Figure 1). Knowing more about each of these steps will help you choose effective vocabulary strategies to input, store, and retrieve word information. Click on each step for detailed information and examples.

¹ *The Percentage of Words Known in a Text and Reading Comprehension* by Schmitt, Jiang, & Grabe, 2011, in *The Modern Language Journal* 95(1), pp. 26-43

² *Strategies for Improving Reading Skills Among ELL College Students* by Lei, Berger, Allen, Rosenberg, & Plummer, 2010, in *Reading Improvement* 47(2), pp. 92-105

³ Nation, 1990, cited in *Vocabulary in Language Teaching* by Schmitt, 2000, New York, NY: Cambridge University Press
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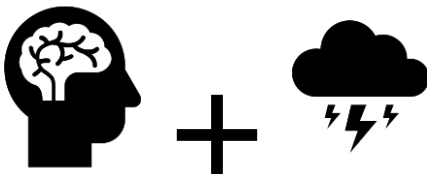
Figure 1: Store Information in memory.



Input Information

Before information enters short-term memory, you must notice it: pay attention to the words you want to learn and the strategies you use to accomplish that learning. This first task may sound obvious, but it is crucial. Information processing theory tells us the brain prefers striking, strange, or different input such as images, feelings or sounds, so when you notice new words, if you inject these elements into learning them you will remember better. For example, suppose you want to remember the word *brainstorm*. First, imagine something weird, funny, striking or different that you can associate with the word, in this case, a brain and a thunderstorm for *brainstorm*:

Figure 2: Input visual, emotional, and auditory data to remember the word *brainstorm*



For the word *brainstorm*, think of the image of a brain combined with great ideas shooting out of your mind like lightening from a storm cloud. Think of how you feel when you generate awesome ideas. Combining the images and the feeling will help you remember the word and meaning of *brainstorm*.

Move Information about Target Words to Short-term Memory

Here are tips to help move word-related information to your short-term memory:

- Input manageable amounts of information by studying 5-10 words at a time.
- Sequence the input logically and be sure you know basic information before moving on to more advanced information.

Understand background knowledge and the context before learning specialized vocabulary.

Below is an example of using this process while learning the word *asymptote*:

- You have no idea which field the word *asymptote* is related to.

- You look up the meaning, which is “a straight line associated with a curve such that as a point moves along an infinite branch of the curve the distance from the position to the line approaches zero and the slope of the curve at the point approaches the slope of the line.”⁴
- You do not know the meaning of ‘infinite branch’, ‘slope of the curve’, or ‘slope of the line’.
- You should learn the basic vocabulary before trying to learn *asymptote*.

Use scaffolds to assist short-term memory.

Scaffolds include word webs, visual memory aids, images, and graphics such as drawings, tables and charts.

Scaffolds work because they reduce the amount of information the brain has to process at once (*i.e.*, they lighten cognitive load). Images lighten the load because the brain processes an image as one ‘chunk’ rather than many bits of information.⁵

Store and Organize Information in Long-term Memory

Brains store information in webs that connect to all a person knows about a certain item. The more varied links you create to that item, the easier it is to retrieve (remember building links to the word *brainstorm* in Figure 2). Use the principles below to help store information about important or difficult vocabulary.

Combine several types of encoding.

Use eyes, ears, words, images, music, and even movement to input word-information. These varied links will make recall easier.⁶

Use a variety of strategies to strengthen mental links to words.

Try some of these:

- Choose a strategy such as learning word roots, prefixes, and suffixes and then notice and analyze the structure of unfamiliar words to improve both your reading comprehension and written word forms.⁷
- Choose strategies that require you to hear important words and say them aloud to enhance auditory memory tracks and make recall easier.
- Be active rather than passive as you study. Students could recall words better when they had actively drawn an image than when they had just passively seen one.⁸

Connect the new word to what you already know.

- Create metaphors (*e.g.*, she is the Einstein of her math class) or analogies (*e.g.*, the human heart is like a pump) relating the new word to previously learned material.

⁴ “*asymptote*”, Oxford Learner’s Dictionary, 2019

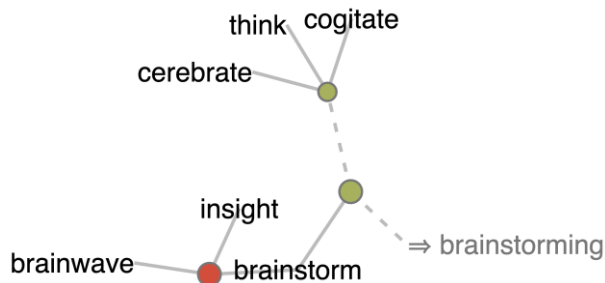
⁵ *Effective Literacy Instruction for Students with Moderate or Severe Disabilities* by Copeland & Keefe, 2007, Baltimore, MD: Brookes Publishing Company

⁶ *Recent Research on Human Learning Challenges Conventional Instructional Strategies* by Rohrer & Pashler, 2010, in *Educational Researcher* 39(5), pp. 406-412

⁷ *Helping ELLs Meet the Common Core State Standards for Literacy in Science: The Impact of an Instructional Intervention Focused on Academic Language* by August et al., 2014, in *Journal of Research on Educational Effectiveness* 7(1), pp. 54-82

⁸ Cohn, 2012, cited in *Enriching Academic Vocabulary: Strategies for Teaching Tier Two Words to E.L.L. Students* by Ferlazzo, 2017, New York Times

- Create a word web with any concepts, facts, or knowledge you have about the new words. Below is an example, created with [WordSift](#), that links the word *brainstorm* to related concepts:⁹



- Facilitate idiomatic retrieval by actively connecting individual words you know to collocations (groups of words that often appear together). For example, connect what you already know to improve retrieval of idiomatic phrases:

I do not know what **in terms of** means in the sentence “They’re doing very well at Vanderbilt **in terms of** grades.”
 I do know **terms = conditions**.
 I know the **condition** of their grades is good.
 I can then guess the sentence means “They are doing well at Vanderbilt when we consider the **condition** of their grades.”
 I can infer that **in terms of** is an idiomatic way of showing which aspect or condition we are thinking about.

Use higher-level thinking skills.

Do not just memorize—apply words to a real problem or concept. Imagine you are learning some vocabulary related to describing a process (*e.g., prior, subsequent, phase, or meanwhile*). Rather than just memorizing definitions, try explaining a specific process such as how to conduct an experiment to someone, making sure to use your target words.

Analyze, synthesize, or evaluate what the words mean to you in the context of a real problem or concept.

Make important and frequent words automatic.

Give yourself many opportunities to practice at spaced intervals and use a variety of strategies to study. For example, combine a few of these strategies:

- Say the words aloud or try using them in conversation or group discussions.
- Listen to pronunciation audio or use the [TED Corpus and Search Engine](#) to watch a clip where a speaker uses the word or phrase.
- Write sentences using the word and say the sentence aloud.
- Read several passages that are likely to contain the target words.

Practice Retrieving Stored Information

Once you have created and strengthened mental links to vocabulary information, you need to practice with that information to improve retrieval.

⁹ “*brainstorm*”, [WordSift.org](#), 2019

Use general mental processes (cognitive strategies).

For example, you might choose some of these:

- Classify words by, part of speech, field of study, or register.
- Guess or use logical reasoning to determine meaning.
- Practice by quizzing yourself on spelling, pronunciation, writing sentences, or listening to words in a presentation or TV show.
- Memorize words and then use them in various contexts to really ‘know’ them

Use deeper level thinking (metacognitive strategies).

- Actively notice whenever you see or hear a word you have recently learned, think about where you saw or heard it before.
- Self-talk about how you will remember. For example, say to yourself, “I’ll remember this word by thinking of...” or “Whenever I see this, I’ll imagine...”.
- Use a source such as a dictionary or thesaurus to learn more about the word.
- Recall the word through quizzing yourself with [Quizlet](#) cards or gap fills.
- Generate the word by using it in discussions or written work.
- As you read related articles, analyze where the word occurs and think about the similarities in meaning or structure in the contexts where you have seen it.
- Deliberately choose multiple strategies as you learn and review.

Space out or distribute your practice.

Spacing out practice and quizzing yourself at intervals is very important if you want to remember the words for longer periods,¹⁰ so do not just study large quantities of words in long sessions. The longer the intervals between practice and quizzing, the longer you will remember the words. For example, study a set of words once, wait one day to study that set again, wait two weeks more, then wait a month, then two months more.

Keeping these steps and principles in mind as you use various strategies to learn vocabulary will harness your brain power to ensure that you effectively enter, store, and organize vocabulary knowledge so that you can retrieve it when needed.

Multiple Strategies Benefit Learning

Knowing and using a variety of strategies is beneficial for learning and retaining vocabulary.¹¹ The first advantage is that using multiple strategies helps you really ‘know’ the words you study well enough to use them; the second is that you will be able to match a strategy to the task you are working on and thus make your learning more efficient.

¹⁰ *Recent Research on Human Learning Challenges Conventional Instructional Strategies* by Rohrer & Pashler, 2010, in *Educational Researcher* 39(5), pp. 406-412; *The Importance of Retrieval Failures to Long-term Retention: A Metacognitive Explanation of the Spacing Effect* by Bahrnick, & Hall, 2005, in *Journal of Memory and Language* 52(4), pp. 566-577; *Using Spacing to Enhance Diverse Forms of Learning: Review of Recent Research and Implications for Instruction* by Carpenter et al., 2012, in *Educational Psychology Review* 24(3), pp. 369-378

¹¹ Nation, 1990, cited in *Vocabulary in Language Teaching* by Schmitt, 2000, New York, NY: Cambridge University Press; *Helping ELLs Meet the Common Core State Standards for Literacy in Science: The Impact of an Instructional Intervention Focused on Academic Language* by August et al., 2014, in *Journal of Research on Educational Effectiveness* 7(1), pp. 54-82

Consciously Employ Vocabulary Learning and Retention Principles

No matter which strategies you choose, always deliberately employ these key vocabulary-learning principles:

- **Input (Encoding) Strategies:** Create associations with visual, auditory, meaning, and context for the word you are learning since each can result in a mental link to the vocabulary information.
- **General Thinking (Cognitive) Strategies:** Classify word information, guess and infer meaning, problem-solve, practice, monitor errors, and memorize since each one can deepen vocabulary knowledge and make retrieval easier.
- **Deeper Level Thinking (Metacognitive) Strategies:** Notice the strategy you are using and how it works, look up information about study-words, and practice generating and retrieving them.
- **Word Selection Strategies:** Deepen your interest and motivation by selecting or participating in selecting study-words. Use text analysis tools or word lists to select the most frequent academic words to study first.
- **Use Spaced (Distributed) Study and Retrieval Practice.** Rather than massing all your study into long sessions, space study at intervals since this strategy improves recall and retention.

Summary

Our Academic Vocabulary Guide resource series was developed as a way to provide EAL learners the opportunity to better learn and retain academic vocabulary. For readers interested in more information about academic vocabulary development, please view our [Academic Vocabulary Guide](#) resource.

We hope this guide will provide you with strategies for more productive academic vocabulary development. If you have questions, please contact elc@vanderbilt.edu.

Find this guide and more online at: <https://www.vanderbilt.edu/elc/resources/academic-vocabulary-guide/>